MAKING THE BEST OF BASICS

FAMILY PREPAREDNESS HANDBOOK

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MAKING THE BEST OF BASICS

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FOREWORD

We want to point out a number of things, so we point them out here:

- We are not trying to be a part of the "Chicken Little" complex. The sky isn't falling, at least as long as we can keep it propped up with information to help you cope with family preparedness problems.
- This is not the only book on the subject, but we're happy so many find our *Handbook* useful.
- We haven't met or solved all the problems related to family preparedness activities, but we are continually searching for additional basic solutions to problems.

The knowledge pertaining to family preparedness is constantly changing. Therefore, what is published herein is current information as of publication, but may shortly be outdated by additional research, new products, improved methods, and advanced technology.

In the areas of food storage and its utilization, the depth of discussion could be virtually limitless. Therefore, recognizing the law of diminishing returns — that beyond a certain point discussion of technicalities becomes more confusing than enlightening — this *Family Preparedness Handbook* endeavors to achieve some direction and application without sacrificing thoroughness.

Our thanks and gratitude to those contributors whose knowledge, ideas, methods and recipes have made this volume possible. These contributions are shared with the readers to help facilitate family preparedness activities.

Special appreciation to my wife. On many occasions she surely felt embattled by assorted paraphernalia on the range, in the refrigerator, spread over the countertops and strewn over the floor while the experimentation proceeded for the recipes and techniques summarized in this edition.

Also, special thanks to our four children. They greeted the onslaught of many new ideas and recipes — most of which were more exciting to me than to them, generally over-seasoned, and often underwhelming — with no more than "Yecch!" and "Oh no, do we have to eat this?. . " as their loudest protest. Bless them, they always had more tolerance for my antics than I had for theirs.

The *Family Preparedness Handbook* serves as a compendium of family preparedness ideas, and was not intended to deal in a scholarly manner with the details of nutritional aspects of wheat as compared to T.V.P., or powdered milk compared to whole milk, etc. Others have treated those subjects with expert knowledge, based on expert training. The main purpose of the *Handbook* has been to organize some of the many ideas and methods currently available into a single volume to provide a framework on which families may rely for *making the best of basics*.

CHAPTER 1
INTRODUCTION AND PURPOSE

There's a story about an old man who always loved to listen to a clock strike, so one day he went out and bought an old clock and hung it on the wall in his living room. Each night, when he retired he would lie there half awake and listen for the striking of the clock. When the clock would strike, he would count. One night something went wrong with the mechanism in the clock. It began to strike as usual and he began to count. He counted up to ten, eleven, twelve, thirteen, fourteen, fifteen — then suddenly he realized something was wrong. He quickly reached over, shook his wife and said , "Wake up Ma! It's later than I've ever knowed it to be!"

It's later than a lot of us realize. As we survey the number of crises in the world today, it is evident the need for a family's self-reliance was never greater. As inflation causes prices to skyrocket, there will probably never again be a better time than now to provide for the security of the family. For those families who have not yet begun, waste no more valuable time! The information assembled in this *Family Preparedness Handbook* is designed to help families adequately store, preserve and prepare food for use during forthcoming times of need.

We must realize there cannot be security without labor; there cannot be progress without experience; there is no prosperity without adhering to sound advice and counsel of wise leaders. Wealth and security seem to grow whenever people exert energy in the right direction.

If we want to be self-sustaining, we must first look to ourselves for the genius to provide our sustenance. Our first obligation is to provide for our own family. How this can be accomplished has been considered in this *Handbook*. Careful preparation is the only method by

which this task can be accomplished. The preparations need not be elaborate, nor be made all at once, but must be a continual process with watchful planning and timely execution.

Opportunity is a haughty goddess who wastes no time with those who are unprepared. Depressions show no mercy on empty pantries and empty stomachs. The planning process for family preparedness can be most interesting and stimulating to one's thinking, as well as providing the members of the family the opportunity to work together with their own hands for their own good.

LOOK AT THE PAST

While we were growing up, some of our most cherished memories remind us of the kitchen — good smells, cheery chatter, and lots of laughing and fun times around the table. We still have warm memories of our favorite dishes being prepared and sharing with family and friends those special meals and holidays. These memories are a vital part of our past, and we often return comfortably to them when we need a point of reference for our own personal security — like calling home to touch base with the folks.

It's unfortunate we didn't appreciate our parents' efforts in providing us the feeling of security as we grew up. Some of us never knew the agony and pain of want. Others whose parents were less capable of controlling their lives have fewer good memories, and maybe even some bad ones. Many remember their youth sadly because they lacked food or other necessities being available.

However, whether our past was happy or sad, almost all of us desire a better life for our children and we want to be able to give our families more happiness than we had.

CONSIDER THE PRESENT

Perhaps at no time in history has so much been known about and so many have been aware of the overwhelming possibility that our food supply, as well as other essential supplies, could be curtailed or eliminated. We live in a time of constant crisis; each of us can easily recall a recent crop failure, strike, personal illness or other problem which struck at our feeling of security.

We want to provide security for our children so their memories of their youth will be as warm, if not more so, than ours. As we've come to appreciate the effort behind stringing along a sometimes meager existence, we realize the constant pressure on us to set aside a portion of our resources now for future security.

Fortunately, there has never been more available information to guide today's parents in their quest for security. Unfortunately, there has probably never been so much temptation to take our eyes off the goal of family security!

PLANNING FOR THE FUTURE

We need to be prepared to meet the future problems of increasing demand and decreasing supply of basic commodities with some degree of confidence and security. The only way we can achieve this position is by retaining control over our economic security. An adequate food supply for the family could be a major part of the family's economic security, and possibly the key to survival. There is a general feeling of security derived from knowing the family will be able to eat, whether the national economy or our job in particular remains stable.

Having an adequate supply of material goods and the means to meet physical needs, both in the present, as well as the future, will certainly play an important part in the family's security. Minor emergencies occur in every family, posing a threat to family security. The ever-present threat of major emergencies such as drought, crop failure, strikes, wars, loss of job, sickness, or death makes planning for the future even more important.

Planning for future emergencies has not been the strong suit of most families. We naturally avoid negative possibilities, usually in an effort to cope with an already tough existence. However, if the positive aspects of family preparedness could be kept in mind, the easier it will become. There's a real challenge to having an adequate supply of food on hand, and it's considerably more complicated than just being able to pay for it. Considering the difference in likes and dislikes of any two individuals, storing for a family is possibly the toughest thing a family will ever have to do!

This *Family Preparedness Handbook* has been prepared to help you pinpoint what to store and how to maximize the utilization of what you've stored. As the old saying goes, "The longest journey begins with the first step." You, too, can make this long journey by stepping out smartly, gaining confidence and ability in your efforts as you march along the path marked herein.

NOW IS THE TIME!

The most important part of your family preparedness program is getting started. It is indeed, as the old man said, ". . . later than we've ever knowed it to be!", and it's getting later all the time! Too many of us store in our heads and not on our shelves. We are always waiting for some more opportune moment which somehow never comes. Some families store items which would make life impossible — no one could eat beans every meal! Then again, some families concentrate so much on purely survival aspects of storage they have not allowed for variety in their diets. Proper analysis of the family's needs and planning for those particular needs can help maintain nutritious and attractive menus during the worst of times.

Then there are those diligent individuals who buy every book (such as this one) and read every article about the virtues of an adequate storage program, but neglect to begin their own storage program! Books and articles are certainly worthwhile, though quite unpalatable, even after long boiling! Other frugal souls wait for sales that never happen, no doubt hoping the last price increase was temporary. Others are just cock-eyed optimists who don't believe they'll ever need to rely on stored food, so they go blithely on.

Perhaps some of the most difficult families to persuade to begin active storage programs are those with "Mother Earth complex." These hardy return-to-nostalgia types are certain that in times of emergency they will be able to find adequate sustenance from the woods and fields of nature. For their sake, when the balloon goes up, may it be in the Spring!

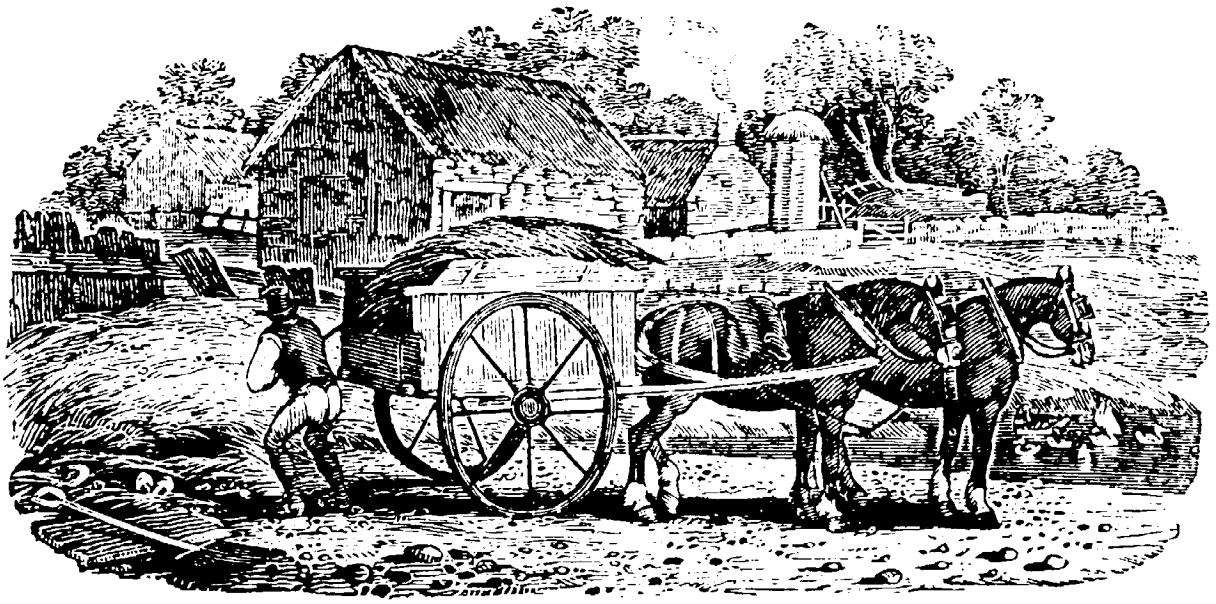
This *Handbook* was compiled to provide you and your family with some guidelines and suggestions for a basic storage program. From many alternative programs we have tried to pull together an effective and practical guide to make your family preparedness efforts less challenging and more rewarding. The importance of any beginning is ". . . beginning with the first step." As you gain confidence in your decision-making ability and understanding of the program, you will gain a more positive attitude and feel good about your success. A workable home program for food storage, not to mention possible survival, is our primary concern — and should be yours. Once you get started, you'll find the whole area of family preparedness presents not only an interesting challenge, but becomes an absorbing hobby. (By the way, it's the only hobby we know you can literally absorb!)

Home storage, properly planned, should and will be more than an emergency or "make do" life-style. *Plan to use and learn to use* food items in storage, especially those which are not too familiar, i.e.: TVP, soybeans, sprouts, herbs, dehydrated foods, etc. Get cookbooks, cut out recipes to try, have fun! The challenge of cooking is probably the most adventurous and creative part of family preparedness activities.

Make a cookbook by using a loose-leaf notebook with index dividers and plain paper. Cut out recipes from the newspaper homemaking section and tape them in the appropriate section of your "personal" collection. Discipline yourself to use and try at least one new recipe every week using food that needs rotating.

NOTES AND QUOTES

Place here thoughts, ideas or clippings which motivate you to action in your own family preparedness program.



CHAPTER 2

GETTING STARTED WITH HOME STORAGE

Home storage is a difficult subject for most people. They've heard all about the need for adequate family preparedness, but somehow they're wary of beginning. While the home storage enthusiasts are busily building slanted shelves, dating cases of canned, dehydrated or freeze-dried foods, and calculating rotation schedules, the uninitiated look on with bewilderment, not to mention anxiety.

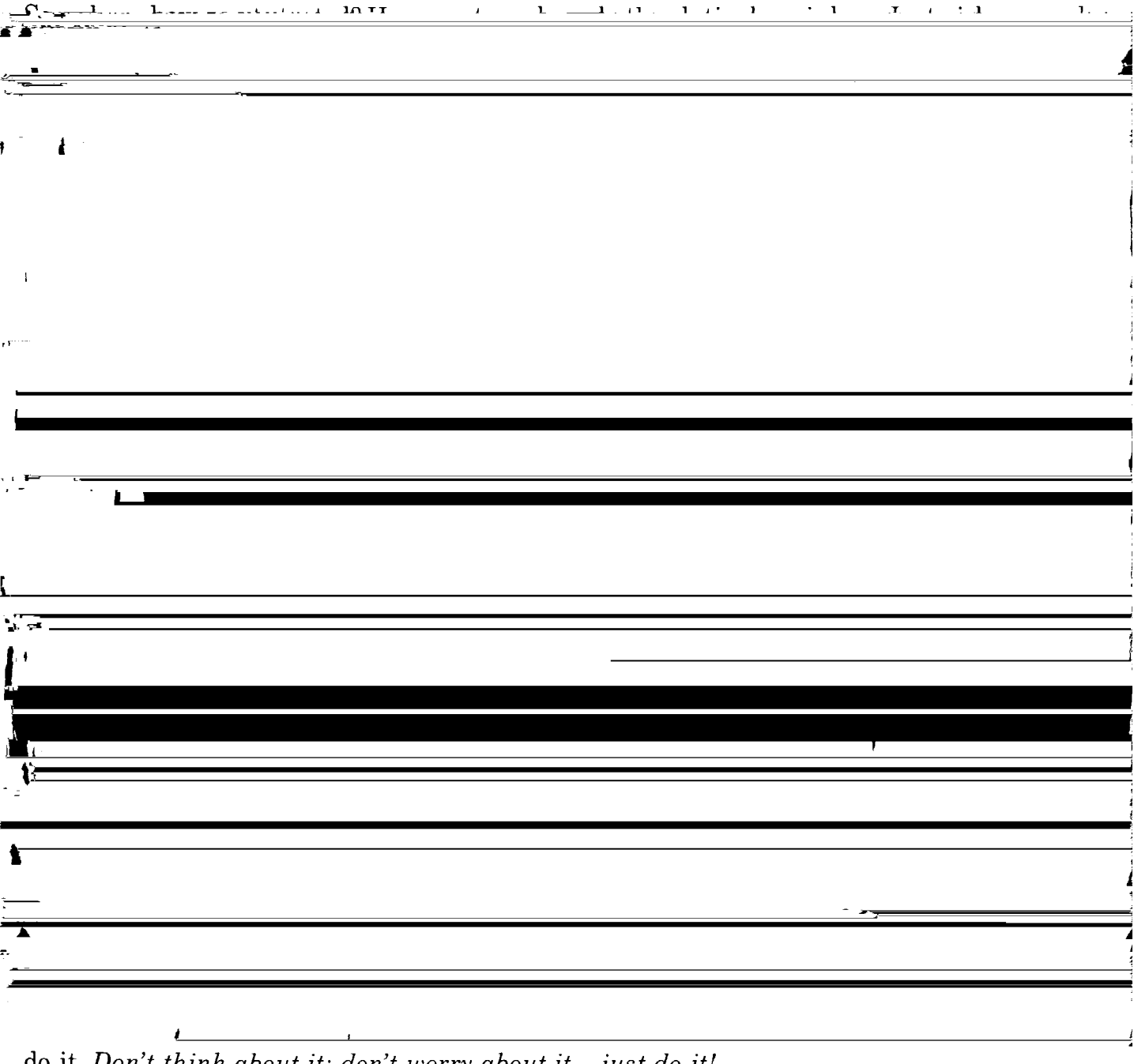
How in the world does a family acquire enough food, clothing and fuel to last a whole year? And don't forget seeds and medical supplies, clothing, bedding, water, and where possible, fuel! Later in this chapter are charts detailing necessary food items and products you'll need in your food storage program.

PLANNING IS ESSENTIAL

The enormity of the task seems to be mind-boggling in scope. So, more in self-defense than anything else, we make excuses for not getting involved. But we know our excuses are just rationalizations, so when the subject of family preparedness comes up, we feel uneasy and defensive.

If you are overwhelmed by what you think you ought to be doing, or if you think you will never get 2 weeks', much less a year's supplies together, not to mention finding a place to put it all, read on! This *Handbook* is not meant to offer particulars on nutrition; so many others have written volumes of scare-type and nutritional books. It is organized to help you overcome your fear of beginning a storage program. The important thing is to get started with a family preparedness program!

Once you've started, you may well find that the whole area of family preparedness presents an interesting challenge and usually dominates discussions in which you participate. But even if you never develop any real enthusiasm for home storage, you will at least rest more easily at night knowing that, come what may, you have made some preparations to protect your family just by having started.



do it. *Don't think about it; don't worry about it – just do it!*

Plan 1: Planned Copycanning

All you do under this first plan is buy extra cans (or boxes, or bags, or whatever) of food you routinely use — things you know you'll eat. Rotation, you'll soon discover, is the golden rule in home storage, so don't buy anthing your family doesn't ordinarily eat just because it's nutritious or cheap.

You can approach copycanning from two different methods. One method is to buy one item for yourself and one for your shelf every time you go to the store. Presently you will have a little

FAMILY PREPAREDNESS — A FAMILY PROJECT

Make this effort a family project. The enthusiasm, family unity, and feeling of security this project offers will prove rewarding. What, how, and where we store is to some degree each family's particular problem. Each family must decide how it will solve this problem. The responsibility for action is upon the head of each family, even though the responsibility is often delegated to Mom! Each family should give serious thought and action to the goal of at least a one year's advance supply of items which will sustain life should normal supply channels be interrupted.

It is most difficult to estimate the quantity of foods a family should store. Eating habits, ages, occupation, nutritional state, health, climate, and other factors may alter the kind of foods desired and the amount to be stored. Thus, the details of such a storage plan are left to the family. However, the general recommendations in this *Handbook* for the kind of foods and the amounts are guidelines to be varied according to the family's particular tastes, situation and circumstances. These are suggestions compiled from knowledge available as of publication date.

ESTABLISH PRIORITIES FOR PURCHASES

Most families are limited in the amount of money available for their food storage and family preparedness program. Therefore, purchasing priorities need to be established to assure the proper sequence for acquisition of essential or basic food items. Those who store non-edible and non-essential items may starve to death! Trading, exchanging and bartering are olden-time techniques for acquiring needed items, and may become a means of "buying" in the near future. But, if you have food when little is available, you'd be very reluctant to trade for either gold or silver unless there were ample left for your family's needs. If you couldn't trade your gold or silver for food when you needed it, even large stocks of precious metals would prove fairly useless to your family during a famine! Let's put it another way — you can't eat gold or silver!

This edition of the *Family Preparedness Handbook* recommends a program of primary, secondary, and tertiary storage priorities. Buy all of the primary or basic items before buying any of the secondary ones, and all of the secondary items before any of the tertiary ones. This system is based on having all life-sustaining and health-maintaining foodstuffs on hand before purchasing any non-edible items. This method of storage is analogous to building by starting with the foundation. Don't try to build by starting with the roof!

The charts in this Chapter suggest categories of priority for acquisition of primary or basic storage items, secondary or supplemental storage items, and tertiary or non-essential storage items.

PRIMARY PRIORITY: A SUGGESTED BASIC FOOD STORAGE PLAN

The basic items providing adequate calories, proteins, vitamins and minerals without great expense are: (1) wheat, (2) powdered milk, (3) sugar and/or honey, (4) salt, (5) a vitamin supplement program, and (6) water. Add to this basic survival diet other grains and legumes, peanut butter, dried or canned fruits and vegetables, canned meats, some seeds for sprouting, powdered eggs, etc., and you add variety to an otherwise boring subsistence-level diet.

Chart 2-A details the amounts needed in each food category of the Primary Priority storage plan. A list of high priority non-food items which might prove necessary to your family preparedness program is found in Chart 2-B.

Wheat. Wheat is a primary item for any food storage program. The amount to store will vary with ages and appetites. Also, the amount stored assumes the family will have some other basic foods, as suggested in this *Handbook,* from which to draw. A good wheat grinder or mill is a necessary part of the storage program. Hand-powered or electric models using stones are recommended. Further details on wheat utilization are found in Chapter 4.

Powdered Milk. Powdered milk may be stored as whole milk or skim (nonfat) milk. The latter is preferred and should be non-instant, because it stores better. Skim milk does not have as much fat or as much Vitamin A content and is somewhat lower in caloric content than whole milk. Milk solids and vitamins in skim milk, with the exception of Vitamin A, are very similar to those of whole milk. Skim milk contains about half as many calories and more carbohydrates per volume as compared to whole milk. Keep in mind that powdered milk is not equal to raw milk. Chapter 6 is an informative section to help you utilize powdered milk in ways you've probably never known before.

Sugar and Honey. Sugar is easily stored, but has also become very expensive lately. Pure crystalline honey keeps indefinitely, has nutrients which refined sugar lacks, and contains about 400 calories per pound *less* than sugar. Honey is also much sweeter to the taste than sugar. Five gallon cans of honey are more economical. Rebottle or repack bulk honey for convenience in using. No processing is required — harmful bacteria cannot live in pure honey. Chapter 7 has ideas for special ways to use honey in your storage program.

Salt. Salt is essential to the diet, and is one of the least expensive items to store. In hot climates the amount needed may be double that of cooler climates. Iodized salt is required for use in many regions of the country. Salt stored in a dry, cool place in a sealed container will keep for many years.

Vitamin and Mineral Supplements. Supplements for both preventive adequate nutritional needs are a must for those on a basic diet, especially when accompanied by stressful situations. Vitamins A and C must be supplemented at all ages when on a basic diet. Vitamin D should be added to the basic diet for the fast-growing younger age groups. The B complex will need strengthening. The higher the temperature and the longer preserved foodstuffs are stored, the less vitamins they contain. Natural vitamins and minerals are recommended to replace those lost during processing. Vitamins sealed in a gelatin capsule will store longer than ordinary tablets. See Chapter 8 for additional information on vitamins.

Water. It would be difficult to store enough water for more than a temporary emergency. Hot water heaters, soft water tanks and the reserve portion of water closets would be sources of safe water. A water purifier should be included in the storage program. Chapter 9 deals with water storage problems and solutions.

CHART 2-A
PRIMARY PRIORITY — THE BASIC FOOD STORAGE PLAN

FOOD STORAGE ITEM	QUANTITY IN POUNDS REQUIRED FOR EACH FAMILY MEMBER (Rounded to nearest 5 lbs.)										TOTAL AMOUNT NEEDED FOR FAMILY
	ADULTS		CHILDREN				TEENAGERS				
	Male	Fem.	1-3	4-6	7-9	10-12	13-15 yrs		16-20 yrs.		
							Girl	Boy	Girl	Boy	
Wheat	300	200	70	100	160	210	220	280	200	335	
Nonfat dried milk	55	45	100	100	100	100	100	100	100	100	
Sugar and/or honey	30	20	15	20	25	30	30	40	30	50	
Salt	5	5	5	5	5	5	5	5	5	5	
Vitamin supplements	Check with your physician for his advice on this storage item										
Vegetable shortening & salad oils	30	25	25	20	20	30	30	40	25	45	
Variety of grains, rice, oats, corn, barley, millet, etc.	90	75	35	45	65	85	90	115	85	140	
Variety of dried beans, peas, soy beans, lentils, etc.	25	20	5	10	20	25	25	35	25	45	
Peanut butter	10	10	5	10	10	10	15	15	15	15	
Variety of vegetables (fresh equivalent)	35	30	20	25	25	35	35	45	35	55	
Potatoes (fresh equivalent)	50	50	25	25	50	50	50	75	75	100	
Variety of canned fruit juice concentrates equivalent)	25	20	15	20	20	25	25	35	25	30	
Variety of fruits (fresh equivalent)	100	100	50	75	75	100	100	100	100	150	
Variety of gelatin, jello, tapioca, chocolate, banana flakes, margarine, butter, powdered eggs, etc.	15	10	5	10	10	10	10	15	10	20	
Variety of canned meats	20	15	5	5	10	15	15	20	15	25	
Water (emergency use only)	7 gallons per person										

CHART 2-B
SUGGESTED HIGH PRIORITY NON-FOOD STORAGE ITEMS

ITEM	BRAND	COST	ACQUISITION DATE
Water purifier			
Grinder (mill) for grains			
Mixer for bread-making			
Camping Equipment			
Camp stove			
Gas lantern			
Axe, hatchet			
Pick, shovel			
Sleeping bags			
Heater			
Fuel for stove			
Fuel for lantern			
Thermos Jug (1 gal. or larger)			
Insulated ice chest			
Other			

SECOND PRIORITY: SUGGESTED SUPPLEMENTAL FOODS

These additional food and product items would offer greater security, as well as give more variety and a more normal balance to a family's diet. The following listing is a suggestion for supplemental items to add, according to your family's taste, to your storage program. The amounts listed in Chart 2-C are for each individual for one year. Some basic guidelines for maintaining these items in your food storage program are to keep them all:

1. cool;
2. dry; and,
3. in airtight containers.

These supplemental items are more susceptible to spoilage and waste than most foodstuffs listed in the basic foods category.

CHART 2-C
SECONDARY PRIORITY — SUPPLEMENTAL FOODS

ITEM	AVERAGE QUANTITY FOR ONE YEAR STORAGE PER PERSON (EQUIVALENTS)	APPROX. STORAGE LIFE (MONTHS)	NO. IN FAMILY	TOTAL FAMILY NEEDS	ACQUISITION DATE
STAPLES					
Baking Powder	1 lb.	18			
Bouillon cubes	1 lb.	12			
Chocolate — liquid	1 lb.	12			
Chocolate — semi-sweet	1 lb.	24			
Chocolate — unsweetened	1 lb.	18			
Condensed and evaporated Milk	1 case	12			
Jams	4 lbs.	12			
Margarine	25 lbs.	6			
Molasses syrup	1 gal.	24 +			
Non-dairy creamer	2 lbs.	6			
Pasta	25 lbs.	24 +			
Rice, white	25 lbs.	24 +			
Salad dressings (all types)	6 qts.	3 +			
Soda	2 packages	12			
Sugar — brown	3 lbs.	12 +			
Sugar — confectioners	2 lbs.	6 +			
Syrup	1 gal.	24			
Yeast	1 lb.	6			
MIXES AND PACKAGED FOODS					
Cake mixes	12 boxes	12			
Cereals — ready-to-eat	12 boxes	9			
Cereals — cooked	5 lbs.	12 +			
Crackers	12 boxes	3 +			
Corn meal	5 lbs.	12			
Pudding mixes	48 boxes	12			
CANNED AND DRIED FOODS (EQUIVALENTS)					
Gravies, liquid or powder	6 cans/pkg.	12			
Fish & poultry	48 cans	12			
Pickles, olives	2 qts.	12			
Soups, canned	144 cans	12			
HERBS, SPICES AND CONDIMENTS					
Catsup	12 bottles	12 +			
Herbs and spices — whole spices	As needed	12 +			
Herbs and spices — ground spices	As needed	6 +			
Herbs and spices — herbs	As needed	6 +			
Soy sauce	2 bottles	24 +			
Worcestershire sauce	1 bottle	24 +			
Vinegar	2 gal.	24 +			
OTHER FOODS					
Coconut	2 lbs.	12			
Low-calorie products, instant breakfasts	As needed	6			
Onions, dried	20 lbs.	36			
Sweet potatoes, canned	20 lbs.	12			
Nuts	10 lbs.	6			
Parmesan cheese, grated	2 lbs.	12			
Soft drinks	6 ctns.	3			
Whipped topping mix	12 packages	12 +			

TERTIARY PRIORITY: LOW PRIORITY NON-FOOD STORAGE ITEMS

If the family is able and wants to go further, of course, it would be desirable to have a year's supply or more of everything imaginable. Certainly, a few months' supply of the staple items is a convenience, offers an advantage economically, and will serve as a part of your food insurance program. To finance such a supply could present financial problems unless careful planning is undertaken. Specific information regarding foods and variable storage factors for specific geographical localities may be obtained from local government agencies, colleges, universities, or those professionally engaged in food and family preparedness enterprises.

Acquiring a year's supply should be done in an orderly and systematic manner, consistent with a family's income. *Borrowing money to acquire food storage is not advocated.* Inflation alone will make food a fairly reasonable investment.

Sufficient durable clothing also should be included in a home storage program to take care of family requirements for at least a year's time. This clothing inventory should accommodate the seasonal needs for each family member. Store sufficient fabrics, thread, needles, and other sewing items. The provident housewife will take advantage of sales of materials suitable for making clothing the family may require and will store purchases until such time as they are needed. Savings are also possible in keeping clean, used clothing on hand which can be remodeled, cut down for a younger member of the family, or refurbished as needed.

When possible, a reserve of fuels, (coal, oil, wood, etc.) should be part of the storage plan. Various types of supplementary heating and cooking units, some of which are portable, are available on the market. Those should be selected that would, in an emergency, serve both for the preparation of food and for warmth. A short section of fuels storage is found in Chapter 17.

In addition to the previously mentioned storage items, first aid articles, prescribed medicines (as directed by a physician), soaps and cleaning agents, matches, and other such necessary items may be considered. Chapter 16 has suggestions for medical storage. Chapter 15 has instructions for soap-making, etc. A reserve of bedding should be included in your storage program. Chart 2-D on the following page contains a listing of low priority non-food storage items you may want to have. It is a good checklist, but by no means all-inclusive. Care should be exercised in selecting items and arranging them for storage.

REMEMBER: AN ADEQUATE FOOD SUPPLY COULD BE THE KEY TO YOUR FAMILY'S SURVIVAL. Wise budgeting will help minimize costs and also permit savings. Replenish supplies as they are used and/or needed.

The next chapter discusses the problems normally encountered in food storage and family preparedness and how to solve some of them. The biggest problem is financing or budgeting for a storage program. *No time is better than now – tomorrow may be too late!*

Additional storage space is usually the next problem to be solved. Even though there may be some disagreement with the listing of some of the basic items previously discussed in this chapter, there is little doubt each family should store a *rotated* one year's supply. The items suggested herein may not be perfect for your family's health, ages, occupation(s), nutritional state(s), and geographical location or climate. However, they present a jumping-off place for your planning. Most of us can accomplish this goal if we put our minds to it. The money and storage space involved will not be insurmountable problems for most of us if we truly accept the challenge in the right spirit — that of providing security for our loved ones.

CHART 2-D
SUGGESTED LIST OF LOW PRIORITY NON-FOOD STORAGE ITEMS

This chart provides a checklist of potential storage items for long-term needs. It is practically impossible to gauge average needs or use, so each family should determine its own quantities. Add to this list other personal items needed for particular situations, such as for babies, handicapped or elderly persons, or for illnesses requiring specific medication. Details for quantities and storage techniques for some of these items are found in later chapters.

KITCHEN
- ___ Aluminum foil
- ___ Bottle/can openers
- ___ Detergents/cleaning solutions
- ___ Disinfectant
- ___ Paper products
- ___ Napkins
- ___ Plates
- ___ Plastic bags
- ___ Towels

GARDEN ITEMS
- ___ Hoe
- ___ Poles for staking vegetables
- ___ Rake
- ___ Seeds
- ___ Shovel
- ___ String
- ___ Water hose

HEAT & LIGHT
- ___ Candles
- ___ Flashlight & batteries
- ___ Matches
- ___ Woodpile

PERSONAL
- ___ Brushes & combs
- ___ Deodorant
- ___ Shampoo
- ___ Soap
- ___ Sanitary napkins
- ___ Toilet
- ___ Tooth brushes
- ___ Tooth paste

CLOTHING
- ___ Buttons
- ___ Cloth
- ___ Clothing (ready-made)
- ___ Patterns
- ___ Pins & needles
- ___ Shoes
- ___ Scissors/shears
- ___ Thread

LAUNDRY
- ___ Bleach
- ___ Disinfectant
- ___ Lye (for making soap)
- ___ Soaps/detergents
- ___ Wash board
- ___ Wash tub

MISCELLANEOUS
- ___ Bedding
- ___ Emergency information books
- ___ Firearms & ammunition
- ___ Garbage cans
- ___ Radio (battery-operated)
- ___ Small parts (nuts, bolts, screws, nails)
- ___ Tent
- ___ Tool kit

OTHER
- ___ _____
- ___ _____
- ___ _____
- ___ _____
- ___ _____
- ___ _____

ADDITIONAL RESOURCES

There are many sources for family preparedness and home storage activities. Knowing how to organize and maintain a sensible, continuing, workable storage program is a matter of self-education for each family.

The best knowledge of what a family requires for its sustenance during a time of particular need is after the experience is over. That could be far too late for many. The U.S. Government provides bulletins for special subjects to aid in food storage through the Department of Agriculture. Chart 2-E will prove invaluable in helping combat today's increasing prices and decreasing food availability.

Land grant colleges and state universities provide many free brochures, bulletins, and even give lectures about home storage and family preparedness subjects.

The local libraries have many books on foods for preparation and storage. And now, as never before, bookstores have increasing numbers of food storage books, pamphlets, and guides from which to select.

CHART 2-E
SELECTED USDA HOME AND GARDEN BULLETINS

NO.	TITLE	BRIEF DESCRIPTION	COST
1	Family Fare	list of quantities of food for 1 week, based on good nutrition according to age and sex (see pp. 14-15 particularly)	25c
8	Home Canning of Fruits and Vegetables	basic booklet full of good tips for preserving garden crops	20c
10	Home Freezing of Fruits and Vegetables	booklet describing what to freeze, how to freeze it, and how to use it when thawed	35c
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CHAPTER 3

FOOD STORAGE PROBLEMS AND SOLUTIONS

THE PROBLEMS

Food has many "enemies" which destroy its quality. These enemies work at different rates with different effects on different foods. Their net effect is to destroy the eating quality or taste and the nutritional values of stored foods.

The major enemies of food quality and nutrition are:

a. High storage temperature;
b. Moisture and microbial infiltration;
c. Insect and rodent infestation; and,
d. Length of storage.

High Storage Temperature

Warm temperatures cause a variety of chemical reactions and changes in foods apparent to those who eat it. *A rule of thumb is for every 20° increase, the shelf life of affected food is decreased by one half.* Keeping temperatures below 70° are especially important for long shelf-life of canned fruits and vegetables. In fact, the closer to 40°, the better. Most food products store well and some foods can be kept for several years if stored in a cool, dry place. At warmer temperatures many different reactions can occur. For example, the texture of canned fruits may soften and become mushy; and the flavor may even become offensive. Generally, changes in color, flavor, and texture are accompanied by loss of nutritional value.

In dried foods, increasingly high temperatures also cause food quality losses at increased rates. Foods which have the natural structure broken up, such as cracked wheat and flour

from whole wheat, meal and flour from corn, polished rice, etc., may become rancid when stored unsealed. The warmer the air, the more rapidly rancidity develops. Small amounts of natural fats in these foods become foul-smelling and slightly toxic as when the protective hull is cracked.

Dried vegetables, including corn, green beans, and green peas are also subject to rancidity when kept in unsealed containers. Rancidity in these foods may be minimized by storing in properly sealed containers.

Remember: All canned goods should be stored in a cool, dry place. The cooler and dryer canned goods are kept, the longer they will last. Place the oldest canned goods on the shelves so they will be used first. Fruits, vegetables, and meats properly processed in glass jars and stored properly will keep as long as canned goods. Some fruits will keep longer in glass containers than in metal cans.

Due to the range of temperatures where canned foods might possibly be stored, it is difficult to determine the definite period of time for which any canned food will store. See Chart 3-A for the shelf life of typical canned fruits and vegetables.

Moisture and Microbial Infiltration

Moisture can be a problem with dried foods, sugar, salt, and baking powder. Moisture is excluded only by an airtight seal. Chemical reactions cause food quality loss and generally occur when dried foods pick up moisture. Flavor may be lost and color bleached out when moisture condenses in dried foods. Most foods containing sugar, especially fruit sugar, deteriorate rapidly when excess moisture builds up in containers.

Canned foods often pick up moisture when placed on a concrete floor in a cool place, thus causing metal containers to rust. In time, the metal cans may rust completely through from the outside and spoil the food inside. Rust can be prevented by placing cardboard, plywood or other lumber beneath metal cans to prevent direct contact with concrete floors.

One method for minimizing metal container corrosion is by coating the containers with a very thin layer of paraffin wax. Another method to extend the life of tin containers in high humidity areas is to immerse cans in a solution made of one quart mineral spirits and one-eighth pound of jelly wax. Warm the minerals spirits in a can by placing it in a bucket of hot water. After dissolving the wax, dip the can with its label into the solution. Make certain the entire can is covered. Place on wood blocks to dry. Choose low humidity days for this task, and be sure to do this project outside.

The worst effect of moisture on food is allowing and encouraging microbial activity. Mold can grow within a very low moisture level range and is the prime cause of spoilage in low-moisture foods. Mold spores are abundant in the air, and they can live on almost any type of food. Molds produce some of the most poisonous toxins to man. In seeds, cereals, and nuts, molds are known to produce toxins which can cause permanent damage to internal organs. Moldy foods should be discarded. If mold is growing on the surface of cheese, however, it can be cut off rather than discarding the entire piece of cheese.

Moisture below 10% in wheat and other grains and seeds and derived products will prevent weevil from living in them. Moisture-content information should be supplied by the seller.

Soy beans, if they are low moisture content, will store well. Textured vegetable protein made from soy beans will store for six months or more when kept dry and cool. Nuts store well, but should be kept in a cool, dry place. Raw nuts are a good storage item, as they normally do not turn rancid too quickly. However, blanched nuts store for longer periods of time.

Remember: Prevent moisture from accumulating in stored food and microbes will generally be excluded from your food storage program. There is a multiplier effect of high temperatures and high moisture conditions in a storage program — when both conditions exist, the probability of contamination is greatly increased.

Insect and Rodent Infestation

Pests generally contaminate much more food than they eat. They are usually excluded by proper packaging. Insects packaged with food products feed and multiply easily in the captivity of a package.

Most foods are intact in packages and are generally free from insects. However, in a paper package such as a paper flour sack, a very tiny hole may permit newly-hatched larvae to enter. If experience has shown no contamination in packages from local supermarkets, it would probably be safe to conclude the packages are free from insects.

Plastic containers are popular today. Caution should be exercised to make sure they are rodent-proof. A very rigid container will protect its contents. The round plastic bucket can be chewed through by rats, but mice will not generally attack plastic buckets. A plastic garbage liner in a new garbage can gives a lot of storage space capable of excluding both rodents and insects.

Glass bottles are good storage packages, but they break, they don't stack well, they let in light, and they are generally quite expensive, and always heavy.

Fumigation of Grains

In dry climates, cleaned grain need not be fumigated. However, if contamination is suspected, grains may be fumigated with dry ice. Approximately ½ lb. of dry ice will be enough for 100 lbs. of grain. Place 1-2 inches of grain in container, place the dry ice in, then pour the rest of the grain on top. Close or place the lid on the container, but do not seal or an explosion will result. Seal after 1 hour. The seal should be airtight or this method of fumigation will not be effective.

An alternate method of destroying insects, etc., is to heat a small quantity of grain at 150° for approximately 20 minutes. Keep door ajar to prevent over-heating and destruction of the nutrient content of the grain. Use a shallow biscuit pan or cookie sheet with sides. As long as the temperature does not exceed 150°, the grain will not be damaged. Allow to cool completely before returning grain to storage containers. Check with local State University extension agents for best method for fumigation in your geographic area, especially in high humidity areas.

Remember: Any food will be more wholesome and delicious if it is properly stored in a cool, dry place, out of the sunlight, away from heat, and unavailable to pests.

Length of Storage

Canned foods will remain usable, if not wholesome, as long as the containers remain intact and not bulged. Under ideal storage conditions, most canned foods would remain usable many years. Damp storage, leading to rusting of metal containers, would limit storage time. Storage next to a furnace, steam pipe, heating duct, or other heat source will keep food abnormally warm, leading to more rapid deterioration of the canned foods.

Another enemy of long storage life for metal containers (and metal closures on glass jars) is the chemical reaction of foods with metal. The inherent differences in foods have to be

recognized in predicting storage life. The following chart indicates the shelf life of various food products in metal cans.

CHART 3-A
SHELF LIFE OF CANNED FRUITS AND VEGETABLES*
(Western United States at 70°)

Product	Shelf Life in months	Product	Shelf Life in months
Apples & applesauce	36	Asparagus	36 plus
Apricots	36	Beans, lima	96 plus
Blackberries	12 plus	Beans, stringless	36 plus
Blueberries	12 plus	Beets	48 plus
Cherries, maraschino	12 plus	Brussel sprouts, cabbage, cauliflower	48 plus
Cherries, sweet	12 plus	Carrots	96 plus
Cherries, black	12 plus	Corn	96 plus
Cranberry sauce	12 plus	Hominy	96 plus
Fruit salad	36	Peas	96 plus
Grapes	12 plus	Pickles	12 plus
Grapefruit	36 plus	Pumpkin and squash	48 plus
Peaches	36	Sauerkraut	12 plus
Pears	36	Spinach	36 plus
Pineapple	36	Sweet potatoes	48 plus
Plums	12 plus	Tomatoes	48 plus
Rhubarb	12 plus		

As can be seen, differences in foods are pointed out: colored fruits, rhubarb, pickles, and sauerkraut have a shorter container life expectancy. These foods have a maximum storage life of one year. Some foods are storable for at least three years, and others last longer, up to eight years or more.

Approximately 2%-5% of food value is lost each year, so it's just a matter of time before all food value is lost. Dried fruit will last in a closed, dry container as long as it looks and smells good. Shelf-life of dry powdered milk is one to two years if kept in a cool, dry place. However, in most instances, rotation every three months is desirable. Dry milk should be stored in metal containers, or foil-lined, airtight bags. Honey can be stored for long periods in sealed containers without affecting flavor or food value significantly.

Remember: All foods are subject to deterioration as time passes. The rate food deteriorates depends upon the particular food, its purity, the way it's stored, and especially upon its environmental temperature. There is always some deterioration occuring in stored foods. Of course, foods must be clean at the time they are stored, and must be stored in clean containers free from insects, and sealed so insects cannot gain entrance. Chemical changes are continual, causing changes in texture, color and loss of vitamins and minerals.

*From "Progress in the Tin Plate Industry", *Food Technology*.

THE SOLUTIONS

Rotation of Supplies

One of the fundamental tenets of a successful storage program is the rotation of supplies. Food supplies must be rotated for the following reasons:

(1) To prevent spoilage;

(2) To minimize loss of food value and flavor; and,

(3) To keep the taste buds acquainted with foods upon which one would depend to sustain life.

Eating from the stored supplies regularly as part of the daily diet helps maintain or develop a taste for the foods available in the storage program.

The belief that a person will eat anything under emergency situations has been proven faulty. Dr. Norman Wright, of the British Food Ministry, after experiencing conditions following World War II stated, "A sudden emergency is no time for introducing untried novelties." He indicated people were more likely to reject unfamiliar or distasteful foods during times of stress than under normal conditions. Is not this the usual response of any aspect of human behavior at times of trouble? When we are frightened, upset and insecure, do we not tend to return to things with which we are acquainted or familiar?

The only way to be certain foods being stored will be acceptable to the palate during times of need is to assure our tastes are acquainted with and tolerate them during normal times. The choice of foods being stored must take into consideration food value, storage qualities, and in most cases, the taste buds! Cultivate now a taste for the food in storage to maintain a high level of tolerance for them.

Make this statement a truism: *Store what you eat and eat what you store.* This can be accomplished by storing what is enjoyed by the members of your family.

These are the common-sense reasons for storing what you normally eat:

— eliminates food spoilage;

— minimizes food deterioration:

— stabilizes diet during stressful situations;

— provides insurance against malnutrition; and,

— year's food supply will not exceed original investment.

Remember: Rotation is the key to a successful storage program. Proper rotation will overcome the enemies of food quality and nutrition. Rotation becomes almost automatic if the food storage program consists of your favorite food selections.

Tips for Solving Storage Problems

Dried fruits should be repacked loosely in clean glass jars and placed without lids in an oven, then heated for 20 minutes at 150°, then sealed properly. This will protect them from insects and deterioration.

Bulk-packaged flour, granulated sugar, or dried powdered milk should be immediately repacked in clean and dry metal or glass containers, and sealed with airtight lids.

Wheat, rice, oats and other grains should be clean and free from insects or their eggs before

storage in clean containers with airtight lids. The addition of fumigant chemicals ought to be according to the best knowledge of local county extension agents or food storage experts.

Beans and peas do not require a fumigant, but should be sealed in an airtight container.

Some food items do not need a cool place, such as sugar, jello, and some dehydrated foods. If space is a problem these may be stored in the warmer areas of the house — under beds, in closets, etc.

Use iodized salt to protect pasta products from weevil. Use 1 cup poured over each large box of macaroni or noodle products. Recover the salt after using pasta. The salt won't hurt the pasta, since all pasta requires salty water in initial preparation.

