IDAHO STATE UNIVERSITY: FALL 1996

BIOS 208 HOMESTEADING 3 CREDITS. A COURSE EMPHASIZING THE APPLICATION OF ECOLOGICAL AND BIOLOGICAL PRINCIPLES OF SELF-RELIANT LIVING IN BALANCE WITH NATURE. AS

NOTES ON PUTTING FOOD/SUPPLIES BY FOR A YEAR'S SUSTENANCE, SUPPLIED BY INKOM WARD, LDS CHURCH, PAST PRESIDENT OF RELIEF SOCIETY

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ESSENTIALS OF HOME STORAGE

"IF YE ARE PREPAREO YE SHALL NOT FEAR"

The gospel of Jesus Christ teaches independence, industry,. thrift, and self-respect. Latter-day Saints have been counseled to be prepared to care for themselves and their families in times of need.

To save in the times of harvest for emergencies in the lean years is the wisdom expressed by President J. Reuben Clark, Jr.:

> "Let every head of every household see to it that he has on hand enough food and clothing, andwhere possible, fuel also, for at least a year ahead." (Conference Report, April 1937, p. 26)

Planned storage in the home will assist the membership to be self-sustaining in times of need. The likelihood of accident, illness, or unemployment faces nearly èvery family at one time or another. Wars, depressions, and famines, as well as earthquakes, floods, and tornadoes are posiibilities to consider in planning for the care and protection of the family.

The home storage program is an integral part of the church welfare services, but is undertaken individually, according to the needs of each member. Its application, therefore, differs in relation to circumstances, but the responsibility of preparedness remains. We have been admonished repeatedly to have a storage program for our family. History has demonstrated repeatedly that prosperity and plenty will not always be with us. The head of every household is charged to provide for his own house.

> "But if any prov;de not for his own, and especially for those of his own house, he hath denied the faith, and is worse than an infidel," (1 Timothy 5:8)

A primary consideration is the storage of foods. Basic recommendations are made as to the kinds and amounts of food to be stored. There are a lot of varying factors involved, such as locale, availability of products, climate, special diets, the number of family members and their ages. How each one adapts the basic program of home storage is up ta the individual family.

President Harold B. Lee, in a welfare agricultural meeting, October 1, 1966, said,

> "Perhaps if we think not in terms of a year's supply of what we ordinarily would use, and think more in terms of what it would take to keep us alive in case we didn't have anything else to eat, that last would be very easy to put in storage for a year.... and if you think in terms of that kind of annual storage rather than a whole years supply of everything that you are accustomed to eat which, in most cases, is utterly impossible for the average family, I think we will come nearer to what President Clark advised us way back in 1937."

Home storage of food should begin with basic items that will sustain life in an emergency, Later, after these are obtained in adequate amounts, consideration could be given to storing foods that will supplement the basic items. The choice of which foods to store must be based on a consideration of food value and storage qualities.

Proteins, vitamins, minerals and certain fats are essential for the maintenance of good health. Many foods that are adaptable for long storage either lack certain essential vitamins or lose vitamins during storage.

Most families are limited to the amount of income they can spend on food storage. Therefore it is a wise idea to set priorities to assure proper diet and avoid waste. The basic items that will provide adequate calories, proteins, vitamins and minerals without a great expense are:

1. Wheat
2. Powdered milk
3. Honey or sugar
4. Salt
5. Water
6. Daily vitamin supplement

To the basic foods listed above, others may be added according to availability, cost, and individual taste. Those frequently chosen are the dried legumes - peas, beans, lentils, soybeans, which are high in protein and store well, vegetable oils, dried fruits and vegetables, and canned meats and fish. Freeze-dried foods may also want to be included. Foods preserved in this way are more expensive, but store well and retain their vitamin content.

People in mobile situations, such as being in the armed services or enrolled in school, or who have small homes with little storage area, may find it more difficult to store a year's supply of food, clothing, or fuel. This does not release them from the obligation of doing their best to be prepared for an emergency. Often in rather limited space, basic food items such as those mentioned above can be stored. Closets, corners, under beds, or perhaps space made

available by family or friends can be utilized for food storage, it is better to have good storage suffic;ent for a few months than none at a11.

SUCCESSFUL FOOD STORAGE 1S DEPENDENT ON THE FOLLOW1NG:

1. Quality of products. Obtain the top grade whenever possible.

2. Proper containers. Usual1y metal cans or heavy plastic with air tight lids.

3. Storage facilities. Areas that will permit easy access, usabi1ity, and temperature control are best.

4. Temperature. Foods store best from 40-60 degrees F. (Foods may be stored in a higher temperature, but the she1f life diminishes in proportion to the temperature.)

5. Rotation. This is fundamenta1 to a successful storage program in preventing spoi1age and maintain;ng loss of food value and f1avor. ~~Wasted food is money lost.~~

Water reserves need to be considered in a home storage plan. The approximate requirement per personon a two-week bas;s ;s fourteen gallons seven for drinking and seven gallons for other uses.

Acquiring a yearls supply shou1d be done in an orderly and systematic manner, consistant with a family's income. Borrowing money to acquire food storage is not advocated.

START BV MAKING A PLAN:

Things to consider:

1. Make an inventory. What do you a1ready have and what do you need to bring your storage up to a year's supp1y.

2. Invo1ve your fami1y members. Let each member decide what the particular needs of the fami1y are.

3. Make a 1ist and plan how ta acqu;re each item.

4. Expose your family to recipes using wheat and the other items in your storage program.

5. Inc1ude such items as c1othing, fuel for warmth and cooking, first aid items, 1aundry needs and cleaning agents, matches, and personal needs. Also a reserve of bedding.

Care shou1d be exercised in se1ecting items and arranging for storage. Wise budgeting will he1p minimize costs and will permit sav;ngs. It will a1so prevent waste. Rep1enish supplies as they are needed.

5ecurity through the home storage program. can be strengthened . by the observance of further counse1 that 1. we live righteous1y, 2. we avoid debt, 3. we practice thrift, and 4. we have a wi11ingness to work.

A11 members are encouraged to participate in the home storage program in order to provide for their own.