Turn canned milk upside down every other month to prevent lumps from forming. Turning prevents the fats from separating. (Use evaporated, condensed sweetened, and other canned milks within one year.)

Canned goods should be turned over each 3 to 6 months. This prevents solids from settling to the bottom.

Fats and oils in original sealed containers should keep for many years in a cool place.

Food supplies and other needed articles should be stored in readily portable containers in case of emergency.

Containers should be of appropriate sizes so contents will not spoil before being consumed after opening.

As a further precaution for glass containers, hot paraffin wax may be poured over the contact point of friction-type lids to insure protection. With other types of lids, masking tape may be used for sealing cracks where corrosions could begin.

It is important to label all containers with contents and date.

Some foods deteriorate more rapidly when exposed to light, so when foods are stored in glass containers, a dark environment should be provided.

Baking powder should be kept in original metal containers.

Baking soda should be repacked in metal or glass containers and sealed.

Discolored iodized salt is still good for seasoning food.

Large cans of yeast should be divided into smaller amounts in bottles and stored in the freezer or refrigerator.

Honey may be put in glass jars as is. The only requirement is to leave a little space at the top to allow for expansion when it turns to sugar. (If stored honey *does not* eventually turn to sugar, it is not pure honey.) It should not be stored in tin cans: cans may rust, discoloring the honey and affecting its flavor.

Brown sugar should be placed in jars and tightly sealed. When brown sugar becomes hard, place a small piece of apple in the jar for a day before using.

Save all glass jars and bottles from salad dressings, pickles, even odd-shaped jars, and use them for storage containers. Save gallon jugs and jars and put rice, beans, powdered milk, etc., in them. Don't let empty bottles remain unused. Pack with fruit, vegetables, or water. Keep a supply of glass jars and lids on hand. They're a good investment.

Buy cleaned wheat for storage. Directions to clean and de-bug wheat are given in other more specialized books, such as *Passport to Survival,* by Esther Dickey, etc. References to other publications for specific storage or usage details are found in the various chapters of the *Handbook.*

Let children help with the family preparedness program. Let them help make labels, itemize foods, bottle fruit and pickles in the summer, grind wheat, make bread, and package items that need repackaging.

SUMMARY

Successful food storage is dependent on the following:

1. **Quality of products.** Always obtain top grade food products.
2. **Proper containers.** Metal storage cans or heavy plastic containers with airtight lids are necessary.
3. **Storage facilities.** Areas should permit easy access, provide functional utilization and provide temperature, moisture and pest control.
4. **Temperature.** Foods store best at from 40°-60°. Foods may be stored in a higher temperature range, but the shelf life diminishes in proportion to the higher temperatures.
5. **Rotation.** The fundamental tenet of a successful storage program is preventing spoilage and minimizing loss of food value and flavor by storing what you use and using what you store.

Now you should know how to get started, what to store, and how to store it. The remaining chapters describe in detail how to utilize your food storage supply. The purpose of this *Handbook* is to minimize your family preparedness problems and to increase your ability to achieve a high-quality life-style with basic foods stored in your home storage program.

List your specific problems and solutions here:

Problems	Solutions

Problems and Solutions (continued)

CHAPTER 4

WHEAT — THE GREAT GRAIN

Wheat is considered by many experts to be one of the most basic food storage items. It is certainly easy to store and has high value in the diet. Wheat is also very nutritious, and can be easily prepared in an extremely wide variety of dishes — from bread to the main course to desserts.

WHEAT FOR STORAGE

Some years ago Mr. Bob R. Zabriskie outlined the value of wheat in his publication "Family Storage Plan." His suggestions for consideration when storing wheat were in the following categories, and were concerned with determining:

1. Variety & condition;
2. Protein content;
3. Moisture content;
4. Quantity; and,
5. Container and storage techniques.

Variety: Dark Hard Winter or Spring Wheat store best. Grain should be cleaned for human consumption and free from all foreign matter possible.

Protein content: Protein should be 11.50% or higher, according to most authorities.

Moisture content: No more than 10% moisture content in the grain. This will inhibit insect infestation. Wheat draws moisture, so take precautions to protect wheat from exposure to high humidity and high temperatures.

Quantity: Amount varies according to age, weight, size, sex and appetite of each person for whom the storage is intended. Chart 2-A details the suggested quantities for each of the various age groups, etc.

Container and storage techniques: Wheat will keep indefinitely when properly stored. Use older wheat first and replace it annually with new wheat at harvest times when prices are generally lower. If possible, store wheat in round cans. When wheat is stored in square cans and stacked side by side, the heat from the wheat cannot easily escape, thus causing the can to sweat and the wheat's moisture content to increase. When storing wheat in square cans, allow several inches open space on all sides of the cans. Never store wheat in a container containing more than 2 bushels or 120 pounds. Use enamel-lined cans with a suitable plastic liner. Aluminum garbage cans are generally not good for wheat storage, since an airtight seal is not possible in them.

When stored at 65°, wheat will store almost indefinitely. Commercially-sealed wheat requires neither turning nor aerating. Do not put salt in wheat when storing it. Store cans of wheat on boards, not directly on cement floors, as wheat draws moisture from cement surfaces.

If you store wheat, you must have access to a wheat grinder. There are many models on the market, both hand-operated and electric models. The electric models are fine, but quite expensive. The more use a grinder gets the better it becomes because it grinds itself to a perfect fit. All grinders should have instructions, so be sure to follow the operating instructions for best results.

SOME PRECAUTIONS

Natural whole wheat flour has practically no food value after being stored for 30 days at room temperature. Keep flour in the refrigerator or in some other cool, dry place. Grind only enough wheat for use in one week's time. When buying whole wheat flour from the store, buy it only if it has been refrigerated, and be sure to keep it refrigerated until used.

Don't try to go on whole wheat all at once because the digestive system cannot normally adapt immediately to the dietary change. Get accustomed to wheat by using some whole wheat flour in white flour recipes the family already likes, working up to all whole wheat flour.

Check with your local USDA office or the local county extension service agent. They will have additional information on the best storage techniques and hints for utilization in recipes, etc.

TRYING TO DIET?

Bread can help in dieting so don't be afraid to use your stored wheat. The starch in bread provides bulk which absorbs water on contact, filling the stomach cavity, thus satisfying hunger long after the meal is over.

It's the calorie-rich things spread on the bread that can wreck your diet, such as butter, jam and jellies, etc. Use these high-calorie foods sparingly and you'll be able to keep your diet under control, and enjoy breads, too!

USING WHEAT

One of the reasons wheat is recommended as one of the major staple items of a food storage program is because of its versatility in the diet. Wheat may be used in any of its forms, from whole kernel to the finest flour which can be milled. The remainder of this chapter has recipes and ideas for preparation of wheat in any of its forms. Keep in mind that all the uses for wheat are yet to be uncovered. A book could be written on any particular use of wheat — as indeed some have.

One of the most interesting forms of wheat is whole wheat kernels as they come naturally from the field, with only the chaff stripped off.

WHOLE WHEAT BULGUR

Sometimes called wheat berries, these whole kernels need soaking or steam cooking to become tender. When cooked they have a sweet, nut-like flavor and a slightly chewy texture. There are many ways to prepare dishes with wheat bulgur, and many ways aren't discovered yet — so experiment!

The versatility of wheat bulgur is demonstrated here in recipes from cereals to breads, to casseroles and to stuffing for fowl. These recipes call for cooked wheat berries. Bulgur can be prepared ahead of need and the ready-to-use cooked wheat may be stored airtight in the refrigerator for about 2 weeks.

Basic Bulgur

Bulgur is probably the easiest whole wheat food to prepare, and certainly ranks as one of the most versatile foods in use. None of the measurements are critical, and there's no fussing with stirring, continual watching, etc.

To make basic bulgur, simply:

1. Take a large pot with a tight-fitting lid (such as a cold packer).
2. Place a rack in bottom of pot.
3. Add water almost to level of the rack.
4. In smaller pot, put 1 C. wheat, 1 C. water and ½ tsp. salt.
5. Place smaller pot on rack in large pot.
6. Place cover on large pot.
7. Put large pot on high heat for 15 minutes.
8. Reduce heat and steam until wheat absorbs water in smaller pot.
9. Use or store in refrigerator, tightly covered, for no more than 2 weeks.

Bulgur can be made from whole kernel or cracked wheat and can be used to replace rice in most dishes, substituted for mashed potatoes, or baked to make a delightful and nutritious crunchy TV snack.

RECIPES FOR USING BASIC BULGUR

Breakfast Bowl

3 C. cooked basic bulgur
½ C. water
milk
sugar or honey

Heat cooked bulgur in water. Serve hot with milk and sweeten to taste. Makes a chewy breakfast cereal. Add dried fruit for additional flavor and nutrition.

Bulgur Porridge

6 C. basic bulgur
½ C. sugar
¼ C. raisins
1 C. milk
milk
honey (brown sugar, maple syrup, etc.)

Heat bulgur and raisins to boil, reduce heat. Stir in milk and sugar, simmer approximately 3-5 minutes. Serve porridge hot, with additional milk and honey to taste. Brown sugar or maple syrup may also be used to sweeten porridge.

Bulgur Bouillon

basic bulgur
milk
vanilla flavoring
honey
nutmeg

Parch bulgur in broiler until dark brown. Grind to powder. Add remaining ingredients until flavor meets taste.

Alternate method: Parch bulgur in warm oven until completely dried out. Grind, add liquid and flavor to taste.

Cracked Bulgur Cereal

2 C. basic bulgur
2 C. water

Spread basic bulgur on cookie sheet in single layer, and dry completely in 200° oven for approx. 1 hour. Crack bulgur in mill or blender. Heat in steam for 10-20 minutes or boil for 5 minutes in water. Serve hot and sweeten to taste.

Crunchy Bulgur Snacks

2 C. basic bulgur
seasonings

Spread bulgur 1 layer thick on cookie sheet. Bake at 325°, stirring occasionally, until very dry and crunchy. Add seasonings to taste. Serve as TV snacks.

Bulgur Minestrone Soup

2 T. oil
¾ C. chopped onions
1 lb. hamburger
1 C. chopped celery
1 ½ quarts water
1 C. basic bulgur
½ C. shredded cabbage
½ C. minced parsley
1½ tsp. salt
¼ tsp. pepper
¼ tsp. oregano
1 C. green beans or peas
½ C. kidney beans
1 C. sliced zucchini
½ C. sliced carrots

Heat oil, add ground beef and onion; saute until onions are straw-colored. Drain grease from beef, add celery and water. Cover and simmer slowly until celery is tender. Add bulgur, cabbage, parsley and carrots; cover and simmer 15 minutes. Then add remaining ingredients and simmer an additional 15 minutes. Serve hot with parmesan cheese sprinkled generously on top. Add croutons to make a nice finishing touch! Yield: 8-10 servings.

Beef-Vegetable Soup with Bulgur

2½ qt. water
1½ lbs. ground beef
1-2 lbs. beef knuckle bones
1 C. basic bulgur
1 C. diced or shredded carrots
½ C. chopped onions or leeks
1 C. sliced celery
¼ C. chopped parsley
2 to 3 tsp. pepper
⅛ tsp. powdered cloves
½ tsp. fine herbes
¼ tsp. salt
1 can tomato soup

Brown ground beef and pour off grease. Remove fat from bones. Simmer together water, ground beef, and bones for 2-3 hours. Add remaining ingredients. Cover and continue cooking until vegetables are tender, 15-20 minutes. Remove meat from bones, dice and return to soup mixture. Heat to boiling. Yield: 6-8 servings.

Bulgur Salad

½ C. basic bulgur
4 tomatoes, cubed
1 C. fresh mint
1 C. chopped parsley
1 C. chopped green onions
1 green pepper, cut in strips

Soak bulgur in water to cover for 30 minutes. Squeeze out water and transfer to a bowl. Combine remaining ingredients, add salad dressing and toss. Serves 4.

Dressing

⅓-½ C. lemon juice
3 T. oil

Mix ingredients and pour over Bulgur Salad, salt & pepper to taste.

Bulgur Seafood Salad

1 C. basic bulgur
2 T. diced green pepper
¾ C. diced celery
1 tomato cut in wedges
2-3 T. mayonnaise
¼ C. chopped green pepper
1 C. tuna or shrimp

Marinate bulgur in mayonnaise. Add remaining ingredients. Arrange greens around a bowl, pile seafood on top of leaves.

BULGUR MAIN DISHES

Bulgur Stuffed Peppers

2½ C. basic bulgur
½ lb. hamburger (or sausage)
1¾ C. beef (or ham) bouillon
½ tsp. salt
1 tsp. seasoned salt
3 green or red bell peppers
¾ C. tomato puree
¼ tsp. Worcestershire sauce
¼ tsp. pepper

Blend basic bulgur, choice of meat, 1 C. of the same flavor reconstituted bouillon, and seasonings. Cut peppers in halves lengthwise; remove all seeds and white portions. Fill pepper halves with mixture and place in shallow baking dish. Pour mixture of tomato puree and remaining bouillon over stuffed peppers. Cover and bake 375° for 30 minutes. Remove cover and continue baking for approximately 45 minutes. Serves 6.

Bulgur Beef Casserole

1 lb. ground beef
1 C. basic bulgur
1 large onion, diced
2 cans tomato soup
½ C. catsup or tomato sauce
1 clove garlic, crushed
1 T. parsley flakes
1 tsp. celery flakes
salt and pepper to taste
grated cheese

Saute meat and seasonings with onion. Combine bulgur with meat mixture, soup and catsup, pour into casserole. Sprinkle with cheese. Bake 350° for 30 minutes. Serves 6-8.

Bulgur Tomato Casserole

3 C. basic bulgur
1 tsp. salt
6 slices bacon, diced & fried
4 T. flour
3 C. tomato juice
1 C. grated cheese
¼ small onion, finely chopped

Fry diced bacon; add flour, tomato juice and onion to make a sauce. Remove from heat and add ½ C. grated cheese. Pour over bulgur placed in buttered baking dish. Top with remaining cheese, add bread crumbs if desired. Bake 350° for approx. 45 minutes.

Tuna And Bulgur Casserole

1 T. butter or margarine
2 T. chopped onion
2 C. basic bulgur
1 C. cream of mushroom soup
1 can (6 oz.) tuna
½ tsp. salt
⅛ tsp. pepper
2 eggs, slightly beaten
1 T. melted butter or margarine
⅓ C. crisp cracker crumbs
paprika

Saute onion in butter on moderate heat until onion is straw-colored. Mix in baking dish with bulgur, soup, tuna, salt, pepper, and egg. Top with mixture of crackers and melted butter. Sprinkle with paprika. Bake in moderate oven (350°) for 30 minutes. Serves 6.

Bulgur Poultry Casserole

¼ C. butter or margarine
¼ C. finely chopped onion
¼ C. flour
2 C. chicken broth
1 C. milk
1 tsp. salt
⅛ tsp. pepper
1 tsp. MSG
½ tsp. poultry seasoning
1½ C. basic bulgur
5 C. cooked and cubed turkey or chicken
½ C. chopped celery
1 C. grated cheddar cheese

Melt butter, add celery and onions. Cook until tender, but not brown. Blend in flour. Stir in chicken broth and milk. Cook over low heat, stirring constantly until thickened. Add seasonings, bulgur, poultry and cheese. Pour into buttered 2-qt. casserole. Sprinkle with buttered crumbs, and bake 35-40 minutes in 350° oven. Serves 10-12.

Bulgur Jambalaya

8 oz. sausage cut in ½" lengths
1½ C. diced ham
½ C. chopped onion
2 lbs. ground beef
2½ C. basic bulgur
2 T. chopped parsley
¼ tsp. thyme
½ C. chopped green bell pepper
¾ C. thinly sliced celery
¾ C. salt
¼ tsp. pepper
dash of cayenne
⅛ tsp. powdered cloves
¼ tsp. chili powder

Saute sausage, ground beef, ham, onion, bell pepper and celery in heavy skillet until lightly browned. Drain grease. Add remaining ingredients. Cover and bring to boil; reduce heat and simmer, stirring occasionally, until mixture is thickened, about 45 minutes. Makes 5-6 servings.

Mid-East Chicken Casserole with Bulgur

2 T. butter (margarine)
2 T. vegetable oil
2 chickens (2½ lbs. each), cut up
salt and pepper to taste
3 medium onions, chopped
1 clove garlic, chopped
1½ C. basic bulgur
½ tsp. ground cardamom
½ tsp. ground coriander
½ tsp. cumin
grated rind and juice of 1 lemon
3 cups boiling chicken broth

In large skillet, heat butter and oil and brown chicken. Season with salt and pepper and remove. In remaining fat, cook onions and garlic until translucent. Add bulgur, stirring to glaze. Add remaining ingredients except broth, stirring to mix well. Place chicken in large casserole; cover with bulgur mixture and pour broth over. Bake, covered, in preheated 350° oven 1 hour, or until tender. Yield: 6 servings.

STOVE-TOP BULGUR CASSEROLES

Here are a number of special stove-top casserole recipes using basic bulgur.

Italian Bulgur Casserole

¼ C. salad oil
1 chopped onion
½ lb. thinly-sliced mushrooms
2 tsp. beef stock base
½ C. water
½ tsp. basil leaves
¼ tsp. pepper
3 C. bulgur
2 thinly-sliced zucchini

Heat salad oil in large frying pan over medium heat. Saute onion and mushrooms until limp and liquid has evaporated. In a small cup stir together beef stock base and hot water. Add liquid to the pan with basil leaves, pepper, and cooked drained bulgur. Cover and bring to simmer. Add zucchini. Cover and simmer until bulgur is heated through and liquid is absorbed, about 10 minutes. Serves 6.

Cantonese Chicken over Bulgur

3 T. oil
1 C. Chinese pea pods, cut ½"
½ C. sliced water chestnuts
1½ C. sliced mushrooms
⅓ C. slivered almonds
1½ C. chicken stock
½ tsp. salt
⅛ tsp. white pepper
½ tsp. MSG
2 T. cornstarch
½ C. water
2 C. sliced cooked chicken

Heat oil in heavy skillet; add pea pods, chestnuts, mushrooms, and almonds. Saute over moderate heat 2 minutes, then add chicken stock salt, pepper and MSG. Cover and cook 6 minutes. Make a paste of cornstarch and water. Stir into pea pod mixture. Add chicken and return to heat. Stir frequently until mixture thickens and reaches a boil, 2-3 minutes. Serve over Taiwan bulgur pilaf. Yield: 4-6 servings.

Spanish Bulgur Casserole

4 slices bacon, cut into thin strips
1 large chopped onion
½ C. chopped celery
½ C. chopped green bell pepper
1 clove garlic, finely minced
1 lb. can tomatoes
2 C. water
½ tsp. salt
1 tsp. seasoned salt
¼ tsp. pepper
1 tsp. sugar
1 tsp. Worcestershire sauce
1 C. basic bulgur

Saute bacon in heavy skillet over moderate heat. Add onion, celery, green pepper, and garlic. Continue cooking until onion is straw-colored. Blend in tomatoes, water, salts, pepper, sugar, Worcestershire sauce and bulgur. Cover and simmer over low heat until most of liquid is absorbed, 20-25 minutes.

BULGUR PILAF RECIPES

Pilaf, as commonly understood, is a rice dish combined with seasonings, meat, fish or poultry. There are many variations. Pilaf made from wheat is more economical, and certainly more nutritious. The following pilaf variations and main dishes will again prove the usefulness of wheat in the diet.

Basic Pilaf Recipe (Mixture)

2 T. butter (margarine)
3 T. chopped onion
1 C. basic bulgur
1 dash MSG
¼ C. water
½ tsp. salt
⅛ tsp. pepper

Heat butter in heavy skillet; add onion and saute until straw-colored. Add bulgur, water, salt, pepper, and MSG. Cover and simmer over low heat until all liquid is absorbed. Serves 4. Use this basic pilaf mixture to make flavored variations.

Beef-Flavored Bulgur Pilaf

1 basic pilaf mixture
2 C. beef bouillon or stock
1 T. Worcestershire sauce

Substitute beef bouillon or stock for water in basic pilaf recipe; add Worcestershire sauce. Serves 4-6.

Chicken-Flavored Bulgur Pilaf

basic pilaf mixture
2 C. chicken bouillon or stock

Substitute chicken bouillon or stock for water in basic pilaf recipe. Serves 6.

Fresh Herbs Bulgur Pilaf*

basic pilaf mixture
1 T. fresh herbs

Stir fresh herbs into chicken-flavored bulgur pilaf just before serving. Serves 4-6.

*Fresh herbs (fines herbes is the French name) are usually equal parts of fresh parsley, chives, tarragon, and chervil, when and where available. Sometimes, marjoram and thyme, and even basil may be thrown into the mixture. The essence of fresh herbs is achieved by mincing them together with a sharp knife, then added at the last mnute to the pilaf — thus imparting the essential oils to the food.

Parmesan Bulgur Pilaf

chicken-flavored pilaf mixture
¼ C. chopped onion
¼ tsp. garlic salt
⅓ C. parmesan cheese
1 T. chopped parsley flakes

Add onion and garlic salt to chicken-flavored pilaf recipe. After cooking, stir in cheese and parsley. Serves 4-6.

Taiwan Bulgur Pilaf

chicken-flavored pilaf mixture
2 T. soy sauce

Add soy sauce just before serving pilaf. Serves 4-6.

Tomato-Flavored Bulgur Pilaf

basic pilaf mixture
1 C. tomato juice
1 C. chicken bouillon or stock

Mix all ingredients and simmer. Serves 4-6.

USING WHOLE WHEAT FLOUR

From the preceding pages on the use of bulgur, you can begin to grasp the enormity of wheat's versatility and capability in the food storage program. This part of the chapter introduces a basic whole wheat mix for use in preparing biscuits and pancakes; recipes for whole wheat waffles, crackers, sweet breads, loaf breads, pretzels and a number of other baked items. Also included in the next few pages is a special section on basic bread making techniques.

WHOLE WHEAT FLOUR RECIPES

Basic Whole Wheat Mix

8 C. unsifted whole wheat flour
3 heaping T. baking powder
4 tsp. salt
¼ C. sugar
2 C. dry powdered milk
2 C. margarine or shortening

Sift dry ingredients together twice. Cut in margarine or shortening until dry mix is very fine. Mix thoroughly. Basic mix will store well in refrigerator for quick use later.

VARIATIONS USING BASIC WHOLE WHEAT MIX

Basic Whole Wheat Mix Biscuits

1 C. basic mix
½ C. water

Combine basic mix and water. Drop onto greased baking sheet. Bake 12-15 minutes at 375°-400°. Yield: 8-12 biscuits.

Basic Whole Wheat Mix Pancakes

1⅓ C. basic mix
1 egg
1 T. sugar
1 C. water

Combine ingredients. Pour onto hot greased griddle. Yield: 10-12 pancakes.

Basic Whole Wheat Mix Breakfast Bread

2 C. basic mix
2 eggs, slightly beaten
¼ C. brown sugar
¾ C. water
½ C. raisins

Blend mix and sugar. Combine eggs and water and stir into mix. Add raisins. Pour into greased 9" pan. Sprinkle topping (recipe below) on top for sweet roll. Bake 350° for 35-40 minutes.

Breakfast Bread Topping

½ C. brown sugar
½ tsp. cinnamon
½ C. chopped nuts

Combine sugar, cinnamon, and nuts. Sprinkle over top of Breakfast Bread. Bake 350° for 35-40 minutes. Serve hot.

WHOLE WHEAT "SCRATCH" RECIPES

Almost everyone loves pancakes. Whole wheat pancakes (and waffles, too) are so delicious, the following "scratch" recipes just couldn't be left out. Experiment with whole wheat pancake batter to find out which kind your family likes best — add bananas, nuts, apple cubes, or any other fruit or flavoring to the batter for a taste treat.

Whole Wheat Flour Pancake-Waffle Mix

1¼ C. sifted whole wheat flour
3 tsp. baking powder
3 T. brown sugar
¾ tsp. salt
2-3 eggs, well beaten
1¼ C. milk
3 T. oil

Sift together dry ingredients. Combine liquid ingredients in separate bowl. Stir liquid mixture into flour mixture. Bake on greased hot griddle until golden brown.

Wholesome Whole Wheat Pancakes

1 C. oats
1 C. whole wheat flour
¼ C. soda
¼ tsp. salt
1 T. honey
2 eggs
2 C. buttermilk
¼ C. melted butter

Stir dry ingredients to mix well. Add remaining ingredients and stir. Aging in refrigerator improves flavor. Add ¼ C. wheat germ to dry ingredients for extra nutrition and flavor. Cook on greased hot griddle until brown.

Whole Wheat Saltine Crackers

4 C. whole wheat flour
2 tsp. salt
⅔ C. dry powdered milk
1½ C. warm water
⅓ C. salad oil
1 T. honey
1 T. yeast

Mix together flour, salt and powdered milk. In 1 cup warm water dissolve honey and yeast. Add to the dry ingredients along with salad oil. Add remaining (or a little more) warm water. Form into a ball. Place in a greased bowl, cover and let rise ½ to 1 hour. Knead for a few minutes. Return to bowl. Use a piece of dough the size of a lemon at a time, keeping the remaining dough covered. Roll out on lightly floured board. Roll each piece as thin as possible. Bake on ungreased cookie sheet in 350° oven about 6 minutes. Turn pan around, turn crackers over and bake 2-3 minutes more. Watch browning very carefully. Cool slowly. Break by hand into irregular shaped crackers.

Whole Wheat Graham Crackers

½ C. margarine
⅔ C. dark brown sugar, firmly packed
2¾ C. whole wheat flour
½ tsp. baking powder
¼ tsp. ground cinnamon

Cream butter and sugar well. Mix remaining ingredients and add to creamed mixture, alternating with ½ C. water. Mix well. Let stand 30 minutes. Roll out dough on floured board to ⅛" thickness, cut in 1" squares and put on oiled cookie sheet. Bake in preheated 350° oven for 20 minutes or until slightly browned.

BASIC BREADMAKING TECHNIQUES

The prospect of making homemade bread should not make you nervous at the thought. It is not too difficult to find what you need to know to succeed in making every yeast bread recipe in this section. This section on basic breadmaking techniques covers the how-to of bread making, along with the whys and wherefores of certain steps. There are lots of dollars to be saved by making your own bread from your stored wheat. It does take time, but the rewards are well worth it. The whole breadmaking scene is made more attractive by the use of a commecial-type bread mixer. There are many on the market, and we suggest every family eventually buy one — but only after the basic food items are in the larder! If you have a bread mixer, the rest of this section on breadmaking how-to is superfluous — just read the directions with the mixer. If you don't have a bread mixer yet, read on!

Mixing. The yeast and flour manufacturers have discovered that just as consistent and even quicker preparation will result if you just stir together about half the flour and the undissolved yeast in the mixer bowl. By eliminating the step of dissolving the yeast in warm water separately, the preparation time is significantly shortened. (Most recipes work either way, though, if you prefer the separate steps method. Some of the directions in the *Handbook* are not modified to this new concept, so choose the better way for you.)

Next, add the warm liquid ingredients and beat with an electric mixer. This beating stage begins the important process of developing the gluten, the bread's framework. Now stir in as much flour as necessary, by hand, to make a moderately stiff dough that comes out of the bowl in a mass. There should be some flour left over for the next step.

Kneading. Turn the dough out on a lightly floured surface. The flour used for kneading is part of the measured amount. You will want to flour your hands too, because a moderatly stiff dough is still rather sticky. *Note: when your recipe gives a range for the amount of flour, start with the smaller amount, adding only enough extra flour to make the dough easy to handle. Using more flour than necessary makes the dough stiff and less manageable during kneading and shaping, thus producing heavier bread or rolls.*

To knead dough, curve your fingers over the dough, pull it toward you, pushing it down and away from you with the heel of your hand. Then give the dough a quarter turn, fold the dough toward you, and push it down again. Add flour till the dough loses its stickiness. *Note on high humidity days, dough takes more flour. Keep repeating the kneading motions until the dough is smooth.*

Kneading is the key step to a good loaf of bread. This process develops he gluten in the flour into long thin strands. In the dough, firm kneading strokes develop long strands of gluten, givig bread small uniform holes and a fine texture. Rough or too vigorous kneading breaks and shortens the gluten strands, causing large holes in the bread, and resulting in poor rising. Knead till the dough develops a "life" of its own. It will feel elastic and respond to your touch. Kneading usually takes about eight to ten minutes. Don't worry about too much kneading; you won't knead dough too long, it'll wear you out.

Rising. A constant temperature of 80° is ideal for the rising of yeast bread. During rising, the yeast grows and gives off carbon dioxide which is trapped in the gluten strands, causing the mass of dough to be stretched. This gives the bread its fine texture.

Place dough in a warm place for rising. Place it on the top rack of a cold oven, and put a pan of hot water on the lower rack. Or, if you prefer, just set the bowl of dough on your kitchen counter, making sure the rising dough is protected from drafts. Rising times given in recipes are approximate — actual rising time depends upon temperature and humidity in your kitchen.

To prevent the surface of the dough from becoming dry and hard as it rises, place it in a lightly greased bowl, turning once to completely coat its surface. Cover the coated dough loosely with waxed paper or a dampened kitchen towel. Rising is completed and the dough is ready for shaping when the it has doubled n bulk and 2 fingers passed lighty ½" into the dough leaves an indentation. Punch the dough down by pushing your fist into the center once. Then, pull the edges of the dough to the center, turn the dough over, and place it on a lightly-floured surface.

Shaping. Various methods can be used to shape dough, but first let the dough rest covered for about ten minutes after it has been punched down and divided into manageable portions. This resting period allows the gluten strands to relax, making the dough less elastic and much easier to handle. Handling the dough during shaping bursts the large air bubbles and produces bread with a smooth, even exterior. To shape dough into a loaf, roll into a 12" x 8" rectangle. Be sure to roll to outer edges to pop any air bubbles. Roll rectangle up tightly, starting with the 8" edge. As you roll, seal with fingertips. Seal the seam completely by pinching the dough together. Also seal the ends by pinching each into a thin sealed strip. Fold strips under the loaf into the seam side. Place loaf seam-side down ino a greased baking pan. Grease and cover the surface and let rise again till it's almost doubled in size. When checking the second rising, press fingers lightly against the edge of the loaf. The dough should feel light and spongy. It will have lost its elasticity and won't bounce back.

If you prefer, you can shape loaves into empty fruit juice cans, or make rolls or bake them in layer cake pans or on cookie sheets. Braided bread is popular, but be sure to braid the bread very loosely so the interwoven effect is not lost as the bread doubles in bulk.

Baking. Bake bread at the temperature specified in the particular recipe. During the first few minutes of baking, the leavening gas in the dough expands rapidly giving the bread its greatest volume. That's why the oven should be preheated to the correct temperature before putting the raised loaf in to bake. As bread bakes, the gluten framework is set, the yeast is destroyed, and this in turn stops the rising action. At this point, the flavor of the bread is fully developed. (That's when the kids start hanging around the kitchen, too!) After the suggested time for baking has elaped, test the bread for doneness by tapping the top crust with your finger. When there is a hollow sound, the bread is thoroughly baked, and the crust should be nicely browned. If the bread browns too quickly, cover the loaf with aluminum foil to prevent the crust from burning. Also, use the foil cover after the top has browned but sides are still light. *Note: if you consistently have problems with crusts browning too quickly, check oven temperature with an oven thermometer to make sure the oven reading is correct.*

Remove yeast breads from baking pans immediately after taking them from the oven. This prevents the crust from being "steamed" in the pan. Place bread on a wire rack to cool, or be devoured, whichever comes first.

How to keep bread fresh. Wrap cooled breads in foil or clear plastic wrap before storing in a well-ventilated bread box. Do not refrigerate baked yeast breads or rolls — refrigerator temperature cause breads to go stale. However, refrigeration does prevent mold from forming and may be your best bet during hot weather, depending on how fast bread disappears in your house. Store crisp-crusted bread and rolls unwrapped and plan to use them the day you make them.

For "just baked" freshness when things are hectic, freeze bread. The fresh quality is retained up to 3 months in fully-baked products. Unbaked homemade dough will freeze well for only a few weeks.

Frozen bread is not convenient to use unless it is sliced before going into the freezer. Otherwise, you have to wait for the whole loaf to thaw to get one slice. To use frozen bread

thaw and then unwrap. There's no need to thaw bread for making toast or sandwiches going in the lunch box. Bread and rolls only need to be reheated to restore their crispness. Dinner rolls and sweet rolls may be frozen satisfactorily up to three months. Glazes, icings, and frostings with powdered sugar don't freeze well. Put the topping on after you thaw the breads or rolls.

By following these timely suggestions, you should have no trouble becoming a basic bread-maker.

WHOLE WHEAT BREADSTUFFS

The previous section provided explantions for basic breadmaking techniques. This section provides the recipes for some basic breads, as well as favorite not-quite-so-basic treats.

Basic One-Rise Whole Wheat Bread

3½ C. scalded milk (powdered, 2%, or diluted canned)
1½ T. salt
2 T. molasses
3 T. shortening
2 T. yeast
½ C. warm water
¼ tsp. sugar
5½ — 6 C. whole wheat flour
4 T. honey
2½ C. white flour

Dissolve yeast in warm water and sugar. Add salt, honey, molasses and shortening to scalded milk and cool to lukewarm. Stir 2 C. flour in liquid and beat with mixer. Add yeast and beat well. Add rest of flour one cup at a time (just enough so you can handle it) *Knead 15 minutes.* Put in pans and let rise 45 minutes (doesn't need to rise twice). Bake at 425° for 15 minutes then turn down to 325° for 45 minutes. Makes 3 small loaves.

Basic Whole Wheat Bread #2

2 T. yeast
3¼ C. water
2 T. brown sugar
1 C. powdered milk
1 to 2 C. white flour
6 to 8 C. flour
2 T. honey
2 T. molasses
2 T. butter or margarine
1 T. salt
2 T. vegetable oil

In a large bowl, mix ½ cup warm water with sugar, add yeast, and let stand about 5 minutes. Add honey, molasses, butter or margarine, salt, powdered milk, and 2¾ cups warm water. Stir in white flour, and then enough wheat flour until dough is easy to knead — not too stiff and not too sticky. Knead about 10 minutes, using oil. Divide into loaves, shape, and place in greased pans. Let rise about 45 minutes, then bake 45 minutes in 350° oven. Let cool slightly, then brush tops of loaves with butter or margarine.

Basic Whole Wheat Rolls

2 T. yeast
½ C. warm water
⅓ C. vegetable oil
⅓ C. brown sugar
2 eggs, beaten
½ tsp. salt
½ C. dry powdered milk
4½-5 C. whole wheat flour

Mix yeast and warm water, set aside for 5 minutes. Mix together oil, brown sugar, eggs, and salt. Then add powdered milk, mixing well. Add enough flour to make a soft dough which leaves the side of the bowl. Turn onto well-floured board, turn dough over to coat with flour and knead 10 minutes or until smooth and satiny. Place in a greased bowl, cover and allow to rise until almost double in bulk (1-2 hours). Shape as desired and place in greased pans. Let rise again. Bake 400° for 15 minutes.

Whole Wheat Onion Buns

3 T. butter or margarine
3 C. all purpose flour (unsifted)
3 C. whole wheat flour
2 T. yeast
¾ C. finely chopped onion
3 T. sugar
1½ tsp. salt
2 C. hot water

In fry pan, saute onion in butter until golden. Set aside. In large mixer bowl, blend 1 C. regular flour, 1 C. whole wheat flour, sugar, salt, and yeast. Add onion mixture (saving 2 T. for topping buns) and the hot water. Beat at low speed 2 minutes. Add 1 C. whole wheat flour and beat at high speed 2 minutes. Stir in remaining whole wheat flour and enough regular flour (about 9 C.) to make a soft dough. Sprinkle ⅓ C. regular flour on a board — turn dough out and knead until smooth and elastic, about 5 minutes, adding more flour as needed. Place in greased bowl, turn over to grease top. Cover. Let rise in warm place until double, about 1 hour. Punch down and divide into 2 equal pieces. Roll each into a ball and place 4" apart on greased baking sheets. With greased fingers flatten each into a 4" circle. Spread some of the reserved onion mixture on each. Let rise until double, about 50 minutes. Bake 375° for 20-25 minutes.

Tomato Juice-Whole Wheat Bread

3 T. yeast
1 C. lukewarm water
1 T. sugar
1½ qt. tap water
1 C. tomato juice
4 T. salt
1 C. honey
½ C. molasses
½ C. shortening
18-20 C. whole wheat flour
butter or margarine

Add yeast and sugar to lukewarm water. Set aside while mixing the other ingredients. In a large mixing bowl beat together water, tomato juice, salt, honey, molasses, and shortening. Add yeast mixture. Beat in 10 C. whole wheat flour. Knead in 8 to 10 more cups whole wheat flour. Cover and let rise until double in size. Knead down again and shape into loaves. Place in well-greased loaf tins. Let rise to the top of the pans. Bake 350° for 40 minutes. Cool slightly and grease the tops of the loaves with butter, then turn loaves on their sides to cool. Yield: 7 medium-sized loaves.

Whole Wheat Dilly Bread

1 T. yeast
¼ C. warm water
⅓ C. powdered milk
½ C. water
4 tsp. sugar
1 T. dehydrated onion slices
1 tsp. margarine
2 tsp. dill seed
1 tsp. salt
⅛ tsp. soda
1 egg, unbeaten
2 C. whole wheat flour

Dissolve yeast in warm water. Combine powdered milk and water to make thick milk. (Basic cottage cheese may be substituted.) Add egg and yeast and beat well. Add flour in thirds, beating well after each addition. Cover. Let rise in warm place until doubled in bulk. Stir down dough. Turn into well greased 1½ qt. casserole dish. Let rise in warm place until light. about 30-40 minutes. Brush with butter, sprinkle with salt. Bake 350°-400° for 50-60 minutes. Yield: 1 loaf.

Whole Wheat Zucchini Bread

2 C. sugar
1 C. vegetable oil
3 eggs, beaten
2 zucchini (unpeeled and grated)
3 tsp. vanilla
3 C. whole wheat flour
1 tsp. salt
1 tsp. soda
3 tsp. cinnamon
¼ tsp. baking powder
½ C. chopped nuts

Mix sugar, oil, eggs, zucchini and vanilla in large bowl. Sift together in separate bowl whole wheat flour, salt, soda, cinnamon and baking powder. Add dry ingredients to first bowl, stirring to combine well. Add chopped nuts. Bake 350° for 45-60 minutes. Yield: 2 loaves.

Basic Whole Wheat Noodles

6 eggs
½ tsp. salt
1 tsp. vegetable oil
2 C. whole wheat flour

Beat eggs thoroughly, add salt, oil and flour. Mix well. Roll mixture out on floured board with wax paper between rolling pin and dough. When ⅛" thick, cut with sharp knife, needle or cutter, roll up and put into boiling broth or salted water.

Noodle Casserole Main Dish

basic whole wheat noodle recipe
1 #303 can peas
1 can mushroom soup, undiluted
1 can tuna
¼ tsp. salt
dash MSG

Mix ingredients in greased casserole dish. Bake 350° for 30 minutes. Serves 6.

Basic Whole Wheat Cake Mix

⅔ C. vegetable shortening (margarine)
1½ C. brown sugar (packed tightly)
1½ tsp. vanilla
3 eggs
3 C. whole wheat flour (sifted)
4½ tsp. baking powder
1 tsp. salt
1½ C. milk

Cream together shortening, brown sugar and vanilla. Add eggs and beat thoroughly. Sift together whole wheat flour, baking powder and salt. Combine wet and dry mixtures, adding milk. After thorough mixing, pour into greased 11" x 17" pan. Bake 350° for 25-30 minutes. (In 9" x 9" pans or for cupcakes, bake 20-25 minutes. This recipe makes 24-28 cupcakes.)

Whole Wheat "Quickie" Cake

½ C. whole wheat flour
3 T. cocoa
1 tsp. soda
1 C. sugar
½ tsp. salt
5 T. vegetable oil
1 T. vinegar
1 T. vanilla
1 C. cold water

Put all ingredients into a bowl. Beat until nearly smooth and no flour remains on bowl. Pour batter into greased 9" x 9" x 2" pan. Bake 350° for 30 minutes.

Whole Wheat Fruit Cocktail Cake

1 egg
2 C. fruit cocktail
1 tsp. soda
½ C. brown sugar
1 C. sugar
1 C. whole wheat flour
¼ tsp. salt
½ C. chopped nuts

Beat egg and add sugar; beat together well. Stir in fruit cocktail *not drained*. Mix flour, salt, and soda together. Combine mixtures. Put in greased 7" x 12" or 8" x 13" pan and sprinkle with brown sugar and nuts. Bake at 350° for 50-60 minutes. Serves about 8.

Whole Wheat Apple Cake

4 fresh, diced apple
2 C. sugar
½ C. vegetable oil
2 tsp. vanilla
2 tsp. soda
1 tsp. salt
2 eggs
2 C. whole wheat flour
2 tsp. cinnamon
1 C. nuts (optional)
1 C. raisins (optional)

Place diced apples (*not* grated) in bowl. Add sugar, oil, vanilla, soda, salt and eggs and mix thoroughly. Sift dry ingredients together, then add to wet mixture. Pour into greased 9" x 13" pan. Bake in 350° oven for 60 minutes or until cake shrinks from sides of pan. Frost with frosting recipe.

Frosting

2 C. powdered sugar
½ C. butter
4 oz. cream cheese
1 tsp. vanilla

Combine ingredients and beat well. Spread topping with knife or spatula.

Whole Wheat Applesauce Cake

1 C. sugar
½ C. shortening
1 egg
2 C. sifted whole wheat flour
¼ tsp. salt
¾ tsp. soda
½ tsp. cloves
1 tsp. cinnamon
1 C. chopped nuts
1 C. raisins
1 C. thick unsweetened applesauce (heated)

Cream shortening and sugar until light and fluffy. Add egg and beat thoroughly. Add sifted dry ingredients, then nuts and raisins. Heat applesauce and stir into batter. Pour into well-greased and floured 8" x 8" pans. Bake 50 minutes at 350°.

Whole Wheat Pie Crust Mix

2 C. whole wheat flour
1 tsp. salt
¾ C. vegetable shortening
ice water

Mix whole wheat flour and salt. Cut ½ C. of the shortening into flour mixture until fine as meal. Cut remaining shortening into mix until mixture is the size of a green pea. Sprinkle 4-8 tsp. ice water on mixture, stirring in lightly with a fork. Then mix well, shaping into a ball. Roll out to fit pan. Bake 400° for 8-12 minutes.

WHOLE WHEAT SWEET TREATS

These sweet treats made with whole wheat flour are as nutritious as they are delicious. They are good for quick energy, and help children adapt to whole wheat cookery. These particular cookie recipes have proven to be favorites for children of all ages. These are classified as *smore* cookies — that's short for "I want some more cookies, Mom."

Whole Wheat Yogurt Cookies

1 C. brown sugar
1 C. white sugar
1 C. margarine
1 tsp. vanilla
2 eggs, beaten
1 tsp. baking powder
¼ tsp. salt
½ tsp. nutmeg
1 C. yogurt
4 C. sifted whole wheat flour

Cream margarine and sugars. Add vanilla and beaten eggs. Sift dry ingredients together twice and add, alternately with yogurt, to the egg mixture. Working with ½ the dough at a time, roll out on floured board to ⅛" thickness. Cut in small rounds with cookie cutter. Place on greased cookie sheet and bake at 400° for 8-10 minutes. Yield: 24-30 cookies.

Whole Wheat Molasses Cookies

¼ C. butter or margarine
¼ C. sugar
½ C. molasses
½ tsp. salt
2 tsp. baking soda
1 tsp. cinnamon
1 tsp. ground ginger
¼ tsp. cloves
1½ C. whole wheat flour
2 T. vinegar

Melt butter or margarine with sugar and molasses in small sauce pan over low heat, then cool. Combine salt, baking soda, ginger, cinnamon and cloves with whole wheat flour in mixing bowl. Stir in butter, then molasses mixture. Add vinegar and stir in. Drop by teaspoon onto greased cookie sheets. Bake in moderate oven (350°) for 7 minutes or until cookies are set. Remove carefully with spatula. *Store in covered jar.*

Whole Wheat Sugar Cookies

1 C. shortening
2 powdered sugar
2 eggs
½ C. buttermilk
3½ C. whole wheat flour
1 tsp. soda
1 tsp. salt

Mix shortening, powdered sugar and eggs together thoroughly. Stir in remaining ingredients. Drop rounded teaspoonfuls about 2" apart on lightly greased baking sheet. Bake 400° for 8-10 minutes. Makes about 6 dozen cookies.

Whole Wheat Chocolate Chip Cookies

2¼ C. whole wheat flour
1 tsp. soda
1 tsp. salt
½ C. soft butter or margarine
1½ C. brown sugar (packed)
3 eggs, beaten
4½ T. powdered dry milk
1 T. water
1 pkg. chocolate or carob chips
¾ C. chopped peanuts
1 C. sunflower seeds, unsalted
1 tsp. vanilla

Stir together dry ingredients, cream the butter and sugar. Add to eggs, vanilla, powdered milk and water. Beat until fluffy. Add flour and blend well. Stir in chocolate chips and nuts. Drop onto greased cookie sheet. Bake 375° for 10-15 minutes.

Whole Wheat Kiddy-Pleasers

½ C. vegetable shortening
½ C. brown sugar (packed)
½ C. honey
2 eggs, beaten well
1 tsp. vanilla
2 C. sifted whole wheat flour
1 tsp. soda
½ tsp. salt
½ C. milk
1 C. chopped nuts
1 C. raisins (optional)

Cream shortening, brown sugar and honey. Add well-beaten eggs and vanilla, beating well together into mixture. In another bowl, sift together flour, soda and salt. Add part of flour mixture to sugar mixture alternately with milk, mixing well. Add remaining flour, then remaining milk. Add nuts and raisins, if desired, mixing in well. Drop onto greased baking sheet. Bake 350° for 10-12 minutes.

Whole Wheat Applesauce Cookies

1 C. brown sugar
½ C. vegetable shortening
1 egg, beaten well
1 C. applesauce
1 tsp. soda
2 C. whole wheat flour
½ tsp. salt
½ tsp. nutmeg
½ tsp. cinnamon
¼ tsp. cloves
1 C. raisins
½ C. chopped nuts

Cream brown sugar and vegetable shortening. Add beaten egg; mix well. Add in applesauce and soda, mixing thoroughly. Add remaining ingredients, mixing well. Drop spoonfuls onto greased cookie sheet. Bake 375° for 15-20 minutes.

Whole Wheat Chocolate Cookies

1½ C. margarine
2 C. sugar
1 C. cocoa
2 C. raisins
1 C. chopped nuts
2 C. milk
2 tsp. salt
2 tsp. vanilla
6 C. whole wheat flour
1½ tsp. soda

Mix cocoa with enough water to make a medium-thick paste. Cream margarine and sugar together in separate bowl. Sift together all dry ingredients. Add to sugar mixture alternately with milk. Finally, add cocoa mixture, raisins and nuts. Drop onto greased cookie sheets. Bake at 350° for 10 minutes. (As an added treat and to heighten eye-appeal, frost with powdered sugar.)

OTHER COOKIE RECIPES

BASIC WHOLE WHEAT STUFFING/DRESSING MIX

Perhaps your family enjoys stuffing/dressing with a number of their favorite entrees. This section contains a basic whole wheat bread that's easy to make and economical besides. This easy bread is used as the filler base for the basic whole wheat stuffing/dressing recipe charted for quick reference and use.

Basic Easy Whole Wheat Bread

3 C. warm water
1 T. dry yeast
¼ C. honey
1 T. salt
9 C. whole wheat flour (approx.)

Dissolve yeast in ¼ C. of the warm water and 1 tsp. of the honey. Let stand 5 minutes. Stir in remaining water, honey and salt. Add flour. Knead 10 minutes. Put dough in lightly greased bowl. Cover with damp cloth and place in unheated oven over large pan of hot water until double in bulk. Divide and form into loaves. Place in greased pans, allowing to rise until double. Bake 350° for 1 hour. After allowing to cool fully, cut into ½" slices, then cut into cubes. Dry bread in oven, allow to cool, then place dried bread cubes and crumbs into sealed plastic bags.

Basic Easy Bread Stuffing/Dressing Mix

4 C. whole wheat bread, cubed and dried
¾ C. stock
1 egg, beaten
½ C. butter (margarine)
½ C celery
½ C. chopped onion
1 tsp. salt
1 tsp. pepper
⅛ tsp. thyme
⅛ tsp. sage
½ T. parsley flakes
1 dash MSG

Mix lightly all dry ingredients. Saute celery and onion in butter, pour over dry mix. Add stock and egg, tossing lightly so as not to crush bread cubes. Yield: approximately 1 qt. stuffing or dressing. (See chart for other amounts.)

To embellish the basic recipe and the flavor of the stuffing/dressing, add any additional ingredients — chopped nuts, sliced raw apples, sausage (cooked and crumbled), chopped green or red bell peppers (sauteed), choppsd pinapple, canned or frozen oysters, mushrooms, dried prunes or apricots (chopped or sliced), and giblets (cooked and chopped).

Diluting the stock with water or milk, or substituting powdered milk will change the flavor, also. This basic recipe can be used to stuff wild poultry (duck, goose, cornish hen, rock hen, etc.), as well as pork chops, ham slices, leg of lamb, lamb chops, fish, or bell peppers.

The following chart is used to determine the amount of dressing needed to fill the neck and body cavity of poultry.

CHART 4-A
BASIC STUFFING/DRESSING CHART

INGREDIENTS FOR BASIC RECIPE	UNCOOKED POULTRY WEIGHT			
	3-6 lbs.	10-12 lbs.	16-18 lbs.	22-24 lbs.
whole wheat bread, cubed and dried	4 C.	6 C.	12 C.	16 C.
stock (vary for moistness) (broth, milk, etc.)	¾ C.	1½ C.	2¼ C.	3 C.
egg, beaten	1	2	2	3
butter (margarine)	½ C.	½ C.	1 C.	1½ C.
celery, chopped	½ C.	1 C.	1½ C.	2 C.
onion, chopped	½ C.	1 C.	1½ C.	2 C.
salt	1 tsp.	2 tsp.	3 tsp.	4 tsp.
pepper	1 tsp.	2 tsp.	3 tsp.	4 tsp.
thyme	⅛ tsp.	¼ tsp.	½ tsp.	1 tsp.
sage	⅛ tsp.	¼ tsp.	½ tsp.	1 tsp.
parsley flakes	½ T.	1 T.	1½ tsp.	2 T.
MSG	1 dash	2 dashes	½ tsp.	1 tsp.

Stuffing For Poultry

Spoon into salted body cavity, but do not overstuff. Close openings, bake according to poultry roasting directions.

Dressing

Spoon dressing into greased covered dish. Bake 350° for 30-40 minutes. To crispen top, remove lid during final 5 minutes of baking.

Dressing Meatloaf

Crush dry mixture and substitute for bread crumbs and herbs in your favorite meatloaf recipe.

OTHER USES FOR DRESSING MIX

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_____ _____

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STONE-GROUND WHOLE WHEAT COOKERY

These stone-ground whole wheat recipes require freshly-ground whole wheat flour. Stone-grinding is the best way to get a better-tasting product, since all the wheat kernel is ground into the flour. The freshness really comes through, and there is a resultant health benefit in stone-ground flour, too. There's no need to fear the stone-ground flour is not as fine or as delicate as white flour — it is, and you can even make sponge cake with it! Refer back to the basic bread making techniques to bolster your courage if you feel you're still too much a novice.

It takes more time to make stone-ground whole wheat bread than a bread made with all-purpose flour. Since stone-ground whole wheat flour is coarser and heavier, the dough must be kneaded for 10 to 15 minutes to produce loaves with an even texture. Each rising also takes longer. However, the taste difference is ample reward for the extra effort.

Basic Stone-Ground Whole Wheat Bread

2 T. dry yeast
5-6 C. lukewarm water
½ C. honey
20 C. stone-ground whole wheat flour
2 T. salt
5 C. dry powdered milk
⅓ C. shortening or margarine

Make yeast mixture with yeast, ½ C. warm water, and 1 tsp. honey and let stand for 10 minutes. Mix dry ingredients in large mixing bowl, making a well in the center. Pour in remaining liquids and yeast mixture. Stir with spoon as long as possible, then continue mixing with hands. Mix until stickiness begins to leave the dough. Grease the sides of the bowl and your hands with shortening or margarine and continue to work the dough, kneading it very thoroughly. Use considerable pressure when forming the loaves in order to remove all air bubbles. Place loaves in well greased pans and cover with wax paper. Allow to rise until almost double in size. Place in a pre-heated oven at 300° and bake for 1¼ hours. Remove loaves from pans and leave uncovered for 15 minutes, then cover with wax paper and a heavy towel to finish cooling. Yield: 5 loaves.

VARIATIONS USING STONE-GROUND WHOLE WHEAT BREAD

Raisin Bread

stone-ground whole wheat bread recipe
1½ C. raisins
1 tsp. ginger

Add raisins and spices to dough before first mixing of dough and follow directions for stone-ground whole wheat bread recipe.

Cinnamon Rolls

stone-ground whole wheat bread recipe
1 tsp. ginger
1 T. soft butter
1 tsp. grated orange peel
½ C. brown sugar
1 T. cinnamon

Add ginger and grated orange peel to dough before first mixing of dough in stone-ground whole wheat bread recipe. When shaping rolls, sprinkle surface of dough before rolling with mixture of sugar, cinnamon and soft butter. Place on greased baking pans. Bake 400° for 30-40 minutes. Serve piping hot.

Carrot-Raisin Wheat Bread

1 T. yeast
⅓ C. warm water
2 C. milk — scalded and cooled
5 T. melted butter or margarine
½ C. honey
6½ C. stone-ground whole wheat flour (approx.)
1 C. finely shredded carrots
1 C. raisins

Dissolve yeast in water in a large bowl. Add milk, 3 tablespoons of butter, salt, honey and gradually stir in 5 C. of the flour to make a soft dough; stir in the carrot and raisins. Spread about ¾ C. of the remaining flour on a board. Turn out the dough, and knead until dough is elastic and not sticky, for 10-15 minutes. Sprinkle additional flour on the board and hands as needed to prevent sticking. Place dough in a greased bowl, turn over to grease the top, cover with a towel and let rise in a warm place until almost doubled, then let rise 40 minutes more and punch down; let rise 20 minutes then punch down; let rise 10 minutes then punch down and squeeze to release air bubbles; divide it in two equal portions. Knead each for about 30 seconds on a lightly floured board and shape into a smooth round loaf. Place each loaf on a greased cookie sheet. Cover and let rise until almost doubled — about 1 hour.

Brush tops with the remaining butter. Bake 350° for about 30 minutes, or until browned and the loaves sound hollow when tapped. Let cool on racks. Wrap airtight. Can be stored at room temperature for up to 3 days. Freeze for longer storage. Yield: 2 loaves.

STONE-GROUND WHEAT PRETZELS

Pretzels are usually made from regular white flour, but the following recipes use whole wheat and wholesome rye flours. Before baking, dip each pretzel in boiling salted water, which give the familiar shiny crust, then sprinkle with coarse salt.

Soft pretzels are delicious with a soup or salad lunch or with sausages and cheese for a late supper. Serve them warm or at room temperature, spread with butter. Pretzels can be refrigerated or frozen, then reheated for serving.

Soft Whole Wheat Pretzels

1 T. yeast
½ C. sugar
½ C. warm water
2 C. milk, scalded and cooled to room temp
¼ C. salad oil
3 C. stone-ground whole wheat flour (approx.)
3 C. reg. all-purpose flour, unsifted (approx.)
¾ tsp. baking powder
1½ tsp. salt
2 qts. boiling water
1 egg white, slightly beaten
4 T. coarse (kosher-style) salt

In a large bowl, dissolve yeast in the warm water. Then stir in sugar, 1½ tsp. salt, milk and salad oil. With a wooden spoon gradually mix in 1½ C. stone-ground whole wheat flour and 1 C. of the regular flour.

Cover and let rise in a warm place until bubbly, about 40 minutes. Sift 1½ C. more of the regular flour with baking powder; add to dough with remaining 1½ C. of stone-ground whole wheat flour. Mix with wooden spoon, then turn out dough on a lightly floured board.

Knead for about 5 minutes or until dough is no longer sticky, adding a little more regular flour if necessary. Roll out and pat dough into a 9" by 15" rectangle. Press a large French knife straight down through dough to cut into strips ½" wide and 15" long. With your palms roll each strip back and forth on the board into a strand about 20" long; twist each into pretzel shape. Let rise, uncovered, for 30 minutes.

Dissolve 3 T. coarse salt in boiling water. With a slotted spoon, lower 1 pretzel at a time into boiling water; after about 2 seconds, lift out, wipe the bottom of the spoon on paper towels to drain briefly. Set pretzels on a liberally greased baking sheet, arrange ½" apart. Brush with egg white and sprinkle lightly with remaining coarse salt.

Bake at 400° for 20 minutes or until crust is golden brown. Serve warm or transfer to a rack to cool. Wrap airtight for storage. To reheat, set pretzels directly on oven rack in 350° for about 5 minutes (8 minutes if frozen) or until crusty. Makes approximately 18 pretzels.

Soft Rye Pretzels

Follow directions for soft whole wheat pretzels, simply substituting rye flour for whole wheat flour. Add 3 tablespoons crushed dill seed, if desired.

Stone-Ground Wheat Sponge Cake

6 eggs, separated
1½ C. sugar
½ C. water
½ tsp. salt
¼ tsp. almond extract
1½ C. sifted whole wheat flour
½ tsp. lemon juics or extract
1 tsp. cream of tartar

Using mixer beat yolks, water, sugar and flavoring 5-7 minutes until very thick and creamy. Sift flour and salt twice. Beat egg whites until stiff, and fold into batter. Add remaining ingredients gradually, continuing to beat. Pour into cake pans. Bake 325°-350° for approx. 1 hour until top springs back to touch.

Stone-Ground Wheat Pie Shell

1 C. stone-ground whole wheat flour
¼ tsp. salt
⅓ C. vegetable shortening
cold water

Mix stone-ground whole wheat flour and salt in bowl. Cut in vegetable shortening until mixture resembles coarse meal. Mixing with fork, add enough cold water to hold ingredients together. Gather into ball and roll on floured board to fit pie pan. Trim edges and flute. Bake 400° for 8-12 minutes.

WHEAT GERM GRANOLA

The following granola recipes use wheat germ for additional nutrition and taste. This basic granola is tasty and healthful, and easy to make.

Basic Granola

4 C. rolled oats (uncooked)
1 C. wheat germ
1 C. coconut (shredded)
¼ C. sesame seeds
½ tsp. salt
1 C. vegetable oil
¾ C. honey
2 C. dried fruit and nuts (mixed)

Combine dry ingredients in a large bowl. Mix honey and oil together and heat until honey is thinned. Stir into dry mixture. Spread on two greased cookie sheets or two cake pans. Bake 300° until lightly browned (15-20 min.) Stir every five minutes during baking and several times while cooling. *Add mixed dried fruits* using any of the following: raisins, dried apples, dried bananas, dried apricots, toasted sunflower nuts, walnuts, pecans, almonds, etc.

Granola No. 2

1 C. warm vegetable oil
1¼ C. honey
5 C. oatmeal
1 C. sliced almonds
1 C. sesame seeds
1 C. sunflower seeds
1 C. soy flour
1 C. dry powdered milk
1 C. wheat germ
1 C. shredded coconut

Mix dry ingredients in large bowl. Combine cookie sheets or two cake pans. Bake at 300° until *lightly* browned (15-20 minutes). Stir every five minutes during baking and several times while cooling.

Granola No. 3

4 C. oatmeal
1 C. coconut
1 C. wheat germ
1 C. sesame seeds
1 C. oil (cooking)
¾ C. honey
1 tsp. vanilla
½ C. chopped nuts
½ C. raisins

Mix all ingredients together and spread thin on 2 cookie sheets. Bake at 300° for 20 minutes. Stir every 5 minutes to avoid burning. When cool add chopped nuts and raisings. Cool before taking off cookie sheet.

Granola No. 4

8 C. rolled oats
1 C. nuts (pieces)
1 C. wheat germ
1 C. shredded coconut
½ C. brown sugar
½ C. date nuggets
1 C. oil
½ C. water
½ tsp. salt.

Mix all ingredients together and place on large tray. Bake 250° for 2 hours, stirring every half hour or so.

Basic Granola Cookies

1 C. butter (margarine)
1 C. brown sugar
2 eggs
2 T. water
3 C. basic granola
1¾ C. flour
1 tsp. baking soda
1 tsp. salt
2 tsp. vanilla
12 oz. chocolate morsels
1 C. chopped nuts or coconut

Cream butter, brown sugar and eggs until fluffy. Add water and blend well. Sift flour, soda and salt together and add to creamed mixture. Stir in Basic Granola, vanilla, chocolate morsels, nuts or coconut. Mix until well blended. Drop by teaspoon onto greased cookie sheet and bake at 350° for 12 minutes.

OTHER FAVORITE GRANOLA RECIPES

GLUTEN

No chapter on wheat is complete without reference to gluten. Gluten is a vegetable protein product, high in nutrition and quite tasty when seasoned properly.

Wheat stored in your food storage program takes on a new dimension when it can be used as a substitute for meat. Gluten can be seasoned by adding meat or meat juices while cooking. Basic gluten is fairly easy to make, and the task can be delegated to a younger member of the family, since no subtle or delicate handlings are required. In fact, the success of a gluten batch depends on the thoroughness of the beating it gets — the rougher the better.

There are a number of very good books on gluten. The best available volume is *THE GLUTEN BOOK,* by LeArta Moulton. The following improved basic recipe and instructions are adequate for beginning gluten-making. Have fun in experimenting with gluten and its uses; there are many ways to use gluten in the diet. The best gluten is made from freshly-ground, hard, whole wheat flour and water. You only need fresh stone-ground whole wheat flour and hot and cold water for making gluten in this basic 3-step method.

BASIC GLUTEN — 3-step Method

16 C. stone-ground whole wheat flour 3 C. water (approx.)

[1.] Combine flour and water into a ball-like mass. Then knead, pound or beat (or mix in bread mixer if you have one) for 10-15 minutes. *(Remember: success depends upon a very thorough beating).*

[2.] Cover gluten with cold water for about an hour. Then wash out the starch by holding the soft dough in your hands under water as hot as your hands can tolerate. When the dough is firm the starch has been removed. Continue rinsing until the bran, which feels like sand, has been washed out. Let drain 30 minutes more for easier handling. If too wet, dry out in 200° oven approximately 30 minutes.

[3.] The final step cooks and flavors the gluten. If you've decided what you'll make with the gluten, both can be done simultaneously. Any seasoning you prefer may be used. For example, use bacon, sausage, or beef juices for frying the gluten strips, rolls or patties. However, most people prefer "boiling in" the flavor. The following flavoring recipes will help make gluten more palatable. The storage period for cooked gluten is about two weeks in the refrigerator.

Basic Gluten Flavoring

7 C. water
½ C. soy sauce
salt and pepper to taste
1 can consomme soup (or substitute 12 beef bouillon cubes)

Bring water to boil, reduce heat, then add soup and soy sauce. Roll out gluten, cut into ½" strips with sharp knife or heavy scissors. Drop strips into broth. Simmer 30 minutes.

Basic Beef Flavoring

2 T. beef base granules
1 T. soy sauce
½ C. chopped onion
¼ T. pepper
4 tsp. seasoned salt
½ tsp. MSG

Mix all ingredients and bring to a boil. Add gluten strips and simmer 30 minutes.

Basic Gluten Steakettes

Form gluten into steak-shaped forms and season with basic beef flavoring. Then follow these directions for delicious-tasting meat substitutes.

Pan-Fried Steakettes

basic gluten steakettes
1 C. sliced mushrooms
½ C. butter (margarine)
salt and pepper to taste

Fry steakettes in butter. Reduce heat to low. Sprinkle mushrooms over steakettes, cover with lid for 5 minutes. Serve immediately.

Skillet Steakettes

basic gluten steakettes
1 egg, beaten
2 C. bread crumbs, crushed fine
1 C. butter (margarine)
6 slices bacon
1 can mushroom soup, undiluted

Dip steakettes in egg, roll in bread crumbs. Fry bacon in pan, remove and chop fine. Return bacon to pan, add butter. Brown steakettes. Pour mushroom soup over steakettes. Serve hot. (This dish may be baked in the oven for 15 minutes at 425°.)

Basic Gluten Ground Beef Substitute

After simmering basic gluten in beef flavoring, grind gluten in meat grinder and substitute in recipes using ground beef.

Basic Gluten Burger

basic gluten ground beef substitute
1 egg
flour
1 medium onion, chopped fine
salt and pepper to taste
½ C. butter (margarine)

Stir egg and chopped onion into ground beef substitute. Add enough flour to make patties. Fry in butter, browning both sides. Cover and steam 5 minutes to bring out full flavor.

Basic Gluten Patties in Mushroom Sauce

2 eggs
1 onion, medium (chopped)
½ C. soy sauce
dash garlic salt
dash MSG
½ tsp. sage
2 C. basic gluten ground beef substitute
2 C. cooked rice
1 can mushroom soup, undiluted

Mix egg, onion, soy sauce, garlic salt and sage together, then add, basic gluten and rice. Form into patties. Fry in oil slowly until browned. Add undiluted mushroom soup, simmering 10-15 minutes.

Basic Gluten Sausage

basic gluten ground beef substitute
sausage seasoning to taste
1 T. flour
½ C. butter (margarine)

Season gluten with sausage seasoning until the flavor suits you. Then stir in egg and flour. Form into patties and fry, browning both sides.

ADDITIONAL GLUTEN RECIPES

WHITE FLOUR COOKERY

This section on white flour cookery is included because this Handbook does not advocate the use of *only* whole wheat. As long as there's wheat, there are those who'll have white flour. This section is not lengthy because practically every cookbook is filled with recipes using white flour.

WHITE FLOUR RECIPES

Basic White Flour Biscuit Mix

8 C. sifted white flour
1 C. non fat dry milk
¼ C. baking powder
4 tsp. salt
1⅓ C. shortening
⅓–½ C. water or milk

Sift together dry ingredients. Cut in shortening with 2 knives until fine as flour, then add water or milk. Drop onto greased baking sheet. Bake 450° for 12-15 minutes.

Dumplings

Use basic white flour biscuit mix for excellent dumplings. Roll 'em out and pop 'em in boiling liquid.

Vegetable-Filled Biscuits

basic white flour biscuit mix
2 C. chopped celery
2 C. coarsely grated carrots
1 large onion, finely chopped
2 T. margarine
½ tsp. salt
½ tsp. melted margarine

In covered pan, cook celery, carrots, onion, salt and margarine for 10 minutes, stirring occasionally. Roll biscuit mix into a square or rectangle and cut in 5″ squares. Fill each square with ⅓ cup cooked vegetables. Fold up the corners to meet in the center and pinch edges together to seal. Place biscuits on greased baking sheet. Brush with melted margarine and bake at 400° for 15 minutes or until lightly browned. Makes 9 to 12 biscuits.

Beef Pie

basic white flour biscuit mix
1 lb. lean ground beef
½ C. chopped onion
2 8 oz. cans tomato sauce
⅛ tsp. garlic salt
2 4 oz. cans sliced mushrooms
1 tsp. salt
1 tsp. chili powder

Brown beef in skillet. Add onion and cook until tender. Add 1 can of tomato sauce and mushrooms, salt, garlic salt and chili powder; heat until bubbly. Meanwhile, combine basic biscuit mix with milk. Knead eight to ten times on floured board. Divide dough in half. Roll out one-half to fit 9" pie pan and line pan; pour in hot filling. Roll out remaining dough and place over filling. Crimp edge; slit top. Bake at 425° for 15-20 minutes, or until done. Heat remaining tomato sauce and mushrooms. Serve over wedges of beef pie. Yield: 4-6 servings.

Basic Pizza Crust

2 T. yeast
1¼ C. lukewarm water
1 tsp. salt
pinch sugar
3½ C. flour
¾ C. oil

Mix all ingredients well. Knead until smooth and shiny. Let rinse 1-½ hours. Cover with pizza sauce. Bake 425° at 15-20 minutes.

WHITE FLOUR BREADS AND SWEET ROLLS

Basic French Bread

2 T. (pkg.) dry yeast
2½ C. warm water
3 tsp. salt
2 T. shortening
6-7 C. flour

Dissolve yeast in ½ C. warm water. While yeast is rising put shortening, salt, and remaining water into bowl and mix. Add yeast mixture. Gradually add flour to form stiff dough. Knead 5 to 10 minutes. Cover and let rise until double in bulk (about 1 hour). Punch down and let rise again in bowl until double in bulk (about ¾ hour longer). Punch down again. Remove from bowl and form into loaves as follows: divide dough in two parts and roll each part into a rectangle about 10" x 14". Roll dough jelly-roll fashion to form a loaf about 14" long. Slash top and place on cooky sheets which have been sprinkled with corn meal. Cover and let rise until double in bulk. Bake at 400° for 15 minutes and 350° for about 45 minutes longer. Brush loaves with egg white while baking for a golden brown crust.

Raisin Bread

2 T. (pkg.) dry yeast
¼ C. warm water
1 box raisins
2 C. scalded milk
2 T. butter or margarine
2 T. sugar
1 tsp. salt
⅛ tsp. mace
1 tsp. lemon extract
2 eggs, beaten
6 C. flour (approx.)

Soak raisins 1 hour in 2 C. cold water. Drain well. Dissolve yeast in warm water. Put butter, sugar, spice, salt and flavoring into bowl. Pour scalded milk over all. When lukewarm, add eggs, yeast mixture and raisins. Gradually, add flour, kneading to make a smooth ball. Cover and let rise until double in bulk. Punch down, and form into 2 loaves. Put into greased bread pans and let rise until double in bulk. Bake at 400° for 15 minutes and 350° for 35 minutes longer. Remove from pans, brush with melted butter. Cool on racks.

Basic Sweet Roll Dough

2T. (pkg.) yeast
½ C. lukewarm water
½ C. scalded milk
½ C. sugar
1 tsp. salt
2 eggs, slightly beaten
½ C. butter or margarine
4½ to 5½ C. flour

Dissolve yeast in warm water. Put scalded milk, sugar, salt and butter into bowl and mix. When lukewarm, add yeast. Add 1 cut flour and eggs. Slightly mix. Continue adding flour until a firm ball is formed. Cover and let rise until double in bulk. Punch down and let rise 1 hour. Punch down once again and turn out onto floured board and form as desired. Bake 400° for 25 minutes.

VARIATIONS USING BASIC SWEET ROLL DOUGH

Cinnamon Nut Coffee Cake

⅓ C. flour
⅓ C. sugar
2 tsp. cinnamon
3 T. soft butter
¼ C. chopped nuts

After second rising of basic sweet roll dough, roll ⅓ of dough into circle to fit 9" pan. Sprinkle top with mixture of flour, sugar, cinnamon, butter, and chopped nuts. Cover and let rise until double in bulk. Bake at 400° for about 25 minutes. Serve warm.

Honey Twist

¼ C. butter, creamed
2 T. honey
1 egg white
1 C. confectioners sugar

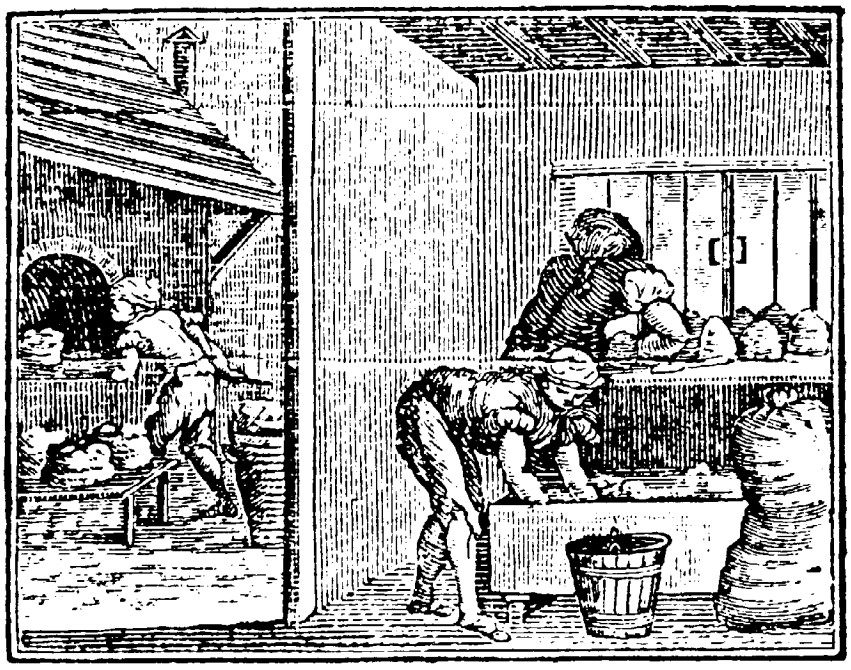
After second rising of basic sweet roll dough, roll into a long cylinder 1" in diameter. Coil into buttered 9" layer pan beginning at outer edge and covering the bottom. Cover and let rise until double in bulk. Bake at 375° for 20 to 25 minutes. While hot, spread with mixture of butter, honey, egg white, and sugar.

ADDITIONAL RECIPES

Before closing this chapter, there are 2 publications worthy of special mention. Each of them can further expand your knowledge concerning the use of wheat. One of these books deserving particular mention is *Wheat for Man, Why and How,* by Vernice G. Rosenvall, Mabel H. Miller, and Dora D. Flack. This book is a standard in the field and an excellent treatise on wheat and how to use it.

The other book is *The Magic of Wheat Cookery,* by Lorraine Dilworth Tyler, distributed by the Magic Mill wheat grinder manufacturer. It's a great cookbook with beautiful colored photos illustrating wheat recipes.

NOTES



CHAPTER 5

SOURDOUGH BREADSTUFFS

For many years during the growth of the Old West, sourdough was known as the frontiersman's staff of life. It was such a major part of the prospector's diet that he was eventually called a "Sourdough". In later years, it became a complimentary and hard-won title. The pioneers carried sourdough pots West and guarded them jealously. Sourdough was found in every chuckwagon and probably every other kind of wagon crossing the plains, too. Even today, sheepherders and prospectors find sourdough the indispensable leavener for those crusty, aromatic breadstuffs so dear to the taste of our Western life-style.

A little sourdough goes a long way. By adding just flour and warm water to sourdough "starter," you can make pancakes, breads, rolls, cakes and cookies. By saving a cup of the sourdough from each batch, you have your "starter" for the next time. (*Remember: put in a cup – take out a cup!*) If you protect sourdough starter, it will become a true kitchen friend and could ultimately make a billion pancakes – if *you* have the time and patience.

BASIC PREPARATION OF SOURDOUGH

With reasonable care, and allowing enough time and warmth to provide proper fermentation, there are no mysteries to sourdough cookery.

Allow sufficient time for preparation and follow directions until you feel comfortable with the difference in sourdough leavening compared to other forms of leavening; the only limits to the use of sourdough are those of your imagination. Sourdough cookery can be fun and can provide more satisfaction than almost any other field of cooking. Sourdough is a of yeast — it

reacts to the same conditions all other yeasts do. However, sourdough is slower and always needs more warmth for a longer period of time to insure best results. Most beginner failures are the result of the starter being too cool at night, preventing the sourdough leavening action from occuring normally.

For best results in making sourdough bread, use unbleached hard winter wheat flour. It makes a better-tasting and nutritious loaf of bread. This type flour may not be easily available at your local grocery store. Most flour in grocery stores today is all-purpose flour — good enough for ordinary pancakes, cookies and cakes, but not good enough for sourdough bread flour. Grind fresh flour from your food storage program to get best results with sourdough.

SOURDOUGH STARTER

A good starter has a strong, sour milk odor. The sour smell is a part of normal "aging". The liquid separates from the batter when it goes too long without use. To restore the sourdough starter, just use it, or "sweeten" it with a teaspoon of sugar stirred in. If replenished (by using) regularly, the starter stays fresh. If starter is not to be used for several weeks, freeze or dry it to keep it from spoiling. To carry it to camp, add enough flour to shape it into a ball and place it in a sack of flour. In the dried form the yeast goes into a spore stage, with the ability to stay inert for a long time. Water and warmth bring the yeast back to the active stage. There are a variety of starters, and recipes for all sourdough items can be used with any type starter. Obtain a starter from someone who has one going — in fact, the genealogy of an aged starter can be as prestigious to the cook as the prepared food is to the delight of the person eating!

Get a crockery pot (ceramic cheese pots are perfect) for the sourdough starter. Scald the pot before putting in the starter. Always keep the sourdough pot in the refrigerator. Storing sourdough at room temperature invites the growth of undesirable bacteria and molds in it. The presence of other yeast, bacteria, and molds is not bad, but their growth should not be encouraged. Storing at cold temperatures is important because the starter is not a sterile yeast culture. The cold temperature does not harm the yeast, it merely reduces its reproduction rate considerably. If your starter becomes too sour, add just a pinch of soda to sweeten it.

BASIC SOURDOUGH STARTER RECIPES

Prepare your own sourdough starter by using one of the following recipes.

Basic Water-base Sourdough Starter

2 C. flour
2 C. water
1 package dry yeast

Mix ingredients well. Keep in a warm place overnight. Next morning, put 1 C. of starter mixture in a scalded container with a tight cover and store in the refrigerator for future use. This is *basic sourdough starter*. The remaining batter can be used immediately for pancakes, muffins, bread, or cake. This starter, when replenished every week with flour and water, will last years.

Basic Milk-base Sourdough Starter

1 C. buttermilk
1 C. flour

After mixing ingredients, let stand for 48 hours or until fermentation begins. For each use of the starter, add equal amounts of flour and condensed milk. Be sure to save 1 C. of the mixture for starter.

Basic Rye Sourdough Starter

1½ C. rye flour
½ C. water
½ T. yeast

Mix ingredients together well. Place in warm spot for 24 hours to ferment. Place 1 C. starter in crock pot and refrigerate.

Basic San Francisco-Type Sourdough Starter

3½ C. unsifted whole wheat flour
1 T. sugar
1 package active dry yeast
2 C. warm water

Combine flour, sugar and undissolved yeast in a large bowl. Gradually add warm water to dry ingredients and beat until smooth. Cover with transparent wrap; let stand in warm place for 2 days. This starter is usually somewhat more sour than other sourdough starters. Put 1 C. starter in crock pot and refrigerate. To replenish starter, add 1½ C. whole wheat flour and 1 C. warm water. Beat until smooth, then place in warm spot to ferment. Remove 1 C. for starter, then use balance, stirring before using.

Basic Honey Sourdough Starter

3 C. water
3 C. flour
1 tsp. honey

Mix ingredients in blender or stir very well. Let stand in warm room in open crock or jar for three days or until it smells yeasty and is full of bubbles. Stir often during aging process.

Leave 1 C. starter in a tightly covered crock in the refrigerator. Starter will keep for several weeks. Freeze starter if not used often. To activate the starter again, add 3 C. water and 3 C. flour (for making up two loaves of bread). Stir often and keep in warm room. It will be ready to use in about 6 hours; allow 24 hours if starter was frozen.

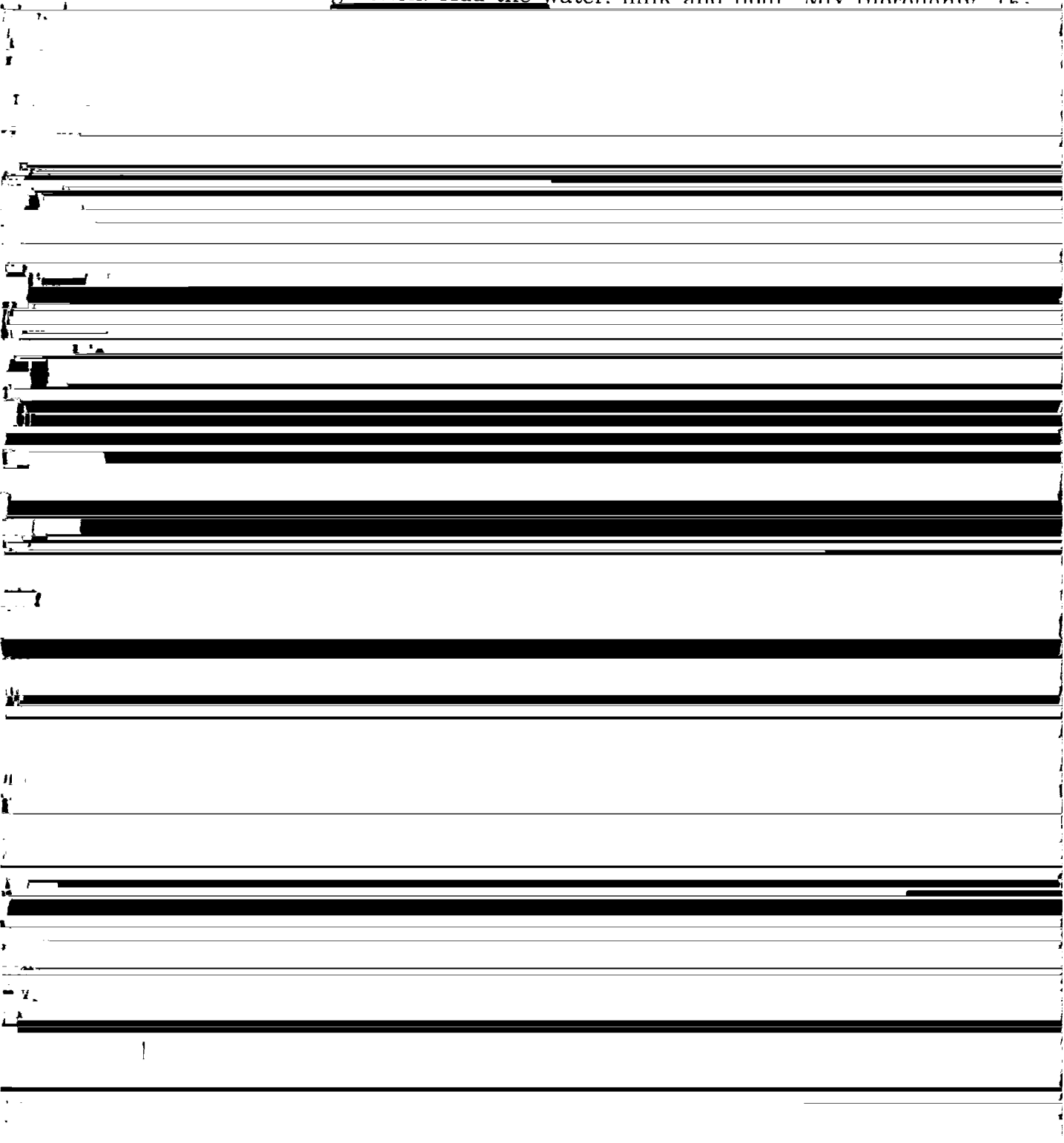
BASIC SOURDOUGH BATTER

The traditional basic sourdough batter should be prepared the evening before you want pancakes for breakfast or wish to make bread. Basic sourdough batter is used in almost every sourdough cookery recipe. Basic batter is made from your choice of sourdough type, i.e., adding water to water-base starter or milk to milk-base starter, etc.

1 C. sourdough starter of choice
2 C. warm water or milk
2 C. flour (wheat, rye, etc.)

Place sourdough starter in a large mixing bowl (large enough to allow for any expansion that may take place, depending on how warm it is), preferably of glass, pottery, wood or plastic. Don't use a metal container or leave a metal spoon in the starter, as the chemical reaction can

kill the starter's leavening action. Add the water, milk and flour. Mix thoroughly. Th



Cover the bowl and put in warm spot overnight. Allow 10-12 hours during the night in a warm spot in the kitchen for complete fermentation. In the morning, return the cup of starter to the sourdough pot and keep in the refrigerator until next use. The remaining basic batter is what you use in your recipe.

To increase the amounts of basic batter for pancakes or waffles to serve a larger number of people, the sourdough starter (leavener) should be increased proportionate to the

BISCUITS, BREADS, AND MUFFINS

SUGGESTIONS FOR PREPARATION OF SOURDOUGH BREADSTUFFS

1. The basic sourdough batter is placed in a non-metal bowl, and the required sugar, salt, and flavorings are stirred in gently. The yeast is already active and in suspension in the batter.

2. The flour is added a little at a time and stirred in until the dough pulls away from the sides of the bowl. Flour quantities, especially in sourdough recipes are approximate because of differences in liquid absorption, compactness, and the amount of liquid alcohol present in the batter. The variation in liquid is peculiar to sourdough since the yeast breaks the flour starch down into alcohol and carbon dioxide gas during fermentation. Although this occurs in all yeast breads, the long and variable fermentation period of sourdough starter produces substantially more liquid alcohol, depending on starter strength.

3. The dough is turned out on a floured board and kneaded until it feels smooth and elastic. Dough should not be sticky and should spring back when pressed with the finger when properly kneaded.

4. As with all yeast breads, the dough may be given one or two risings. Two risings give a somewhat finer textured loaf, but one rising produces a highly satisfactory bread, especially when it is well kneaded. If one rising is preferred, skip now to suggestion #6. To let rise twice, shape the dough into a ball and place in a greased bowl. Roll the dough in the bowl to coat its entire surface. Cover with a clean dish towel and place in a warm place to rise until dough doubles. Sourdough usually takes 1½ to 2 times longer to rise than other yeast doughs.

5. Punch the dough down and turn out onto a lightly floured board. Knead gently.

6. If a double recipe or a recipe for two loaves is used, divide the dough into two equal parts. Shape the dough and place in a greased loaf pan.

7. Cover the dough with a clean dish towel and put in warm spot to rise. Allow the dough to rise until about double in bulk or until the top of the dough reaches ½" to ¾" above the rim of the pan. The bread will rise even slightly more during baking.

8. Preheat oven while dough rises.

9. The dough may be brushed with a glaze just before placing in the oven.

10. Bake at appropriate temperature until done. Test with wooden toothpick — when it comes out clean, the dough is cooked.

Basic Sourdough Biscuits

½ C. basic batter
1 C. milk
2½ C. sifted flour
1 T. sugar
¾ tsp. salt
1¼ tsp. baking powder
½ tsp. soda
2 T. yellow cornmeal
2 T. salad oil
3 T. melted butter or margarine

Night before: Measure basic batter into large bowl. Add milk and 1 C. flour; mix well. Let stand covered over night.

Next morning: Beat in 1 C. flour; mix well. Add sugar, salt, baking powder soda and remaining ½ C. flour in sifter. Sift evenly over dough. With wooden spoon, beat into dough to mix well; beat until dough is stiff enough to clean side of bowl. On lightly floured surface, knead dough about 15 times until light (dough will be soft). Let dough rest, covered with inverted bowl for 10 minutes. Roll dough ½" thick. Cut biscuits with lightly floured cutter. Sprinkle bottom of 9" x 9" x 2" pan with 1 T. cornmeal. Dip each biscuit into combined oil and butter. Arrange close together in prepared pan. Sprinkle tops of biscuits with remaining cornmeal. Let rise in warm place. When almost doubled, bake in 375° oven until browned.

Basic Sourdough Bread

2 C. basic batter
4 C. sifted flour (more if needed)
2 T. sugar
1 tsp. salt
2 T. vegetable oil or shortening

Sift dry ingredients into a bowl, making a well in the center. Add oil to basic batter and mix well. Pour into the well of flour. Add enough flour to make a soft dough for kneading. Knead on a floured board for 10 to 15 minutes. Place in a greased bowl. Cover and let rise until doubled. Bake 375° for 1 hour. Makes 1 loaf.

Variations: Substitute 1 C. whole wheat for 1 C. of the white flour; use honey, brown sugar or molasses instead of sugar; or add juice of one orange and grated orange rind for Orange Sourdough Bread.

Sourdough Bread #2

1½ C. basic batter
¾ C. milk
3 T. sugar
1 tsp. salt
2 T. margarine
¼ C. warm water (105°-115°)
1 package active dry yeast
5-6 C. unsifted flour

Prepare basic batter. Scald milk. Stir in sugar, salt and margarine; cool to lukewarm. Measure warm water into large warm bowl. Sprinkle in yeast; stir until dissolved. Add lukewarm milk mixture, basic batter and 2½ C. dough. Turn out onto lightly floured board; knead until smooth and elastic, about 8-10 minutes. Place in greased bowl, turning to grease top. Cover; let rise in warm, draft-free location until doubled in bulk.

Punch dough down; divide into three equal pieces. Form each piece into a smooth round ball or a 14" tapered roll. Place on greased baking sheets. With a sharp knife make several crisscross cuts on tops of round loaves, or make several diagonal cuts on tops of long loaves. Cover; let rise in warm, draft-free location until doubled in bulk again.

Bake at 400° about 25 minutes, or until done. Remove from baking sheets and cool on wire racks. Makes 3 loaves.