"IT WASN'T RAINING WHEN NOAH BUILT THE ARK"

5TART WITH THE BASICS

ITEM	AMOU NT PER CHILD	AMOUNT PER WOMEN	AMOUNT PER MEN & TEENAGERS
Wheat	70 1bs.	300 lbs.	300 1bs.
Powdered mi1k	100 1bs.	100 1bs.	100 1bs.
Sugar and/or honey	100 1bs .	100 1bs.	100 lbs.
Salt	3 1bs.	5 1bs.	5 lbs.
Water	14 gals.	14 gals.	14 gal s.
Vitamins	365	365	365
	(consu1t physician)		

THEN ADD THESE

ITEM	AMOUNT PER CHILD	AMOUNT PER WOMEN	AMOUNT PER MEN & TEENAGERS
Veg. oi1 & shortening	20 lbs.	25 lbs.	30 1bs.
Variety of Grains (rice, oats, corn bar1ey,millet)	45 lbs.	75 1bs.	95 1bs.
Variety of dried beans (soybeans, peas, 1enti1s)	10 lbs.	20 1bs.	25 1bs.
Peanut Butter	10 1bs.	10 1bs.	10 1bs.
Potatoes	25 1bs.	50 lbs.	75 1bs.
Variety of canned fruits	100 qts.	100 qts.	100 qts.
Variety of canned veg.	100 qts.	100 qts.	100 qts.
Canned meats (tuna, etc)	15 cans	20 cans	20 cans
Canned mil k	30 cans	30 cans	30 cans
Margarine & powd. eggs	10 1bs.	15 1bs.	20 lbs.
Macaroni	5 1bs.	5 1bs.	5 1bs.

AND DON'T FORGET THESE	(AVERAGE QUANTITY FOR 1 PERSON)
Yeast	1 lb.
Baking powder	1 lb.
Soda	2 pkg.
Bouillon cubes or Soup base	as needed
Vanilla	as needed
Herbs and spices	as needed
Soy Sauce	2 bottles
Worcestershire Sauce	1 bottle
Vinegar	12 bottles
Catsup	1 bottle
Mustard	1 bottle
Dried Onions	20 lbs.
Gravy Mixes	6 pkg.
Whipped topping mix	12 pkg.
Dehydrated Cheese	10 lbs.

NOTE: These items are an average estimate. Every family must decide if these amounts are adequate. If not add to them if it is too much, buy less.

STORAGE OF NON FOOD ITEMS

HOUSEHOLD

Kitchen:

Bottles & Lids
Dishwashing detergent
Cleaners
Aluminum foil
Plastic wrap
Wax paper
Sandwich bags
Food bags
Trash bags
Paper Towels
Napkins
Paper plates, plastic spoons, forks, knives
Paper cups
Can and bottle opener
SOS Pads
Baby bottles & nipples
Measuring cup and spoon
Skillet and lid

BATH

Hand soap (15 per person)
Towels
Toilet paper
Kleenex
Deodorizers

LAUNDRY

Detergent
Bleach
Starch
Water softener
Fabric softener
Clothes pins
Lye (for making soap)
Washboard
Lysol

CLOTHING

Buttons
Clothing
Pins, needles
Shoes
Diapers
Scissors and thread

HEAT AND LIGHT

Candles
Flashlights & batteries
Matches
Wood pile

GARDEN ITEMS

Rake and hoe
Shovel

PERSONAL
Toothbrush
Toothpaste
Sanitary Napkins/Tampons
Shampoo
Hand lotion
Shoe polish
Razor blades
Shaving iotion
Razor
Deodorant

EMERGENCY ITEMS
FirstAid Kit
Emergency pack

GARDEN ITEMS (cont.)
Seeds
String
Water Hose
Naïls
Hammer

MISCELLANEOUS
Light bulbs
Insect repell ent
Radio
Nuts, bolts, screws
Tool kit
Tent
Sleeping bags/bedding

NOTE: These items will also vary depending on family requirements. Use this list just as a basic guide.

TIPS ON STORAGE

1. Test all products before purchasing large quantities for storage. If you don't like a product, or you can't eat it, it will do you no good to have it on hand.

2. Purchase basic items first. Then add supplimentary items, and then the frills, if you desire.

3. Don!t forget to include in your storage plan the supplies that you have on hand for current use.

4. Inspect your storage frequently te avoid costly losses from insects, rodents, rusting cans, water .seepage into storage area, or other causes.

5. Avoid dented or rusted cans regardless of cost. These should never be purchased for storage.

6. Many sale items may be old stock being cleared for the new. Allowances for the time already stored before purchasing, must be made in determining the shelf life of the product.

7. Can all fruits and vegetables possible.

8. Keep food stores dry, cool, and sealed away from air as well as possible, but do not allow canned or bottled foods to freeze.

9. Factory-canned products that are "bul ged" (full of fermentati on gas) should be destroyed. Factory-canned peas or beans and home-canned or bottled peas, beans, corn, and meats ought to be heated in an open kettle at bofltng temperature for 20 minutes before serving.

10. Grains such as wheat, rice, and oats ought to be c1ean, free from insects or their eggs, before storage in c1ean containers with airtight 1ids.

11. Baking powder shou1d be kept on hand in original metal containers. Baking soda should äl̈so be kept on and, but repack it in meta1 or glass containers and sea1. (not heat)

12. It is we11 to have a root ce11ar for the annua1 storage of potatoes, app1es, carrots, and cabbage.

13. There is certain1y no objection to the co1d storage of meats and vegetab1es in deep freezers. However, sorne factory canned or home bott1ed meat shou1d be stored anyway.

14. Sorne food items do not need a cool place, sugar, jello, and sorne dehydrated foods. If space is a prob1em, these may be stored in warmer areas of the house.

15. It is important to label a11 containers with contents and date.

16. Large cans of yeast shou1dbe divided into sma11er amounts in bott1es. Store n refrigerator, or freezer.

17. Honey may be put in glass jars. Leave a 1itt1e space for expansion.

The following items shou1d be used up in one year because they do not store well: Cranberry sauce, pickles, saurkraut, pumpkin, sweet potatoes, and such'vegetab1es as asparagus, beans, beets, brusse1 sprouts, cabbage, cau1iflower, carrots, spinach.

Wheat — P1ease see section on wheat for storage.

Flooding in Storage Areas — If there is a flood in the basement or area where your food and wheat is stored you shou1d do the following, as flood water will contaminate the wheat and other stored foods. If water has gone above the lid or has 1eaked inside through a seam, then the wheat is ruined. If the water is on1y part way up the can, then the wheat shou1d be alright if you steri1ize the can by scrubbing it with Lyso1 water and drying it. You will a1so have to scrub your food storage area with Lyso1 water.

Canned Fruits — Fruits are the easiest to store but they do not have much food value. The three best fruits to store, in order, are: Pineapp1e, Grapefruit Sections, Peaches.

Pineapp1e — It ripens 1ike a banana, it ripens on the end first. It is canned green or not quite ripe. It ripens in the can. When it is two years old in the can it is at its neak. The slices is the best to store.

Grapef. Sect.	This is one of the best sellers and the least one that reacts with the can.
Peaches	These store excellent.
Juices	Grapefruit and orange juice do not store well. They react with the can. Do not store over one year. The three best juices to store are tomato, pineapple and apricot. These will store for three years. Grape juice in a can should be used within one year because the odor of the can will get strong in the juice, although it won't hurt to drink it. Tang is good to store because it has added Vitamin "C". Do not put tang in hot 'water because it destroys the Vitamin "C".
Vegetables & Soup	Soups store well except for clam chowder. Most vegetables do not store well, especially squash, beets, and beans. The best vegetables to store are peas and corn. Peas will store for 2 years and corn for 4 or 5 years. Soups will store for 4 or 5 years also. anion flakes hermetically seaied will store for 4 or 5 years.
Spices	Do not store well, they go wormy. Sage stores the best of any spice.
Canned milk	Canned milk will keep for only one year. Turn the cans over every two months and keep them rotated by using the oldest and replacing the cans.
Baking powder	The best kind tô store is Royal Baking Powder; it is made from grapes and cream of tartar. Read on the box to see what the ingredients are.
Milk	All milks contain the same nutrients. Powdered milk is the same; it just has the fat removed. Soybean milk is also the same. Milk is very nutritious and everyone should eat or drink milk products. Alot of broken bones that don1t heal properly, especially in older people, are caused because the bones are not strong and are lacking in calcium. Whole fat in milk cannot be broken down, making it impossible to make instant whole milk. Powdered whole milk, hermetically sealed, will store for 5 or 6 years. Nonfat milk not sealed, will keep for only six months. After six months the flavor will diminish. You should store enough milk to allow each person in the family 2 glasses of milk a day. There are 10 glasses to each can of powdered whole milk and 60 glasses to one case of milk.

Honey	If you store pure and good honey it is impossible for germs to grow in it. Honey is a pure food if it is properly canned. Never melt honey down more than once; It will deteriorate the honey. Do not refrigerate honey as this will deteriorate it also.
	If you buy honey in a 5 gallon can then put it into smaller,bottles. MAKE SURE THAT THE BOTTLES ARE CLEAN AND DRY. Any water in the bottles will ruin your honey. When you buy honey make sure that the containers were not wet when the honey was put in; ask about it. "Do not buy honey :that has been watered down.
Powdered Sugar	You can make powdered sugar by putting small amounts of white sugar in your osterizer. (It must be an osterizer- not a blender) Powdered sugar is just plain sugar filled with air.
Sugar	100 pound bags will store for about one year. For long storage store sugar in 10 pound bags and knead them every 3 months to keep them from going hard.
Raw & Brown Sugar	Brown and raw sugar can be bought in 100 pound bags and put in glass jars and sealed. It will keep this way for about 2 years.
Soda	Store soda in sealed glass bottles. It will keep indefinitely this way. Keeping it in boxes it will go wormy.
	Use 1/2 tsp. salt and 3/4 tsp. soda for a toothpaste.
Salt	Store only iodized salt. Thè soil in this area does not have iodine in it. The iodine in the iodized salt will deteriorate in one year. so just keep salt one year. Sea salt will store indefinitely if in sealed glass jars. Keep some non iodized salt in storage for canning.
Soap	Store cold water soap. Sudsless soap and cold water soap is the best.to store. Soap that is for hot water has a lot of chemica 1s added. Borax, Red Fluffy, and Sweetheart soap store well. Liquid dish soaps deteriorate- store only powdered.
Bleach	All liquid bleach will deteriorate.. Store only powdered bleach because it will store indefinitely.
Sanitary Napkins	These store well and should be stored. They can also be be used for sterile wide bandages.

Toilet Paper	Do not buy moisturized toilet tissue, it has lanolin or grease in it to soften it. This causes it to deteriorate. Put the toilet tissue on the roller and pull it. If it breaks off then don't buy it. The cheaper grade of tissue is the best to store. Check on the package to see how many squares to the roll so as to get the most for your money. Zee is a good brand to store.
Margarine	Store at 65 to 70 degrees and it will store well if there is no butter fat in it. Use only a vegetable fat margarine. Blue Bonnet is a good kind. Margarine can be frozen also, and when it is put on the shelf you start to count the storage time from then. The crusty or white substance is just the salt coming to the surface.
Tapioca	This stores well. Insects do not infest the hard shell. This can be used for thickening or used for puddings.
Baby Foods	The glass bottles will store 2 1/2 years. The cans store the best. The baby food is good because the canning of it is government controlled. Dietetic foods are government controlled also.
Meats Tuna Fish	Store only the oil base or oil packed tuna. Do not store water packed tuna. Del Monte is the best tuna to store. Cheap tuna will go mushy in one year, and it will be hard to eat because it does not taste good. Tuna will store for 4 to 5 years at 65 degrees.
Salmon	This does not store because it is packed in water.
Chipped Beef	This does not store well at all.
Corned Beef	Corned beef will react with the can so do not store over one year.
Spam	This stores very well. There is a spam that has a ham taste. Put one can of spam with small white navy beans after theyhave been cooked, add onions and you have a nice meal.
Vienna Sausage	These do not store well, they are packed in water.
Lemon Flav.	It loses its flavor when you cook it, so add it after cooking food.

Bacon Bits	This will go wormy, so store on1y 1 year. The bacon bits that perma pak have are artificia1 but taste very good. BE CAREFUL WHEN VOU BUV MEATS. SEE IF THERE IS A RED LIGHT SHINING DaWN ON THE MEAT TO MAKE THEM LOOK A REDDER COLOR. Some cheap hamburger cou1d have a fi11er in it.
Frozen Meats	Morton Salt Company has a kit which contains a book1et and a need1e and salt and tells you how to cure your frozen meats. Vou can save your meat in the event of a long power fai1ure or a freezer breakdown. The cost of the kit is about $3.50.
Dried Beans	Dried beans are hard to store. The older they get, the harder they become and the longer it takes to cook them. Do not store beans and forget them, they have to be rotated. After they get so old they will no longer cook tender. Chili and red beans can go wormy; the sma11 white navy beans are the best ones to store. Beans have moisture content and this can cause them to spoi1.
Rice	Rice can go wormy so put it in a good container or bott1e to store it. Thè church has found that it does not store we11 and has taken rice off the food storage 1ist. This is on1y white rice.
Shortening	Crystal shortening is the best to store. Shortening will store for 3 to 4 years on the she1f. Store on1y a vegetab1e shortening and one that is in a can. When you open a can of shortening and see a crack in it; it is a cheap brand and will not store we11. Oi1s do not store we11. Sa1ad dressing will not store we11. Do not put oi1 or any oi1 product in the refrigerator.
Eggs	Do not buy cracked eggs or low grade eggs. A1ot of bowe1 diseases come from bad eggs. Fresh eggs in the refrigerator will 1ast for 2 months. Do not buy eggs that have been sea1ed because they have been stored. A1ways start with co1d water to boil an egg to prevent cracking.
Cans	When you open a meta1 can the air gets to the meta1 and oxidizes it and this oxidation f1avors the food. Hermetica11y sea1ed f1our shou1d be 1eft open to air when opened, then the f1our will not taste of the preservatives.
Aspirins	Aspirins increase in potency as it is stored. so be careful how much you take. If you can break an aspirin by squeezing it between your two fingers it is a cheap aspirin and shou1d not be stored. Store on1y the better grade aspirins.