Basic Sourdough Honey Bread

4 C. basic batter
2 C. milk
2 T. butter
2 tsp. salt
2 T. sugar
¼ C. honey
2 tsp. baking soda
¼ C. wheat germ
2 C. wheat flour
4 C. white flour
1 package active dry yeast

Scald milk, then melt butter and honey in milk. Allow to cool to lukewarm, mix yeast in milk and stir to dissolve. Add to basic batter. Sift wheat flour and wheat germ into dough. Blend sugar, salt and soda in another bowl until smooth and sprinkle over top of dough, stirring in gently. Set dough in warm spot for 30 minutes, covered with cloth. Break down and sift in remaining flour until the dough is too stiff to stir with spoon. Turn out on floured board and begin to knead with hands. (*Note: Flour required may vary from quantity indicated – guage the feel – rather too little than too much.*) Work in the remaining flour, kneading with heels of hands 100 times until the dough is light and satiny to the touch. (*Caution: Do not knead too*

long or include too much flour.) Separate into loaves. Flour lightly, fold over, seal and place in greased pans. Pans should be half full. Grease tops, set in warm spot and let double in bulk again. Preheat oven to 400°; bake for 20 minutes, then reduce to 325° and continue to bake until bread shrinks from sides of pans. Bread will give a hollow sound when thumped on top. Remove from oven, turn out onto rack or towel and butter top and sides.

Sourdough Honey Bread #2

3 C. basic batter
½ C. warm water
3½ C. whole wheat flour
2 tsp. salt
2 T. dry milk
2 T. vegetable oil
1 T. honey

Mix ingredients together until satiny and smooth, reserving the oil for the final mixing. Let rise for one hour. Mold in two loaves, or use 46 oz. juice cans. Let dough rise again until double in bulk. Bake 30 minutes at 400°, then 30 minutes more at 325°.

Sourdough Banana-Nut Bread

1 C. basic batter
⅓ C. shortening
1 C. sugar
1 egg
1 C. mashed bananas
2 C. flour
1 tsp. salt
1 tsp. baking powder
½ tsp. soda
¾ C. chopped walnuts

Cream together shortening and sugar; add egg, mixing until blended. Stir in banana and basic batter. Sift flour, measure, and sift again with salt, baking powder and soda. Add flour mix to batter, then add walnuts, stirring until blended. Pour into greased loaf pan. Bake 350° for 1 hour, or until toothpick comes out clean.

Sourdough Rye Buns

1 C. basic batter
3¾ C. warm water
4 C. rye flour
½ C. vegetable oil
1 T. salt
¼ C. all-purpose flour
1 egg white, beaten
Coarse salt or caraway seed

In large bowl, combine basic batter and warm water. Stir in ~~whole wheat~~ all purpose flour. Beat well. Cover and let stand several hours or refrigerate overnight. Add rye flour, oil, and salt. Mix well. Dough will be a bit sticky. Knead on lightly floured surface about 5 minutes, adding more all-purpose flour as necessary to make a soft dough. Place in greased bowl; turn once to grease surface. Cover and let rise till double. Punch dough down; divide dough into 3 portions. Cover; let rest 5 minutes. Divide each portion into 8 balls. Turn each ball in hands folding edges under to make circle. Press ball flat between hands. Place on greased baking sheet, pressing into 3"-4" circles. Brush with egg white; sprinkle with coarse salt or caraway seed. Let rise till double. Bake in 375° oven 25-30 minutes. Makes 24 buns.

Sourdough Blueberry Muffins

¾ C. basic batter
½ C. whole wheat flour
1½ C. white flour
½ C. cooking oil
½ C. sugar
1 egg
1 C. drained blueberries
¾ tsp. baking soda
½ C. undiluted canned milk

Stir the above ingredients into basic batter in the order of listing, to make the mixture moist and hold together nicely. *Do not beat vigorously.* If necessary, add more batter. Bake in greased muffin tins at 375° for 30-35 minutes. This recipe cooks more slowly than other sourdough muffins, so be sure they are done before removing from oven.

Sourdough English Muffins

1 C. basic batter
¾ C. buttermilk
2¾ to 3 C. flour
6 T. yellow cornmeal
1 tsp. baking soda
¼ tsp. salt

Mix together basic batter and buttermilk. Combine flour, 4 T. cornmeal, soda, salt and add to buttermilk mix. Stir to combine, using hands when necessary. Turn out and knead until smooth. Roll ⅜" thick. Cover and let rise a few minutes. Cut muffins with 3" cutter. Sprinkle sheet of waxed paper with 1 T. cornmeal. Place muffins on paper and sprinkle with remaining cornmeal. Cover and let rise 45 minutes. Cook on medium hot griddle for 30 minutes turning often. Cool and split. Makes 12-14 muffins.

Sourdough Limpa Muffins

¾ C. basic batter
1½ C. sifted flour
½ C. rye flour
½ C. brown sugar, firmly packed
1 tsp. salt
1 tsp. fennel seed
1 tsp. soda
1 egg, slightly beaten
½ C. cultured buttermilk
½ C. salad oil
2 tsp. grated orange peel
½ tsp. anise seed

Mix together flours, brown sugar, salt and soda. Make a well in the center. Blend egg, buttermilk, and oil together; stir in orange peel and basic batter. Pour this mixture all at once into the flour well. Stir just to moisten ingredients. Batter will be lumpy. Grease muffin cups or line with baking cup liners; fill about ⅔ full, bake 375° for 30-35 minutes. Makes 12-15 muffins.

Sourdough Oatmeal Muffins

¾ C. basic batter
1½ C. sifted flour
1 C. rolled oats
½ C. brown sugar, firmly packed
1 tsp. salt
1 tsp. soda
1 egg, slightly beaten
½ C. buttermilk
½ C. salad oil

Mix together flours, brown sugar, salt and soda. Make a well in the center. Blend egg, milk, and oil together; stir in basic batter. Pour this mixture all at once into the flour well. Stir lightly to moisten ingredients. Batter will be lumpy. Grease muffin cups or line with baking cup liners; fill about ⅔ full. Bake 375° for 30-35 minutes. Makes 12-15 muffins.

Sourdough Raisin Muffins

1 C. basic batter
½ C. whole wheat flour
½ C. white flour
½ C. sugar
¾ tsp. baking soda
½ C. cooking oil
½ C. undiluted canned milk
1 egg
1 C. raisins

Combine dry ingredients in bowl. Make a well in the center and add all of the liquids at once. Stir just to moisten. Add raisins and enough basic batter to make the mixture moist and hold together nicely. *Do not beat vigorously.* Bake in greased muffin tins at 375° for 30-35 minutes. *These muffins bake slowly so check to be sure they are done. Makes 16-18 muffins.*

SOURDOUGH CAKES, ROLLS, AND DOUGHNUTS

Sourdough Almond Spice Cake

1 C. basic batter
½ C. shortening
1½ C. sugar
2 eggs
1½ C. unsifted flour
1½ tsp. baking powder
1 tsp. salt
1 tsp. soda
½ tsp. cinnamon
¼ tsp. nutmeg
⅛ tsp. cloves
½ C. milk
½ C. ground almonds
powdered sugar

In large bowl cream shortening and sugar. Add eggs, one at a time, beating well after each addition. Blend in basic batter. Mix together flour, baking powder, salt, soda, cinnamon, nutmeg, and cloves. Add dry ingredients alternately. Add ground almonds and mix until well blended. Turn into a greased and floured 1½ qt. tube mold. Bake 350° for 50-60 minutes or until done. Allow cake to cool for 10 minutes, then invert on cooling rack, removing the mold carefully. Cool until slightly warm to touch and sprinkle with powdered sugar.

Soughdough Glazed Apricot Cake

1 C. basic batter
½ C. shortening
1½ C. sugar
2 eggs
1½ C. unsifted flour
1 tsp. salt
1 tsp. soda
⅛ tsp. nutmeg
½ C. milk
½ C. finely chopped/diced apricots
powdered sugar

In large bowl cream shortening and sugar. Add eggs, one at a time, beating well. Add dry ingredients to batter alternately with milk, mixing after each addition until blended. Add chopped apricots, lightly floured, and until well blended. Turn into a greased and floured 1½ qt. tube mold. Bake in 350° 50-60 minutes. Allow cake to cool for 10 minutes, then invert on cooling rack, removing the mold carefully. Allow to cool completely. Brush with apricot glaze made from 3 T. apricot jam warmed over low heat until soft enough to spread.

Sourdough Chocolate Cake #1

1 C. basic batter
1 C. sugar
1 C. shortening
2 eggs
1 C. milk
2 C. flour
1 tsp. vanilla
½ tsp. cinnamon
3 squares unsweetened choc., melted
½ tsp. salt
1½ tsp. baking soda

Cream sugar and shortening until light and fluffy. Beat in eggs, one at a time. Stir in basic batter, milk, vanilla, cinnamon and beat with mixer for 2 minutes. Mix salt and soda and sprinkle over batter. Fold in gently. Stir in flour until batter is smooth. Pour into three greased and lightly floured 8" or 9" cake pans. Bake at 350° for 20-25 minutes or until done.

Sourdough Chocolate Cake#2

To make sourdough mix:

½ C. thick basic batter
1 C. water
1½ C. flour
¼ C. nonfat dry milk

Mix and let ferment 2-3 hours in a warm spot until bubbly and there is a strong sour milk odor.

Add following ingredients:

1 C. sugar
½ C. shortening
½ tsp. salt
1 tsp. vanilla
2 eggs
1 tsp. cinnamon
1½ tsp. soda
3 squares melted chocolate

Cream shortening, sugar, flavorings, salt and soda. Add eggs one at a time, beating well after each addition. Combine with sourdough mix. Beat well. Pour mixture in deep cake pan. Bake 350° for 25-30 minutes.

Sourdough Doughnuts

To make sourdough mix:

½ C. basic batter
1 C. lukewarm water
1 C. flour
2 T. sugar

Combine basic batter, water, flour and sugar in bowl and let stand at least six hours overnight.

Add following ingredients:

2 T. brown sugar
1 tsp. soda dissolved in 1 T. water
½ tsp. salt
1 tsp. baking powder
½ tsp. nutmeg
1 egg
2 T. melted shortening
1½ C. flour

Knead on lightly floured board 25 times. Roll ½" thick and cut with doughnut cutter. Drop in hot fat (380°) and fry until golden brown on each side. Drain on paper bag. Roll in powdered or granulated sugar. Serve warm. Makes about 12 doughnuts.

Sourdough Cinnamon Rolls

To make sourdough mix:

½ C. basic batter
1 C. undiluted evaporated milk
2 C. unsifted flour

Night before: Combine basic batter, evaporated milk and flour in large bowl; leave overnight.

Next morning: Add following ingredients to sourdough mixture.

¼ C. soft butter
3 T. sugar
1 egg
1½ C. unsifted flour (or more)
1 tsp. baking powder
½ tsp. soda
1 tsp. salt
2 T. butter, melted
¼ C. brown sugar
1½ tsp. cinnamon
¼ C. raisins (optional)
melted butter

Beat together butter, sugar, and egg; blend into Sourdough mixture. Combine the dry ingredients flour, soda, baking powder, and salt; mix with batter. Turn onto a floured board and knead until the surface is satiny and doesn't stick to board (add flour if necessary). Place ball of dough in the center of board and roll out to a rectangle 8" x 16". Brush surface with melted butter and sprinkle with a mixture of brown sugar and cinnamon (and raisins, if you wish). Roll up dough, starting on one of the long sides; cut roll at ¾" intervals. Dip top and bottom of each roll in melted butter, place in a square 9" pan, cover loosely, and let rise in a warm spot for about 1 hour, or until nearly doubled. Bake at 375° for 30-35 minutes or until crust is golden brown. Makes 9 large rolls.

Sourdough Cornbread

1 C. basic batter
1½ C. yellow cornmeal
1½ C. evaporated milk
2 eggs, beaten
2 T. sugar
¼ C. melted butter
½ tsp. salt
¾ tsp. soda

Thoroughly mix the basic batter, cornmeal, milk, eggs, and sugar in large bowl. Stir in melted butter, salt, and soda. Turn into a 10" greased frying pan and bake 450° for 25 minutes. Serve hot with butter and honey.

Sourdough Cornbread Sticks

Prepare Sourdough Cornbread batter according to the directions in the preceding recipe. Spoon batter into a buttered cornbread stick pan, filling each cup ⅔ full. Bake 425° for 20 minutes or until done.

Sourdough Scones

1 C. basic batter
1 C. flour
2 tsp. baking powder
1 tsp. soda
½ tsp. salt
3 tsp. sugar
¼ C. melted shortening
2 eggs, slightly beaten

Combine dry ingredients and make a hole in center. Combine shortening, beaten eggs and basic batter and pour into dry ingredients. Mix and add additional flour, kneading all the while until dough leaves fingers and is no longer sticky. Tear off pieces of dough, flatten in hand and pull to thin patty. Fry in deep hot oil (375°) until golden on each side. Drain on paper towels. Serve piping hot with butter, honey or jam.

Sourdough Date Loaf

To make sourdough mix:

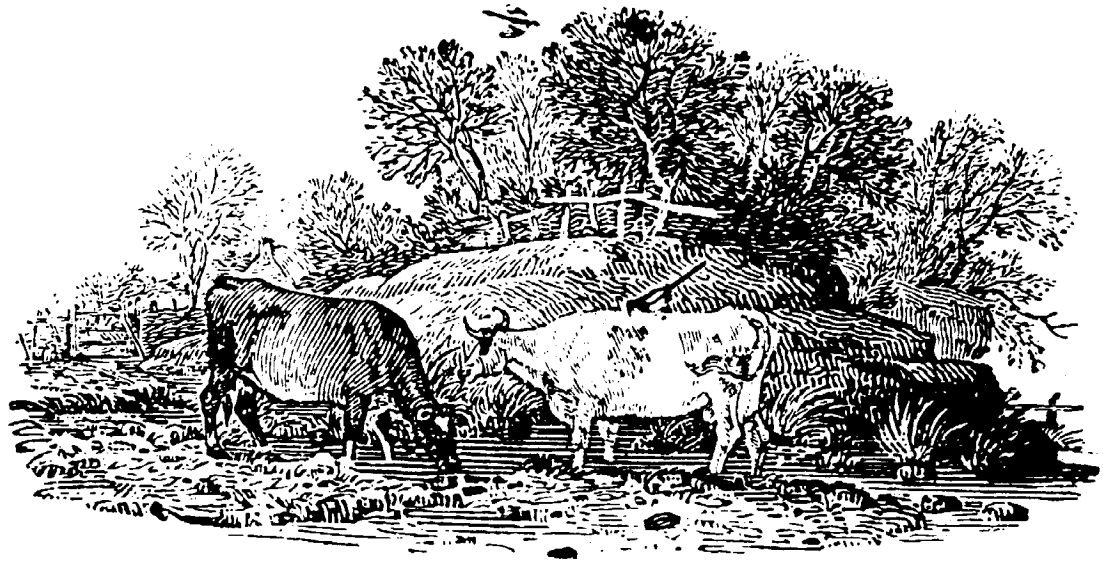
½ C. basic batter
1½ C. unsifted flour
1 C. undiluted evaporated milk
2 T. sugar

Night before: Combine basic batter, flour, evaporated milk and sugar; set in warm spot to ferment.

Next morning: Add the following ingredients to sourdough mix.

¼ C. butter
¾ C. brown sugar, packed
1 C. chopped dates
½ C. chopped walnuts
2 eggs, beaten
½ C. quick-cooking rolled oats
1 tsp. baking powder
½ tsp. soda
½ tsp. salt

Cream brown sugar and butter, add dates and nuts; set aside. Combine eggs, rolled oats, baking powder, soda, and salt. Stir date mixture into the sourdough mixture. Turn into a greased loaf pan (5" x 9") and let rise about 1 hour. Bake 375° for 1 hour. Cool for 10 minutes in pan, then remove to cooling rack. Yield: 1 loaf.



CHAPTER 6

BASIC DAIRY PRODUCTS FROM POWDERED MILK

Few foods are as valuable as milk and milk products. It is important in storing powdered milk that the best quality be chosen. The best quality product will be more nutritious and store longer. Dry skim milk is recommended, and comes in several grades. The best grade is termed "extra". The "extra" dry skim milk should contain no more than 4 % moisture. Low moisture content of dry skim milk is very important because moisture determines the period powdered milk may be stored and remain nutritious. *Be sure to buy non-instant dry milk.*

NUTRITIONAL ASPECTS

Dry milk, whether whole or skim (non-fat), provides some minerals and vitamins. Most notably, calcium is made available to the diet. *However, dry milk is not the equivalent of raw milk.* Most dry milk is made from grade B milk sources. That's one of the reasons it's cheaper. Also, many people have allergic reactions to dry milk products. The heating, pasteurizing, and drying processes destroy not only the bacteria, but also some of the essential enzymes. This is one of the reasons vitamin supplements are essential as a basic item in a food storage program — the natural vitamins have been destroyed by processing.

STORAGE

The "extra" grade dry skim milk may be purchased in double-sealed 5 lb. cans or in double-wrapped paper-foil bags. This grade will store for about 36-60 months if kept dry and cool (40°). Storage at temperatures of 60°-70° will reduce effective storage time to 12-24 months.

USING POWDERED MILK

Most dairy products can be made from powdered milk. The sections in this chapter explain how to use powdered dry milk for reconstituted milk, cottage cheese, yogurt, cream cheese, and even hard cheeses. Very few foods taste better, or are better for you, than freshly-made cottage or cream cheese. Or, if you really want to get into the cheese-making thing, homemade Cheddar, Farmer, or Italian-style cheeses will absorb you completely.

Some of the West's best and most experienced dairy experts have contributed their ideas to make this chapter interesting and useful.

Reconstituted Powdered Milk

As there are many brands of powdered skim milk on the market, there are instructions on every package to indicate method and amounts of powder and water for reconstitution. The following recipe is a guideline for reconstitution — don't be afraid to experiment with quantities to derive the best mixture for your palate.

Reconstituted Milk

4 C. cold water
1⅔ C. powdered milk

Beat ingredients with beater or mixer until smooth. Makes 1 qt. milk.

To improve the flavor of powdered milk, mix it half-and-half with whole milk. Honey, powdered cream mixes, fruit juices, sugar, powdered sugar, vanilla flavoring, or any other flavoring the family likes may be used to improve the somewhat flat taste of reconstituted dry milk.

Vitality Cooler

1 C. reconstituted milk
½ C. sugar (or honey)
6 oz. frozen orange juice concentrate
2 C. water
ice

Put milk, sugar and orange juice in blender; blend until mixed. Add water and ice, blending until mushy. Serve with snacks or for breakfast. Makes approximately 1 qt. May be thinned with additional water and ice, then sweetened to taste.

Soft Ice Cream

1 C. non-instant dry milk
3 C. water
3 T. honey

Mix in blender, put in shallow tray and freeze until solid. To serve, break into small chunks and beat until soft. Serve with chocolate syrup, jams or jellies or other flavorings.

YOGURT FROM POWDERED MILK

Yogurt is a very flexible food — it can be a drink; mixed with fruit for a dessert; set in jello; and used in place of sour cream in stroganoff, sauces, chip dips, and fruit salads. It's not hard to make at home and the flavor can be varied from very mild to quite strong. This is an advantage over commercial yogurt, and it's cheaper, too.

Yogurt is a cultured milk product made with enriched milk to which a yogurt culture or start has been added. The milk must be concentrated from ½ to ⅔ its original volume. For this reason powdered milk is used when making yogurt at home. The milk with culture added is then kept at a temperature of 100° to 120° for about three hours.

Yogurt is a tasty healthful food, with all the advantages of milk — and is lower in lactose for those who don't tolerate milk very well. It's proven helpful to children and adults with diarrhea. Yogurt is a great way to vary the daily diet, adding a gourmet touch to recipes.

SUGGESTIONS FOR MAKING YOGURT SUCCESSFULLY

In yogurt recipes, use plain or commercial yogurt for the starter or use yogurt from the last batch (it shouldn't be more than a week old). Pure yogurt culture can be obtained from health food stores. Most authorities recommend a fresh start every month or two.

In using powdered milk, whether instant or non-instant, reconstitute it just a little short of being double in strength. Use two tablespoons yogurt start for every three cups of doubly-reconstituted milk. Using this rule of thumb, make as much or as little yogurt wanted.

STORAGE

Yogurt will keep in the refrigerator for a week or longer. However, *the longer yogurt sets in the refrigerator the more pronounced the flavor becomes.* Make a batch of yogurt at least once a week to keep the start fresh.

TEMPERATURE

The lower the temperature, the longer the yogurt takes to set. Temperatures between 110° and 120° will produce firm yogurt in about three hours.

There are several methods for keeping the yogurt mixture at the correct temperature. Perhaps the easiest way to maintain the proper temperature is to buy a commercial yogurt maker, available at most health food stores.

However, if you are truly converted to making the best of basics, you can make your own yogurt maker for pennies. On the following page is an illustration of a basic yogurt maker made from a #10 can, a light socket and a bulb. Remove completely one end of the can. Punch a hole in the remaining end of the can. Secure the lamp socket. Punch holes in the base and top to provide a draft to heat pan of water. Vary the wattage of the light bulb to stabilize temperature of 110°-120°, generally, 25 to 50 watt bulbs will maintain the proper temperature.

Or, the yogurt mixture can be placed over a heat register, pilot light, or hot plate. In using any of these methods, test the temperature by setting a covered pan of warm water over the heat source for several hours, checking the temperature periodically to assure 110°-120° range.

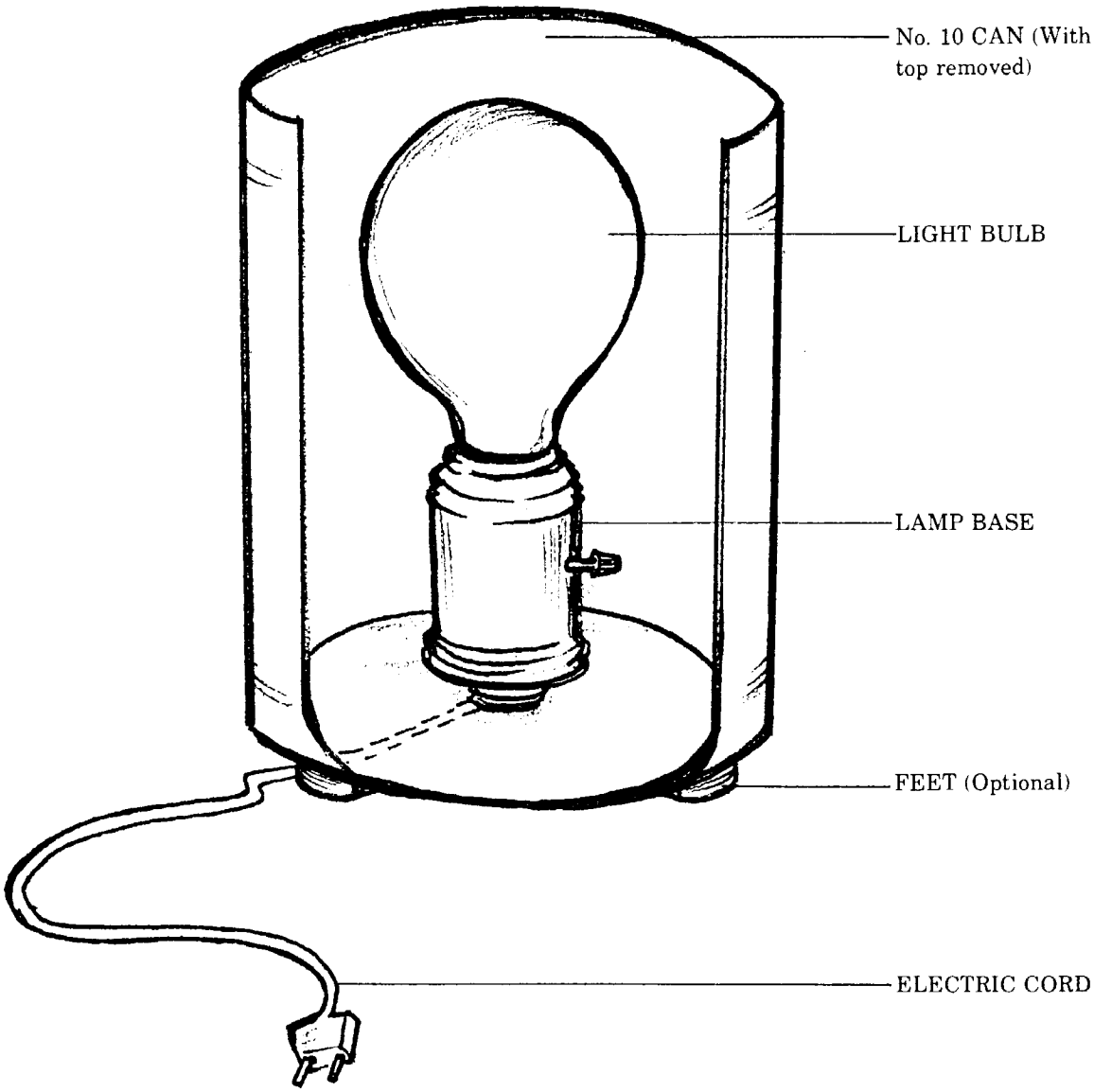
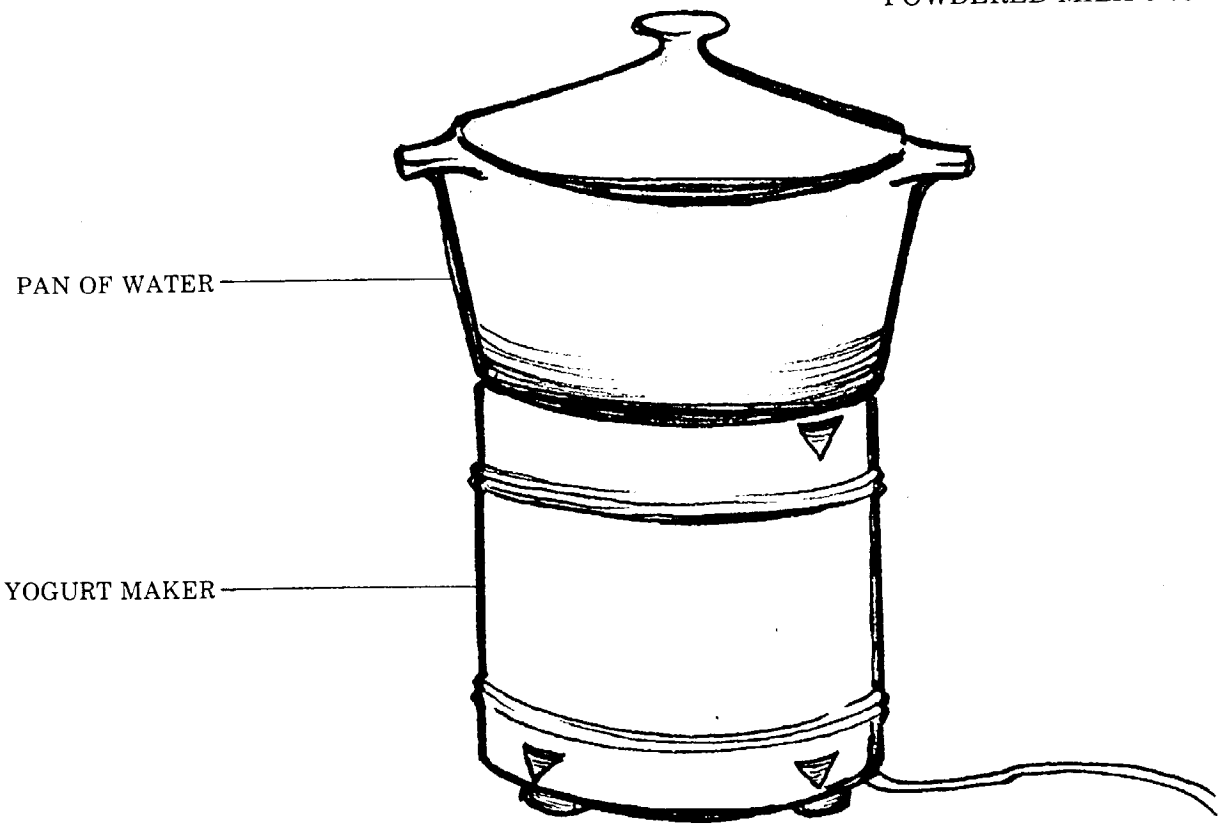


ILLUSTRATION 6-A

BASIC YOGURT MAKER



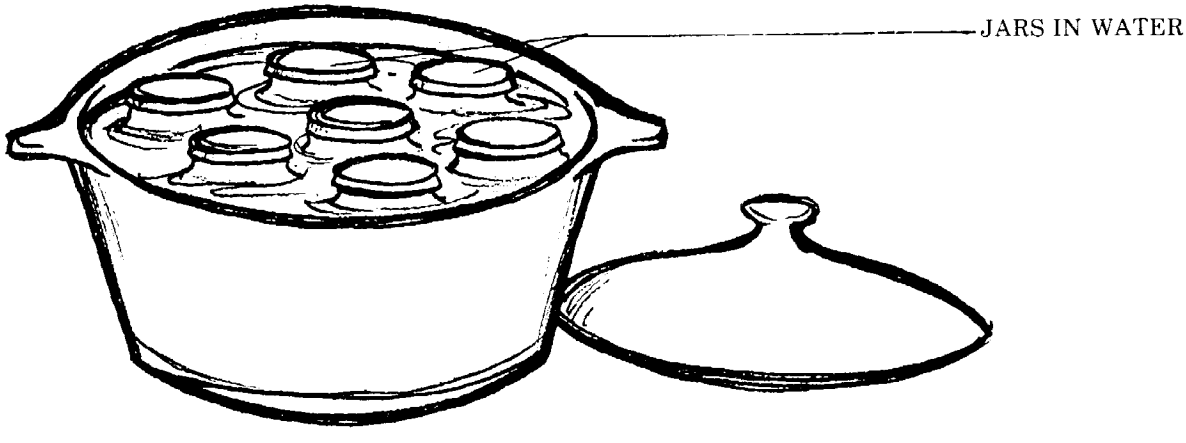


ILLUSTRATION 6-B

USING THE BASIC YOGURT MAKER

If yogurt doesn't set up properly, check for the following indicators:

(1) yogurt was disturbed or stirred while setting up;

(2) yogurt start was added to hot instead of warm milk;

(3) temperature was too hot (kills yogurt bacteria) or too cool causes ordinary sour milk bacteria to develop);

(4) yogurt start was too old or was inactive for some other reason;

(5) jars or other equipment were not clean;

(6) fresh, raw milk was not boiled; or

(7) yogurt was in yogurt maker too long (noticable when yogurt is bubbly and starts to separate).

Basic Powdered Milk Yogurt

2 C. warm water
1 C. non-instant powdered milk
2 T. yogurt (unflavored)

Pour warm water 100°) in the blender and turn on low speed; add powdered milk slowly. Blend until smooth. Add yogurt and blend a few more seconds. (This whole process can be done by hand, but be sure to beat all the lumps out.) Pour into jars or glasses. Place jars neck-deep in warm (100°) water. Cover pan with lid. Set on yogurt maker or any place a temperature of 100°-120° can be maintained for 3-4 hours. Check at the end of three hours to se if mixture has set up. If not set up, check each 20 minutes until set. (If not set up in 4 hours, you probably have a failure.) Chill immediately when set up. Keeps in refrigerator up to 1 week.

Fresh Milk Yogurt Recipe

4 C. fresh raw milk
½ C. non-instant powdered milk
2 T. yogurt starter (unflavored)

Boil fresh, raw milk in a saucepan for a few seconds (180°). Cool until warm (100°). Stir in powdered milk. Thoroughly mix yogurt with a little warm milk, then add to the rest of the warm milk and stir well. Pour mixture into jars or glasses and let stand neck-deep in yogurt maker at 110° - 120° until set (about three hours). Chill immediately after yogurt sets. Keeps in refrigerator approximately 1 week.

Evaporated Milk Yogurt Recipe

2 C. tepid water
3 C. instant powdered milk
1½ C. non-instant powdered milk
3 T. yogurt starter
1 qt. tepid water
1 large can evaporated milk

Blend or beat 2 C. tepid water with powdered milk and yogurt culture. Pour mixture into a pitcher containing 1 qt. tepid water and can of evaporated milk. Stir well and pour into pint jars. Set glasses or jars in pan of warm water; bring water level to rim of jars. Cover pan and maintain temperature of 100°-120°.

Check consistency after 3 hours. Chill immediately after mixture thickens. Will keep approximately 1 week in refrigerator.

RECIPES USING YOGURT

At first you might forget to use yogurt freely, but in time you'll find uses for it every day. And remember, if at first you don't succeed in getting the family to use yogurt readily, keep trying, it's certainly worth the effort.

Flavored Yogurt

Use jams, honey and vanilla, maple syrup, molasses, etc., for flavoring yogurt. It should always be added *after* the yogurt is set. When adding any flavoring to yogurt, stir lightly; the more yogurt is stirred, the thinner it becomes.

Fruit Yogurt

Use fresh, canned, dried, or strained fruit to flavor plain yogurt.

Yogurt Flip

Yogurt

Fruit juice

This recipe is to help recaltitrant children learn to like yogurt. Mix small amount of yogurt in fruit juice of choice. With each successive serving, increase yogurt, gradually working up to more yogurt than juice.

Yogurt Popsicle

2 C. yogurt
2 tsp. vanilla

6 oz. frozen orange juice

Mix ingredients together until smooth. Pour into popsicle molds or paper cups and insert ice cream sticks. Freeze until firm.

Yogurt Parfait

1 C. yogurt

1 C. fruit

Cover bottom of dessert dish with fruit, then add layer of yogurt. Repeat layers, topping with fruit. Chill and serve.

Yogurt Buttermilk

1 C. yogurt

1 C. water

Mix equal parts yogurt and water in blender. Yogurt mixed in this manner will replace buttermilk in most recipes. Makes a good drink, too!

Yogurt Jello

Jello, partially set
1 C. yogurt

When mixing Jello, leave out ¼ C. water. Add 1 C. yogurt to partially-set Jello. Fruit may be added. Lemon-lime and orange Jello are especially good with yogurt added.

Yogurt Cream Sauce

Use on vegetables or in stroganoff recipes. *Do not heat above 120°*. Heat will kill the yogurt bacteria beneficial to good health.

Yogurt Sour Cream

Yogurt replaces commercial sour cream in most recipes. Use plain or add chives, bacon bits, onion flakes, onion or garlic salt, seasoning salt, or ground pepper to flavor yogurt, Use as a base for chip dips or gourmet dressings by adding herbs and spices.

Yogurt Cream Cheese

Make cream cheese from yogurt. This is perhaps the simplest cream cheese method and the result is tangy and delicious. Simply pour homemade yogurt into a cheese bag and let drain for an hour or two. This drained yogurt can be used in recipes for dips, spreads, sauces and dressings. A thicker consistency than that of ordinary yogurt is obtained by draining off the excess water.

Yogurt Avocado Dip

½ C. yogurt
1 large avocado
3 T. lemon juice
garlic powder
salt to taste

Mash avocado, add lemon juice and seasonings; add yogurt and beat well. Serve with fresh crisp vegetables. (Cauliflower, carrots, turnips, celery, etc.)

Health Dip

2 C. unflavored yogurt
2 C. skim milk cottage cheese
¼ C. toasted sesame seeds
¼ C. wheat germ
½ tsp. celery salt
¼ tsp. garlic powder
salt

In a medium bowl blend yogurt and cottage cheese thoroughly. Sprinkle in sesame seeds, wheat germ, celery salt and garlic powder. Blend well. Salt to taste. Chill. Makes 4 cups.

Serve as a dip accompanied by vegetable relishes or crisp crackers.

Vegetable relishes: Raw cauliflowerettes, carrot and celery sticks, and green pepper chunks.

Roquefort Dressing

1 C. yogurt
½ C. cottage cheese, fine curd
ground pepper
4 oz. Roquefort cheese
garlic salt
dash MSG

Mix yogurt and cottage cheese, adding crumbled cheese. Season to taste, then chill to allow seasonings to mingle. Serve cold.

Yogurt & Honey Dressing

1 C. yogurt
1 T. lemon juice
2 T. honey
1 T. sugar
dash salt
dash pepper
dash dry mustard

Blend salt, pepper, dry mustard and sugar into a bowl with honey. Add yogurt, stirring lightly. Then stir in gently lemon juice. Goes well with cheese salads.

Green Goddess Dressing

1 soft, ripe avodado
1 C. yogurt
1 T. parsley flakes
2 tsp. instant minced onion
½ tsp. salt
½ tsp. seasoning salt
¼ C. mayonnaise

Put all ingredients in mixing bowl. Blend ingredients with wire whip. Mix thoroughly. Yield: approximately 2 C.

Bleu Cheese Dressing

1 C. yogurt cream cheese
4 oz. bleu cheese
1 T. chives
1 T. worcestershire sauce
½-1 C. buttermilk

Put all ingredients in bowl. Mix until desired consistency is attained. (Add additional buttermilk as needed.)

MAIN DISHES

Yogurt Beef Stroganoff

1 lb. ground beef
5 slices bacon, diced
½ C. chopped onion
½ tsp. salt
¼ tsp. paprika
dash of pepper
½ tsp. sweet basil
1 tsp. garlic salt
1 can (10½ oz.) cream of mushroom soup
1 C. yogurt
Hot buttered noodles

In skillet brown ground beef with bacon. Add onion and cook until tender but not brown. Drain off excess fat.

Add salt, basil, paprika, garlic and pepper. Stir in cream of mushroom soup and cook slowly, uncovered, 20 minutes, stirring frequently.

Stir in yogurt. Heat, but do not boil. Serve meat sauce over hot buttered noodles. Makes 4 to 6 servings.

Liver Stroganoff with Yogurt

4 slices bacon, diced
1 C. onion, sliced
1 lb. beef liver, sliced
2 T. whole wheat flour
1 tsp. paprika
½ tsp. salt
1 can sliced mushrooms or 4 oz. fresh
½ C. yogurt
¼ C. water
1 T. whole wheat flour
Meat tenderizer

Tenderize beef liver according to meat tenderizer instructions. Fry bacon in heavy skillet over low heat until crisp; remove bacon bits and drain on paper towels. Add onion to drippings and cook until limp, but not brown. Remove from skillet.

Dredge liver in mixture of, flour paprika and salt. Brown lightly in bacon drippings. Sprinkle with remaining flour mixture. Add mushrooms, with liquid, bacon and onion.

Cover and cook slowly until liver is tender. Arrange liver topped with mushrooms, bacon and onion on serving platter.

Blend together yogurt, water and flour; stir into pan drippings. Cook until thickened. Spoon over liver before serving.

BREADS

Yogurt Bread

1 envelope active dry yeast
2 C. warm water
2 T. honey
1 C. plain yogurt
2 tsp. salt
1½ C. rye flour
7-9 C. whole wheat flour

In a large mixing bowl combine the yeast and water and allow the yeast to dissolve, about 5 minutes. Stir in the honey, yogurt, salt and rye flour. Slowly add wheat flour until the dough pulls away from the sides of the bowl.

Turn dough onto a floured board and knead until it feels smooth and elastic, about 5-7 minutes. Divide the dough into two equal parts; shape, and place in a greased 9" x 5" x 3" pans. Cover with a clean dish towel and set in a warm place (85°) to rise.

Preheat oven to 350°. Bake for 45-50 minutes or until done. Makes 2 loaves.

Yogurt Biscuits

3 C. white flour biscuit mix
1 C. plain yogurt

Combine yogurt and biscuit mix in bowl. Using fork, mix thoroughly. Form into a ball. Knead several times on floured bread board. Divide dough into 15-18 smooth balls. Place dough balls in ungreased 8" pie tin or cake pan. Bake at 450° for 20 minutes, or until browned.

Yogurt Wheat Germ Rolls

1 C. warm yogurt
1 pkg. dry yeast
¼ C. butter or margarine
1½ tsp. salt
3 T. blackstrap molasses
1 egg
¾ C. wheat germ
2½ C. whole wheat flour
⅓ C. powdered milk

Before preparing other ingredients, stir dry yeast into yogurt. Add butter, salt, molasses, egg and wheat germ and stir briskly. Sift flour and powdered milk into mixture. Stir until all ingredients are combined, then beat 200 or more strokes (10 minutes in electric mixer).

Cover bowl, set in warm place until double (about 1 hr.). Make into rolls at once or stir and chill in refrigerator 1-8 hours before using. Bake 350° for 20 minutes. Makes twenty 2" rolls.

YOGURT DESSERTS

Yogurt Cream Cheese

Dump a cup of yogurt into a piece of sheeting or fine cheese cloth and hang it above the sink to drain overnight. The following morning there will be a white ball of the tenderest, creamiest cream cheese with no fat. To give this cheese more flavor, season with salt and a little brown sugar or mix with chopped olives or nuts to create a delicious sandwich spread.

For sharper cream cheese, use yogurt that is several days old. Add some kelp or salt to taste. Mix with minced green onions, chives, caraway seeds, pimentoes, olives, or crushed pineapple to make tantalizing spreads and sandwich fillings.

Squeeze yogurt until whey is expelled, and the result is a cheese much like ricotta. It can be used as cream cheese in most creamed cheese recipes.

Lemon Cheesecake

Filling:
12 oz. yogurt cream cheese
2 eggs, beaten
½ C. lemon juice
½ C. sugar

Vanilla Wafer Crust:
1 C. vanilla wafer crumbs
1 T. sugar
2 T. melted butter or margarine
pinch salt

Topping:
1 C. sour cream
1 T. sugar
1 T. grated lemon rind

Blend yogurt cream cheese and lemon juice thoroughly. Add eggs and sugar and beat until smooth. Pour into vanilla wafer crust. Bake 350° for 15-20 minutes or until firm. Remove from oven and cool 5 minutes.

Mix topping ingredients and pour over pie filling. Bake 10 minutes longer. Cool. Chill in refrigerator 5 hours before serving. (6-8 servings).

BASIC COTTAGE CHEESE

Cottage cheese is made commercially from skim milk, reconstituted concentrated skim milk, or from non-fat dry milk solids. The only reason for not making it from whole milk is the cost. You can make cottage cheese at home from any kind of milk you have on hand. Cottage cheese is full of body-building protein and calcium, but low in butterfat. This makes it filling without the attendant high-caloric intake problems. Cottage cheese makes food taste rich and fattening without being either. This recipe utilizes rennet or junket to help in producing low-acid cottage cheese.

To make your own delicious and nutritious basic cottage cheese, follow the easy directions on the following pages.

Basic Cottage Cheese

1 gallon milk
1 rennet tablet (or ¼ Junket tablet)
1 pt. buttermilk or basic yogurt

Dissolve rennet tablet in warm water. Pour milk into a large heavy pot and heat to 90°. Add buttermilk or yogurt, stirring to mix. Then add dissolved rennet. Cover pot and leave overnight in a warm place.

The next day, you will find a gelatinous, almost solid mass-like firm yogurt in the pot. This is the curd. With a silver knife cut through this curd to break it into small pieces. Now set the bowl with the curd into a pan of warm water and bring the curd up to 110°. A thermometer is essential in the making of any cheese product. Shake the bowl gently while it is being heated to help distribute the heat more evenly.

When the curd temperature reaches 110°, turn off the heat but leave the cheese bowl in the water for about a half an hour. Then pour the cheese into a cloth bag or several layers of cheese cloth and hang it up to drain. Use a bowl to catch the whey if you wish to use it.

Later, when the curds have drained, mash the cheese with a fork, work in a little sweet or sour cream if you have used skim milk, or moisten it with a little yogurt if you do not want the extra fat in the cream. You now have a delicious cottage cheese!

Season basic cottage cheese with a little kelp, salt, caraway seeds, chopped chives, dill or parsley. Put basic cottage cheese in a blender, chop for a few seconds, and it makes a delicious cream cheese.

Following is another method for making cottage cheese — made without using either rennet or Junket. This cottage cheese is somewhat higher in acid content, but still delicious.

Raw Milk Cottage Cheese (Alternate Method)

1 qt. certified raw milk
1 T. lemon juice

Heat milk until warm (90°), then add lemon juice. Stir while heating to 110°. When the mixture curdles, remove pan from stove and pour mixture into a muslin bag or several layers of cheese cloth and drain over sink.

RECIPES USING COTTAGE CHEESE

If you're stumped for ways to get high-nutrition foods into the family's diet, try these recipes using basic cottage cheese. Substitute basic cottage cheese for basic yogurt in the recipes in the first section of this chapter. Cottage cheese is generally interchangeable with yogurt in most recipes, and "softens" the taste of the recipe.

Cottage Cheese Cornbread

1 C. cornmeal (yellow or white)
¾ C. skim milk
½ C. cream cottage cheese
1 egg
1 tsp. salt
1 tsp. baking powder
½ tsp. baking soda
1 T. sugar

Stir together all ingredients well and spoon into an 8" square greased cake pan. Bake in preheated 425° oven for 20-25 minutes. Cut into squares.

Cottage Cheese Clam Dip

1 C. cottage cheese
1 tsp. lemon juice
¾ tsp. horseradish
1 can (7½ oz.) minced clams, drained
1 T. cream
1 T. grated onion
dash of garlic salt
parsley

Combine cottage cheese, lemon juice, horseradish, clams, cream, onion and garlic salt. Mix well and whip. Pour into serving bowl and sprinkle with paprika. Garnish with parsley.