INTERESTING THINGS TO KNOW:

Boxes — It is best to keep all canned foods in their cardboard boxes. Keep only one case of each food open on the shelf at a time. The cardboard box helps to absorb any moisture that could be in the can. If there is too much moisture, the cans can sweat and get water beads on them. Keep your cans dry.

Salt — Salt slows down the cooking process, keep salt out of your food; it will cook alot faster. Add it later after your food is done cooking.

Jello — Jello is good to store but it does not have very much food value. Do not buy jello that is on display by the flour and cereals. Flour and cereal get weevil in them, it could get into the jèllo and ruin it. When storing at home watch that you do not store the two together. Jello is a natural sugar and will store for years.

Chocolate — Chocolate goes white because of the wax that is used in it. The white is the wax. Cocoa does not have wax in it. Hersheys dark brown cocoa can is the best cocoa to buy.

Potatoes — Store dry potato flakes that you can buy from Meadow Gold Frozen Food. They are called "Spudniks" and are partly cooked potatoes, this will store for 50 years if unopened or it will be good for 6 months after it is opened. You can store these to use as yeast also. Other potatoes won1t work for yeast. About the only food value of a potato is the skin so it is best to bake them and eat the skin. All canned dry potatoes store well.

Yeast — The canned yeast in the big.cans will store for 6 months and still be good. After that you have to increase and use more yeast in your recipes. Keep on hand at least 6 pkgs. of yeast well under expiration date.

Save your soup and vegetable juices, etc., and put in ice trays and freeze. This is usually good flavored and has vitamins. You can put cubes in food to cool it or just eat them cold.

HOW TO STORE

TEMPERATURE: The ideal temperature for a food storage room is between 50 and 60 degrees and not over 68 degrees. The colder the room the more storage time you get. Insulate walls and ceilings. All foods last longer in cool, dry and dark rooms.

CONTAINERS: Because it can be made airtight, a metal can with a lid that seals is the best container in which to store food products. The best kind of lid is called a "paint lip lid", the tight fitting kind such as is used on a paint cano The contents will be kept away from light.

When using the metal cans with lids that fit over the top use a sticky tape to seal the lido

Plastic containers work well, however they do let in a little light. Use the round ones as square ones need several inches space on all four sides to allow heat to escape.

Gallon jars with tight-fitting lids are good for sorne storage, if they are kept in the dark. A gallon jar will hold five to six pounds of beans, or grain or three to four pounds of noddles.

PLASTIC BAG LINERS: If storage containers are clean, there is no need for plastic bag liners. If the container is airtight, plastic liners are an unnecessary expense. If a can has an oi1 film in it that cannot be washed out, use a plastic liner that is designated for food.

DRY ICE: Many items can be purchased in bulk, at a good savings, and stored at home with dry ice. Dry ice is nontoxic to you and to the food, but caution must be used in hand1ing it to avoid burns. You should wear gloves or use foi1 paper to hand1e it.

Dry ice is solidified carbon dioxide. At room temperature dry ice placed in the bottom of a container filled with grain or other storage food disappears, leaving carbon dioxide gas which forces the air and moisture out of the container. Insects will suffocate in this inert atmosphere, but this procedure does not kill any eggs in the food.

Use about 14 oz. for 100 lbs. of grain. Put about 2 inches of grain in the bottom of the can, drop in the ice, and fill the container with the rest of the grain. Do not secure the lid until all the dry ice has evaporated. Don't get impatient. Do not use dry ice in glass containers. The pressure might cause the glass to explode.

The following is a list of some items which can be stored in dry ice:

Rolled oats
Wheat, rice, whole grains
Lentils, beans, peas
Soup mix
Dried corn
Macaroni & spaghetti products
Noodles
Flour
Sugar

SHELF LIFE OF FOODS: The life of these foods is figured on the basis of an IDEAL storage room with the temperature no more than 65 degrees and on the fact that the room is dry, and dark unless otherwise stated.

FOODS	HOW TO STORE	SHELF LIFE
Wheat	airtight, sealed metal, dry ice	indefinitely
Flour (whole wheat)	airtight, sealed metal, dry ice	1 year
Flour (white)	airtight, sealed metal, dry ice	2 years or longer
Nonfat dry milk	airtight, sealed metal at 40^0	2 years
Dry milk in cans		4 years or more
Evaporated milk	rotated every few weeks	1 year
Sugar	airtight container	indefinitely
Honey	sm. containers, tight lids	2 years or longer
Salt	in cartons	indefinitely
Spices	in 19. cans-whole, not ground	indefinitely
Water	in glass or polyethylene contain.	indefinitely
Margarine	in fridge or freezer	6 months-1 year
Margarine	at storage temperature of 60^0	2 months
Shortening	hydrogenated or stabilized	3-4 years
Soda	put in glass bottles	indefinitely
Baking powder		expiration date
Canned soup	rotate regularly	several years
Peas and corn		
Beans, beets, carrots, tomatoes		3-5 years
Grapefruit, cherries, berries, plums, rhubarb, orange jc.		1-2 years
Peaches, pears, apricots, applesauce		2-3 years
Freeze dried and dehydrated foods		5-10 years
Cheese (hard)	refrigerated, tightly wrapped	2 years
Cheese (soft)	if processed and in refridgerat.	3-6 months

Eggs	frozen out of she11	1 year
Eggs	in water glass	1 year
Eggs	dried	2 years

Store everything away from cernent. Stack on wooden p1anks or she1ves. If you have to stack goods on the f1our, 1eave the cans in the cartons to absorb moisture.

If it is possible, have the storage room on the north-east corner of the basement. It shou1d be dry a11 seasons of the year, and free from steam, hot air, water pipes and heat of any kind, and c1osed off from the"rest of the house.· Under these conditions the average temperature will be between 50 and 60 degrees F, the temperature at which most foods will retain their maximum keeping qua1ities.

Make sure any storage area is proper1y insu1ated, and has good crossventi1ation. A fan may be insta11ed to insure adequate air circulation.

The size of the storage room depends on the fami1y size and your food habits. Usua11y a l0' by l0' square and 7' high room with proper arrangement is large enough for a fami1y of 8 to l0 people.

UNDERGROUND CELLARS

Halls and roof must be strong to support weight of earth over the roof. Stone and masonry b1ock in combination with concrete can be used. Concrete is better. Dirt f1oors shou1d be maintained because they he1p to insure proper humidity. The who1e structure except the door, shou1d be covered with soi1. Wire screen over the outside ends of air intakes and venti1ators keep out birds and sma11 anima1s.

PARTLY UNDERGROUND CELLARS

One type of ce11ar that can be used in co1der parts of the country has wa11s of masonry that are part1y underground. Soi1 is banked around three wa11s and one wall is 1eft exposed for an insu1ated double door. If you have more than one storage compartment an air in1et and venti1ator are needed for each.

PITS

Cone-shaped outdoor pits are often used for storing potatoes, carrots, beets, turnips, parsnips, and cabbage. They are sometimes used for storing winter apples and pears.

Spread a layer of straw, 1eaves. or other bedding material on the ground. Stack the vegetab1es or fruits on the bedding in a cone-shaped pile, do not store vegetab1es and fruits in the same pit. Cover with more bedding. Cover entire pile with 3-4 inches of soi1. Firm soi1 to make it waterproof. Dig a sha1low drainage ditch around the pit.

Tt is difficult to remove vegetables and fruits from cone-shaped pits in cold weather. Once it is opened its entire contents should be removed. For these reasons construct several small pits rather than one large one. Put different vegetables in each pit, or store several small amounts of different kinds of vegetables in the small pit, separating them with straw or leaves.

NOTE: The dampness of outdoor pits encourages decay and it is not recommended for sweet potatoes, pumpkins, squash, onions or peppers.

BARRELS

A wooden barrel placed on its side and covered with straw or soil.

APPLIANCES

An old refridgerator or freezer buried in the ground with its door facing upward can be used. THIS CAN BE A TRAP FOR SMALL CHILDREN PLAYING NEARBY, PLEASE TAKE PRECAUTIONS!

STRAW

One of the least expensive and easiest constructed storage areas can be constructed out of baled straw. Simply place the baled straw in a rectangular shape, securing the corners to prevent separation. Place vegetables in the center and cover with loose straw at least a foot thick. Protect against water damage by covering with a canvas, visqueen, or other waterproof material. The pit can be made larger or deeper simply by adding additional bales.

STORAGE IN A SMALL APARTMENT OR HOME

There is usually some wasted space in any home that can be utilized for the use of storage.

1. Under the bed, several cases may be stored. You may have to cut the boxes in half to fit.

2. Several cases can be placed along a wall, stacked on one another and then covered with a throw cloth. Lamps, books, or other items can be placed on top.

3. Closed floors can be utilized very well. Line floor with brown paper and stack items.

4. Wheat cans can be used as side tables in many rooms.

5. Often an additional shelf can be built in every closet in your home.

6. Utilize the closet space in your childrenls room also. Their toys can be kept in shallow plastic swimming pools which will fit under the bed.

7. Potatoes and apples can be stored in a cardboard box that has been placed in a larger box with crumpled newspaper pushed between the smaller and larger boxes for insulation. Cover top of box with an old balnket and several newspapers tied together. Keep in a shed or garage to shelter.

8. Carrots can be stored in a wood container. Put sand in bottom, then a layer of carrots, a layer of sand, etc. Keep in a shed or garage.

9. Place the sofa twelve to fifteen inches from wall and stack boxes behind-it. .

10. Use No. 10 cans filled with supplies to support the shelves of a bookcase.

11. Under kitchen and bathroom sinks there is often space to store cleaning and laundry supplies. BE CAREFUL WITH SMAll CHIlDREN AND SECURE THE CUPBOARD DOORS.

Plan carefully items you use and need.

Plan to keep items in the coolest places. In the winter store on outside walls. Do not store by heat vents or pipes.

With good planning you can gain a good variety of storage items without going into debt.

OUTDOOR STORAGE CEllARS AND PITS

Outdoor storage cellars can be constructed partly or entirely below ground. Cel1ars constructed be1ow ground are better because they maintain a desirab1e temperature longer and more uniformly than ce11ars above ground.

They may be attached to the house or 1ocated in your yard.

COlD STORAGE OF FRESH PRODUCE

Long term storage for many products required 10w temperatures of about 32 degrees F. Whi1e inabi1ity to maintain a temperature near 32degrees F. does not prevent the use of home storage, it does shorten the 1ife of the products.

In addition, without proper moisture in the air the stored product will shrivel, 1ose qua1ity, and eventually become worthless. Fruits-and vegetab1es vary in rate of moisture loss and have to be hand1ed according1y. Note, however, that a11 need ventilation when stored. The following table gives the basic storage conditions for common fruits and vegetables.

RECOMMENDED STORAGE CONDITIONS AND LENGTH OF STORAGE PERIOD FOR FRESH PRODUCE

VEGETABLES OR FRUIT	TEMPERATURE	HUMIDITY	STORAGE PERIOD
Tomatoes (mature green)	55-70° F.	Med. Dry	4-6 weeks
Pumpkins, squash and sweet potatoes	55-60° F.	Med. Dry	thru fall and winter
Various Root crops and celery	35-40° F.	Med. Moist	thru fall and winter
Late Cabbage	cold*	Moist	thru fall and winter
Apples	cold*	Med. Moist	thru fall and winter
Pears	cold*	Med. Moist	thru fall and winter
Peaches, plums, and grapes	cold*	Med. Moist	thru fall and winter 2-6 weeks during fall & Wint.
Onions	cold*	Dry	thru fall and winter

*Cold indicates a temperature as near 32° F. as possible, but not lower.

NOTE: Fruits and vegetables should not be stored together because certain ones absorb undesirable odors. All of the fruits recommended for home storage can be stored together. Cabbage, turnips, and rutabagas should be stored separately because of the undesirable odors given off. All other vegetables that keep best near 32° F. can be stored together.