Cottage Cheese Cornmeal Hot Cakes

½ C. flour
½ C. cornmeal
1 tsp. baking powder
1 tsp. salt
½ tsp. baking soda
1 egg
½ C. cream cottage cheese
¾ C. water

Stir all ingredients together; add more water if needed. Use a teflon-coated frypan or griddle for cooking. Preheat griddle until a drop of water "dances".

Pour batter to make 4" diameter hot cakes. Turn with a spatula when bubbly. Makes 10-12 hot cakes. Serve with syrup, jam, or powdered sugar topping.

BASIC CHEESEMAKING

This section describes how to make cheese from powdered milk. Cheese is the solid portion or *curd* of milk. The curd is separated from the liquid portion *whey*. This separation is caused be the application of heat and *rennet*, an enzyme found in the stomach of suckling calves.

The milk is caused to curdle by raising its lactic acid level. The cheese-making method described here utilizes buttermilk to achieve the higher acid level required. Heat is applied to cause coagulation. The coagulate is then cut into small pieces, causing the curd to separate from the whey. The heat is then raised to cook the curd. This process, called cheddaring, reduces the curd to a consistency which allows for compression into familiar balls or blocks of cheese.

Equipment Needed

The following items of equipment are necessary to make cheese according to this recipe:

4-quart pan (for 1 batch)
cheese cloth, fine mesh
large strainer or colander
clock for timing
Thin spatula or long knife
thermometer
press for cheese
wooden spoon for stirring

Temperature control is very critical in cheese-making. This method requires a thermometer. Be sure to have one. Accurate temperature control can be enhanced by using a double boiler. If you don't have a large double-boiler, place the pan with the milk in a cake or biscuit tin partially filled with water. You may have difficulty finding a cheese press. You can make a basic cheese press by assembling the parts detached in Illustration 6-C on the opposite page.

Ingredients List

The following ingredients are necessary to make one batch of cheese:

1 gallon milk
3 tablespoons buttermilk
3 teaspoons salt
1 rennet tablet
6-12 drops yellow coloring (optional)

Non-fat dried, regular homogenized, or fresh raw milk may be used. However, when using powdered milk, you must add ½ pt. whipping cream to bring the butterfat content to the required level. Also, the nonfat dried milk coagulates faster when mixed several days before using in the cheese-making process. Keep it refrigerated until ready to use.

Coagulation times differ, based on which type milk is used. Homogenized and fresh raw milk coagulate in approximately 30 minutes. Nonfat dried milk may take up to 3-4 times as long, and must be kept at 88°-90° during the coagulation period.

Step-by-step Method for Basic Cheesemaking

Check off the steps as they are completed, and it should be simple to make some of the best cheese you've ever tasted!

☐ 1. Pour 1 gal. of milk into the 4-quart pan.

☐ 2. Add and stir in 3 T. buttermilk.

NOTE: Use Brass, Chrome-plated or Stainless Steel Metal Parts

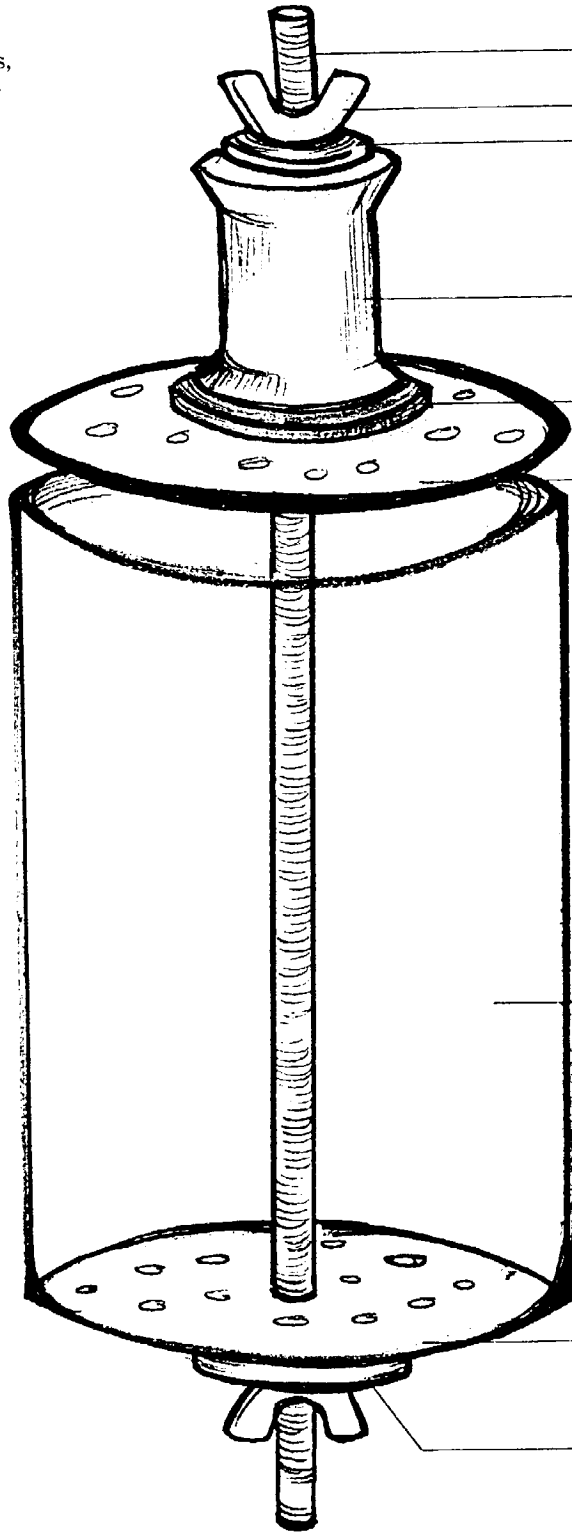


ILLUSTRATION 6-C

BASIC CHEESE PRESS

- ☐ 3. Cover and leave at room temperature at least 4 hours. (Mixture can safely remain at room temperature for up to 12 hours. Keep out of direct sunlight.)
- ☐ 4. Place pan of prepared milk mixture over low to medium heat. Slowly raise the temperature of the mixture to 86°.
- ☐ 5. Add coloring to obtain desired tint. (This coloring is optional — if you desire white cheese, omit this step.)
- ☐ 6. Place rennet tablet in 2 T. *cold* water. Dissolve by stirring. (Hot water will destroy the rennet's enzymatic action.)
- ☐ 7. Raise the temperature to 88°-90°.
- ☐ 8. While stirring the mixture, add the rennet solution. Continue stirring 1-2 minutes.
- ☐ 9. Cover the pan, remove from heat, and allow to stand undisturbed for at least 30 minutes. (If you use nonfat dried milk in this recipe, you must leave the mixture on the heat, maintaining 88°-90°, to facilitate coagulation.)
- ☐ 10. When coagulation is completed, cut the curd into small pieces. Using the thin spatula, cut curd to bottom of pan in parallel lines approximately ½" apart.
- ☐ 11. Turn pan 90° and repeat cutting of ½" squares.
- ☐ 12. Turn pan 45° and cut diagonally through the curd, intersecting the cuts previously made.
- ☐ 13. Turn pan 90° and repeat cutting procedure.
- ☐ 14. Stir the curd gently with your hand, using long slow movements around and up through the curd. Stir and sift the curd by hand for 15 minutes. Carefully cut up any larger pieces that come up from the bottom, but do not squeeze the curd.

  You will see and feel the curd begin to separate from the whey. The curd will begin to shrink in size. Stirring keeps the curd from sticking together too soon in the process.
- ☐ 15. To cook the curd, slowly apply heat to raise the temperature of the developing curds and whey to 102° over a 20-30 minute period and hold at 102° for another 30-40 minutes. Continue to gently stir with a spoon every 3-5 minutes.

  Cooking is complete when the curd holds its shape and readily falls apart on your hand without squeezing. The curd will look like scrambled eggs. Curd will be about the size of small curd cottage cheese.
- ☐ 16. To firm the curd, remove from heat and let the curds and whey stand for 1 hour, stirring every 5-10 minutes.
- ☐ 17. To drain the curd, line a large strainer with a doubled piece of cheese cloth, approximately 24" square. Pour curds and whey into the cheese cloth. Thoroughly drain off the whey.
- ☐ 18. Flavor the cheese by sprinkling salt over the curd.
- ☐ 19. Wrap the cheese cloth around the curd, making a ball. Squeeze out as much whey as possible and drain for 10 minutes over the sink.
- ☐ 20. Put ball of cheese into cheese press, pressing firmly. Apply pressure until curds begin to show through drain holes.

- ☐ 21. Increase pressure about every 5 minutes for the next ½ hour. The harder the cheese is pressed, the firmer it will be when taken out of the press.
- ☐ 22. Remove cheese cloth and allow cheese to remain at room temperature until the surface is dry. Drying usually takes 4-8 hours. Yield: 1-2 lbs, depending on butterfat content.
- ☐ 23. Cheese is ready to eat or store. The "green" cheese is rather bland, and approximates pot cheese in consistency. Cheese spreads can be made from the cheese at this point.
- ☐ 24. To "age" the cheese, wrap the cheese tightly in plastic wrap. Be sure to mark the date on wrapper. The wrap is necessary to prevent drying out and/or contamination. Wrap will prevent mold from forming for a considerable length of time. Store cheese in the crisper section of the refrigerator (approximately 35°-40°). The flavor will strengthen as the cheese ages.

How to Vary Cheese Flavor

Once you've acquired the knack for making basic cheese, the challenge and thrill of flavor variation lies ahead. The fun begins as you learn to make creative changes, some of which will produce rather significant results in flavor, texture, moistness, and consistency. The following paragraphs detail how the basic cheese-making method may be altered to produce different kinds of cheeses. Basically, flavor and appearance variations can occur in two general areas — ingredients and techniques.

Ingredient Variations

Milk base. One of the first ways to change the end result is by changing the milk base. Milk base for cheese comes from fresh raw milk, regular milk, 2% milk, evaporated milk, powdered milk, cream, or even goat's milk. By combining any two or more of the milk base possibilities, there will be a resultant taste difference in the final product.

Starter. There are two starters for cheese-making — buttermilk or yogurt. By increasing the percent of starter, or by combining them, there will be some change in the coagulation time and also the final taste.

Coloration. Even though coloring will not generally affect the final taste, it will heighten the eye appeal of the final product.

Seasoning. Perhaps the most startling taste differences may be achieved by adding salt, herbs, spices and molding agents to the basic cheese method. Salt, onion and garlic salt, seasoning salt, parsley, chives, caraway or sesame seeds, hot pepper, olives, pimiento, or roquefort, bleu, or other cheese molds heighten flavor and give each cheese "personality". The flavor determined by the seasonings determines the range of each cheese's use.

Technique Variations

Curd development. How the reduction of the gelatinous curd is handled determines the consistency of the final cheese product. Different temperature levels of the curd while cooking produces different characteristics, also. The amount of time the curd cooks determines further the consistency and compression qualities of the cheese. If any one of these variables is varied, one consistency develops — any two, another consistency — all three, yet another consistency results.

Pressure. The amount of pressure applied while the cheese is in the press determines whether a cheese will be moist or dry, soft or hard. Again, these variables, in tandem with other technique variations, will produce different results, depending on the combination used.

Aging. The *"tang"* or *"bite"* of a cheese may be enhanced by longer aging periods. The molds which create the strong-flavored cheeses require weeks to expand throughout the cheese. Storage temperature of aging cheese will determine the "curing time" of cheese. The higher the temperature, the faster the cheese ages. However, the cheese will sour or spoil in temperatures much in excess of 50°. As in all other phases of cheese production, you decide what you like — then produce your own favorite cheeses.

Experimentation is the key to full enjoyment of this fascinating and money-saving facet of home storage basics. The following sections explain how to produce two favorite types of cheeses.

BASIC CHEDDAR CHEESE

Cheddar cheese is different from the basic cheese method in firming the curd. Follow the steps in the basic cheese method through step 15, then follow these directions:

- ☐ A. Drain whey from curd by straining through double layers of cheese cloth in a sieve, colander or strainer.
- ☐ B. Spread cheesecloth on broiler pan rack, spreading pile of curd on the cheesecloth to about ¾"-1" thick.
- ☐ C. Place rack with broiler pan beneath on burner, maintaining a 98°-100° temperature. Curd will mat into a rather solid, rubbery mass within 30 minutes.
- ☐ D. Slice curd mass into ¾"-1" strips.
- ☐ E. Turn strips over once each side for 15 minutes, maintaining 98°-100° constant temperature for approximately 1 hour.
- ☐ F. Remove cheddar from heat and cut into cubes. Sprinkle salt lightly over cheddar cheese, allowing to cool to room temperature.
- ☐ G. Press cheddar cheese into mold.
- ☐ H. Cheese may be eaten immediately, or aged, according to your taste.

RECIPES USING CHEDDAR CHEESE

Chees-O-Lets

Chees-o-lets are a cross between pancakes and cheese omelettes.

4 oz. cheddar cheese, grated
3 eggs
2 heaping T. whole wheat flour
½ tsp. baking powder
1 T. grated onion
1 T. dried parsley
salt and pepper
Salad oil for frying

Blend all ingredients together. Heat oil in skillet and drop in spoonsful of mixture. Fry until crisp and golden brown. Turn to brown on other side. Drain well on absorbent paper. Serve hot.

BASIC WHITE CHEESE

To make a smooth white cheese, much like Italian mozarella, vary the basic cheese method as follows:

- ☐ A. Prepare milk mixture, doubling buttermilk starter. (Steps 1,2,3,4)
- ☐ B. Do *not* add coloring. (Step 5) Continue with directions. (Steps 6,7,8,9)
- ☐ C. After the curd forms, use your *hands* to break up the mass, squeezing firmly.
- ☐ D. Add 1-2 teaspoons salt to curds while squeezing through hands. (If you want a sweet, bland cheese, leave out salt.)
- ☐ E. While squeezing curds in whey, raise temperature until hot as your hands can tolerate. Then, gather curds, pressing them in cupped hands until a large firm ball is formed. Line press with cheese cloth.
- ☐ F. Remove cheese ball from whey and place in press. Press firmly. You may want to pour whey over ball to get remaining curds, but capture whey in a container for use later.
- ☐ G. Put pressed cheese back into whey, bringing temperature to approximately 200°, or just below boiling point.
- ☐ H. Remove pan from heat, and let cheese stand in whey until cool.
- ☐ I. Take pressed cheese from whey, hang to dry for 8-24 hours in cheese cloth, then it's ready to eat.

RECIPES USING BASIC WHITE CHEESE

Basic White Cheese Lasagna

Meat Sauce

1 8 oz. pkg. lasagna noodles, cooked
1 lb. ground beef
1 clove garlic, minced
1 med. onion, finely chopped
¼ tsp. sweet basil
2 cans pizza topping mix
1 can (6 oz) tomato paste

Brown beef in oil. Add garlic, onion, steet basil, pizza topping, tomato paste, salt and pepper to taste. Simmer for 20 minutes, stirring ocassionally till done.

Cheese Filling

2 lbs. basic white cheese, grated
1 tsp. parsley flakes
2 eggs
salt and pepper

Mix all ingredients together, salt and pepper to taste.

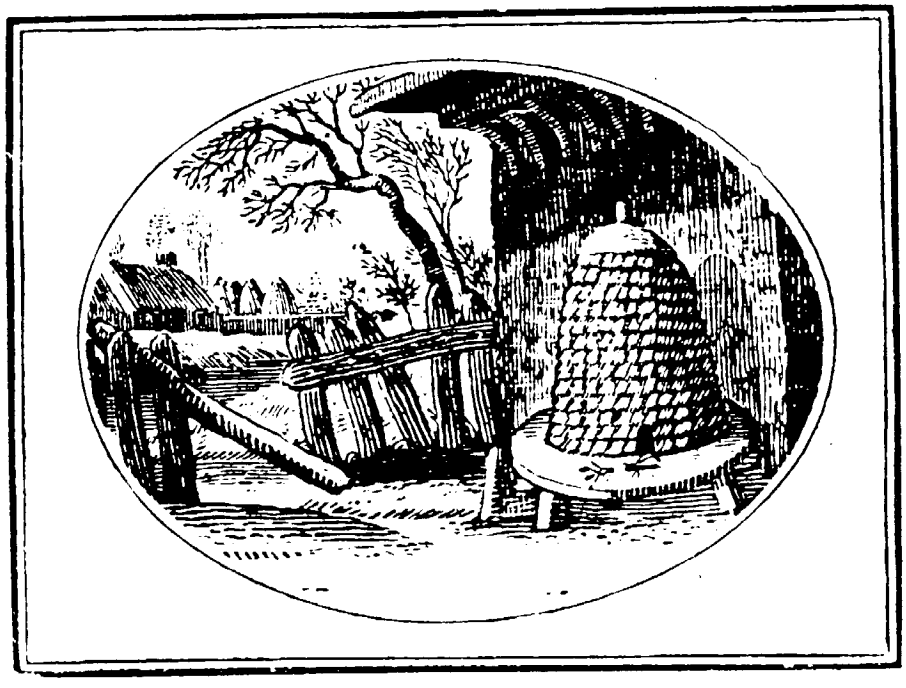
Topping

6 oz. Mozarella, sliced
(or use more white cheese)
½ cup parmesan cheese

Lightly grease baking dish and spoon in enough meat sauce to cover the bottom. Top with strips of lasagna, then spread layer of cheese with part of the cheese filling mixture. Repeat layers, with meat sauce on top.

Sprinkle with parmesan cheese and top with mozarella cheese slices. Bake in oven for 30 minutes. Let stand 5-10 minutes so all layers set before serving. Serves 6.

ADDITIONAL CHEESE RECIPES



CHAPTER 7

HONEY STORAGE AND USE

Honey is one of the basic storage items recommended in this *Handbook*. Honey is a natural food. It stores well; it's sweeter, measure for measure, than sugar; baked products stay fresher longer when used; and, is good for your health.

Use mild-flavored, clover-type honey in most recipes. Stronger-flavored honey is best utilized in spice cake, gingerbread, brownies, in fruit punches, and over ham — where its pronounced flavor is not so overpowering.

Always mix honey thoroughly with other recipe ingredients before turning mixture into baking pans. This will prevent a too-moist, over-sweetened layer from collecting on the top. Make it a rule to combine honey with the liquid ingredients to assure complete distribution in the mixture. Freezing bread with honey used as sweetening is not advised, since honey deteriorates when frozen. This can cause "mushiness" upon thawing. When using honey in substitution for sugar in standard recipes, a general rule is to reduce the amount of another liquid ingredient by ¼ C. for each cup of honey used to replace sugar.

HONEY STORAGE

Different kinds of honey are available. The following paragraphs explain how to store the various kinds most effectively.

COMB HONEY

Comb honey keeps best in covered containers in a cool, dark and dry place. It is the purest form of honey, and requires no preservatives. However, be sure to keep honey covered. When left uncovered, honey picks up other odors and loses its own aroma. Honey in storage usually gets darker in color and stronger in flavor, but remains useful as ever.

Pure honey usually becomes granulated as it ages, or if stored at cold temperatures. Granulation is a natural aging process and does not affect the honey except for color and flavor. To bring granulated honey back to liquid form simply place the container of honey in a pan of warm water until the granules disappear. If more heat is required, keep the container off the bottom of the pan of water by putting a rack under it, and setting the pan over low heat. Be careful not to overheat granulated honey, since too much heat causes the honey to change color and flavor. It's easier to de-granulate smaller amounts of honey, and less frustrating, too.

CREAMED HONEY

Creamed honey may be stored at room temperature or in the refrigerator. Creamed honey may partially liquify if stored at too high a temperature. Fceezing or refrigeration will not harm honey, but may speed granulation. The granulation can be "cured" by warming, as explained in the previous paragraph.

DILUTED HONEY

Honey diluted with water or any other liquid should be kept covered in the refrigerator. As with other syrups, it may ferment or mold quickly if not kept cold. Usually the label on the honey container will indicate the best means of storage for the particular kind of honey content you've purchased.

BAKING WITH HONEY

The following paragraphs outline some tips and suggestions for substituting honey in recipes.

MEASURE-FOR-MEASURE SUBSTITUTION FOR SUGAR

Honey may be used, measure-for-measure, in place of sugar in the following preparations:

baked apples
baked ham
candied vegetables
cinnamon toast
custards
dressings for salads
glazes
lemonade
pie fillings
puddings
punch drinks
sweet-sour dishes

IN CAKES

Honey can generally replace one-half of the required sugar without changing the proportions of the other ingredients in the recipe. Honey absorbs and retains moisture, thus retarding the

drying out and staling of baked goods. This is especially important when you want to bake in advance or save baked goods for any length of time. Some honey-flavored cakes are improved in flavor and texture when aged a few days.

IN COOKIES

The amount of honey used to substitute for sugar in cookie recipes is directly related to the hardness or crispness desired in the final product.

For hard cookies, substitute no more than ⅓ of the required sugar. Keep in mind hard cookies will probably lose their crispness if not eaten in a short time. Most honey cookies, candies and frostings become too soft during high-humidity weather.

For soft cookies, substitute up to ½ the required sugar with honey. For moist-type fruit bars and soft, "gooey" mixtures, substitute up to ⅔ of the required sugar with honey.

RECIPES USING HONEY

Basic Honey Butter

½ C. butter
1 C. bland honey
Combine ingredients with electric mixer until creamy and smooth.

Cinnamon Honey Butter

1 C. basic honey butter
1 tsp. cinnamon
Combine ingredients with electric mixer on high speed.

Honey Butter Cinnamon Buns

⅔ C. very warm water
1 T. yeast
½ C. cinnamon honey butter
1 egg
½ tsp. salt
2 T. dry nonfat milk
¼ C. raisins
¼ C. chopped pecans
2 C. sifted flour
Additional cinnamon if desired

Measure very warm water into large mixing bowl. Sprinkle or crumble yeast over water; stir until dissolved. Combine cinnamon honey butter, egg, salt and dry milk. Add to yeast mixture; blend well. Add fruit, nuts and flour. Stir to mix; then beat until batter is shiny and smooth, about 2 minutes. Scrape sides of bowl. Cover and let rise in a warm place, free from draft, until double in size, about 45 minutes. Stir down and drop by spoonfuls into 12 greased muffin pans. Let rise in warm place, free from draft until doubled, about 30 minutes. Bake 350° for 20-25 minutes. Remove from pan, serve warm. Makes 12.

Honey French Toast

2 eggs, slightly beaten
1¼ C. honey
¼ C. milk
¼ tsp. salt
8 slices bread
butter
2 T. lemon juice

Combine beaten eggs, milk, ¼ C. honey and salt. Dip bread in mixture and fry in butter until golden brown. Combine remaining honey, lemon juice, and 2 T. butter. Heat and serve over toast. Makes 4-6 servings.

Honey Oatmeal Bread

1 C. rolled oats (regular)
2 C. boiling water
2 T. yeast
⅓ C. lukewarm water
½ C. honey
¼ C. vegetable oil
½ dry milk
6-6½ C. sifted whole wheat flour
2½ tsp. salt

Place rolled oats in large bowl or pan and add boiling water. Let stand until lukewarm (about 20 minutes). Dissolve yeast in lukewarm water, and let stand 5 minutes, then add to mixture. Add honey and oil. Sift together dry ingredients twice and then add to mixture. Knead well for 5 minutes. Let rise until double in bulk, then knead again. Shape into two loaves. Let rise 10 minutes and bake in well-greased loaf pans 325° for 1 hour. Turn out and brush tops with butter.

Honey Butter Cookies

2 C. butter
1 C. honey
2 eggs, separated
1 T. grated lemon peel
8 C. sifted flour
1¼ tsp. baking powder
2 T. lemon juice
1 C. almonds, chopped

Cream butter and gradually add honey. Beat in egg yolks and lemon peel, flour, baking powder, and lemon juice. Stir well and chill. Shape into small balls with beaten egg whites and sprinkle with almonds. Bake 350° for 10-15 minutes. Makes 8 dozen cookies.

Honey Chip Cookies

½ C. butter
½ C. honey
1 egg
1¼ C. sifted flour
½ tsp. baking soda
½ tsp. salt
1 C. chocolate chips
½ C. chopped pecans

Cream butter and honey together; add egg and beat well. Sift together dry ingredients and add to creamed mixture. Stir in pecans. Drop by rounded teaspoons onto greased cookie sheet. Bake 375° for 12-15 minutes. Makes 3 dozen.

Honey Crispy Cookies

½ C. butter
2 T. milk
1 C. flour
¾ C. honey
¼ tsp. salt
1 C. coconut
1 tsp. vanilla
2 C. Rice Krispies cereal

Combine all ingredients except vanilla and cereal in saucepan. Cook over medium heat, stirring constantly until dough leaves sides of pan and forms a ball. Remove from heat. Cool. Add vanilla and cereal. Shape in balls; roll in additional coconut. If not eaten at once, store in refrigerator.

Honey-Pecan Butter Cookies

1 C. butter
¼ C. honey
2 C. sifted flour
½ tsp. salt
2 tsp. vanilla extract
2 C. finely chopped pecans
Confectioners' sugar

Cream butter; gradually add honey and beat well. Stir in flour, salt, and vanilla. Mix well. Add chopped nuts. Form into very small balls and place on greased baking sheet. Bake at 300° for 40-45 minutes. Roll in confectioners' sugar while still hot. Makes 6 dozen cookies.

Honey Peanut Chompers

1 C. honey
1 C. peanut butter
1¼ C. nonfat dry milk (non-instant)

Add peanut butter to warm honey and mix well. Stir in 1 to 1½ C. dry milk. (The amount of powdered milk depends on the peanut butter's oiliness.) Form into small balls.

Honey Fruit Cup Mix

4 C. mixed fruit
½ C. honey
1 T. chopped candied ginger
1 T. lemon juice

Place fruit in serving bowl or refrigerator dish. Combine honey, candied ginger and lemon juice; pour mixture over fruit and chill for 2 hours before serving. Makes 4-6 servings.

A typical winter mix could include grapefruit and orange sections, fresh pineapple, bananas, red grapes, etc. A summer mix might include melon, berries, peaches, pears, etc.

Honey Pearalilli

7 C. firm ripe pears
½ C. diced green pepper
1 can (4 oz.) diced pimiento
2 C. golden raisins
4 C. mild-flavored honey
½ C. lemon juice
1 T. grated lemon peel
1 tsp. salt
¼ tsp. ground ginger
¼ tsp. whole cloves
½ tsp. ground allspice
4 sticks cinnamon

Put unpeeled, cored pears through food grinder, using coarse knife. Add balance of ingredients. Tie whole spices in a cloth so they may be easily removed. Stir well to blend. Over medium heat, bring to boil, stirring. When rolling boil is reached, reduce heat and simmer, stirring often to prevent sticking, until relish is thick enough to spoon into sterilized pint jars. Remove spice bag. Seal lids at once. Makes about 4 pts.

Basic Honey Taffy

1 C. honey

Cook honey to hard crack stage (285°), stirring occasionally. Pour onto buttered marble slab. As soon as outside edges cool enough to touch, fold to center and make a long roll. Start stretching or "pulling" while still hot. Pull until honey becomes light and porous and small strings develop. Cut into short pieces. Place in paper-lined metal cans for 2 days to soften.

Baked Honey Custard

2 eggs
2 C. milk
¼ C. honey
⅛ tsp. salt

Beat eggs slightly. Add milk, honey and salt. Pour into individual molds and set in a pan of water. Bake 350° for 30 minutes.

Basic Honey Jelly

1 C. honey
¼ C. water
⅛ C. liquid fruit pectin

Heat honey and water to boiling, stirring constantly. Add liquid fruit pectin and bring back to boil, then allow to cool in jelly jars.

ADDITIONAL HONEY RECIPES

CHAPTER 8

VITAMIN AND MINERAL SUPPLEMENTS

As was mentioned in an earlier chapter, the *Handbook* recommends a vitamin supplement program to assure a balanced vitamin and mineral intake, regardless of diet or life-style. It is common knowledge that during the processing of our food supply, the food loses a great deal of its nutritional value. Attempts are made to re-introduce the lost vitamins and minerals, but the natural vitamins are generally replaced by synthetic ones.

Vitamins are substances the body requires and must acquire for normal functions, including the maintenance of its structure and proper growth.

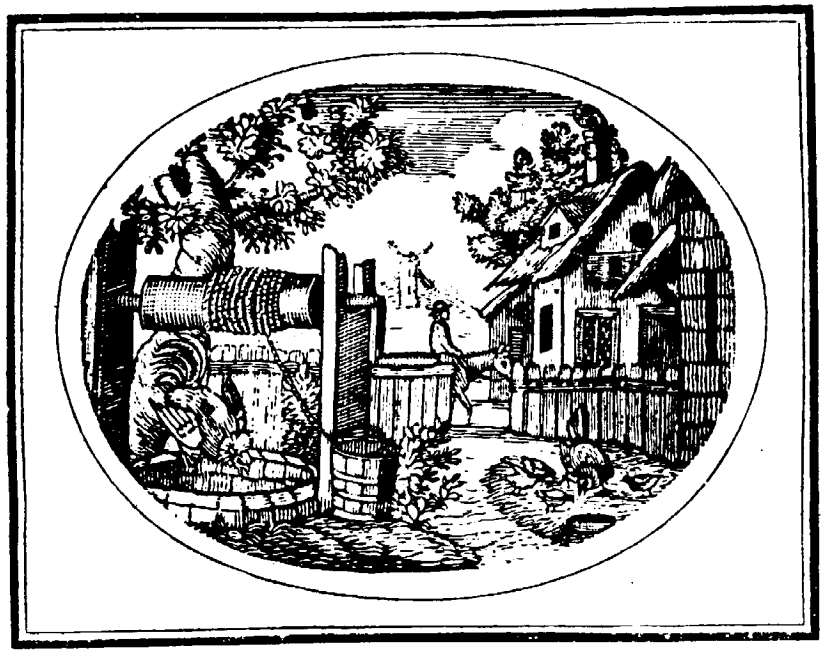
Today, when "megavitamin" and "orthomolecular" therapy are common buzz-words in the circles of the health cultists, our attention is certainly drawn to the need for supplementation. There appears to be an all-out debacle between the federal government and health scientists regarding the level of need for vitamins in the daily diet. This *Handbook* recognizes the need for vitamin supplements in the diet, but makes no claim for supplement levels needed. We do urge each reader to investigate his own diet and determine his need for supplementation.

Should your diet be forced to change drastically for the worst, vitamin supplements could become of utmost importance in your food storage program.

If you're living from your food storage program, these are some problems you'll face in achieving balanced nutrition:

— it is difficult to determine value of storage foods;
— there is a constant loss of food value (vitamin and mineral potency); and,
— there is additional loss when stored food is improperly prepared.

In summary, we recommend a balanced vitamin supplement program be included in your basic storage program. It may well be the best life insurance investment you'll ever make! However, check with your doctor, physician, therapist or other trusted professional before purchasing any vitamin supplement program.



CHAPTER 9

WATER STORAGE

You and your family can subsist for quite a while without food, but only for a short time without water. Therefore, do not minimize the importance of storing water. Water is probably the least expensive item to store. It's value in times of distress will be great. Water can be used for preparing dried foods, bathing, washing dishes, and helping to cleanse the body internally and externally.

METHODS OF PURIFICATION

We may be required to purify any water available. There are many methods for obtaining drinkable water from polluted water. The four basic methods are *filtration, chemical treatment, freezing and distillation.* Filtration and chemical treatment are usually used in some combination. When chemical treatment alone is used, such as with water purification tablets, the foreign particles are still in the water. The chemical taste also leaves a lot to be desired. Filtration can become complex and costly. The new membrane-type filters and the freezing method are interesting, but some of these systems require too much equipment to be practical.

Recently, there are some compact filter systems which are very good and not too expensive. The filtration unit usually has charcoal granules for filtering the water. There are small, portable units which will provide clear, safe drinking water. These inexpensive water purifiers provide safe drinking water for pennies per gallon. They are easy to use — simply pour water in the filler on top, catch the water coming out the bottom and use. When the filter no longer works the water doesn't flow through. There are several competitive brands, and their prices are still short of alarming.

Because of its pre-eminent importance, and the various levels of need, it is difficult to determine the amount of water any one person might need. When water is stored properly, the more stored the better. In moderate weather, a person engaged in sedentary activities, consuming an average low-protein diet, requires a minimum of one-half gallon of water per day for drinking and food preparation. As a minimum, then, store 7 gallons per person for a 2-week period. However, only sponge or towel baths could be permitted with this amount of water.

If you want water for bathing, brushing teeth, and dishwashing, it should be the same quality as water stored for drinking, and must be stored in addition to the basic amount previously mentioned. Of course, some of the need for liquids can be met by storing large quantities of fruit juice and soft drinks.

Some of your water requirement could be met by making use of the water in home hot-water tanks and toilet tanks — not toilet bowls! Know the location of your home's main incoming water valve so you can shut it off if directed by local health authorities, to prevent the entrance of contaminated water. (As a safety measure, the valve on the gas line to your hot-water heater should be turned off also.)

Water from a hot-water tank can be obtained by opening the drain cock at the bottom of the tank. To get a free flow with the water inlet valve turned off, you may need to vent the tank by turning on a faucet somewhere in the waterline.

SAFE SOURCES OF WATER FOR STORAGE

Water stored for emergency use must be clean. Any water that has been tested and approved by local or state health authorities would be safe to store.

If there is any question about the safety or cleanliness of the water you intend to store, or if it has not been tested and approved by health authorities, it must be purified before it is stored.

HOW TO PURIFY WATER

Boiling. The safest method for purifying water is to boil it vigorously for 2-3 minutes to destroy bacteria. To improve the taste of water after it has been boiled, pour the boiled water from one clean container to another several times to aerate it. Cool, or even add ice to improve boiled water's palatability.

Easy Bleach Method. Any household bleach solution containing hypochlorite, a chlorine compound, will purify water easily and inexpensively. *Caution: be sure hypochlorite is the only active ingredient.*

Bleach solutions with 5.25% sodium hypochlorite are most common. Add the bleach solution to water in a clean container. Thoroughly mix by stirring or shaking the container. The following chart shows the proper amount of 5.25% sodium hypochlorite solution to add to a given quantity of water to purify it for drinking and cooking.

Add the chlorine solution to the water and stir, then let the mixture stand for 30 minutes. After 30 minutes the treated water should still have a distinct chlorine taste or smell. If the chlorine taste or smell is not present, add another dose of the solution to the water and let the

CHART 9-A
USING BLEACH FOR WATER PURIFICATION

WATER QUANTITY	WATER CONDITION	QUANTITY OF 5.25% HYPOCHLORITE BLEACH
1 QUART	CLEAR	2 drops
	CLOUDY	4 drops
HALF GALLON	CLEAR	4 drops
	CLOUDY	8 drops
GALLON	CLEAR	8 drops
	CLOUDY	16 drops
5 GALLONS	CLEAR	½ tsp.
	CLOUDY	1 tsp.

water stand for at least another 15 minutes. The taste or smell of chlorine in water thus treated is a sign of safety. If you cannot detect either the chlorine taste or smell in the water being purified by this method, do not use it. The chlorine solution may have been weakened by time, heat, or contamination.

Iodine. Two percent (2%) tincture of iodine can be used to purify small quantities of water. The following chart shows the amounts of iodine to use for emergency water purification. Stir thoroughly when using iodine. The taste is not exactly delightful, but the water is safe to use.

CHART 9-B
USING IODINE FOR WATER PURIFICATION

WATER QUANTITY	WATER CONDITION	DROPS OF IODINE
QUART	CLEAR	3
	CLOUDY	6
HALF GALLON	CLEAR	6
	CLOUDY	12
GALLON	CLEAR	12
	CLOUDY	24

Tablet Purification. Water purification tablets releasing chlorine or iodine can be used safely to purify water. These tablets are inexpensive and can be bought at most sporting goods stores and still at some drugstores. There are several brands. When using water purification tablets, be sure to follow directions on the package.

STORING WATER RESERVES

Store your water reserves in thoroughly washed, clean containers, preferably of heavy plastic with tight-fitting caps. Plastic containers have the advantage of being shatterproof and lighter in weight than glass jugs or bottles. Glass jugs or bottles with screw tops are fine, but heavier. Metal containers tend to impart an unpleasant taste to the water after lengthy storage. Five-gallon containers of rigid plastic or glass are best for water storage.

Bottling Water. Fill empty bottles with clean ordinary tap water to within 1" of top. Cold pack or pressure cook as if a garden vegetable. Pack glass containers tightly to protect against breakage. Put newspapers, excelsior, or other packing material between containers. Clean water stored in this way should remain palatable for an indefinite period. Check containers every few months for leaks. At the same time check the water for cloudiness or undesirable appearance or taste. If undesirable appearances or tastes have developed, the water should be discarded and another batch prepared.

Potable water stored in glass or polyethylene containers will remain safe, but the water may change in appearance, taste or odor. Although some of these qualities may be disagreeable, they will not be harmful.

Sources. Preferably, store water from the source normally used by the family for drinking purposes. Since the family members are accustomed to its taste and mineral quality, adjustment should be no serious problem.

If there is any doubt as to the bacterial safety of water in storage, purify it as indicated in the charts.

Shelf Life. When stored in clean containers, and when free from bacteria at the time of storage, water will remain safe. Most disease organisms tend to die during long storage. Generally, the longer the water is stored, the safer it will become bacteriologically.

Because water quality varies throughout the country, no set rule can be given for shelf life. Current experience shows, however, that some water taken directly from a tap and stored several years in glass or polyethylene containers cannot be distinguished by appearance, taste or odor, from freshly-drawn water from the same tap.

From the standpoint of immediacy, the problem of obtaining drinking water during a time of natural disaster, etc., is usually more important than that of obtaining food. Anyone who has been in a hurricane has seen water everywhere, but not a drop to drink! The first thing normally shipped into a disaster area is drinking water.

Those who have attempted to store sufficient water to last for a month or even more, realize the impracticality of storing water for a whole year. At the minimal usage rate of 7 gallons per 2-week period, it would require space for nearly 200 gallons of water per person. This amount of water would weigh approximately a ton and a half and occupy nearly 200 cubic feet of space. Most people have a difficult time finding space for food storage alone, much less this much water, not to mention a structure capable of holding such tremendous weight. Imagine storing that under your bed! Which brings up an interesting thought — one of the best ways to store water is in a water-bed! You'll have to be sure there is no algae growing in the water. Also, be sure to use algae inhibitors that are not poisonous to humans.

There are a number of works detailing how to derive emergency drinking water by distillation, etc. The *Boy Scout Handbook* has additional methods for water collection and purification for emergencies.

CHAPTER 10

KITCHEN GARDENING WITH SPROUTS

It is virtually impossible for a family to store enough fresh vegetables to last a long period of time. By sprouting seeds, fresh vegetables are only 2-3 days away, year 'round! Sprouting is not only one of the keys to nutritional stability, but also is a great money-saver.

Nutritionally, dried seeds, grains and legumes provide only a small portion of the total nutrients the body requires. However, once they are sprouted, seeds provide the largest relative amounts of nutrients per unit of intake, compared to other food sources. Depending on the kind of dried seed, the vitamins, minerals, amino acids and protein can increase from 2½ to 60 times when the seed is sprouted. This is because a wealth of nutrients are released to aid the development of the seed during its growth process. There is no doubt more nourishment is contained in a plant's sprout than at any other time in its life-cycle. The amount of food value stored in such a small space is a boon to the home storage program.

Increasingly, numbers of families have found seed sprouts nutritious and delicious when used to:

Vary the menu: adds bulk and improves flavor of soups, salads, sandwiches, breads, casseroles, etc.

Improve nutrition: creates or greatly increases vitamin content of dishes.

Substitute for green foods: replace lettuce and other greens as they become expensive or unavailable.

Save money: all the above and this, too! Sprouting inexpensive seeds can support an overworked budget.

INTRODUCTION TO BASIC SPROUTING

Compared to yard gardening, kitchen gardening with sprouts is too easy. There is little fuss and bother, and the space required for sprouting is minimal. There is no waste in preparation, no fuel required to prepare them, and once you get the hang of it, practically no failures. Sprouts are rich in vitamins, proteins and enzymes. They are free of pesticides, yet free of pests. They require no fertilizer — in fact, all that is required is some moisture and air.

Most sprouts retain higher nutritive value when eaten raw. When using sprouts in cooked dishes, add them just a few minutes before serving. Raw sprouts can be eaten in salads, sandwiches or sprinkled over cooked vegetables.

Most home-baked goods can be enhanced by adding sprouts. Substitute 1 C. sprouts in any recipe for ½ C. flour and ½ C. liquid. Chop sprouts or leave them whole — breads become more eye-appealing with sprouts peeking through the crust and throughout each delicious slice.

One additional benefit of sprouts is the low carbohydrate content — a real plus for weight-watchers.

A FEW BASIC RULES FOR SPROUTING

There are only a few general rules for sprouting. Almost all seeds are sprouted the same way, with only a few exceptions. The Basic Sprouting Chart points out some special handling requirements for particular seeds. Read the general directions, then check the chart for deviation from the general directions. Don't be afraid to experiment — there's not much you can do to hurt sprouts. After a few tries, you'll discover at what stage your family prefers different sprouted seeds. Some like seeds best when sprouted just 48 hours, others when 4-5 days old, when the sprout has a stronger flavor. Actually, sprouts may be used any time after the shoot emerges from the seed, but with some seeds it is best to wait until the shoot is longer. The chart gives the recommended sprout length for each seed. Most sprouts achieve peak palatability and highest vitamin content and potency 60-80 hours after soaking.

Equipment Needed

Generally, the only equipment needed is a quart jar, a piece of gauze, nylon fabric, net or stocking, and a strong rubber band. Simply secure the gauze (or nylon) over the mouth of the jar with the rubber band, and you have a very effective sprouter.

GENERAL DIRECTIONS FOR BASIC SPROUTING

- ☐ 1. Pick broken seeds and foreign objects out of measure. Place seeds in a quart jar with approximately 2 C. warm water. Soak 6-8 hours, or overnight. (See Basic Sprouting Chart)
- ☐ 2. Secure gauze or nylon fabric on jar mouth with strong rubber band and drain seeds well.
- ☐ 3. Place jar in warm, dark place.
- ☐ 4. Rinse seeds at least 3 times each day, always draining well.
- ☐ 5. When sprouts attain desired length, store unused sprouts in refrigerator to retard further growth.

Caution! There are only a few things you shouldn't do in sprouting:

1. Don't sprout tomato or potato seeds — they are generally poisonous to humans.

2. Don't sprout seeds treated for agricultural use — they are generally treated with poisonous insecticides and are not safe for human consumption.

3. Be careful when using sprouts in breadmaking. Sprouts are an abundantly rich source of enzymes. Some of these enzymes have the ability to digest protein, so yeast action will be inhibited. If the yeast does not fully act in the dough, the dough will produce heavy bread. When adding sprouts to yeast goods, do so as late as possible in the mixing process, then be sure dough is warm and working. Do not allow dough to sit too long with sprouts added, as the dough may sour.

CHART 10-A
BASIC SPROUTING CHART

KIND OF SEED	AMT. NEEDED TO SPROUT 1 QT.	SPROUT LENGTH (maximum)	SPROUTING TIME (DAYS)	SPECIAL HANDLING
ALFALFA	1 T.	1"-2"	3-5	Soak in warm water 10-15 minutes. Drain, place in dark, warm spot. Rinse 3 times daily until mature. Rinse daily with cold water during storage to prevent mold.
BARLEY	½ C.	¼"	3-4	Rinse often.
BEAN	½ C.	¼"	2-3	Kidney, lima, navy, pinto & white beans interchangeable in recipes.
CORN	½ C.	¼"	2-3	Avoid oversprouting.
CRESS	¼ C.	½"	3-4	None.
GARBANZO	½ C.	2"	2-3	None.
LENTIL	½ C.	2"	1-2	Use when sprout becomes visible.
MUNG	¼ C.	3"	3-4	Rinse in cold water to remove hulls.
OAT	½ C.	¼"	2-3	None.
PEA	½ C.	2"	2-3	None.
PEANUT	¼ C.	¼"	2-3	None.
RADISH	2 T.	½"	3-4	None.
RYE	½ C.	¼"	2-3	None.
SESAME	¼ C.	½"	3-4	None.
SOYBEAN	½ C.	4"	2-3	Rinse often and do not oversprout.
SUNFLOWER	¼ C.	¼"	2-3	None.
TRITICALE	1 C.	¼"	2-3	Rinse often — substitutes for wheat.
WHEAT	¼ C.	¼"	2-3	Become bitter when oversprouted.

RECIPES USING SPROUTS

Sprouts may be used in salads, casseroles, soups, sandwiches, bread, with fruits, liquified in fruit juices, eaten raw as a snack or lightly steamed as a vegetable. The following recipes are typical of the many ways sprouts can be used to make meals more attractive and nutritious.

SPROUT SOUPS

Add sprouts to water, season to taste, serve hot — that's all there is to making sprout soup. If you lack the courage to innovate without guidance, the following recipe should help.