CONTROLLING HUMIDITY

The use of plastic bags and box liners is the simplest and most effective means of maintaining proper humidity for storage of most fresh produce; moisture lost from the produce is retained in the plastic bag, thereby increasing the humidity. A few 1/4" to 3/8" holes should be cut in the side of the bags or box liners to permit ventilation and should be made in the bags and the bags should be left untied. For moist humidity, make only about 4 holes in the bag (For moist humidity the bag may be tied.)

SQUASH AND POTATOES

Squash and potatoes grown in home gardens should be cured before storing. Potatoes are cured by holding in moist air at 60-75° F. for 1-2 weeks. Sweet potatoes and squash should be cured for 10 days at 80-85° F. Sweet potatoes should be kept in moist air. Curing can be done inside if it is too cool outside. Pumpkins and squash keep best if a portion of the vine is left on when harvested and throughout the storage.

In storage, moisture should not be allowed to collect on potatoes and they should be stored in the dark to prevent greening of the skin.

ROOT CROPS

Root crops shou1d be dug up when the soi1 is as dry as possible. The tops shou1d be cut about *1/2"* above the crown. The roots can be washed, provided the surface moisture is evaporated before they are stored. Continued storage at 450-F or above causes the roots to sprout new tops or to become to woody.

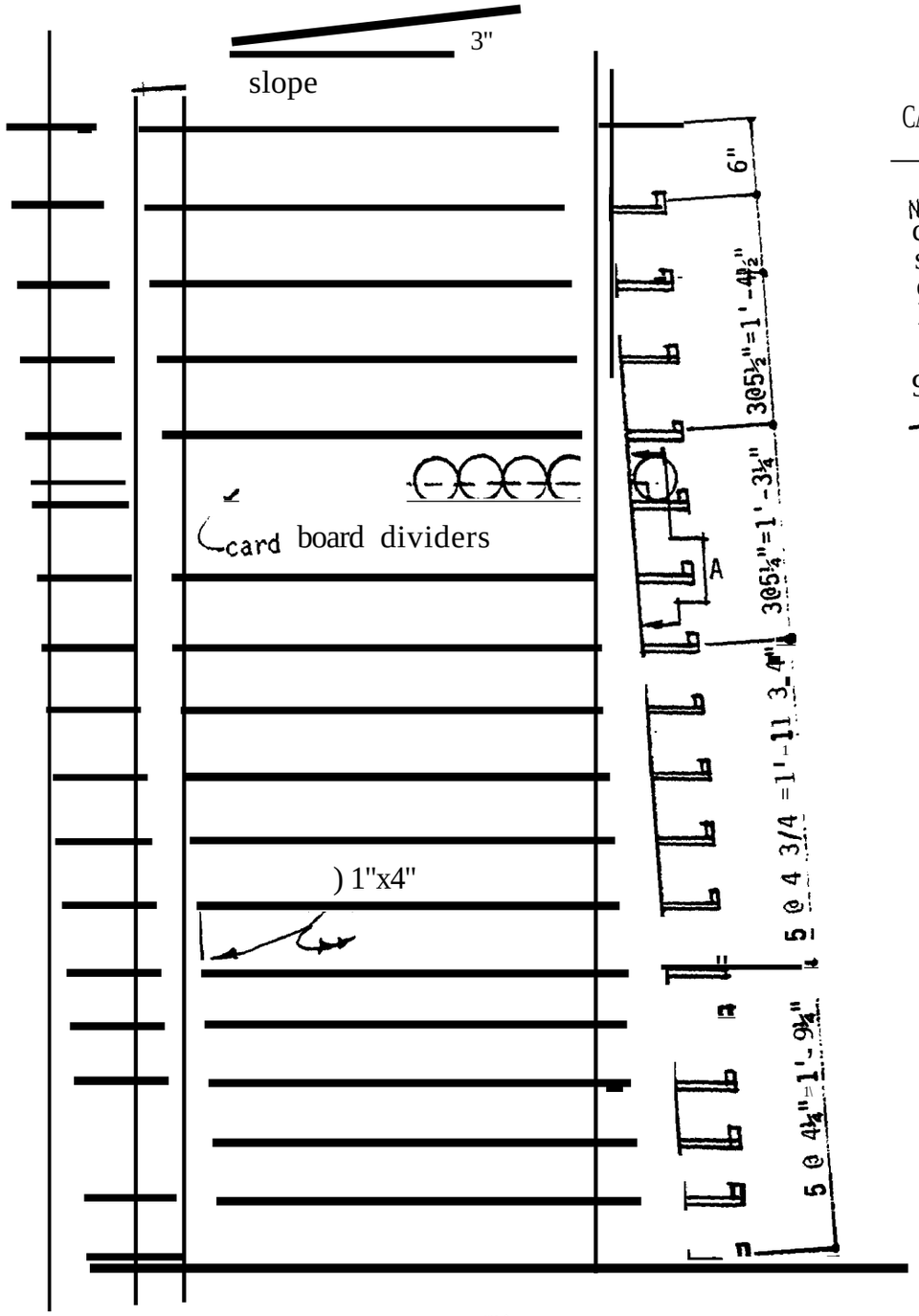
APPLES

App1es ripen about 4 tirnes faster if stored at 50^0-F than at 320-F. Therefore un1ess refridgerated they wou1d on1y keep 1 to 2 rnonths in the coasta1 areas. Some farni1ies keep boxes of app1es and other produce which reouire near freezing ternperatures in an old (but operative) refrigerator in the garage.

CITRUS FRUITS

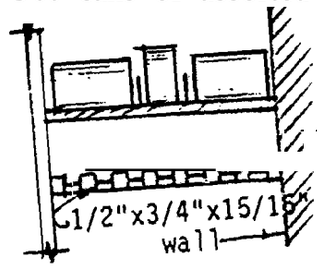
Citrus fruits shou1d be stored at ternperatures as close to 32^0 F as possible, but not 1ower.