Basic Sprout Soup

1 C. sprouts (your favorite)
1 C. water
1 tsp. soy sauce (optional)
½ C. sour cream
pinch parsley
salt & pepper to taste

Add sprouts to boiling water. Reduce heat, simmer 3-5 minutes, then stir in sour cream, seasoning to taste. Serve hot.

Egg-Sprout Soup

2 C. bean sprouts
4 C. vegetable broth or soup
1 T. soy sauce
2 eggs, beaten
salt
dash MSG

Add sprouts to broth. Simmer 8-10 minutes. Remove from heat and stir in beaten eggs. Season to taste.

SPROUT VEGETABLES

Sprouts may be boiled, baked or sauteed as any other vegetables, served alone or in combination with other vegetables. The number of recipes for sprouts is endless because they can be added to almost any vegetable dish to improve its taste and nutritional value. The following recipes should guide you in utilizing sprouts as vegetables.

Basic Sprout Vegetable

1 C. sprouts of choice
½ C. water
2 T. butter
pinch salt

Add sprouts to boiling salted water, reduce heat and simmer 3-5 minutes. Remove from heat, add butter and cover for 20 minutes. Serve hot.

VARIATIONS FOR BASIC SPROUT VEGETABLES

Bacon-Sprout Vegetable

basic sprout vegetable
1 T. soy sauce
¼ lb. bacon

Drain sprouts. Chop bacon, saute until golden brown. Add sprouts and soy sauce. Mix and continue cooking 2 minutes. Serve hot.

Sauteed Sprouts

1 C. raw sprouts of choice
1 T. dehydrated onion flakes
1 T. butter
1 tsp. soy sauce

Melt butter in frying pan, then add onion and sprouts. Saute 3-5 minutes. Stir in soy sauce. Serve hot.

Tomato-Sprout Vegetable

basic sprout vegetable
½ tsp. parsley
1 can stewed tomatoes

Add sprouts to simmering stewed tomatoes, cook 2-3 minutes. Sprinkle parsley on top. Serve hot.

Casseroles: Add ½-1 C. sprouts of your choice to your favorite casserole. Adds additional vitality and flavor to any casserole.

Sandwiches: Add sprouts to tuna fish, chicken salad, or any other kind of sandwich you prefer.

Salads: Add sprouts to your favorite salad, or substitute sprouts for lettuce altogether. Substitute chopped sprouts for cabbage in cole slaw, too.

Perhaps the easiest salad to make is a handful of sprouts with French, Italian, Russian, bleu cheese, or plain mayonnaise poured over and stirred in. For a deluxe salad, add cauliflowerettes, sliced zucchini, sliced avocado — you get the idea. Go creative with sprouts, and you'll be healthier and less harrassed in meal preparation.

ADDITIONAL RESOURCES

There are a number of good sprout cookbooks on the market. Some of them are:

Seeds and Sprouts for Life, Dr. Bernard Jensen, D.C.
Sprout Handbook, 2nd Edition, Stuart Wheelwright
Sprouts and Recipe Book, Gary Davis Company
Harvest Helper, Grain Country Company

ADDITIONAL SPROUTING RECIPES

CHAPTER 11
YARD GARDENING

If your summer has lost its savor, try a new hobby with flavor — *yard gardening!* Yard gardening can:

- reduce your grocery bill;
- return true flavor to your meals;
- provide plenty of outdoor exercise;
- increase your natural vitamin and mineral intake when your fresh-picked food is properly prepared; and,
- give you a topic of discussion that'll impress most everyone, especially as you describe your backyard exploits with confidence and pride.

Back in the '40's, people called their vegetable patch a "Victory Garden." Today's weekend cultivator often refers to his garden as an "Inflation Garden." Soon, it may be a "Necessity Garden" — just so we can make ends meet.

Whatever you want to call it, the family yard garden idea is spreading all over the country. It saves money, quite a lot of it at that. Freshly-picked vegetables are higher in vitamins than the store-bought ones, and the "brag" index is worth the effort! However, the real reason can be stated in one word — *taste*. Probably the best example is sweet corn — it loses up to 30% of its flavor in the first six hours after picking. What a treat is corn truly fresh, half an hour from stalk to plate, each ear popped into the pot only as the last ear, barely cooked and slathered with butter, is almost down to the cob!

Tomatoes and peppers picked warm and sun-drenched are incomparable, as are other naturally sweet vegetables like peas, carrots and even snap beans. From your own garden they'll taste so good you'll be munching them straight off the vine as you select your harvest for dinner.

GARDEN SPACE

It does sound tempting, this idea of growing your own vegetables, but you haven't got enough room. It's true that today's backyard space is often smaller than in the past and it will require 100 to 200 square feet of garden to feed a family of four.

To begin with, you can leave out some traditional backyard garden vegetables — like potatoes, for instance. The difference in taste between home-grown and store-bought potatoes is nowhere near as great as the difference with some other vegetables. And potatoes really don't cost much, so choose another vegetable to maximize your space and your grocery money.

If you don't want to dig up your whole yard, use a corner here or a strip there instead. Try a vegetable fence, for instance. If there's a fence bordering your yard, peas, snap beans, cucumbers and even squash will thrive growing vertically instead of along the ground. Six or seven tomato plants along the sunny side of the garage or house may not seem much, but even that number can supply your family with luscious ripe fruit all through the summer and well into fall.

If you have a bare terrace or driveway, get some small old wooden pickle barrels or similar containers. Fill them with soil and plant your tomatoes in them. Then use the barrels to line the drive, or to set the terrace off from the rest of the yard.

Vegetables can also be used to border your flower beds. Root crops, such as beets, carrots, radishes and leaf lettuce will come up like a row of small ferns, making a green border until you harvest your crop. A short row of parsley will give months of tasty garnish. Horseradish, if you like a garnish with a tang to it, is a perennial that can be grown in almost any leftover corner of your yard. Five or six roots should do the family, unless you're seafood addicts, in which case plant more, since cocktail sauce made with your own fresh horseradish has a piquancy you'll continually enjoy.

You'll need more than one row of plants if you want fresh corn. But for a unique barbecue hideaway, why not plant a big U of corn around the grill? You'll get shade for your late-afternoon cookouts, a windbreak, and food to roast all in one. Plant at least two, preferably three, parallel rows of corn — a single row will not pollinate well.

SAVE TIME BY MULCHING

So maybe you've got the space after all. But what about the time? Well, no garden will grow by itself — but yours almost will. The days of hoeing and weeding are practically gone if you use mulch instead. Weeds, like all other plants, need sunshine in order to grow. Deprive them of sunshine and you rid your garden of most weeds. However, wait till your crop plants are well above ground before mulching. Not only do vegetables need sun as much as weeds do, but if you mulch too early, the mulch layer will act as insulation, keeping the ground around your plants cooler than they should be for proper maturing.

(This chapter contains excerpts from *The Eatable Garden* by Richard W. Langer for Family Circle Magazine, April 1973, and *"Ortho"* Lawn and Garden Book, 1973.)

Besides eliminating weeds, except during the earliest weeks of your plants' growth, mulching helps your garden in other ways. It keeps more moisture in the soil, since water can't evaporate as rapidly under its covering layer. This means you rarely have to water your garden, unless there is a period of real drought, until the plant crops are beginning to mature. At that time they can always do with a little extra moisture for a juicier, plumper harvest. But until then, if you go away for two weeks or so in the summer, you can still expect to return home to a garden of healthy succulent vegetables rather than a wilted weed patch.

In addition to keeping the garden moist, mulch will help build up your soil. As it breaks down and decays, it turns into topsoil, that rich loamy earth in which vegetables thrive. For even more enrichment, add a little bit of natural, organic fertilizer such as bone meal, tankage and phosphate rock to your mulch. (These are available at most garden centers.) It takes only minutes to fertilize and mulch a small vegetable garden, and with each succeeding year you'll have a larger and tastier harvest.

The best mulch is organic. Straw, hay or grass clippings from your lawn are all fine mulch. Leaves will work well, as long as you chop them up with your lawn mower or a shredder. Whole leaves would stick together, making a flat caky layer that wouldn't allow air to penetrate the soil. Other mulches, usually available at garden centers or nurseries, include ground corncobs, peanut shells or coconut hulls.

The basic rule in mulching is: the finer the mulch, the thinner the layer should be. For instance, an inch or so of ground corncobs usually suffices for the whole growing season. With something like hay, on the other hand, you want to approach the one-foot level — after your plants are considerably taller than that, of course!

KEEP IT SIMPLE

If you are convinced you haven't got a green thumb, stick to the easy plants. For instance, Iceberg lettuce can be quite difficult to tend — Bibb lettuce and Romaine, on the other hand, are easy, and are more nutritious besides.

Cauliflower is tricky and requires some work; as the flower develops, you have to bundle it up in its own leaves, tying them together so no light can enter and ruin the flower. In contrast, broccoli, which belongs to the same family as cauliflower, requires practically no care. Buying flats of plants already started — tomatoes and peppers, for instance — will cost you a little more than starting with seed, but it's a good way to gain confidence and time. Merely transplant them, water well and mulch. Your garden will be on its way that very day. Then try other easy plants on your own, and your salad bowl will soon be overflowing.

The easy plants, other than tomatoes and peppers, are leaf lettuce, cucumbers, squash, pumpkins, carrots, corn, snap beans and peas. For a real treat, try growing snow peas, the flat sweet ones you eat whole in Chinese restaurants. When you can get them at the market, they'll run $$ a pound; from your garden, maybe a few cents per pound. Growing such vegetables in any odd corners of extra space you may have, and using mulch as your gardener, will pay tasty dividends with hardly any work at all.

Thinking seriously about becoming a vegetable gardener? Here are more space and time-savers: companion gardening, high-rise gardening and installment gardening.

COMPANION GARDENING

Companion gardening, also called intercropping, is simply raising herbs, flowers and/or vegetables together in the same beds for mutual benefit — theirs and yours. Nature has been putting this scheme into practice since plants first evolved, for wild plant always grow together in mixtures. Primitive man, learning directly from nature, used intercropping to increase his yield long before science took credit for the discovery.

One of the most outstanding examples of companion gardening is the corn-beans-squash combination that dominated primitive North American agriculture from its inception. The symbiotic relationship of these plants is so great it has no equal elsewhere in the world. Sown together with beans and squash, corn plants grow tall, get the first sun and most of the moisture. They also take a great deal of nitrogen from the soil. The beans climb up the corn stalks to get their share of the sunlight, while at the same time replenishing the soil's nitrogen. The squashes — or, for those who want to prepare for Halloween and Thanksgiving, the pumpkins — grow along the ground, coming into fruit when the corn and beans have already been harvested and cleared. Three crops in the space of one!

Some companion plants perform a service by luring destructive insects away from your main crop. Dill, for instance, draws tomato worms. With dill and tomatoes as companion plants, you get healthier tomatoes, and there will be plenty of dill to garnish dishes — from salmon aspic to new potatoes. The following chart outlines some of the possibilities of "good neighbor" plants mutually benefitting each other by their presence in the same plot.

CHART 11-A
GOOD COMPANION CROPS

"GOOD NEIGHBOR" PLANTS	BENEFIT TO YOUR GARDEN
Nasturtiums	Keep away cucumber beetles and Mexican bean beetles.
Dill	Lures tomato worms away from tomatoes.
Chives and parsley	Keep aphids out of roses.
Garlic	Cuts down the appeal of garden to destructive insects in general.
Lemon balm, sweet basil and the mints	Attract bees for better pollination of crops.
Thyme	Keeps cabbage worms from broccoli.
Geraniums	Discourage Japanese beetles.
Carrots with peas Onions with beans Cucumbers with beans Radishes with lettuce	Planted in rows next to each other, will produce bigger, healthier yields.

HIGH-RISE GARDENING

High-rise gardening is another example of giving nature a bit of a hand. Since beans, peas, cucumbers and tomatoes will all grow perfectly well straight up, train them up poles as high as six feet, tying the plants gently against the sticks with pipe cleaners or strips of rag. At their feet you can then plant lettuce, beets, radishes, squash, cucumbers or carrots. The one secret to remember is always to have tall or poled plants growing on the north side of the low ones. This way they will all get sun and thrive in a close environment.

INSTALLMENT GARDENING

As if high-rise gardening doesn't squeeze enough out of your garden space, there's the concept of *installment gardening* to use as well. Early radishes mature in as little as 30 days — which means, after you harvest them, there is still enough left of the growing season to raise some beans in the same spot. Peas can be harvested and followed up with carrots or beets or cucumbers. If you want to keep picking beans all summer, keep planting new seeds every 10 days or so.

To try installment gardening, first determine the length of the growing season in your region. Local seed stores and nurseries will give you the average dates for the last frost in spring and the first first in fall. The seed packages, besides telling you how large a crop you can expect to harvest from sowing a given amount, also show regional breakdowns of how and when to plant and when to harvest. With this information and your two frost dates, you can plan your installment garden. If you have 180 frost-free days in your growing season, for instance, and on the seed packets you see that radishes require 30 days to mature and limas take 75 to 90 days to bear, you know you have plenty of time to plant them both, one after the other. Peas, which take 70 days, like to be planted early, so they can grow in the cool of early summer. That means you'll be able to follow them up with a growth of sweet, tender carrots, which average 70 days to harvest time.

If you look over your backyard and patio with a few of these making-the-best-of-basics ideas in mind, you'll find you have the space and time for a small basic family garden that's not so very small after all. Plant your vegetable garden early and you can harvest your first crop of fresh radishes in a month, followed by fresh corn and carrots and peas and beans and pumpkins, and a whole cornucopia to fill the salad bowl — for your tastiest summer ever.

CHART 11-B
GOOD INSTALLMENT GARDEN CROPS

Harvest your first crop of	Then hoe up the row and plant
Radishes	Leaf lettuce
Peas or snap beans	Late carrots*
Early broccoli	Beets*
Early beets	Winter squash
Summer squash	Turnips or beets*
Carrots	Snap beans

*Cover heavily with mulch before the first trost and you can harvest these till Christmas.

CLIMATE

When discussing climates in the USA there are any number of climates — some a mile or more in the sky, some hot and dry in the summer, some with summer rain. The growing season (the number of days between the last frost of spring and the first frost of fall) varies between 180 days frost-free weather to some frost every month of the year.

But don't let the prospect of a short season deter you from activity; there are many excellent family vegetable gardens in spite of the natural limitations. The key to successful gardening in any climatic zone is in growing varieties suitable to the micro-climate of the region.

Beginning gardeners should check with their local county Agriculture Agent for information on what is and what is not adaptable to their specific location. Your local garden store will have reliable vegetable varieties available when it's time to plant — that's how they earn their living, so rely on them.

BASIC FAMILY GARDEN

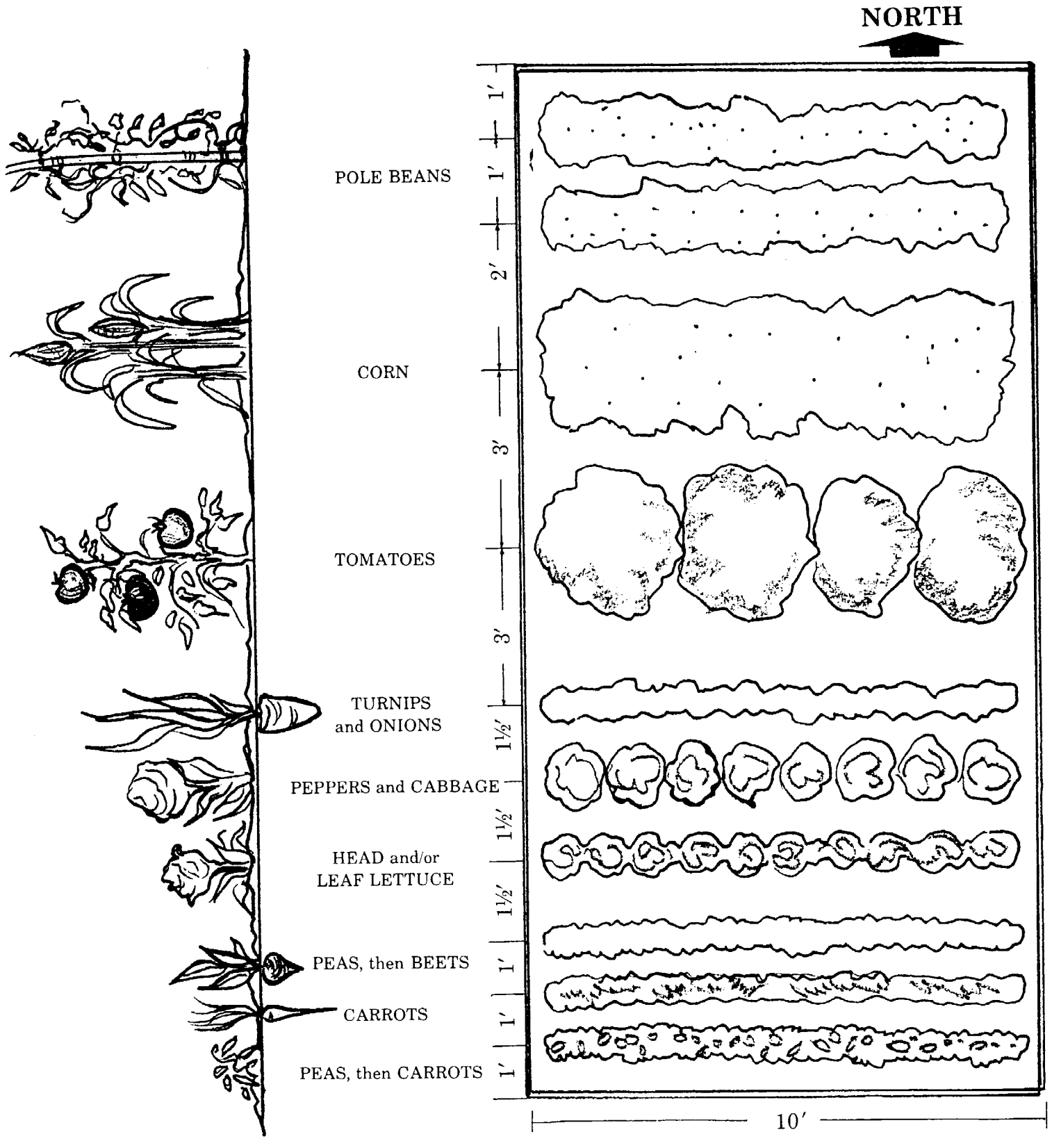
The basic family garden utilizes only 200 square feet of your back or side yard. Any 10' x 20' space not shaded by large leafy trees will serve nicely. By using all forms of gardening — companion, high-rise and installment gardening — you can maximize the available space and have a beautiful harvest. The next 2 charts, below and on the next page illustrate a basic family garden. If the vegetables suggested don't suit you, select those your family will eat. (If there's not enough space for a 10' x 20' garden, use a 10' x 10' plot and call it a basic mini-garden.) Of course, if you have more space, utilize it — you might consider share-cropping! By using all the techniques described in this chapter thus far, you can make your basic family garden efficient as well as productive.

CHART 11-C
BASIC FAMILY GARDEN PLAN

VEGETABLE	APPROX. YIELD PER 10-FOOT ROW	WHEN TO PLANT	QUANTITY	
			WATER	FERTILIZER
Peas	2 - 4 lbs.	April-May	C	A
Beans	15 - 20 lbs.	After frost	B-C	A
Carrots	15 - 20 lbs.	April-July	C	C
Beets	15 - 20 lbs.	April-July	C	C
Lettuce	10 - 15 heads	April-May	C-D	C
Tomatoes	80 - 120 lbs.	After frost	B	A-B
Corn	5 - 7 lbs.	After frost	B	C
Turnips	15 - 20 lbs.	April-May	C	C
Cabbage	8 - 10 heads	May-June	C	C
Peppers	15 - 20 lbs.	After frost	C	B-C
Summer squash	10 - 15 lbs. per plant	After frost	C-D	D
Cucumbers	5 - 10 lbs.	After frost	C-D	D
Onions	15 - 20 lbs.	April-May	B-C	C
Potatoes	15 - 25 lbs.	May-June	B-C	A

Key: A — Sparse B — Moderately sparse C — Moderate D — Moderately heavy

CHART 11-D
BASIC FAMILY GARDEN LAYOUT



PREPARATION OF FRESH VEGETABLES

Follow these general guidelines, and you'll really enjoy the results of your gardening efforts.

- Use vegetables as soon as possible after harvesting to insure maximum texture, flavor and food value.
- Cook vegetables in skins when possible, or peel very thinly, since the highest concentration of minerals and vitamins lies near the skin.
- If a vegetable is to be stored for a short time, wash thoroughly, then refrigerate in vegetable drawer or in plastic bag.
- Cook vegetables in minimum amount of water or use none at all, as nutrients are water-soluble.
- Start vegetables cooking in boiling water and always boil gently.
- Keep cooking untensil tightly covered to shorten cooking time.
- Do not stir vegetables more than necessary, because air brought in contact with food allows vitamin deterioration.
- Cook *only* until tender; over-cooking destroys, color, texture and flavor.
- Use any water left over from cooking vegetables as soup and sauce base.
- Salt lightly *after* cooking.
- Cream garden vegetables in their own cooking liquid to minimize amount of fat in seasoning. Add small amount of milk to cooked vegetables, or thicken with a blend of flour and milk.
- Lemon juice enhances vegetable flavor, making it possible to cut down on margarine, butter, or spicy seasonings.

This section briefly describes how typical vegetables grown in a basic family garden could be prepared. The suggested methods of preparation are not unique — use your imagination. On the opposite page is a Suggested Preparation Guide for preparing fresh garden vegetables. Later in this chapter a chart entitled "Alternative Seasonings for Vegetables" which details a large number of alternative ways to season each of the vegetables you either grow in your garden or purchase at the market.

By drying fruits and vegetables, you can enhance the value of your family garden and greatly stretch your food dollar. An electric dehydrator is certainly worth having in your home storage equipment inventory. It will help you to prepare conveniently fruits, vegetables and meats for your home storage program. Used properly and often, a dehydrator would be a very good investment for, and an asset to, your family.

The following chapter details how to prepare vegetables and fruits, too, for drying and preserving the bountiful harvest you're sure to have from your yard garden.

CHART 11-E
SUGGESTED VEGETABLE PREPARATION GUIDE

VEGETABLE	BASIC PREPARATION
Asparagus	Wash and scrape off scales, then break off stalks. Cut up and cook, covered, in small amount of boiling salted water 8-10 minutes.
Beans — Green	Wash and remove ends and strings. Cook whole or cut in 1" pieces or slit lengthwise, in small amount of boiling salted water 10-12 minutes.
Beets	Cut off stems, wash and scrub. Do not pare. Cook, covered, in boiling salted water 35-50 minutes. Peel when cooked.
Broccoli	Remove outer leaves and tough part of stalk. Tie stalks in bundle, using folded strip of foil. Stand in 1" deep boiling salted water. Cover and cook 15-20 minutes.
Brussels Sprouts	Cut off wilted leaves and wash thoroughly. Cook, covered, in small amount of salted water 10-12 minutes.
Cabbage — Green	Remove wilted outer leaves. Cook, covered, in small amount of boiling salted water 10-12 minutes.
Carrots	Wash and pare. Leave whole, slice, or cut in quarters and cook, covered, in small amount of boiling salted water 15-20 minutes.
Cauliflower	Wash and leave whole or separate into flowerettes. Cook, covered, in small amount of salted water 15-20 minutes.
Celery	Cut off leaves, scrub thoroughly, Slice and cook, covered, in small leaves, scrub thoroughly. Slice and cook, covered, in small amount of boiling salted water 10-15 minutes.
Chard — Swiss	Wash thoroughly and cook, covered, in very small amount of boiling water 5-8 minutes.
Corn	Remove husks from fresh corn. Remove silks. Rinse. Cook whole in enough boiling salted water to cover, 6-8 minutes.
Eggplant	Wash, pare and cut in ½" slices. Dip in flour or cornmeal and brown slowly in small amount of hot vegetable oil about 4 minutes.
Onions	Peel onions under water, slice and cut in quarters or leave small onions whole. Cook, covered, in small amount of boiling salted water 25-35 minutes.
Peas — Green	Shell, wash and cook, covered, in small amount of boiling salted water 25-30 minutes.
Potatoes — New	Scrub thoroughly and cook in boiling salted water 15-20 minutes.
Potatoes — Mature	Scrub well and cook whole with skins or pared 20-30 minutes.
Spinach	Cut off roots and wash several times. Cook, covered, with small amount of water, turning occasionally, 3-5 minutes.
Squash	Wash and slice thin. Cook, covered, in small amount of boiling salted water 10-15 minutes.
Tomatoes	Wash and plunge in boiling water, then cool in cold water. Peel, cut out stems. Cut up and cook slowly, covered, without adding water 10-15 minutes. Season with salt, pepper, and sugar.
Turnips	Wash and pare thinly. Slice and cook, covered, in small amount of boiling salted water 15-20 minutes.
Zucchini	Prepare as squash.

RECIPES USING GARDEN VEGETABLES

The following recipes are included to help you use your home-grown produce in some delightful ways. These are included just for your enjoyment, since every cookbook has thousands of ways to prepare vegetables.

Antipasto (Marinated Vegetables)

1 head cauliflower (cut in flowerettes)
2 carrots, pared (cut in 2" strips)
2 stalks celery (cut in 1" pieces)
1 green pepper (cut in 2" strips)
1 jar (3 oz.) stuffed green olives
¾ C. white wine vinegar
½ C. olive oil
2 T. sugar
1 tsp. salt
½ tsp. chopped oregano leaves
¼ tsp. pepper
¼ C. water

In large skillet combine ingredients. Bring to a boil, reduce heat, stir occasionally. Simmer, covered, 3-5 minutes. Cool, refrigerate 24 hours before serving. Drain well. (To obtain a different flavor, add ½ can chopped anchovy fillets.)

Vegetable Cottage Cheese Dip

1 tsp. instant minced onion or onion salt
½ tsp. seasoned salt
1½ C. cream cottage cheese (or yogurt)
1 T. finely chopped parsley
1½ C. grated cheddar cheese

Combine onion, salt and cottage cheese. Beat well with electric mixer. Chill for at least 3 hours. Stir in parsley and grated cheddar cheese. Serve with crisp vegetables. Yield: 1½ C. Best served with crisp carrot sticks, celery sticks, cauliflowerettes, and/or zucchini chunks.

Tuna-Broccoli Casserole

½ lb. broccoli
1 7 oz. can tuna, drained
1 can condensed cream of chicken soup
⅓ C. mayonnaise
fine dry bread crumbs
grated Parmesan cheese

Boil broccoli 15-20 minutes, omitting salt. Drain and arrange in shallow 1½ qt. baking dish. Cover with tuna. Mix soup and mayonnaise and pour over tuna. Sprinkle with bread crumbs and top with generous sprinkle of Parmesan cheese. Bake 350° approximately 20 minutes. Serve over rice. Serves four.

Fried Peppered Cabbage

1 medium cabbage
3 T. yogurt (unflavored)
¼ C. butter
salt and pepper to taste

Wash cabbage, remove core, and grate cabbage into fine size. Melt butter in a large frying pan over high heat. Add cabbage, and saute, turning constantly for about 1½-2 minutes, just until cabbage is heated through, but not wilted (do not overcook). Season with salt and very heavy on pepper. Stir in yogurt. Yield: 6 servings.

Shredded Cucumbers

2 cucumbers, peeled and shredded
salt
½ clove garlic, minced
1 T. soy sauce
2 tsp. peanut oil
1 tsp. sesame oil
½ tsp. sugar
½ tsp. vinegar

Sprinkle shredded cucumbers with salt. Let stand an hour or two. Drain. Combine garlic with soy sauce, oil, sugar and vinegar, blending well. Add to cucumbers and toss. Serve chilled. Yield: 6 servings.

Julienne Beets

Fresh beets
1 T. vegetable oil
½ C. water
1 tsp. sugar
salt

Peel fresh beets and cut into julienne (thin) strips and saute in heavy skillet with oil. Add water and sugar, then cover and lower heat; cook until tender. Add more water if necessary to complete cooking. Salt to taste.

French Onion Soup

4 large onions, thinly sliced
¼ C. butter
1 T. flour
salt and pepper to taste
1½ C. beef consomme
dash MSG
grated Swiss and Parmesan cheese
French bread

Heat butter in a large pan, add separated onion rings and cook them slowly and very gently over low heat, stirring almost constantly with a wooden spoon until the rings are an even golden brown. Sprinkle with flour; when well blended, gradually pour in beef consomme, stirring constantly until mixture begins to boil. Lower heat, cover pan and simmer gently for another 20 minutes.

Taste for seasoning, correct as necessary. Serve in a heated tureen or individual dishes, each containing a toasted round of broiled French bread topped with a mixture of grated Swiss and Parmesan cheese.

ADDITIONAL RECIPES FOR VEGETABLES

CHART 11-F
ALTERNATIVE SEASONINGS FOR VEGETABLES

VEGETABLE	ALTERNATIVE SEASONING SUGGESTIONS
ASPARAGUS	Use marjoram, savory, sesame seeds, sweet basil, tarragon, and thyme.
BEANS (dried)	Cook with ham hocks or chopped bacon. Add dill, garlic, mint, oregano, savory, and/or sweet basil.
BEETS	Season with bay leaves, dill, savory, sweet basil, tarragon, and/or thyme.
BROCCOLI	Serve with a spoonful of mayonnaise with oregano and parsley flakes stirred in. Butter, margarine or lemon juice will help. Also try caraway, coriander, fennel, garlic, marjoram, parsley or poppy seeds.
BRUSSEL SPROUTS	Season as you would cabbage. Or make a "cream sauce" with powdered milk and flour. Also try butter, caraway, dill, marjoram, pepper, sage, savory, sweet basil, or thyme.
CABBAGE	Saute shredded cabbage in a little margarine, minced onion, white pepper, basil and paprika. Or cook wedges in tomato sauce with onion, garlic and basil. Try also caraway, celery seeds, dill, mustard seeds, sage, savory, tarragon.
CARROTS	Simmer in pineapple juice and add a pinch of cinnamon or cook with sugar or honey using very little water. Use bay leaves, caraway, chervil, chives, dill, fennel, paprika, sage, sesame, thyme, butter or parsley.
CAULIFLOWER	Serve with a sauce made from cheddar cheese; or use cheddar cheese soup thinned with water and seasoned with curry and onion powder. Also season with celery seeds, rosemary, savory and tarragon.
CELERY	Spice braised celery with onion salt, crushed fennel and ground white pepper.
CORN	Cook kernels with equal amounts chopped red and green sweet pepper. Add a pinch of chili powder or a pinch of paprika and butter to taste. Also try chopped bell peppers, savory, or turmeric.
CUCUMBER	Slice and cover with vinegar or sprinkle dill, savory, sweet basil or tarragon on sliced raw cucumbers.
EGGPLANT	Dip in beaten egg, dust with flour, salt and pepper and fry. Also try paprika and basil.
GREEN BEANS	Add dill seed, parsley flakes and pepper Basil, savory and mixed Italian seasonings are good, too. Cook with sliced onion rings on top (steam from beans will sweeten onions). Or add bacon drippings, garlic salt and a pinch of oregano. Also try celery salt, marjoram, sage, tarragon or thyme.
LIMA BEANS	Saute chopped bacon, add lima beans and simmer gently. Try seasoning with chives, marjoram, oregano, sage, savory, sweet basil, or thyme.

MUSHROOMS	Saute in a small amount of butter or margarine, season with oregano and garlic powder. For a real taste treat, saute sliced fresh mushrooms in hot butter for 3-5 minutes. Add garlic salt and soy sauce. Then add sliced onion rings on top, cover for 5 minutes.
ONIONS	Saute in butter, cover and remove from heat. Also season with caraway, celery seeds, oregano, sage, sweet basil, or thyme.
PEAS	Simmer with pearl onions and crushed tarragon. Cover with white sauce to stretch servings. Try adding chervil, dill, marjoram, mint, or oregano.
POTATOES	In addition to the 1000's of recipes using potatoes, try adding butter with caraway, celery seeds, chives, dill, marjoram, oregano, paprika, parsley, poppy seeds, rosemary, savory, sweet basil, or thyme.
SAUERKRAUT	Cook with apple juice (or applesauce) and a liberal sprinkling of caraway seeds.
SPINACH	Add a pinch of ground nutmeg or mace. Or sprinkle with toasted sesame seeds. Serve with vinegar and sliced hard-boiled eggs. Takes on a new flavor with chervil, garlic, marjoram, oregano, rosemary, sweet basil, tarragon or thyme.
TOMATOES	Cooked or fresh, they're great with basil or oregano, onion or garlic powder . . . or both, or add a spoonful of mayonnaise, sprinkle with paprika and freshly ground pepper.
WINTER SQUASH	Bake with apple juice; season with mixed apple pie spice, or orange juice and pumpkin pie spice. Or, cheddar cheese topping with cracker crumbs.
ZUCCHINI	Make a sauce of plain unsweetened yogurt, onion flakes, ground sage and a pinch of garlic powder. Pour over cooked zucchini and bake. Cook with sliced onions drain, place in casserole dish and top with Parmesan or cheddar cheese. Bake till bubbly.

ADDITIONAL SEASONING IDEAS

SALADS

Salads are the cook's friend — they are easily prepared, nutritious, wholesome, delicious, and relatively inexpensive. Here are some ideas to help improve salad making. Salads are probably the most creative part of a meal, and the whole family can help.

Care of Salad Ingredients

Keep the following points in mind when preparing salad ingredients:

- Always wash, drain and place fresh greens radishes, celery, etc., in refrigerator vegetable crisper or place in plastic bags as soon as possible after harvesting.
- Drain salad greens well before using in salad to prevent salad dressing from becoming watery;
- Add the dressing just before serving to keep salad greens crisp. For macaroni and potato salad, add the dressing one hour or more before serving time. If you use salad greens, add them just before serving.
- Ingredients for a salad should be cold, clean and crisp. Toss lightly together. Choose for color, texture and flavor.

Preparing the Salad

There's nothing critical about salad-making, so any way you prefer is *the* way. One suggestion does come to mind, however — try *tearing* salad greens instead of cutting with a knife. They not only look as if prepared by a professional, they *actually* taste better! (There's no reason why basic foods can't be gourmet fare.)

Put greens in salad bowl to provide salad base. Add your favorites from the following selected list of garnish and seasoning ideas — you can use one, several or all of them in a salad. Any of them may be whole, sliced, chopped or shredded — whatever is easy.

Garnishes

asparagus tips
avocado
beets
bell peppers
carrots
cauliflower
celery
cheeses
chives
egg
mint
mushrooms
olives
onions
parsley
radish
sprouts
turnips
zucchini

Seasonings

caraway
celery seeds
chervil
chives
coriander
cress
dill
garlic
marjoram
mint
oregano
parsley
poppy seeds
rosemary
savory
sesame seeds
shallots
sorrel
sweet basil
tarragon
thyme

DRESSINGS

Following are some recipes for a number of salad dressings prepared with items recommended you have in your storage program.

Homemade Mayonnaise

You can make your own salad dressing base with homemade mayonnaise. The cost is less than the store-bought product. With homemade you can vary the ingredients until the exact flavor comes through to perfect the recipe or dish being prepared. Try seasoning with celery seeds, garlic powder, onion powder, thyme or turmeric to suit your taste.

Basic Whole-Egg Mayonnaise

1 egg
¼-½ tsp. salt
dash white pepper
½ tsp. sugar
1 tsp. dry mustard
1½ T. lemon juice
6 oz. vegetable oil

Combine well all ingredients except oil in blender at low speed. Continue blending, then add oil slowly until desired consistency is attained. Spoon into jar, keep in refrigerator. Yield: approx. 2 cups.

Note: If recipe fails, pour out mixture, put another egg into blender, beating thoroughly. Pour back original mixture very slowly.

VARIATIONS FOR BASIC MAYONNAISE

To vary flavor of basic mayonnaise:

— substitute vinegar for lemon juice
— substitute salt for sugar, and vice versa
— substitute paprika for pepper

In other words, experiment until you find something new — and you've created an original! This recipe for basic mayonnaise is just one example of creating something new from something old.

Basic Evaporated Milk Mayonnaise

5 oz. evaporated milk
2 T. salad oil
2 T. lemon juice or vinegar
¼ tsp. salt
¼ tsp. cayenne pepper
½ tsp. dry mustard

Gradually mix all the ingredients together. Increase lemon juice or vinegar for tartness. Yield: approx. 1½ C.

Basic American Mayonnaise

1 egg
1 tsp. ground mustard
dash of cayenne pepper
1 tsp. sugar
1¼ C. salad oil
3 T. lemon juice

Put egg, mustard, salt, cayenne, sugar, and ¼ C. salad oil in blender and blend until thoroughly combined. With blender still running, take off the cover and slowly add ½ C. salad oil and then lemon juice until thoroughly blended. May have to stop and start the blender to stir down the mayonnaise. Makes 1¾ C. Note: (If mixture does not set, pour mixture from blender into a bowl and put egg in blender and beat well. Then add mixture back to egg and blend. This should thicken mixture. Mayonnaise will not bind on high humidity days.)

RECIPES USING HOMEMADE MAYONNAISE

These recipes are taste-approved for homemade mayonnaise, but commercial mayonnaise will substitute.

Bleu Cheese Dressing

3½ C. mayonnaise
4 oz. bleu cheese
1 C. buttermilk
dash MSG
salt
garlic salt
ground pepper

Add ½ C. buttermilk to mayonnaise. Crumble bleu cheese and stir into mixture. Season to taste. Thin with remaining buttermilk, as desired. Flavor gets stronger with refrigerator storage. Yield: approx. 4 C.

Tartar Sauce

1 C. mayonnaise
1 T. minced parsley (crushed parsley flakes)
1 T. sweet pickles, finely chopped
¼ tsp. onion salt

Combine ingredients in small bowl, mixing well. Yield: approx. 1¼ C.

Cocktail Sauce

¾ C. thick mayonnaise
¼ C. tomato catsup
¼ C. Worcestershire sauce
½ C. evaporated milk
dash of celery salt
2 T. lemon juice
salt and pepper
1 T. onion, finely chopped (optional)

Mix all ingredients together. Salt and pepper to taste. Yield: approx. 2 C.

French Salad Dressing

1 can tomato soup
1 C. sugar
2 C. mayonnaise
1 T. *very finely* grated onion or onion juice
½ T. prepared mustard
½ tsp. paprika
1 T. Worcestershire sauce

Combine all ingredients and heat well to dissolve sugar, then cool. Yield: approx. 4 C. Keeps well in in the refrigerator.

French-Style Dressing

1 C. mayonnaise
⅓ C. catsup

Combine ingredients well. Vary proportions to achieve flavor desired. Very good on french fries, hamburgers, and sandwiches. Yield 1⅓ C.

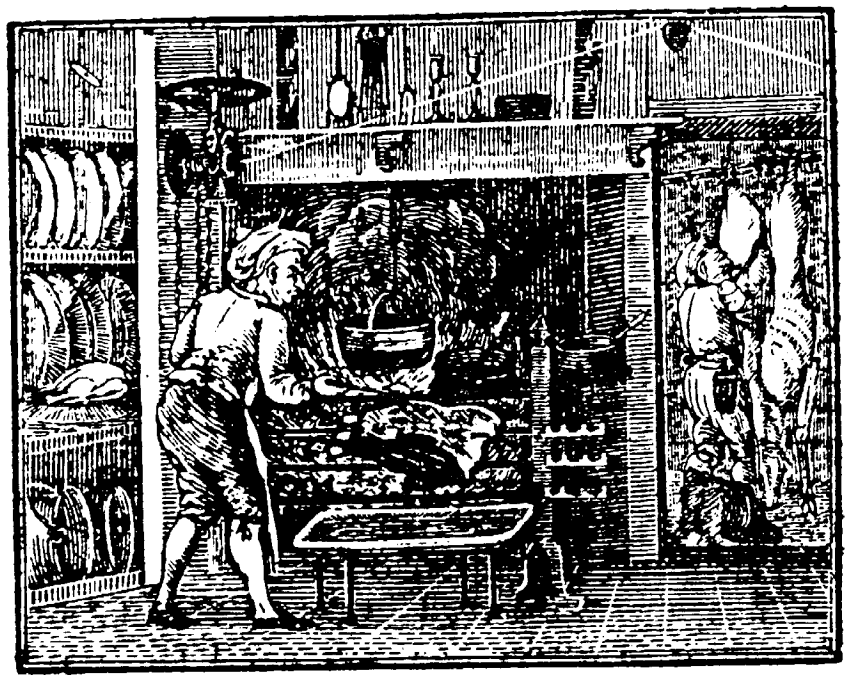
Thousand Island Dressing

1 C. mayonnaise
¼ C. catsup
2 T. pickle relish

Combine ingredients well. Vary ingredients amounts to vary taste. Yield: approx. 1½ C.

ADDITIONAL DRESSING RECIPES

ADDITIONAL VEGETABLE RECIPES



CHAPTER 12
DRYING FRUITS AND VEGETABLES

Drying fruits and vegetables is the oldest method of food preservation. Dried food products keep longer, cost less to prepare, take less storage space, and retain more of their nutritive values. Most agree the taste is better, too. The real bonus is the ease of preparation and quick turn-around time from dried to table-ready food.

The whole secret to successful drying is removing enough moisture to prevent spoilage due to growth of organisms and mold and to deactivate the enzymatic action in the fruit or vegetable.

BASIC DRYING PROCEDURE

There are 5 steps in drying fruits and vegetables for storage. A full explanation of each step is found in the following sections.

1. Selection of fruits and vegetables
2. Preparation
3. Treating
4. Drying
5. Packaging and Storing

Selection

Always use fruits and vegetables in their "prime" — sound, fresh, ripe, but firm at maturity. Keep in mind the axiom used in modern-day parlance — "GIGO" (garbage in — garbage out).

A low-quality product at the outset will produce a low-quality product when dried, or prepared in any manner. The best dried produce will come from your own family garden because of its freshness.

Sort out the bruised, over-ripe, and immature products. Wash all produce carefully before final selection for preparation.

Preparation

The process of preparation involves peeling, slicing, pitting, coring, mashing, blending or whatever must be done to the produce before treating. See Charts 12-A and 12-B for specific details on preparing certain fruits and vegetables.

NOTES ON PREPARATION

— Always use a stainless steel knife to prevent discoloration.
— Turn pitted fruits "inside out" to aid treating and drying.

Treating

Fruits are easier to dry than most vegetables. The most treatment needed by fruits is a bath in a chemical solution for a few minutes. Vegetables are generally pre-cooked or blanched (steam-cooked, not boiled) until tender, but not completely cooked. However, *overcooking is better than undercooking.* No further treatment after blanching is required for vegetables prior to drying. See Chart 12-A for details for treating specific fruits to prevent darkening. Chart 12-C gives instructions for solutions to use in treating fruits if you desire to do so.

Drying

The process of drying may be accomplished in the sun, in an oven, or in an electric dehydrator. Families without hungry children or nosy pets may be able to use heater vents and furnace room pipes as heat sources.

Whatever the heat source, all you need is a sustained temperature of 140°-150°, a screen-wire tray to hold the fruit, and several hours. Spread 1 layer of prepared and treated produce on drying tray. Turn produce often to assure thorough drying. When using air- or sun-drying method, place in warm oven (165°-175° for 10-12 minutes to kill any organisms or mold spores before packaging for storage.

Charts 12-A and 12-B detail tests for dryness of specific foods. **Remember:** *vegetables must be drier than fruits for storage purposes.*

Illustration 12-A details plan for building an electric dehydrator for home use. There are many commercial models available, and may cost as little as you'd pay for the parts for a homemade one.

Packaging and Storing

Place dried produce in air-tight plastic bags, securing with a twist-tie. The zip-lock bag has proven perfect for packaging dried produce. Store dried products in cool, dark and dry location. The best method for storing dried products is to place the plastic bag in a plastic or

CHART 12-A
BASIC DRYING OF FRUITS

FRUIT	SELECTION AND PREPARATION	TREATMENT/TIMES (Times in Chart 12-C)	DRYING*/TESTING
APPLE	Pare, core, and cut in ⅛"-¼" slices or rings. Leave peeling on if you don't mind "chewy" apples.	None required, but may use any solution.	Allow slight overlap. Test: leathery to brittle.
APRICOTS	Peel if desired. Cut in halves, remove pits. May be quartered. Turn inside out.	None required, but may use any solution.	Test: Pliable and leathery.
BANANAS	Peel and slice across length	None.	Test: Leathery and pliable, not sticky.
BERRIES	Leave whole	None.	Test: Hard, w/o visible moisture when squeezed.
CHERRIES	Remove stems and pits. Drain if juicy.	None.	Test: Leathery, but sticky.
	Cut in half.	None.	Test: Leathery, but slightly sticky.
GRAPES	Use only seedless grapes for drying. Leave whole, remove stems.	Dip in boiling water to break skins.	Test: Pliable, dark brown color.
PEACHES	Peel if desired. Cut in halves, remove pits. Quarter or slice if desired.	None required, but may dip in any solution.	Test: Pliable and leathery.
PEARS	Pare and remove core and other woody parts. Cut into quarters, eighths, or ½" slices or rings.	None required, but may use any solution.	Test: Pliable or leathery.
PLUMS	Leave whole.	None required. However, blanching will speed drying.	Test: Pliable and leathery.
PRUNES	Cut in halves, remove pits. Turn inside out. May be left whole.	When using whole, steam for 5 min. to crack skins and speed drying.	Test: Pliable and leathery.
STRAWBERRIES	Remove stems and leaves. Cut in half.	None.	Test: Dry with no visible moisture when crushed.