FOOD S10RAGE SHEIVES

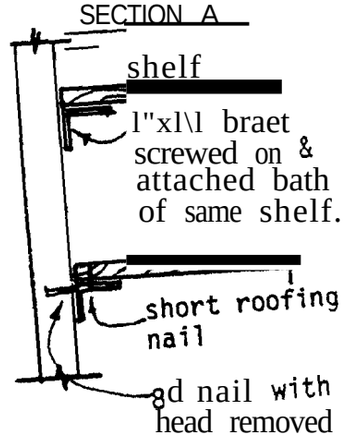


CAN S10RAGE SHEIVES

Notes: Place cans at rear of shelves. Remove cans from f'Cont. Date rear can with crayon.Capacity, up to 900 cans of assorted sizes



SECTION A



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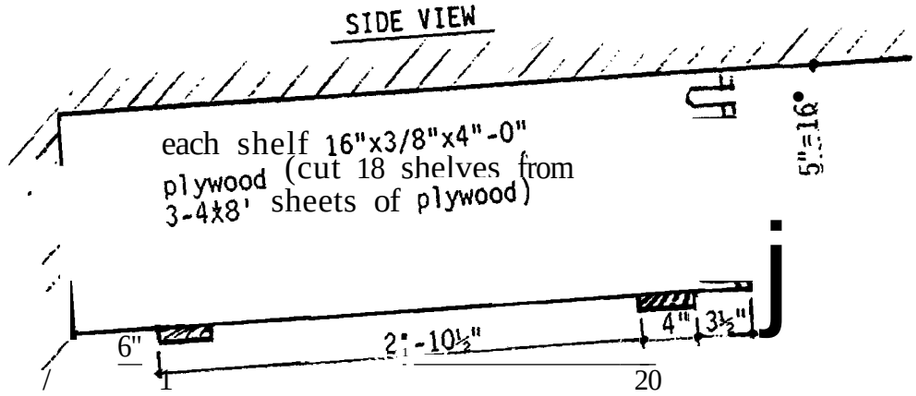
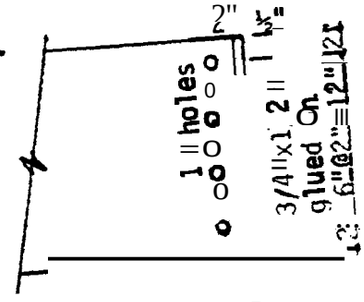




ALTERNATE END

WHEAT

Wheat is the oldest most basic food of a11 times and has been for centuries regarded as 'The Staff of Life". Wheat can be stored in fat years to feed people in lean years. It will keep indefinite1y when proper1y stored.

SEVERAL REASONS FOR STORING WHEAT

1. ECONOMICAL: It is one of the 1east expensive items to store.

2. EASY TO STORE: It stores indefinite1y if proper1y stored.

3. NUTRITIONAL VALUE: It's one of the most highly rated foods from the standpoint of a biologica1 value. It contains 28 vitamins and minerals, protein, fat and carbohydrates.

4. VARIETY OF WAYS TD PREPARE: You can use it as a base for many main dishes, casseroles, all kinds of breads, desserts, roasted or popped for snacks and sprouted for salads. You can use it who1e, cracked or grind it into flour. And you can separate the various parts and get gluten for main dishes, bran for baking and cereals, and starch for thickening agents.

VARIETY

The best varieties for storage are Dark Hard Winter Wheat (Turkey red) or Dark Hard Spring or Marquis Wheat. Make sure you buv qood, c1ean insect-free wheat, that is 10% or 1ess moisture and 12-15% or more protein content for best nutritional value.

The moi sture content is very important in storing wheat. Fresh crop wheat may have a moisture content of 14-16%. It is best to store wheat that has 10% or 1ess moi sture content. A 1ow moi sture content inhibits insect infestation. If moisture content is above that, the wheat shou1d be dried out, either by heating smal1 amounts at a time in a sha11ow pan in a 150 degree oven to 1-2 hours, or by air drying it.

STORAGE

Wheat will keep indefinite1y without nutritional loss if it is

kept at 65 degrees F. or cooler and with moisture 10% or less. Store wheat in a dry place up off the cement floor, as wheat will draw moisture from the cement. Round metal or plastic containers have been most satisfactory. One 5 gallon container will hold about 35 lbs. of wheat. Square cans stacked side by side, will not let the heat from the wheat escape, so allow at least four inches on all four sides of the cans. This will keep the cans from sweating and increasing the moisture content of the wheat.

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 on1y enough wheat for use in one weekls time.

Don't try to go on who1e wheat a1l at once because the digestive system cannot normal1y adapt immediately to the change. Get accustomed to wheat by using ha1f whole wheat and half white and gradually work up to using it 100%.

Make your adventure into who1e grain cooking and baking an experience which will result in many enjoyable and de1icious as well as nutritious dishes that your 1oved ones can enjoy.

A WISE MOTHER WILL START HER FAMILY ON THESE NUTRITIOUS GRAINS NOW!

RECIPES USING WHOLE WHEAT

STEAMED WHEAT

1. Use a large kett1e
2. Place a rack or tuna can with bottom and top cut out and holes punched around the sides, in bottom of kettle.
3. Place a sma11 pan on the rack in the large kett1e.
4. Put in sma11 pan: 2 cups who1e wheat, 3 cups water, 1/2 tsp. salt.
5. Put water in large kett1e to top of rack.
6. Cover kett1e and bring water to boi1, turn heat down and steam for 3-4 hours, or unti1 wheat has absorbed water.

Store steamed wheat in a refrigerator. Use it up in about 2 weeks time. It can be a substitute for rice or macaroni dishes.

-CASSEROLE WITH STEAMED WHEAT

2 cups steamed wheat
l lb. hamburger
2 cans tomato soup
1 can mushrooms
l med. onion chopped
1 med. green pepper chopped
salt and pepper
1 cup grated cheese

Brown hambunger, onion and green pepper. Add steamed wheat and tomato soup and mix well. Salt and pepper to taste and top with grated cheese. Bake at 350 degrees, for 35-45 minutes.

MONTEREY SUPPER

3 cups steamed wheat
3 med. zuccini, sliced and par boiled
l large tomato
l lb. monterey jack cheese
l Tbsp. chopped parsley
l tsp. garlic salt
2 Tbsp. chopped green pepper
2 Tbsp. chopped onion
l 7 oz. can green chiles
2 cups sour cream
l Tsp. oregano

Remove all seeds from chi1es and chop. Mix sour cream with al1 ingredients except zuccini, chèese, wheat and tomato. Grate cheese, a1ternate 1ayers of wheat, zuccini and sour cream mixture. Top with sliced tomato and more grated cheese. Bake at 320 degrees for 30 minutes.

FRUIT SALAD

4 bananas
3-4 diced app1es
1 can chunk pineapp1e
l can mandarin oranges
1 cup steamedwheat
1 can fruit cocktail (if desired)
1/2 pkg. miniature marshma11ows
1/2 cup raisins
1 cup whipping cream

Mix a11 ingredients together. Fold in whipped cream. Serve. You can use any combination of fruit.