*All fruit spread in single layer without overlapping unless noted. All drying temperatures are 140°-150°. Turn frequently during drying period.

CHART 12-B
BASIC DRYING OF VEGETABLES

VEGETABLE	SELECTION AND PREPARATION	TREATMENT/TIMES	DRYING*/TESTING
BEANS Green Lima	Shell beans.	Steam 15-20 min. or until tender.	Test: Shatter when crushed.
BEANS Bush Snap	Trim and slice lengthwise or cut in 1" pieces.	Steam 15-20 min. or until tender.	Spread ½" deep. Test: Brittle, dark green to brownish color.
BEETS	Use small, tender beets, free from wood-like fibers. Wash carefully. Trim tops, but leave crown. When cooked cool, trim off roots and crown and peel. Cut into shoestring strips, ¼" cubes or ⅛" slices.	Steam 30-45 min. or until cooked through.	Test: Brittle, dark red color.
BROCCOLI	Trim and cut as if for serving fresh. Wash again. Quarter stalk lengthwise.	Steam 8-10 min.	Test: Brittle.
CABBAGE	Remove outer leaves. Quarter head, remove core. Shred into shoestring-size strips.	Steam 5-6 min. until wilted.	Test: Brittle or tough.
CARROTS	Use crisp, tender carrots, w/o woody tissue. Peel, trim roots and tops. Cut ⅛" slices or strips.	Steam 8-10 min.	Test: Brittle, deep orange color.
CORN Whole Ear	Use tender, sweet corn. Remove husk and silks.	Steam whole ear 10-15 min.	Test: Dry, brittle.
CORN Cut	After steaming, cut corn from cob.	Steam cut corn additional 20 min.	Test: Dry, brittle.
GARLIC	Remove outer layers from buds.	None required.	Test: Brittle
MUSHROOMS	Leave buttons whole, slice larger sizes. Use stems if tender.	None required.	Test: Leathery to brittle.
ONIONS	Remove outer leaves. Slice, cube or chop ⅛"-¼".	None required.	Test: Brittle
PEAS Green	Shell young, tender sweet peas.	Steam 10 min.	Test: Shatter when crushed.
PEPPERS	Remove seeds. Cut in ⅛"-¼"- ½" strips, rings, or cubes.	Scald in boiling water 3-5 min.	Spread 2 layers deep. Test: Pliable to brittle.
POTATOES	Peel and cut into shoestring strips ⅛"-¼" or slice ⅛" thick.	Rinse first in cold water. Steam 4-6 min.	Test: Brittle.
PUMPKIN HUBBARD SQUASH	Peel. Quarter, remove seeds and pith. Cut into 1" strips, then slice strips crosswise ¼" thick.	Steam 8-13 min. until slightly soft.	Test: Leathery.
SPINACH Other greens	Choose young, tender leaves. Wash again. Cut into ¼"-½" strips.	Steam 4-5 min., until thoroughly wilted.	Spread several layers. Test: Brittle.
SQUASH	Wash again, trim pods, cut into ¼" slices.	Steam 5-6 min.	Test: Brittle.
TOMATOES	Choose red-colored tomatoes. Dip in boiling water to remove skins. Chill in cold water and peel. Cut into ½"-¾" sections.	None required.	Test: Leathery.

*All vegetables spread in single layer without overlapping unless noted. All drying temperatures are 140°-150°. Turn frequently during drying period.

tin can with a tight-fitting lid. Storage period should not exceed one year — and probably won't once the family tastes the results of your drying skills. Glass jars are also good for storage, but light causes vitamin and structure deterioration in the dried product, therefore they are not the first choice for storing dried foods.

CHART 12-C
CHEMICAL SOLUTIONS FOR TREATING FRUITS

SOLUTION	MIXTURE PREPARATION	TIME
ASCORBIC ACID	1-1½ tsp. ascorbic acid to 1 gal. water	Soak fruit in mixture 2-3 min.
SALINE	4-6 tsp. salt to 1 gal. water	Soak fruit in mixture 10 min.
SULFUR	1-1½ tsp. sodium sulfite or sodium bisulfite to 1 gal. water	Soak fruit in mixture 10 min.

REHYDRATION

To rehydrate dried fruits and vegetables, cover with water and soak for approximately 30 minutes, adding more water if necessary. When cooking reconstituted products, use soaking water. Do not boil rehydrated products, and add sugar near end of the recipe. Use rehydrated products in recipes as if fresh.

There are many books on drying and using dried foods, whether homemade or commercially prepared. Some of these are:

Fun With Fruit Preservation, by Dora D. Flack
Just Add Water, by Barbara Salsbury
Passport to Survival, by Esther Dickey

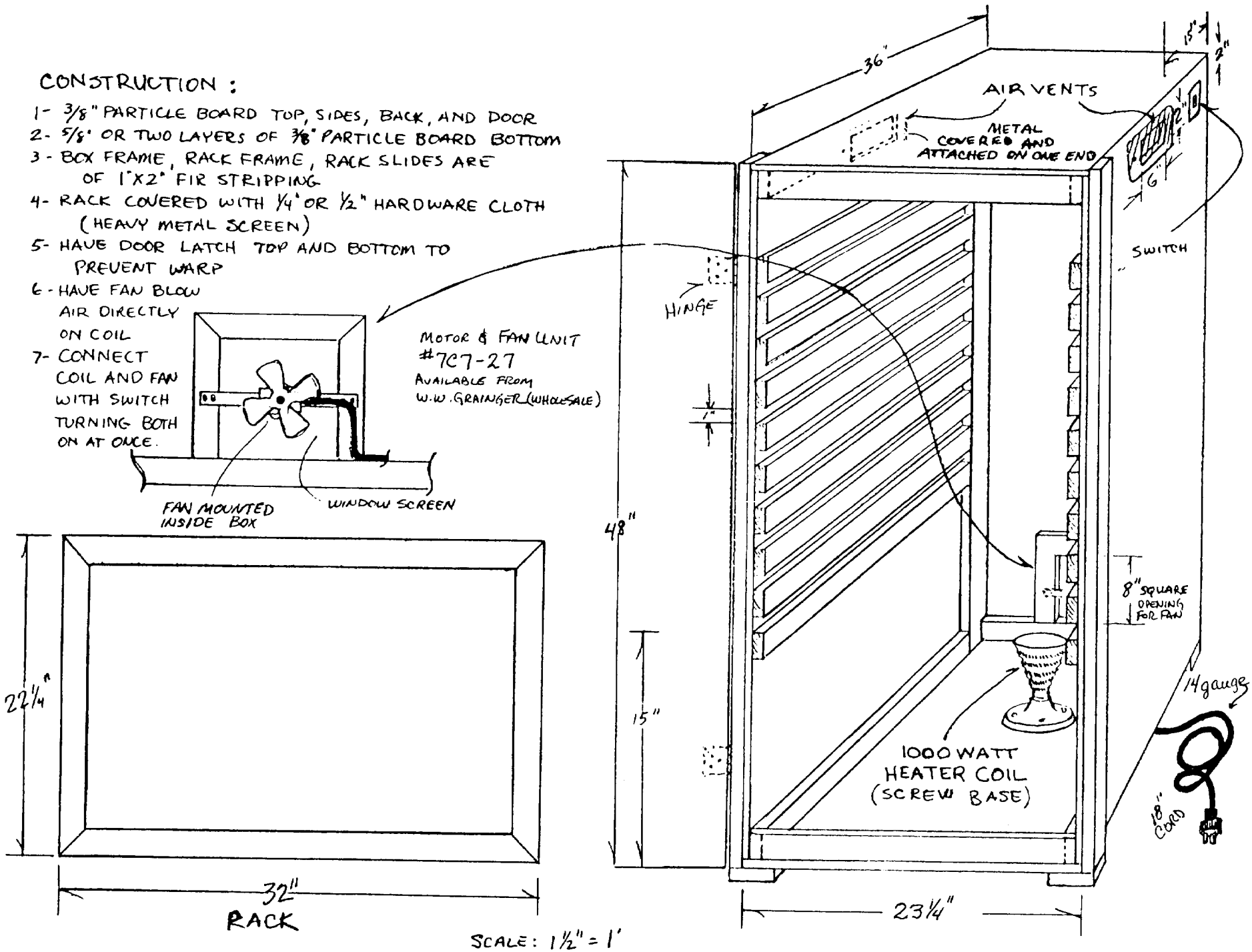
SUMMARY

There are several reasons why drying is one of the best and most basic methods of storage. Some of these are:

1. **Natural.** There are no synthetic or unnatural preservative materials required in the drying process.
2. **Economical.** For only a few cents lots of fruit and vegetables can be dried and stored.
3. **Saves space and weight.** Approximately 75% of the volume and weight is removed in the drying process.
4. **Nutrition.** Dried food is edible as is or can be reconstituted to its natural state by simply soaking in plain water.

ILLUSTRATION 12-A

FRUIT & VEGETABLE DEHYDRATOR



CHAPTER 13

SOYBEANS — THE VERSATILE VEGETABLE

Today, as prices for protein-rich meats strain the budget, the soybean promises some hope for maintaining a good diet at a lower price. This chapter makes an effort to deal with every aspect of soybean capability, from fresh-grown bean to TVP. There are volumes of detailed comparative charts, nutrient data, mixture ratios and recipes for soybean products. This *Handbook* will merely introduce some of the different usages, and familiarize you with the basics. You decide whether the claims made by the soybean industry warrant your belief. The U.S. Government, through the USDA School Lunch Program and the Armed Forces, and some religious groups, many food processors, most animal and pet food manufacturers, as well as a number of entire nations, depend greatly on the soybean. It has earned the title of "the meat that grows on vines" from its supporters.

Soybeans have been a staple diet for many people of the world for more than 4,000 years. Soybean products have provided animals with high-protein diets for many years in the U.S.

The soybean food industry is still in its infancy in the United States, yet the variety of soy products available today is impressive. There are more than 200 commercial products being made from the soybean. No doubt, soybeans and soybean products are destined to be a vital positive factor in our diet in the world of tomorrow. Soybeans are an excellent means of making a low-cost diet nutritionally safe. They are one of our cheapest sources of nutritious vegetable protein.

The following chart describes the wide variety of uses for the versatile soybean.

CHART 13-A
BASIC SOYBEAN USAGE CHART

FORM OF SOYBEAN OR DERIVATIVE	USE
GREEN BEAN	VEGETABLE { boil / bake SALADS
DRIED BEAN	SOY MILK { bean curd / soy casein SOY SAUCE BOILED BEANS BAKED BEANS SOUPS SPROUTING SOY NUTS
MEAL	SOY FLOUR { breads / cakes / pastries / crackers / macaroni SOY MILK SOY SAUCE BEAN CURD
OIL	SALAD OIL BUTTER SUBSTITUTE LARD SUBSTITUTE

USING THE VERSATILE SOYBEAN

GREEN SOYBEANS

The soybean grows well in the yard garden. All varieties are edible, but the *Giant Green* is preferred for its flavor. Some supermarkets and most health food stores have fresh soybeans in the pod. They are most tender while still green and crisp. Shelling is made easier by parboiling the pods for 3-5 minutes.

Basic Fresh Soybean Recipe

1 C. shelled soybeans ½-1 tsp. salt
¾ C. water

Place soybeans in boiling salt water. Boil 15-20 minutes. Avoid overcooking.

Fresh green soybeans cooked as directed have a pleasant firm texture and a rather nutty flavor. Use them as you would peas or any other bean. Cooked fresh soybeans do not become mushy or fall apart as do most other beans, peas, etc.

Rather than the *Handbook* detailing a number of recipes here, you are encouraged to substitute fresh soybeans in any (and every) bean or pea vegetable or salad recipe currently a favorite of your family. Let them tell you their preference. Above all, experiment to your heart's content. Short of burning while cooking, it's tough to hurt the soybean.

DRIED SOYBEANS

Buy soybeans with low moisture content to prevent molding during storage. Soybeans can be prepared by any method ordinary beans are, but need longer cooking and slightly more seasoning. In comparable food value they are far superior to other beans, no matter how they are prepared. Before cooking dried beans, remove all large foreign particles, broken or shrivelled beans.

Then place beans in a bowl and cover with water. Soak overnight or longer, but keep covered with water and in the refrigerator to prevent souring or sprouting. Adding salt to soaking beans prevents both souring and sprouting, and the normal stomach gases, too!

Cooked soybeans hold their shape more and do not become mealy as do other beans. Although soybeans are rich in fat, meat drippings or bacon may be added for flavor. The secret of any soybean dish is the proper seasoning, since the beans themselves are rather flat in taste and need added flavor. Yeast extract seasoning, soy sauce, onions, celery, or tomatoes are excellent for flavoring soybeans. Soybeans may be substituted in any of the dishes for which navy or lima beans are used. The following recipes illustrate the flexibility of dried soybeans in the diet, and justify their need in your storage program.

Basic Dried Bean Recipe

1 C. dried beans 1 tsp. salt (optional)

After soaking, place beans, using some soaking water in pot or baking dish and cook by one of the following methods:

Pressure cooking method. Add salt and seasonings, cover and cook at 15 pounds pressure for 30-45 minutes. Check instructions for amount of water necessary.

Top-of-Stove cooking method. Add salt and seasoning, cover with water. Cook several hours, adding more water as necessary.

Baking method. Add salt, cook in pot as above. Remove from pot, place in baking dish, add seasonings and liquid to cover. Cover dish and bake in moderate oven several hours until done. Remove cover last half hour of cooking.

RECIPES FOR USING DRIED SOYBEANS

Basic Baked Soybeans

3 C. cooked soybeans
4 strips bacon diced
½ tsp. mustard
salt and pepper to taste
5 T. molasses
½ C. chili sauce
½ C. water

Brown diced bacon. Combine remaining ingredients with bacon drippings. Place baking dish. Place bacon on top. Bake 350° for 2½-3 hours.

Boston-Baked Soybeans

6 C. soaked dried soybeans
1½ tsp. salt
medium onion, chopped
1 small green bell pepper, chopped
2 stalks celery, finely diced
1 tsp. dry mustard
6 C. water
3 T. molasses
¼ C. bacon fat
¼ C. brown sugar
¼ C. catsup

Put beans and water in Dutch oven. Bring to a boil, then boil 2 minutes. Cover and let stand 1 hour. Add 1 tsp. salt, bring again to boil and simmer, covered, adding more water if necessary for approximately 2 hours. Add onion, green pepper, and celery, then cook until beans are tender. Drain, reserving 1½ C. liquid. (If necessary, add water.) Put bean mixture in shallow 2-qt. baking dish. Mix liquid, remaining salt and other ingredients, except brown sugar, and pour over beans. Sprinkle with brown sugar and bake, uncovered, in preheated 300° oven approximately 1 hour. Yield: 6-8 servings.

Basic Soybean Casserole

2½ C. cooked dried soybeans
8 slices bacon, diced
¼ C. onion, minced
¼ C. green bell pepper, diced
4 T. flour
3 C. milk
1 C. soft bread crumbs
2 C. diced celery
1 C. grated cheese

Saute bacon until browned. Add onion and green bell pepper, stirring lightly until wilted. Stir in flour, then gradually add milk. Stir mixture until smooth, then add ½ the bread crumbs and celery. Add beans, combine well, then pour into greased casserole dish. Cover bean mixture with remaining bread crumbs, top with cheese. Bake 350° for 30-40 minutes. Yield: 6 servings.

Soybean Casserole #2

3 C. cooked dried soybeans
1 C. diced celery
1 small onion, chopped
½ C. tomato sauce
½ tsp. salt
1 T. beef base flavoring
1 C. water
2 T. oil
½ C. whole wheat bread crumbs

Combine all ingredients, except bread crumbs. Place mixture in baking dish. Cover with crumbs and bake 350° for 1½ hours. Yield: 6-7 servings.

Soybeans in Tomato Sauce

2½ C. cooked dried soybeans
3 T. butter
¼ tsp. cinnamon
1 can tomatoes or tomato sauce
¼ tsp. ground cloves
1 T. minced green bell pepper
¼ C. honey
½ tsp. salt

Combine ingredients and cook slowly for 20-30 minutes. Serve hot. Yield: 5-6 servings.

Soybean Chili Con Carne

2½ C. cooked dried soybeans
½ lb. ground beef
¼ lb. salt pork, diced
1-2 tsp. chili powder
¼ C. chopped onion
1 tsp. salt
2 C. tomato sauce

Fry pork until crisp; remove and brown onions in fat. Add beef and brown slowly. Combine all ingredients and simmer slowly 30 minutes. Yield: 5-6 servings.

Soybean/Vegetable Salad

1 C. cooked dried soybeans
½ C. raw carrots
1 C. medium cheese, diced
¼ C. celery, chopped
2-3 tomatoes, cut up
1 head lettuce

Toss ingredients together. Serve with French dressing or mayonnaise. Yield: 5-6 servings.

Soybean/Jello Salad

1 C. cooked dried soybeans
1 C. shredded raw cabbage
1 C. shredded raw carrots
1 T. minced green bell pepper
1 pkg. lemon-flavored Jello
2 C. water

Prepare Jello as directed; allow to set partially. Then add remaining ingredients. Chill mixture. Serve on lettuce, top with mayonnaise. Serves 8-10.

Soybean/Vegetable Soup

½ C. cooked dried soybeans
4 C. water
½ C. peas
1 C. celery, chopped
½ C. turnips, diced
1 medium onion, chopped
1 tsp. salt
1 bouillon cube
½ C. carrots, grated
salt and pepper to taste

Add vegetables to water and cook until tender; then add soybeans and seasonings. Cook additional 5 minutes. A small amount of soy sauce may be added. Yield: 4 servings.

Soybean Meat Substitute

1 C. soaked dried beans, ground into paste
1 C. tomato paste
4 T. peanut butter
4 T. soy sauce
½ C. bread crumbs
1 tsp. salt
2 T. vegetable oil

Blend tomato paste, peanut butter, oil, soy sauce and seasonings in blender. Add mixture to ground soybeans. Then add bread crumbs, mixing well. Place mixture in greased pan, pat into shape. Cover and steam for 2 hours. Remove from pan. When cool, slice. Yield: 3-4 servings.

SOYBEAN NUTS

The dried soybean can be converted to a delicious salted, toasted nut which used as any salted nut can be. They are easily prepared in the home kitchen. The soybean nut can be deep-fat fried or toasted. Use as topping for desserts, in baking, salads, or use as a TV snack.

Basic Soy Nuts

1 C. dried soybeans
3 C. water

Wash and soak dried soybeans overnight. Drain and split beans into halves. Spread bean halves to dry at room temperature until beans appear dry on surface. Choose one of the methods below for cooking.

Deep-fat Fried Nuts. Drop a few prepared soybeans at a time into deep-fat fryer (350°) for 8-10 minutes. Remove beans and drain on absorbent paper towels, salting while hot. Add MSG to heighten flavor.

Toasted Nuts. Place prepared soybeans in large shallow baking sheet in 200° oven for approximately 30 minutes. Remove when golden brown, sprinkle with salt and dash of MSG.

SOYBEAN SPROUTING

Soybeans are at their pinnacle of food value when sprouted. Details for sprouting and using soybeans, other beans, seeds and grains are found in Chapter 10.

SOY FLOUR

Soy flour is an easy and economical way to improve the protein content of baked products. It is easy to work with, mainly because it is different from grain flours. However, soy contains neither gluten nor starch, so must be mixed with other flours. Just adding a small amount to baked goods improves their flavor, helps preserve freshness, gives better color to toasted products, and adds a delicate nutty flavor.

Soy flour can be made from raw ground soybeans, but must be processed (generally toasted) to remove the untolerable raw bean flavor and odor. This type soy flour is full of fats, and not used in general baking.

Most soy flour is fat-free and has the raw bean taste processed out. It is sometimes called soy powder when sold commercially.

To fortify baked goods with soy flour protein, replace 2 T. whole wheat flour in a recipe with equal amount of soy flour. Since, the soy flour will brown quicker than wheat flour at the same temperature, lower the oven heat approximately 25° when using mixed soy and wheat flours. Always sift soy flour before measuring and add a little extra salt, too. The following recipes are indicative of the versatility of soy flour in different kinds of recipes.

RECIPES USING SOY FLOUR

Soy-Applesauce Cookies

½ C. shortening
1 C. sugar
1 egg
1¼ C. sifted flour
⅓ C. wheat germ
½ tsp. baking powder
1 tsp. soda
⅓ C. soy flour
½ tsp. salt
1 tsp. cinnamon
½ tsp. nutmeg
½ tsp. cloves
1 C. seedless raisins
1 C. quick-cooking rolled oats
1 C. applesauce
½ C. chopped nuts

Cream together shortening and sugar. Stir in the eggs. Sift together flours, baking powder, soda, salt, cinnamon, cloves and nutmeg. Mix in raisins and rolled oats. Add to creamed mixture in three portions alternately with applesauce in two portions. Beat well. Drop dough by teaspoons onto greased cookie sheet. Bake 375° for 10-15 minutes. Yield: 36 cookies.

Soy-Whole Wheat Bread

3 T. yeast
½ C. warm water
4 C. hot tap water
7 C. whole wheat flour
2 T. salt
1-1½ C. sifted soy flour
⅔ C. honey or molasses
⅔ C. cooking oil
6-8 C. whole wheat flour
⅓ C. wheat germ

Dissolve yeast in warm water. Combine hot tap water, whole wheat flour, salt and soy flour in mixer. Add oil and honey and mix until blended. Then add yeast and blend. Add remaining flour until dough is sticky. Knead 10 minutes. Grease 4 large bread pans or 6 small ones. Oil hands to remove dough from bowl. Place dough on floured canvas; divide into loaves. Knead using as little flour as possible. Place in bread pans and oil tops. Place moist cloth over loaves while rising in warm place. Let rise about 45 minutes or until doubled in bulk. Bake 375° for 45 minutes for large loaf — 40 minutes for small loaf. Remove from pans and cool on rack.

Soy Flour Muffins

½ C. soy flour
1½ C. all-purpose flour
4 tsp. baking powder
¼ C. sugar
1 egg
¼ C. vegetable shortening
1 C. milk
½ tsp. salt

Sift flours, baking powder, sugar and salt three times. Beat egg, blend with milk and melted shortening. Stir liquids into dry ingredients, quickly and only until dry ingredients are dampened. Bake in greased muffin pans in hot oven 425° until done. Yield: 12 muffins.

TEXTURED VEGETABLE PROTEIN

Textured vegetable protein, more widely known as TVP, is essential protein processed from soybeans into fibers. It is granulated for use and can be made to taste like beef, chicken, ham, or fish. Most children like the product when properly prepared, and adults often don't recognize it in foods when used in discrete proportions.

Always buy unflavored TVP for long-term storage, then flavor it as needed for use. TVP is often called "the great Imitator", because it can be made to taste like most foods, and is used widely as a meat substitute.

RECIPES USING UNFLAVORED TVP

Basic TVP Tuna

½ C. unflavored TVP
½ C. water
1 can tuna

Combine ingredients. Use in any tuna recipe or for sandwiches.

TVP-Tuna Rice Casserole

4 C. white rice, cooked
2 T. lemon juice
1 C. mayonnaise
¼ C. onion, minced
2 C. celery, chopped
2 cans cream of mushroom soup
½ tsp. pepper
½ tsp. salt
1 can tuna
6 eggs, hard boiled & sliced
½ C. unflavored TVP
⅓ C. hot water
Potato chips

Drain tuna liquid into small mixing bowl. Add TVP, stirring to mix; then add hot water and set aside 15 minutes. Combine rice, lemon juice, mayonnaise, onion, celery, soup, salt and pepper. Fold into this mixture the tuna, TVP and sliced egg. Put in greased casserole. Top with chips. Bake 400° for 15 minutes. Serves 10-12.

TVP Clam Chowder

1 can minced clams
½ C. unflavored TVP
4 soda crackers
4 C. milk
½ lb. bacon, chopped
1 onion, chopped fine
2 T. butter
1 C. celery, diced fine
½ C. canned milk
2½ C. diced raw potatoes
garlic salt or onion salt to taste
¾ tsp. salt
¾ tsp. pepper

Soak TVP in clam juice and ⅔ cup hot water. Soak crackers in milk. Cook bacon until crisp, adding drained clams long enough to brown. Remove from fat. Drain grease from pan. Take 2 T. drippings and put back in fry pan. Add onion, celery and saute till soft. Add water, potatoes, salt and pepper. Simmer. Stir in milk, bacon, clams and butter; bring to soft boil and serve.

TVP Fish Au Gratin

1 C. cooked fish, cut in cubes
¼ C. grated cheese
1 C. tomato sauce
¼ tsp. salt
1 C. water
1 C. unflavored TVP

Combine fish and TVP and allow to set 15 minutes. Place fish and TVP in buttered baking dish. Combine salt, tomato sauce and water, then pour over fish and TVP mixture. Sprinkle cheese over top. Place in hot oven until cheese melts.

BEEF-FLAVORED TVP

Beef-flavored TVP can be used as a substitute in most recipes requiring beef. Mixing 50/50 with ground beef is the most rational use of beef-flavored TVP. Condiments and spices can be added to beef-flavored TVP, just as you would add them to hamburgers, chili, spaghetti sauce, meatballs, stews, meat loaf, etc.

Basic Beef-Flavored TVP

1 C. unflavored TVP
2 tsp. instant beef bouillon
1 C. hot water

Combine ingredients, stir once or twice. Let set 15 minutes for full reconstitution. Beef-flavored TVP is now ready for use in almost any recipe requiring ground beef.

Note: Do not use softened water for reconstituting TVP.

RECIPES USING BEEF-FLAVORED TVP

TVP Meat Loaf

1 C. unflavored TVP
1 lb. ground beef
½ lb. sausage
1 egg
1½ C. milk
½ C. tomato juice
3 tsp. salt
¼ tsp. pepper
¼ C. onion, chopped
¾ C. celery, diced

Soak TVP in milk while measuring other ingredients. Beat egg, add liquids, seasonings, onion and celery. Mix all ingredients well, but do not pack, and place in greased baking dish. Bake 350° for 1¼ hours. Yield: 6-8 servings.

TVP-Meatball Kabobs

1 lb. ground beef
¾ C. TVP
½ C. hot tap water
1 tsp. salt
¼ tsp. pepper
½ C. chili sauce
16 cherry tomatoes
8 pieces green bell pepper
1 4-oz. can button mushrooms
1 can small whole potatoes
6 small onions

Mix water with TVP and let stand for five minutes. Combine with ground beef, salt, pepper, onion, chili sauce. Shape firmly into 16 meatballs. Brown meatballs slightly in skillet. Arrange meatballs, tomatoes, green pepper, mushrooms, potatoes and onions alternately on skewers. Broil 6" from heat for 10 minutes. When turning skewers, assist meatballs with spoon to avoid breakage.

TVP-Beef Taco Filling

1 basic beef-flavored TVP
1 lb. ground beef

Brown reconstituted TVP with ground beef in fry pan. Season as preferred.

Basic TVP-Beef Mixture

1 C. basic beef TVP
1 lb. ground beef
1 T. canned milk
1 T. dry minced onion (or 1 fresh onion chopped)
½ tsp. salt
2 T. flour
¼ tsp. sugar
1 large egg

Mix ingredients well. Form into patties or meat balls and fry in oil until brown.

VARIATIONS USING BASIC TVP-BEEF MIXTURE

TVP-Meat Loaf

1 recipe basic TVP beef mixture
1 egg

Mix basic recipe and egg. Shape and put into greased loaf pan and bake 350° for 1 hour.

TVP-Beef Patties in Mushroom Gravy

1 recipe basic TVP-beef mixture
1 can cream of mushroom soup
½-1 C. water

Cook patties in pan with oil, cover with mushroom soup, adding water until reaching desired gravy consistency. Simmer 15 minutes.

TVP-Beef Meatballs

1 recipe basic TVP-beef mixture
2 C. spaghetti sauce

Shape mixture into meatballs. Simmer in spaghetti sauce. Serve over spaghetti or noodles.

TVP-Beef Sloppy Joes

1 recipe basic TVP-beef mixture
2 C. barbeque sauce

Simmer mixture in barbeque sauce for 15 minutes. Serve over toasted hamburger buns.

HAM-FLAVORED TVP

Unflavored TVP can be flavored with ham bouillon or bacon, ham, sausage or pork roast drippings. The ham-flavored TVP may then be used as ham in most recipes requiring ham. Following is the basic recipe for reconstituting TVP into ham-flavored TVP. The flavor and quality of the dish is maintained if the TVP is mixed no more than 50/50, even though a 100% substitution is possible.

Basic Ham-Flavored TVP Mixture

1 C. unflavored TVP
2 tsp. ham instant flavoring base
C. hot tap water (not softened)
salt to taste

Combine ingredients, stir once or twice; let stand for 15 minutes. Use in ham recipes.

RECIPES USING HAM-FLAVORED TVP

Ham-TVP Sandwich Spread

1 basic ham-flavored TVP mixture
1 C. mayonnaise
dash paprika
2 T. sweet pickle relish
salt to taste

Mix ingredients together. Serve on whole wheat bread, on crisp lettuce leaves, on saltine crackers, on celery sticks, or broiled on buttered sesame seed buns.

Ham-TVP Salad

1 basic ham-flavored TVP mixture
3 C. elbow macaroni, cooked & drained
¼ C. green bell pepper, diced
dash paprika
⅓ C. celery, chopped
2 hardboiled eggs, chopped

Toss ingredients in large salad bowl. Serve with saltine crackers, corn chips, or bread sticks.

TVP-Ham and Egg Spread

½ basic Ham-flavored TVP mixture
6 eggs, hardboiled, chopped fine
dash paprika
⅓ C. mayonnaise
3 T. sweet pickle relish
salt and pepper to taste

Combine ingredients, mixing well. Spread on whole wheat bread for sandwiches.

TVP-Ham Fried Rice

1 basic ham-flavored TVP mixture
½ lb. bacon
1 onion, chopped fine
2 eggs
2 C. rice, cooked
1 medium green bell pepper, diced
½ stalk celery, diced
salt pepper
3-4 T. soy sauce

Cook rice and cool. Brown bacon and save grease. Brown onion, celery, pepper and ham mixture. Brown rice in fry pan. Add other ingredients. Mix and cook throughout. Cut into thin strips and add to rice.

CHICKEN-FLAVORED TVP

Unflavored TVP may be flavored with instant chicken bouillon or flavoring to make an acceptable substitute for chicken. The following basic recipe can be made stronger or weaker by increasing the instant bouillon in the recipe.

Basic Chicken-Flavored TVP

1 C. unflavored TVP
2 tsp. instant chicken bouillon
1 C. hot tap water (not softened)
Combine ingredients, stirring once or twice. Let set 15 minutes. Use as chicken in most recipes.

RECIPES USING BASIC CHICKEN-FLAVORED TVP

TVP Chicken Salad Spread

1 basic chicken-flavored TVP recipe
2 T. onion, chopped fine
1 egg, hardboiled and chopped
1 T. sweet pickle relish
3 T. celery, chopped fine
⅔ C. mayonnaise
salt and pepper to taste
Combine ingredients. Serve in sandwiches, on crackers, or lettuce leaves.

TVP Chicken Casserole

1 basic chicken-flavored TVP recipe
1 onion, chopped
1 can cream of mushroom soup (undiluted)
paprika
1 can cream of chicken soup (undiluted)
½ C. rice, uncooked
salt and pepper to taste
potato chips
Mix ingredients in mixing bowl. Pour into greased covered baking dish. Cook covered 350° for 30 minutes. Put chips on top of casserole. Return to oven and cook additional 10 minutes. Yield: 4-5 servings.

OTHER RESOURCES

There are many books about soybeans and soybean products, with lots of nutritional data to impress the reader of the value of this versatile vegetable. One of the most respected and most read authors is Dorothea Van Gundy Jones, author of 2 books on soybeans. One is entitled *The Soybean Cookbook* and the other is *Adventures in Zestful Eating.*

Another food expert, Barbara G. Salsbury, has authored 2 books on TVP and other meat substitutes. They are *Just Add Water* and *Tasty Imitations, A Practical Guide to Meat Substitutes.* Both authors have done extensive research and testing, and their works are recommended. Experimentation is the key to full enjoyment of the entire spectrum of soybean capability.

CHAPTER 14

PREPARING GAME MEATS, FISH AND FOWL

This chapter should provide some pointers for utilizing game meats, fish and fowl in your food storage program. If you're a hunter or fisherman you probably have your own favorite dishes. If you're forced to hunt, fish or trap for your food, at least there's some help for you in the following sections.

VENISON

Venison includes any game from the deer family. Venison most commonly eaten in the U.S. is deer. Elk is next, then moose. Venison from a freshly-killed animal should age in a cool place 1 to 2 weeks, according to your taste. For best flavor, trim off all fat before aging. You can lard the meat later with salt pork or bacon. The taste can be sweetened by using butter and cooking at a lower temperature. Cook only to medium rare when using butter to prevent burning.

Venison steaks, chops and loin cuts, when cut from young animals properly dressed and aged, are especially good broiled or grilled on an outdoor grill. Be careful not to overcook, since venison is much drier than similar beef cuts. Overcooking causes drying out and toughening of all vension cuts. Also, don't salt prior to cooking — season with salt and pepper after cooking.

RECIPES USING VENISON

Basic Venison Jerky

You don't need a smokehouse to make jerky, and you don't even need smoke. The following instructions can be used or modified to make jerky from either beef or venison. Follow the basic procedures, experiment a little as you learn how, and you can produce tasty jerky whenever you want. If milady doesn't allow game meats, fish and fowl cookery in her kitchen, you can make a smokehouse out of a large wooden or cardboard box. Use an electric hot plate, heater unit, charcoal grill or hibachi to provide heat. Punch holes near the bottom for fresh air, and near the top for exhausting the heat. Circulation helps speed up the drying process. Experiment to get the right combination of heat and air flow. Use a thermometer to check temperature. Control temperature with dampers. Watch heat — your venison could go up in smoke. See Illustration 14-A on opposite page. If you prefer a smokey taste, keep it simple by adding smoke flavoring to the recipe. Here's the step-by-step method for making your own jerky.

- ☐ 1. Select lean meat with minimum amount of connective tissue. The best cuts are from the round or eye of the loin. Trim away fat.
- ☐ 2. Slice *across* the grain in thin, approximately ⅛" strips. Slicing with the grain requires a wider strip, approximately ½"-1", and the jerky is not as tender. You may want to use tenderizer on the venison — simply follow instructions on the container.
- ☐ 3. Dip each slice of venison in your favorite marinade, sauce, or jerky seasoning. Soak 1-8 hours.
- ☐ 4. Sprinkle meat slices with salt, pepper, and sugar to taste. Don't overseason — jerky tastes saltier and stronger when dried.
- ☐ 5. Place meat in smokehouse, dehydrator, or oven.
- ☐ 6. Heat to 110°-120° until meat slices become brittle. The drying cannot be hurried too much, and is greatly dependent on the thickness of the slices, humidity, etc.
- ☐ 7. Store jerky in air-tight bags in cool, dry place.

Chicken-Fried Venison Steak

Venison steaks
1 egg, beaten
¼ lb. saltine cracker crumbs
¼ lb. butter

Cut steaks approximately ¼" thick. Dip in beaten egg, then coat with cracker crumbs. Fry until brown in butter. Do not overcook!

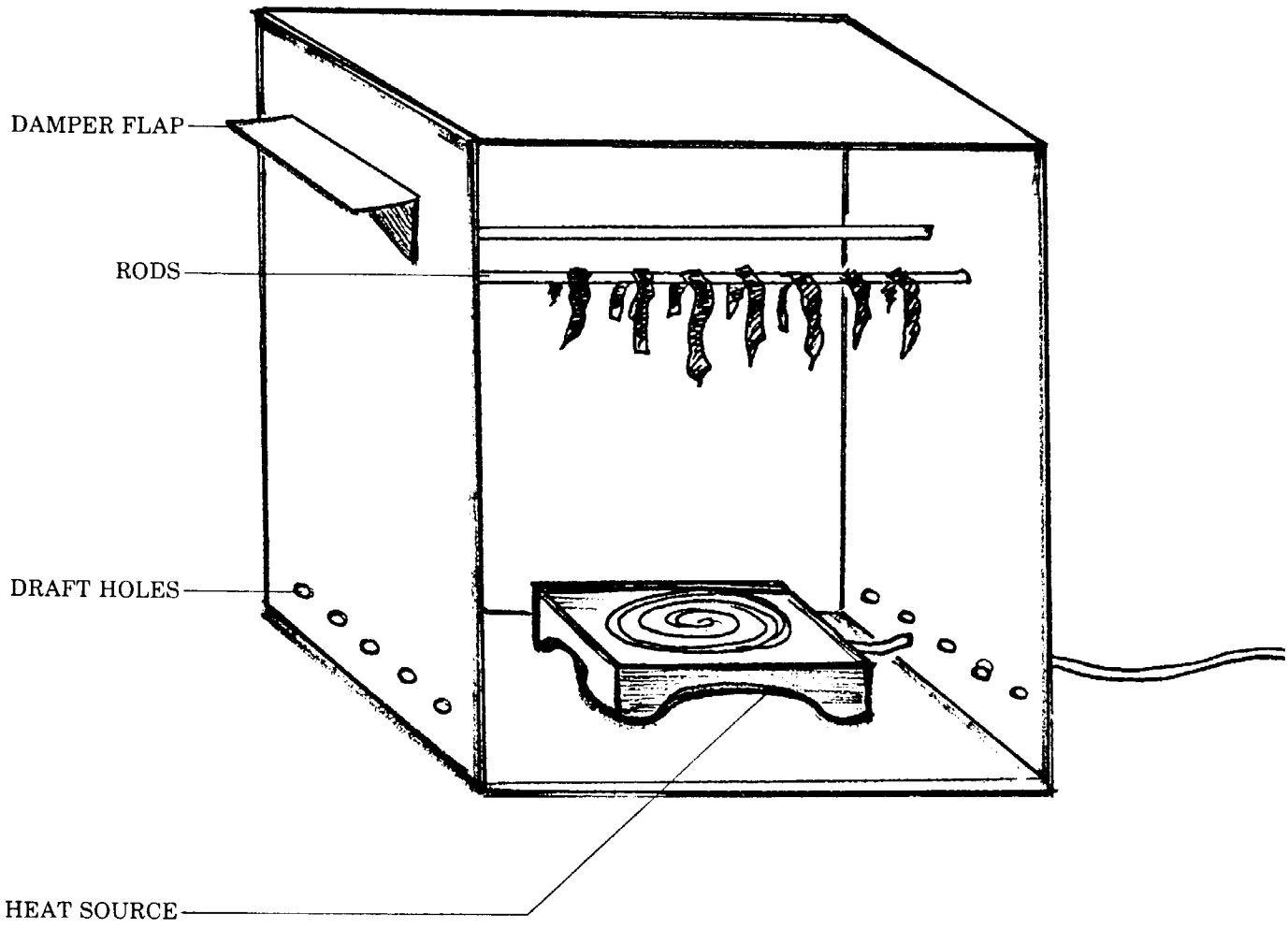
Pan-Fried Venison Steak

Venison steaks (or chops)
¼ lb. melted butter
salt and pepper
fresh-ground black pepper

Dip steaks into melted butter, season with salt and pepper. Broil to medium-rare. Brush with melted butter, add fresh-ground black pepper.

ILLUSTRATION 14-A

BASIC SMOKEHOUSE



Teriyaki Venison Steak

Venison steaks
Marinade made from:
¼ C. soy sauce
1 clove crushed garlic
1 tsp. sugar
½ tsp. MSG
1 tsp. ground ginger

Mix marinade ingredients. Trim all fat from steaks. Marinade several hours. Broil or barbecue steaks to desired doneness.

Easy Venison Roast

3-4 lbs. Vennison roast
½ envelope dry onion soup

Place roast on large piece of heavy-duty foil. Sprinkle dry onion soup on meat. Seal foil tightly. Bake 425° in shallow roasting pan approximately 45 minutes per pound. A moist roast will result, because foil seals in juices. Thicken juice to make gravy.

Marinated Venison Roast

Venison roast
Prepare marinade:
½ C. red wine vinegar
1 C. water
1 med. onion, minced
1 clove garlic, crushed
½ C. celery tops, chopped fine
1 carrot, grated
2 bay leaves
6 whole cloves
12 peppercorns
½ tsp. caraway seeds
½ T. salt
1 tsp. MSG
1 T. honey

Mix all ingredients of marinade in bowl. Marinate roast 24-48 hours. Dry-roast meat in 375° until done as desired. Baste often with marinade and drippings.

Creamed Venison

¼ C. shortening
2 lbs. venison, cubed
1 clove garlic
1 C. diced celery
½ C. minced onion
1 C. diced carrots
1 C. sour cream
1 tsp. salt
1 bay leaf
2 C. water
4 T. butter
4 T. flour
pepper to taste

Melt shortening in heavy frying pan. Add meat and garlic, brown on all sides. Arrange meat in baking dish. Place vegetables in frying pan with fat; cook for 2 minutes. Add salt, pepper, bay leaf and water; pour over meat. Bake in 250° oven until meat is tender. Melt butter in frying pan; stir in flour. Add meat broth; boil until thick. Remove from heat. Add sour cream and more salt, if needed. Pour over meat and vegetables. Serve with noodles and currant jelly. Yield: 6 servings.

Venison Hawaiian

3 lbs. venison (approx.)
2 or 3 green bell peppers
1 C. water
1 tsp. salt
med. can pineapple chunks
Hawaiian Sauce (see below)

Cut meat into 1" cubes. Brown meat cubes on all sides. Add water and salt, simmer gently until meat is tender, approximately 1 hour. Keep adding water as it cooks away. Clean green peppers and cut into 1" squares, boil 5 minutes in boiling salted water and drain. A-d pepper squares and pineapple chunks to browned meat. Pour Hawaiian Sauce over meat mixture, simmer 5 minutes. Serve over Chinese noodles or cooked rice. Yield: 6 servings.

Hawaiian Sauce

4 T. cornstarch
½ C. sugar
1¼ C. pineapple juice (orange juice)
¼ C. vinegar
4 T. soy sauce

Mix cornstarch with a little liquid so it doesn't lump, then combine all ingredients and cook until sauce is thick and clear.

Basic Venison Stew

2½ lbs. cubed venison
¼ lb. butter
2 stalks celery
1 med. bell pepper, diced
½ lb. carrots, diced
1 large onion, chopped
2 C. water
1 bunch shallots, chopped
3 T. flour
thyme
bay leaf
salt
pepper

Saute venison cubes in butter in heavy pot until browned. Pour off drippings. Add celery, carrots, onions, and shallots and lightly saute. Make a paste from hot drippings and flour. Add this to pot, then add water; mix thoroughly. Add seasonings to taste. Cook at medium heat until tender, about 3 hours, adding water as necessary. Serves 6.

FISH

Almost everyone likes to fish, and almost everyone loves to eat freshly-cooked fish. Here are a couple of recipes for fish you'll probably like.

RECIPES USING FISH

Basic Foil-Baked Fish

Fresh fish
½ medium onion per fish
salt and pepper to taste
lemon wedges (if preferred)

Split fish belly gill to tail and eviscerate. Salt and pepper interior, laying in sliced or quartered onion. Wrap in foil and place in coals. Cook only until flesh is white throughout. Serve immediately. (May be baked 30-40 minutes at 325°) There's no need to remove scales bone in this recipe, the flesh will fall away from both.

Basic Smoked Fish

3-4 large fish
2 C. salt

Brine Mixture
2 C. salt
8 qts. water

Remove fish heads, eviscerate and clean thoroughly. Soak 6-8 hours in brine mixture. Drain, then rinse in fresh cold water. Drain again, removing all excess moisture. Put 2 C. salt in shallow pan, dip fish, allowing them to pick up as much salt as will cling to the skin and body cavity. Pack in deep pan, sprinkling remaining salt in pan between layers and over fish. Leave in salt for 6 hours if split, 12 hours if whole. Remove from salt, rinse and drain before smoking and drying. Dry in sun or smoker until flesh shrinks and becomes brittle.

WILD FOWL

For those who are fortunate enough to bag wild fowl, here are some recipes for preparing excellent dishes for full enjoyment.

RECIPES USING WILD FOWL

Greek Duck

8-12 duck breasts
¼ C. table oil
5 small onions, quartered
1 can (6 oz.) tomato paste
1 C. water
2 bay leaves
2 oranges, cut in quarters
10 whole cloves
20 allspice berries
2 T. wine vinegar
Salt and pepper to taste
1 tsp. cinnamon
T. orange peel (freshly grated)

Brown duck breasts in oil over medium heat for approximately 30 minutes. Add remaining ingredients, sprinkling cinnamon over the top, cover and simmer for 2 hours. Allow 2 duck breasts per serving. Serves 4-6.

Wild Duck a l'orange

2 wild ducks
6 bacon slices
1 6-oz. can frozen orange juice concentrate
1 garlic clove
¾ tsp. dry mustard
½ tsp. ground ginger
½ tsp. salt
1 T. cornstarch
1 C. water

Clean ducks; tie legs and wings close to body. Place in shallow pan, breast-side up. Lay strips of bacon over ducks. Roast in 450° oven for 20-25 minutes. Combine undiluted orange juice concentrate, garlic, mustard, ginger and salt in small saucepan. Heat to boiling. During last 10 minutes of roasting, remove bacon and brush sauce over birds generously. Mix cornstarch with a little water and stir into remaining sauce; add remaining water. Stir over low heat until thickened. Serve with duck. Yield: 4 servings.

Duck Pilaf with Saffron Rice

1 duck, cleaned and dressed
garlic salt
pepper
MSG
2½ C. water
¼ tsp. Spanish Saffron
¾ C. brown rice
3 T. raisins

Trim fat from duck; disjoint. Sprinkle liberally with garlic salt, pepper and MSG. Place pieces in shallow 9" x 15" roasting pan. Broil for 10 minutes, or until skin is brown and crispy. Remove pieces from pan; drain off fat. Put remaining ingredients in pan and stir well. Place duck on top of rice, skin up. Cover pan with foil. Place in 225° oven for 2 hours or longer, until all liquid is absorbed by rice. Remove foil and brown 10 minutes at 350°. Yield: 6 servings.

Dove Pie

10 doves
2 tsp. poultry seasoning
1 tsp. salt
dash of pepper
1 large onion, chopped
2 T. bacon grease
flour
pastry for 2 crust pie
2 qt. water

Place doves in boiling water; add poultry seasoning, salt, pepper, onion and bacon grease. Simmer for 1 hour or until doves are tender. Remove doves from broth; remove meat from bones. Return meat to broth; cook for 30 minutes longer. Thicken broth with flour. Fit half the pastry into pie pan; pour dove mixture into pan. Cover with remaining pastry. Bake in 400° to 425° oven until top is browned. Yield: 4 servings.

Baked Pheasant

1 to 2 pheasants, quartered
1 can cream of chicken soup
½ C. apple cider
4 tsp. Worcestershire sauce
¾ tsp. salt
⅓ C. chopped onion
1 clove of garlic, minced
1 4-oz. can mushrooms
paprika

Preheat oven to 350°. Place pheasant in 9" square baking dish. Blend soup, cider, Worcestershire sauce, salt, onion, garlic and mushrooms. Pour over pheasant. Sprinkle generously with paprika; continue baking for 1 hour or longer, or until tender. Yield: 4 servings.

Baked Quail

12 to 18 quail
½ C. onions, chopped
½ C. bacon drippings
2 C. flour
1 can consomme soup
1 C. cream
juice of 1 lemon
salt & pepper to taste
½ tsp. paprika

Clean and dress quail. Put flour, paprika, salt and pepper in bag. Shake to mix. Put quail in bag, shaking vigorously to coat birds. Brown onions lightly in bacon drippings. Add quail, browning slowly, Place quail and onions in baking dish. Add undiluted consomme. Bake 350° approximately 45 minutes. Then add cream and lemon juice, basting every 5 minutes. Remove quail from oven when tender, approximately 15-20 minutes. Take quail from pan; thicken drippings and pour over quail. Yield: 6 servings.

SMALL GAME

There are still a few who enjoy hunting squirrels and rabbits, even though the sport seems to have lost some of its appeal. Here are a couple of recipes to help make the best of the hunt.

SMALL GAME RECIPES

Fried Squirrel or Rabbit

Rabbit or squirrel
½ C. melted butter
2 C. crushed corn flakes
½ C. shortening
¼ C. salt
1 qt. water

Soak dressed and cut-up game into serving pieces. Soak in salt and water solution 2-6 hours. Drain thoroughly. Dip pieces in melted butter, then roll in crushed corn flakes. Brown in hot fat, then reduce heat. Cook at low temperature for approximately 1 hour. (If game is older, add ½ cup water to pan, cover and cook slowly an additional ½ hour.) Salt and pepper to taste. Yield: 3-4 servings.

Rabbit Stuffed Peppers

1-2 lb. rabbit, dressed and cooked
½ lb. uncooked bacon
4 green bell peppers, halved
⅓ C. uncooked rice
½ can condensed tomato soup
3 small onions, chopped
1 T. lemon juice
1½ tsp. salt
1 tsp. MSG
½ tsp. freshly ground black pepper
1 tsp. oregano
catsup
grated Parmesan cheese

Remove rabbit meat from bones; grind with bacon. Remove seeds from green bell peppers; parboil for 3-5 minutes. Drain. Cook rice and drain. Combine with ground meat, tomato soup, onions, lemon juice and seasonings, mixing well. Place pepper halves in baking dish; stuff with filling. Top each with catsup and Parmesan cheese. Bake, covered, at 375° for 35 minutes. Uncover; bake for 10 minutes longer. Yield: 6-8 servings.

MISCELLANEOUS PREPARATIONS

The following recipes are not for wild game, but they didn't seem to fit anywhere else either. The information is useful though, so here it is:

Basic Beef Jerky

3 lbs. lean beef
1 T. salt
½ tsp. pepper
⅓ C. worcestershire sauce
¼ C. soy sauce

Cut beef in thin strips, approximately ¼" thick. Mix ingredients and pour over meat strips. Marinate overnight in refrigerator, turning once or twice. Drain. Place cake cooling racks over cookie sheet and cover with paper toweling. Place meat on rack and let dry in 150° oven until quite dry and brittle, about 3 or 4 days. Curing period may be interrupted, since the drying time is not critical. (This method may also be used for making venison jerky.)

Pickled Pork

10 gal. water
20 lbs. salt
1 lb. saltpeter
8 lbs. brown sugar

Boil ingredients together in large pot. Skim top. Place cuts in pickle mixture according to the following table.

CUT	DAYS IN MIXTURE
Hams	12-24
Shoulder	14-16
Bacon	8-10

Time in mixture will depend on size of cut. When removed from pickling, thoroughly dry, wrap in cloth, and store. Hanging the meat on a wire during storage is preferred.

CHAPTER 15

PERSONAL CARE AND HOUSEHOLD CLEANING PRODUCTS

This chapter may give some readers the "doomsday" feeling, but is included to provide a source of comfort for those who want to be prepared for any eventuality. Homemade soap, correctly made, can be as high in quality as most commercial brands. By making your own soap from otherwise wasted food by-products, some money could be saved in a year's time.

GENERAL DIRECTIONS FOR BASIC SOAPMAKING

All weights, measurements, and temperatures must be accurately made. Assemble supplies and equipment before starting. You should wear rubber gloves and long-sleeved apparel — lye is caustic and can burn the skin.

Equipment Needed

floating dairy thermometer
enamel or earthenware pan (two or three qt. size for dissolving lye)
measuring cup
scales to weigh fat
earthenware enamel, galvanized, or heavy tin container (3 or 4 gal. size)
wooden paddle

Ingredients Needed

rendered fat
lye
cold water (always use rain or soft water)

The basic ingredient of homemade soap is fat. Save drippings from all meat dishes, since any good animal fat may be used. The commonest fat sources are fats from meat cuttings, bacon grease and roast drippings. Some fats are hard and others are soft. The best soap is made from a combination of hard and soft fats. The following chart describes the classification of various fat sources. Poultry fats cannot be used alone in making soap.

CHART 15-A
CLASSIFICATION OF FATS

ANIMAL SOURCE	FAT TYPE	QUALITY
mutton, beef, venison	hard	better
pork	soft	good
poultry	very soft	fair

Keep these points in mind when making soap:

- Never use an aluminum kettle to make soap.
- Soap improves with age; fat deteriorates. Therefore use the fat before it becomes too rancid to reclaim.
- Poultry fat used alone makes soft, toilet soaps. Use either lavender, lemon, cloves, rose or citronella.
- Oils may be used for perfuming toilet soaps. Use either lavander, lemon, cloves, rose or citronella.

PREPARATION OF FATS

The most important step in soapmaking is preparing the fat. The following paragraphs detail some of the methods for preparing various kinds of fats for soapmaking recipes.

Fresh animal fats. Wash fresh animal fat thoroughly with warm water to remove all foreign matter, including blood. Dry thoroughly, wiping with cloth if necessary. Trim rind and all red meat from fat. Grind fat with a food chopper, using the medium-fine blade. Place in a kettle large enough so the fat will not spatter on the stove as it heats. Bring to a boil. Do not heat to smoking temperature. When fat is completely rendered, strain it through three or more thicknesses of cheese cloth, nylon hose, or other thin material to remove all solid particles. Cracklings from this fat have no food value and should be discarded.

Used fats. Used fats include bacon fryings and roast drippings. Heat fat until it just reaches the boiling point. Strain in the same way as fresh animal fats.

Salty, rancid or dirty fats. These fats require special treatment. Pour into a large kettle and add about four times as much water as fat. Bring to a rolling boil. Add 1 qt. cold water. Stir. Cool until the fat forms a cake. When the fat can be lifted off, scrape all foreign material from the bottom of the cake.

Stale or colored fats should be washed a second time, following the same procedure as used before.

MIXING FATS AND LYE

Put required amount of cold water into an earthenware or enamel pan. Add slowly the necessary amount of lye, stirring until dissolved. Set aside to cool.

Then put the rendered fat in the container. Place over heat. When melted, set aside until the temperature for mixing is correct for the kind of fat used. The temperature of the lye water solution is very important. The following chart is for your guidance in using the correct temperatures while mixing fat with the lye. Use the dairy thermometer to check temperatures of the various mixtures.

CHART 15-B
TEMPERATURE CHART

FAT AND WATER MIXTURE		LYE SOLUTION
TYPE	TEMPERATURE	TEMPERATURE
good lard/soft fat	85°	75°
soft lard/stale fat	100°	80°
50/50 lard and tallow	110°	85°
100% tallow	130°	95°

Place the container in which the fat was melted inside a large container lined with two or three layers of old cloth. This retards the solidification of the fat until it is mixed well with lye. When both the fat and the lye mixtures are the right temperatures, slowly pour dissolved lye into the grease. Stir with a wooden paddle until the lye and grease are thoroughly combined and mixture drops from paddle like honey. Stir slowly but not too long, as the lye has a tendency to separate out. Usually 5-15 minutes is enough. The kind of grease used and the climate make the difference in the time required to effect the proper mixture.

Molding the Mixture. Pour soap mixture into a mold or leave in container. Set the mold inside another pan. This will prevent damage to work surfaces should there be a separation of the lye and fat. Cover container of soap with a blanket or rug, and set in a warm place for a day or two. When ready to unmold, place mold on a cement floor or other place that will not be damaged if the lye is spilled. Sometimes a little lye may settle out in the bottom of the container, so handle carefully to prevent accidents.

Reclaiming a failure. If separation occurs, put the soap into a kettle. Add all the lye that has separated — don't throw it away.

Add water back to the mixture. Melt with heat and boil slowly until it becomes thick and syrupy. Pour into mold and cover in the same way as originally.

These are generally the causes of failure in making soap:

— exceedingly rancid fat; or
— salt in the fat; or,
— too hot or too cold for proper mixing; or,
— soap stirred too vigorously; or,
— incomplete mixing of the fat-lye mixture.

RECIPES FOR MAKING SOAPS AND SOAP PRODUCTS

Basic Hand Soap

1 T. lye
¼ C. cold water
½ C. lukewarm fat
1 T. lemon juice

In a plastic container, gently stir lye into cold water with wooden spoon. Slowly add lukewarm fat. Continue to stir until slightly thickened. Add lemon juice, stirring to mix thoroughly. Pour mixture into plastic molds. Cover with plastic wrap and leave for 24 hours. Remove soap from molds and allow to air-dry for 14 days. Yield: 2 medium bars.

Basic Perfumed Hand Soap

11 C. fat
1 lb. lye
5 C. rain or soft water
½ C. powdered borax
½ C. ammonia
1 oz. strawberry dye
2 oz. lanolin
3 oz. glycerine
3 T. finely ground oatmeal
⅓ C. sugar
4 tsp. aromatic Rose Geranium

Follow basic directions, except add sugar with lye. Strawberry dye is optional.

Homemade Soap

3 qts. fat drippings
1 lb. lye
4½ qts. cold rain or soft water
3 tsp. borax
1 tsp. salt
2 T. sugar
¼ C. ammonia

Thoroughly clean fats by boiling in equal amount of water. Place kettle in a cold place to firm fat. Cut fat from kettle sides. Pour off water and waste. Scrape off excess wastes from bottom of lard cake. Clean kettle and replace lard cakes; melt over low heat. Dissolve lye in 1 qt. cold water and let stand until cool, then add melted fat slowly. Stir constantly. Mix other ingredients together and add to first mixture. Stir until the mixture is thick and honey-colored. Pour into pan lined with a clean white cloth. Before soap becomes hard, mark pieces into cakes or form into balls. When hard, store to allow further air-drying.

Basic Granulated Laundry Soap

2½ qts. rain water
2 qts. grease, strained, melted and hot
1 C. clorox
1 can lye
3 T. borax

Mix water, clorox, borax, and lye. Add strained grease slowly. Remove from heat and leave in pot. Stir often during the first day. Allow two weeks to cure, stirring occasionally.

Laundry Soap

5 lbs. grease
½ C. ammonia
1 oz. sassafras oil
3 qts. rain water
½ C. borax
1 can lye
½ C. coal oil

Melt lye in cold water. Dissolve borax and add lye to mixture. Melt grease and add ammonia, then coal oil. Add to lye mixture. Stir until mixture congeals into milk cartons or leave in enamel pan. Cut into bars 24-48 hours later.

RECIPES FOR BASIC PERSONAL CARE PRODUCTS

Your druggist or pharmacy will normally stock the chemicals called for in these personal care product recipes.

Basic Hand Cream

12 oz. glycerin
1¼ C. stearic acid
1 T. ammonia
½ tsp. borax powder
¼ bar paraffin wax
2 C. warm water

Put glycerin in enamel or stainless steel double boiler with wax and stearic acid. When melted, add ammonia. Beat until milky. Dissolve borax powder in water and add to mixture. Remove from heat until thick, about 10 minutes.

Basic Hand Lotion

2 oz. rose water
3 oz. glycerin
2 C. water
2 oz. bay rum
2 tsp. flax seed

Boil water; add flax seed. Continue boiling until one cup of water has evaporated. Strain flax seed from mixture. Dilute as needed with water. Beat with egg beater to smooth mixture.

Basic Shampoo

1 bar basic soap
4 qts. rain water
2 slightly beaten eggs
1 tsp. powdered borax
1 oz. bay rum

Dissolve soap in boiling water. Let cool. Add eggs, borax and bay rum. Stir to mix thoroughly.

Basic Deodorant

½ oz. aluminum chloride
3 oz. rain or soft water

Dissolve aluminum chloride in rain or soft water. Apply as necessary to clean skin.

Basic Powdered Deodorant

¼ C. powdered aluminum chloride
¼ C. talcum powder
¼ C. cornstarch

Mix together. Dust on clean skin.

Basic Mentholatum

1 pt. vaseline
2 cakes camphor, grated
1 T. menthol crystals

Mix together, pour into vaseline jar. Seal tightly.

Basic Tooth Powder

4 oz. precipatated chalk
1 oz. powdered sugar
7 drops oil of peppermint
3 oz. magnesium carbonate
1 oz. borax
glycerine (optional)

Mix together and use dry as, a powder. Add water and glycerine to make a paste of the proper consistency if a paste is desired.

RECIPES FOR HOUSEHOLD CLEANING PRODUCTS

Basic Window Cleaner

1 gal. water
¾ C. liquid detergent
3 C. rubbing alcohol

Mix ingredients well. Use to clean all glass and reflective surfaces.

Basic Furniture Polish

⅓ C. linseed oil
⅔ C. turpentine
1-3 T. dark walnut stain (optional)

Mix ingredients. Add stain to touch up nicks and scratches on dark furnishings.

CHAPTER 16
BASIC MEDICAL SUPPLIES

All medical supplies should be stored in water-tight containers to insure dryness and to preserve sterilization.

Get a booklet or pamphlet to aid in cases of illness or injury. Any book which could aid in diagnosing illnesses or treating injuries would be valuable. One good book is *What To Do Until The Doctor Comes,* by William Bolton, M.D.

A great deal of money need not be spent in procuring medical supplies since many essentials may be found among normal household items, such as bandages, splints, etc. For example, old sheets make good bandages, slings, or padding. Razor blades can be fitted into a wooden handle and then sterilized over an open flame and/or wiped with rubbing alcohol to make a surgical knife.

Special herb teas can be purchased, which need mixing only with hot water, to discourage fever, colds, stomach distress or many other body discomforts.

Listed on the following page are some essential items for relief in times of illness or injury. The chart lists specific items needed in any basic medical chest. Add such items necessary to supplement this list for your specific health maintenance needs, such as insulin, penicillin, etc. Each family should decide which items will serve their needs best. It may be necessary to rotate some of these supplies to have "fresh" medication available. **Remember:** *the best remedy for almost any illness or injury is prevention.* So, take extra precaution to prevent illness or injury during times of stress.

CHART 16-A
SUGGESTED ITEMS FOR BASIC MEDICAL CHEST

Pamphlets (have at least one on hand)
- ___Field Manual
- ___Red Cross First Aid Handbook
- ___Scout First Aid Handbook

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Sterile Items
- ___Absorbent Cotton
- ___Bandages
- ___Dressings
- ___Needles and Suturing Material
- ___Saline Solutions
- ___Surgical Knife
- ___Tongue Depressors

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Miscellaneous Equipment
- ___Bedpan
- ___Pharyngeal Airway
- ___Safety Pins
- ___Snake Bite Kit
- ___Syringe and Needles
- ___Tourniquet

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Necessary Items
- ___Adhesive Tape
- ___Band Aids
- ___Hot-Water Bottle
- ___Iodine, Mercurochrome or Merthiolate
- ___Scissors
- ___Thermometer
- ___Tweezers

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Miscellaneous Medications
- ___Aromatic Ammonia
- ___Aspirin
- ___Calamine Lotion
- ___Kaopectate
- ___Milk of Magnesia
- ___Rubbing Alcohol

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OTHER

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CHAPTER 17

ENERGY AND FUELS STORAGE GUIDELINES

Fuels will be very important should an emergency arise — food must be prepared, dishes washed, people bathed and warmed. Electricity lines, natural gas lines and other energy lines could be interrupted in case of an earthquake, hurricane, or other national disaster — not to mention rationing. The family with fuel to provide adequate energy for cooking, sterilization or lighting will be so much better prepared.

Do not store gas, kerosene or similar fuels where children can reach them. When fuel is stored near foods, an offensive taste will generally result. If fuel storage is mixed with storage space for medicines, food, or water, the latter items will all become contaminated. Exercise caution when storing fuels or any combustible material in or around the home.

In Chart 2-B, there is a listing of camping equipment you should have in your home storage program. In the following paragraphs are listed items of typical camping equipment and their fuel consumption rates. This listing will help in determining the amount of fuels needed for the equipment in your storage program.

GAS LANTERN WITH 2 MANTLES

A gallon of Coleman fuel should last approximately 40 hours' burning time. Burning at the rate of 5 hours per day, the following approximate amounts of fuel would be used:

PERIOD	AMOUNT CONSUMED
DAY	1 PINT
WEEK	1 GALLON
MONTH	4 GALLONS
YEAR	50 GALLONS

White gas may be substituted in some equipment, but read and follow instructions of manufacturer. A gas lantern gives a high intensity light, and heat, too! However, the lantern consumes good air and exhausts bad air, so only use where well-ventilated, for safety's sake.

KEROSENE LANTERN

A kerosene lantern with a 1" wick will burn approximately 45 hours on 1 quart of kerosene. Burning at the rate of 5 hours each day, the following approximate amounts of kerosene would be used:

PERIOD	AMOUNT CONSUMED
DAY	¼ PINT
WEEK	1 QUART
MONTH	1 GALLON
YEAR	12 GALLONS

FLASHLIGHT

A two-battery type flashlight with standard dry-cell batteries will provide light for the following approximate times:

USE	BATTERY CONDITION	APPROXIMATE HOURS BATTERY LIFE
CONTINUOUS	NEW	5-6
	OLD	3-4
INTERMITTENT	NEW	7-8
	OLD	4-5

Age, temperature, manufacturing control, humidity, and bulb size, as well as other factors can shorten battery life and effective usefulness of any flashlight. Rechargeable, long-life flashlights are available now. Choose a flashlight with as much premeditation as any other item of basic equipment.

TALLOW CANDLES

Tallow candles burn brighter, longer, and are fairly smoke-free when compared to wax candles. The following chart gives details for approximate burning times:

DIAMETER	HEIGHT	APPROXIMATE BURNING TIME
½"	6"	3 HOURS
1"	6"	8 HOURS
2"	9"	48 HOURS

TWO-BURNER GAS CAMP STOVE

Both burners of a Coleman gas camp stove in use 4 hours per day will utilize the following approximate amounts of Coleman fuel:

PERIOD	AMOUNT CONSUMED
DAY	1 QUART
WEEK	2 GALLONS
MONTH	8 GALLONS
YEAR	96 GALLONS

EMERGENCY TIN-CAN STOVE

The tin can stove is simply a gallon or a #10 can containing a heating unit. A tightly-folded, coiled newspaper pushed into a tuna can and soaked in paraffin wax provides the heat source.

Fold a big double-size page lengthwise, accordion style, and force-fit into a tuna can. Pour paraffin wax over the paper in the can. The paper acts as a wick, and the wax burns hot and clean, providing adequate heat for emergency cooking. This heat source will burn approximately 1-2 hours.

Corrugated paper can also be rolled tightly and put into a tuna can, then soaked with wax.

CHARCOAL BRIQUETTES FOR HIBACHI OR CHARCOAL GRILL

Three or four briquettes in a small (8" x 8") grill will generate enough heat to cook a simple meal and at the same time provide a little heat. It is important to vent the grill by setting it on the fireplace hearth or placing it near a partially-opened window. Be very careful when using charcoal in an enclosed space. Death could result if improperly ventilated. Store approximately 25 lbs. charcoal briquettes for each week's use. Store charcoal starter, too.

YOU CAN MAKE YOUR OWN CHARCOAL

Charcoal is very useful fuel. It can be made from twigs and limbs of fruit, nut and other

COAL

Two tons of coal, sparingly used, should meet the cold weather needs of a family for a year. While a standard brick-lined fireplace is comfortable during times of plenty, it is not the most efficient way to heat a home when electricity or natural gas are not available. A Ben Franklin stove or an old-fashioned coal or wood kitchen range would be more practical for warming large spaces, and doubles its value as a means for cooking food.

Coal preferably should be stored in the dark and away from circulating air. After a period of time, air tends to break the coal into small pieces. Smaller pieces will not burn as long as larger lumps. The best method for storing coal is to dig a hole and line it with plastic sheeting, putting coal in and covering with more plastic and then covering with dirt. The plastic helps to keep the air out and also helps prevent loss in recovering it for use. If coal is to be stored above ground, place it on the north side of the house where it will be out of the sun. Smaller quantities can be stored in potato sacks or large cans. These containers would be more convenient when storing in a garage or basement space.

If coal were the only heating source, probably about one ton per month would be consumed in the fireplace, depending on the severity of the winter weather.

NEWSPAPERS FOR FUEL

Newspaper Logs

You can make a substitute for firewood from newspapers. Use six sections (five double sheets in each section) for each log. With double sheets folded to page size, fold each separate section in half once, then once again. Stack the sections, alternating cut sides with folded ones, with the bottom section extending out about 4 inches. Roll very tightly, securing in the center of the roll with a piece of wire. Four (4) logs last approximately 1 hour.

There are currently available several commercial newspaper log-making machines which simplify the process. Check with local variety stores for brands and prices.

"Clean-Burning" Newspaper Logs

This method overcomes problems of smoldering, flying ashes, and popping. Divide the day's paper into sections and fold them to one-half size (about 12" x 15" and ½" thick or less). Place them in a tub of water and either soak overnight or add 1/16 cup detergent to a laundry tub of water and soak an hour or two. Then, while wet, roll the sections individually on a 1" rod and squeeze out the excess water while smoothing the surface edges.

Slide the rolls off the rod and stand them on end to dry, tipping the rolls slightly to allow air to circulate. The "log" should be about 12" long and 2"-4" in diameter. They are ready to use when completely dry.

The average week-day newspaper will make 2-3 logs, and the Sunday edition will make up to seven logs. Newspaper logs provide, pound-for-pound, about the same heat as wood and is an efficient energy source.

CHAPTER 18
TRITICALE

Triticale is a grain derived from crossing wheat and rye genetically. There are more than 2000 varieties of triticale, but only a few varieties retain fertility. Triticale is excellent as a replacement for pastry flour. However, triticale cannot be substituted measure-for-measure for wheat because the derived grain has low elasticity. The gluten strands do not form as in wheat batters, so substitution in wheat recipes should not exceed half the flour required.

Triticale has been touted as an equal or better grain than wheat. It has good storage qualities, has a higher protein efficiency ratio (P.E.R.) than wheat, higher percentage of protein, and is a larger kernel. However, because of the lack of gluten, wheat flour must be mixed in the recipe to make a high-rising bread.

The following recipes have been specially formulated for triticale flour.

BREADS, BISCUITS, ROLLS, MUFFINS & WAFFLES

Basic Triticale Bread (2-Hour Bread Recipe)

3 T. dry yeast
5 C. lukewarm water
1 tsp. sugar
1 heaping T. salt
6 T. safflower oil
½ C. honey
11 C. triticale flour
1 C. regular wheat flour

Mix dry yeast and ½ C. warm water, sprinkle sugar on top and stir. Mix salt, safflower oil and honey into 4½ C. warm water, mix well and stir in yeast mixture. Stir in 4 C. triticale flour and ½ C. regular wheat flour, mixing well. Add 4 more C. triticale flour and ½ C. regular flour, mix well; add remaining triticale flour, mix well. Knead well for about 5 minutes, place in pan and let rise for ½ hour. Cut batter into four even parts and knead several minutes. Place in greased breadpans and let rise to level of rim. This will take about 25 minutes. When bread is ready to bake, place in preheated 350° oven for 45 minutes; remove from oven and take bread from pans and allow to cool. Coat top of loaves with warm butter. Yield: 4 medium loaves.

Basic Triticale Buttermilk Bread

2½ C. triticale flour
1 tsp. salt
½ C. sour cream
1⅓ C. buttermilk
½ C. corn meal
1½ tsp. soda
½ C. molasses
½ C. raisins (optional)

Mix dry ingredients with raisins, if used. Mix molasses with sour cream and buttermilk. Combine 2 mixtures. Bake in greased bread pan 1 hour at 350°.

Triti-Flake Bread

1 envelope yeast
¼ C. lukewarm water
⅓ C. brown sugar
2 C. scalding milk or water
2 C. triticale flakes
2 T. butter
2 C. triticale flour
1 T. salt
2 C. sifted flour

Put yeast, lukewarm water, and sugar in small bowl, and let stand until frothy. Pour scalding liquid over flakes and butter and let mixture stand until lukewarm. Sift flour with salt. Combine yeast, oats, and 1 C. flour and beat well. Set bowl in a dishpan of quite warm water, cover with a towel and let dough rise until light. Beat down and add a very small amount of warm water. Knead flour on a floured board until light. Let dough rise again in pan of warm water, covered, until double. Beat down again and put dough in two greased bread pans to rise. When dough is at top of pans place in a 400° oven for 20 minutes, then reduce heat to 350°, bake 25 minutes more. (A pan of hot water set on the oven floor while bread is baking will cause a brown crust.) Note: when adding water or milk to dough containing cereals, be careful not to add too much or the bread will sink in the middle when baked. Yield: 2 loaves.

Cherry-Banana Bread

½ C. shortening
3 eggs
1 C. banana pulp
½ tsp. baking powder
⅔ C. chopped, drained maraschino cherries
1 C. sugar
1 tsp. soda
2 C. triticale flour
¼ tsp. salt
½ C. chopped nuts

Cream shortening and sugar until light and fluffy. Add eggs one at a time and beat well after each addition. Dissolve soda in mashed bananas and add to creamed mixture. Add dry ingredients. Fold in cherries and nuts. Pour into greased loaf pan and bake for 1 hour at 350°. (Chopped dried apricots may be used in place of the cherries for apricot-banana bread.)

Triticale Biscuits

2 C. triticale flour
1½ tsp. salt
4 tsp. baking powder
6 T. shortening
⅔ C. milk

Mix dry ingredients; cut in lard or vegetable shortening with a wire pastry blender. Stir in milk adding just enough to make a soft, light dough, stirring as little as possible. Drop from spoon onto a greased, floured baking sheet. Let stand 3 minutes, then bake at 375° about 10 minutes. Makes 12 to 16 biscuits.

Triticale Bran Muffins

2 C. boiling water
3 C. triticale flour
3 C. All Bran cereal
1 qt. buttermilk
1 C. shortening
3 C. sugar
4 beaten eggs
5 tsp. soda
7 C. flour
1 tsp. salt

Pour water over bran cereal and add buttermilk. Cream shortening and sugar, then add eggs and mix well. Add this mixture to cereal. Sift in flour, soda and salt. Do not overmix. (Batter can be stored in the refrigerator and will keep at least three weeks.) Spoon batter mixture into greased muffin pans, filling about ¾ full. Bake for 15 to 20 minutes at 350°.

Apricot Bran Muffins

⅔ C. finely cut dried apricots
1 C. triticale flour
2½ tsp. baking powder
1 C. whole bran
1 beaten egg
2 T. sugar
⅓ C. sugar
¾ tsp. salt
¾ C. milk
¼ C. salad oil

Pour boiling water over apricots to cover, let stand 10 minutes. Drain well; mix with 2 T. sugar. Sift together dry ingredients. Mix bran, milk, egg and oil; add to flour mixture, stirring just till moistened. Gently stir in apricots, fill greased muffin pans ⅔ full. Sprinkle tops with additional sugar. Bake in 400° oven about 25 minutes. Yield: 1 dozen muffins.

Sour Cream Waffles

⅓ C. soft sweet butter
4 egg yolks
1 C. sour cream
1 C. triticale flour
1½ tsp. baking powder
¾ tsp. salt
4 egg whites, beaten

[redacted]

CAKES, GINGERBREAD, TORTE AND PIES

Triticale Apple Cake

3 T. butter
1 C. sugar
1 egg, beaten
½ tsp. nutmeg
1 C. triticale flour
½ tsp. cinnamon
½ tsp. salt
1 tsp. soda
3 C. chopped apples
1 tsp. vanilla
½ C. chopped nuts

Cream butter and sugar, add egg, mix well. Sift dry ingredients together. Add to creamed mixture. Stir in chopped apples, vanilla, and nutmeg. Pour in greased 8" x 8" pan, bake in 350° oven about 45 minutes. Serve warm with whipped cream or ice cream. Serves 10-12

Triticale Applesauce-Spice Cake

⅓ C. oil
1 C. sugar
1 egg
1 C. sweetened applesauce
1¾ C. triticale flour
1 tsp. soda
1 tsp. ground cloves
1 tsp. salt
1 tsp. cinnamon
1 C. currants
1 C. raisins

In a large bowl combine oil, sugar and egg with electric mixer. Then beat in applesauce. Sift together dry ingredients. Add flour mixture to the batter gradually, continuing to beat batter until smooth. Stir in raisins and currants. Transfer to greased and floured cake pan. Bake in 350° oven for 40 minutes.

Quick Triticale Gingerbread

2 C. triticale flour
1 tsp. salt
1 C. molasses
½ C. sugar
4 T. melted shortening
1½ tsp. soda
2 tsp. ginger
2 eggs
1 C. sour milk

Combine all ingredients and beat for 2 minutes. Bake 35-40 minutes at 350°. Serve warm or cold, top with whipping cream.

Triticale Amber Fruit Torte

1 C. sugar
1 egg
1 can fruit cocktail (drained)
1 C. triticale flour
½ tsp. salt
¾ tsp. soda
¼ C. chopped walnuts
4 T. brown sugar

Blend sugar and beaten egg, add the drained cocktail mix and the sifted dry ingredients. Spread in square 9" pan. Mix the brown sugar and nuts and sprinkle on the top. Bake at 325° for 15 minutes then reduce to 300° and bake for 45 minutes more. Serve with whipped cream or ice cream.

Crustless Apple Pie

8 C. apples, peeled, cored and cut in thin wedges
½ C. sugar
1 tsp. cinnamon or nutmeg
½ C. brown sugar
½ C. triticale flour
¼ C. butter
pinch of salt

Toss together first 3 ingredients and put in shallow 2-quart baking dish. Mix remaining ingredients until crumbly. Sprinkle over apples and bake in preheated 400° oven about 30 minutes. Serve with whipped cream or ice cream. Serves 6.

BROWNIES, COOKIES & GRANOLA

Triticale Brownies

4 squares unsweetened chocolate
⅔ C. shortening
2 C. sugar
4 eggs
1 tsp. vanilla
1 tsp. baking powder
1¼ C. triticale flour
1 C. nuts
1 tsp. salt

Heat oven to 350°. Grease oblong pan, 13″ x 9″ x 2″. In large saucepan, melt chocolate and shortening over low heat. Remove from heat. Blend in sugar, eggs and vanilla. Mix in remaining ingredients. Spread in prepared pan. Bake 30 minutes or until brownies pull away from sides of pan. Do not overbake. Cool slightly; cut into bars about 2″ x 1½″. Makes 32 brownies.

Peanut Butter Triti-Flakes Bars

½ C. shortening
½ C. sugar
½ C. brown sugar
⅓ C. peanut butter
½ tsp. vanilla
1 egg
¼ C. milk
1 C. flour
½ tsp. baking soda
½ tsp. salt
1 C. triti-flakes

Cream together shortening, sugar, brown sugar, peanut butter, and ½ tsp. vanilla till fluffy. Add egg and milk; beat well. Sift together flour, baking soda, and salt; add to creamed mixture. Beat just till well combined. Stir in triti-flakes. Spread evenly in greased 12″ x 9″ x 2″ baking pan. Bake 350° for 20 minutes. Cool thoroughly before serving.

Triticale Peanut Butter Cookies

1 C. raw or brown sugar
½ C. shortening
1 egg, well beaten
½ C. peanut butter
2 T. evaporated milk or cream
1½ C. triticale flour
1 tsp. soda

Chocolate Chip Cookies

Cream following ingredients:

1½ C. granulated sugar
1½ C. brown sugar (packed)
2 C. shortening
2 tsp. vanilla
1 tsp. water
4 eggs

Add following ingredients:

6 C. triticale flour
2 tsp. soda
1 tsp. salt
12 oz. package chocolate chips
1 C. nutmeats

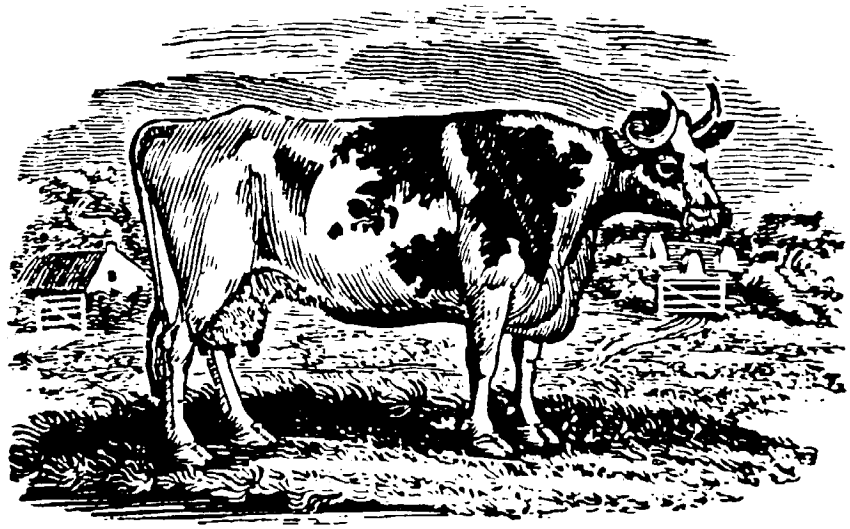
Mix dry ingredients with wet mixture. Spoon onto greased cookie sheet. Bake 375° until brown.

CASSEROLE MAIN DISH

Triticale Meat Loaf

1 lb. ground beef
¼ tsp. oregano
1 tsp. sugar
¼ C. chopped onion
1½ C. tomato juice
1 C. triticale
½ tsp. dry mustard
1 T. Worcestershire sauce
¼ C. green pepper, chopped
1 egg

Mix all ingredients well and place in loaf pan. Bake 350° for 60 minutes. Serves 6-8.



CHAPTER 19
WHEY POWDER OR "MILK SUGAR"

This section discusses the use of whey powder (milk solids in the form of dried whey) in the food storage program. It is not intended to be a scientific analysis of this fairly recent arrival on the consumer market. No doubt it has come to the fore due to the high price of sugar.

Many sweets in your kitchen cabinets will have whey powder as an ingredient – they've been used commercially for years. As explained in Chapter 6,whey is the liquid by-product of the cheesemaking process. Cheese processors are now drying the whey, much like powdered milk, and the result is a 70% pure milk sugar.

The "milk sugar" now being sold is actually powdered whey. Remember, whey is the thin, watery part of milk remaining after cheese and butter are taken out. Whey contains *some* of the nutrients of milk. It is basically 13 percent protein, 1 percent fat, 71 percent lactose, and 8 percent ash. The ash gives an undesirable salty content and flavor to milk sugar. Be aware that it takes about 7 tablespoons of whey powder to equal the sweetness of 1 tablespoon of beet or cane sugar, and the whey powder tastes slightly salty.

GUIDELINES FOR USE

Diet. Whey powder or milk sugar is lactose, whereas beet and cane sugar are sucrose. Both are carbohydrates, have approximately the same caloric value, and generally react the same in diabetic diets. Some people are unable to digest lactose, so those who can't drink milk may be allergic to the lactose in milk sugar just as well.

Replacing Sugar. Many consumers are using the less expensive milk sugar product as a sugar replacement, and it substitutes adequately in some types of recipes, especially breads, cookies, and cakes. However the whey product doesn't dissolve easily, nor does it "cream" well. The whey powder goes into a recipe better when sifted in with the dry ingredients. The milk sugar is not suitable for use in home canning, since the powder would make the liquid milky.

There are budget-saving advantages in using the less expensive whey or milk sugar product, but be aware of the limitations of this product. Generally, some saving of ordinary sugar could be achieved by merely reducing the amount of sugar used in most recipes.

Substitution for Sugar. Generally, recipe booklets are provided with the whey product, but substitution in your own favorite recipes may be made by replacing all or part of the sugar called for in the recipe. The following chart describes how milk sugar may be used in recipes.

CHART 19-A

SUBSTITUTING MILK SUGAR IN RECIPES

Recipe Type	Adding Milk Sugar	Substituting for Regular Sugar
Breads	⅓ C. to each cup liquid	NONE
Cakes	½ T. to each cup flour PLUS	up to ¼ amount with milk sugar (if regular sugar is 1 cup, use ¾ C. regular sugar and ¼ C. milk sugar)
Candies	NONE	
Cookies	2 T. to each cup flour PLUS	¼ to ½ amount
Gravies	2 T. to each cup liquid	NONE
Muffins	2 T. to each cup flour	up to 100%
Pie Crusts	1 T. to ½ cup flour	NONE

Flavor. Milk sugar is considered a "flavor carrier", and complements the taste of other ingredients in breads, cakes, rolls, and even gravies.

Browning. Milk sugar aids in achieving a more even browning on exterior surfaces of baked goods.

Texture. Milk sugar helps the dough "relax", making a smoother texture possible.

Other Uses for Milk Sugar

Breakfast Cereals. Sprinkle milk sugar (powder) on hot and cold cereals, or mixed with regular sugar.

Milk Extender. Use milk sugar to extend whole, raw, or powdered milk. Use approximately 1 part milk sugar to 7 parts water. Can be used as sweetener and/or cream for hot drinks, too.

STORAGE

Whey powder must be stored in tightly covered containers to keep it dry, and cool storage is preferable. It should store approximately the same length of time as dry powdered milk—one to two years under good conditions.

Caution: Be sure to buy whey powder or milk sugar which is low-acid, low-salt, and pours like powdered sugar.

ADDITIONAL INFORMATION

A very good pamphlet on using whey is "A Better Whey to Fine Cooking", published by the Cache Valley Dairy Association, Smithfield, Utah 84335. They've been successfully producing and using dairy products and by-products for years, and they are experts.

INDEX

ABBREVIATIONS

tsp. =teaspoon	qt.=quart
T.=tablespoon	gal.=gallon
C.=cup	oz.=ounce
pt.=pint	lb.=pound

When Measuring a Number of Ingredients:

Measure dry ingredients first.

Measure liquid and oil before measuring honey or molasses.

TABLE OF VOLUMES AND WEIGHT

DRY MEASURE	DRY VOLUME	WET WEIGHT EQUIVALENT
dash or pinch	less than ⅛ tsp.	2 to 3 drops
3 tsp.	1 T.	½ fluid oz.
¼ C.	4 T.	2 fluid oz.
⅓ C.	5 T. plus 1 tsp.	2½ fluid oz.
½ C.	8 T.	4 fluid oz.
⅔ C.	10 T. plus 2 tsp.	5 fluid oz.
¾ C.	12 T.	6 fluid oz.
1 cup	16 T.	8 fluid oz.
1 pint	2 C.	16 fluid oz.
1 quart	2 pts.	32 fluid oz.
1 gallon	4 qts.	64 fluid oz.
1 pound	2 C.	16 oz.

TABLE OF FOOD EQUIVALENTS

FOOD	WEIGHT	APPROXIMATE MEASURE
Apples	1 lb.	3 medium or 3 C. sliced
Cheese (cheddar)	½ lb.	2 C. grated
Cream (whipping)	1 C.	2 C. or more after whipping
Dates (pitted)	8 oz. pkg.	1¼ C. cut up
Grains, legumes	1 lb.	1 pt.
Macaroni	1 C.	2¼ C. cooked
Mushrooms (fresh)	1 lb.	35 to 40 medium
Mushrooms (canned)	4 oz.	⅔ C.
Rice (raw)	1 C.	3 C. cooked
Rice (instant)	1 C.	2 C. cooked
Potatoes (white)	1 lb.	3 medium (2⅓ C. sliced)
Potatoes (sweet)	1 lb.	3 medium (3 C. sliced)

TABLE OF SUBSTITUTIONS

INGREDIENT NEEDED	AMOUNT	SUBSTITUTION	
Baking powder (double acting)	1 tsp.	¼ tsp. baking soda plus ½ C. sour cream or buttermilk	
		¼ tsp. baking soda plus ½ tsp. cream of tartar	
		¼ tsp. baking soda plus ½ tsp. lemon juice used with milk to make ½ C.	
Butter	1 C.	1 C. margarine	
		⅞ to 1 C. hydrogenated shortening plus ½ tsp. salt	
		⅞ C. lard plus ½ tsp salt	
Chocolate-(unsweetened)	1 1-oz. square	3 T. cocoa plus 1 T. shortening	
Coffee cream (20% half and half)	1 C.	3 T. butter plus ⅞ C. milk	
Cream (heavy-40% whipping cream)	1 C.	⅓ C. butter plus ¾ C. milk	
Egg (medium)	1 (¼C.)	2 egg yolks plus 1 T. water (in cookies)	
		2 egg yolks (in custards, cream fillings and similar mixtures)	
Flour (for thickening)	1 T	½ T. cornstarch	
		2 tsp. quick-cooking tapioca	
		2 egg yolks	
Flour (cake)	1 C.	1 C. all-purpose flour minus 2 T.	
Flour (all purpose)	1 C.	1 C. cake flour plus 2 T.	
Honey	1 C.	1¼ C. sugar plus ¼ C. liquid	
Marshmallow	1 large	10 miniature marshmallows	
Milk (buttermilk or sour)	1 C.	1 T. lemon juice	add milk to make 1 C. and let stand 5 min.
		1 T. vinegar	
Milk (whole)	1 C.	1 C. reconstituted nonfat dry milk plus 2 tsp. butter	
Molasses	1 C.	1 C. honey	