BULGUR

Bu1gar is a food made from wheat. It may be eaten at any meal--breakfast, lunch, dinner and snack times. It can be eaten a1one, or mixed with fruits, vegetab1es, sa1ads, meats, or fish and it can be eaten boi1ed, roasted, fried, or baked.

Bulgur is processed by boiling whole grain wheat, drying it, removing some of the bran partic1es and cracking the kernel, to sma11, medium, or even 1eft who1e. It depends on your needs.

Because of the pre-cooked and dried condition, the bu1gur kerne1s are quite hard and crysta11ine and may be stored for much longer periods than other cerea1s.

It cooks up in the same manner as rice. If no fuel is avai1ab1e bu1gur can a1so be eaten uncooked by soaking it in safe water for severa1 hours. It will double its dry volume upon cooking or soaking.

SERVE BULGUR IN MANY WAYS

Add to soups, stews, or other meat and vegetab1e combinations.
Eat it as a cereal iust add mi1k and sugar.
Add it to fruit or add fruit to it.
Eat it hot or co1d.

Mix it with dry beans, cooked fish or Meat.
Add cheese to it.

Make bulgur using the same directions as for steamed wheat. After it is cooked, spread the wheat thinly on a cookie sheet or shallow pan and dry in the oven at 200 degrees until it is very dry. Wet surface of dried wheat slightly and rub kernels between hands to loosen and remove chaff. Crack wheat in a Mill or use it whole.

It can be a substitute for rice, macaroni, or bean dish.

RECIPES USING BULGUR

BEEF VEGETABLE SOUP WITH BULGUR

Simmer together 2-3 hours:
- 2½ quarts water
- 1½ lbs. beef neck
- 1-2 lbs. beef knuckle bones

Remove Meat and bones and skim off all fat:

Add:
- 1 cup bulgur
- l cup diced carrots
- ½ cup chopped onions
- l cup diced celery
- ¼ cup snipped parsley
- 2-3 tsp. salt
- ¼ tsp. pepper
- 1/8 tsp. powdered cloves

Cover and continue cooking until vegetables are tender, 15 - 20 minutes. Remove Meat from bones, dice and return to soup mixture.

Stir in:
- l can condensed cream of mushroom or tomato soup

Heat to boiling. Serve.

MEXICAN BULGUR CHILI

Heat in heavy skillet:
- 2 Tbsp. salad oil
- l lb. lean ground beef
- 3/4 cup chopped onion
- 3 cloves garlic, minced

Saute over moderate heat until onions are lightly browned.

Blend in:
- 1 cup dry uncooked bulgur
- 1½ Tbsp. chili powder
- 1½ Tbsp. flour
- l tsp. salt
- ¼ tsp. pepper
- ½ tsp. oregano
- few grains cayenne pepper
- 5 cups beef stock
- l cup tomate puree

Cover and simmer over low heat for about l hour, stirring occasionally. Makes 4 to 6 servings.

BULGUR PANCAKES

1 cup cracked wheat bulgur (soaked 2 hours in 1¼ cups water)
2 cups f1our
2 tsp. salt
1 Tbsp. baking powder
2 Tbsp. nonfat dry milk
2 Tbsp. sugar
¼ cup cooking oi1
2 cups water

Stir the bu1gur, f1our. salt, baking powder, dry mi1k and sugar together. Add oi1 and water and stir unti1 smooth. Drop by spoonfu1s onto a hot greased gridd1e, or pan. Cook slow1y unti1 the pancake is covered with bubb1es, turn and cook unti1 the bottom is we11 browned.

Serve with hot butter and syrup.
Serve ro11ed with fi11ing of cooked meat, cheese or vegetab1es.
Serve with hot cheese sauce or tomato sauce.

RECIPES USING WHOLE WHEAT rLOUR

WHOLE WHEAT BREAD

Set aside in smal1 bow1:
2 Tbsp. yeast in *1/2* cup warm water.

In mixer:
5 cups hot water
2/3 cup oil
2/3 cup honey
2 Tbsp. salt
7 cups f10ur

Mix thorough1y, add yeast mixture and continue mixing. Add 5-6 cups more f1our until dough pulls away from the bow1. Knead about 10 minutes. Shape into 1oaves and put in greased pans. Let rise unti1 not quite double about 25-30- minutes. Bake at 350 degrees for 40 minutes.

WHOLE WHEAT FRENCH BREAD

1 pkg. dry yeast
2 cups warm water
2 Tbsp. raw sugar or honey
1½ tsp. salt
2 Tbsp. oi1
4 to 4½ cups sifted whole wheat flour
Me1ted butter or margarine

In a large bow1, sprinkle yeast into 2 cups warm water, stir until disso1ved. Add sugar, salt, oi1 and honey and stir we1l. Add sifted f1our and mix we1l. Coyer bow1. Work through dough with spoon or dough hook at ten minute interva1s for five consecutive times. Turn dough ante 1ight1y f1oured surface and divide in ha1f. Shape into two ba11s. Let rest ten minutes, covered wtth towe1. Roll each ba11

into a 12" by 9" rectangle. Then roll finn1y as for jelly roll. Starting with the long side. Sea1 edge. Place ro11s on we11 greased baking sheet which has been sprink1ed with corn mea1. Make six diagonal slashes across top of each roll. Brush with co1d water and let rise unti1 a1most double in bu1k. Brush again with water. Sprink1e with sesame seeds. Bake at 375 degrees for 35-40 minutes. Brush with me1ted butter whi1e warm. Makes 2 10aves.

24 Hour Who1e Wheat Bread

18-20 cups who1e wheat f1our
3 cups powdered mi1k
4 Tbsp. yeast, disso1ved in 1 cup co1d water
3 Tbsp. salt
2/3 cup shortening
2/3 cup honey
9-10 cups co1d water

Sift f1our and powdered mi1k together in large mixing bow1. Make a we11 in center by pushing to the outsides. Add shortening, honey, salt and co1d water, using an e1ectric beater. Mix in f1our gradua11y unti1 center of container has soft dough. Continue to mix with mixer for 5 to 10 minutes. Add yeast and mix in enough more f1our to make the dough stiff. Remove mixer and continue mixing f1our in by hand. Knead unti1 f10ur is worked in and dough is firm. Refrigerate immediate1y. Punch down once or twice as necessary. Remove from frige, mo1d into 1oaves and put in greased pans. Let rise 4 to 8 hours. Bake at 400 degrees for 10 minutes. Reduce heat to 340 and bake another 35-40 minutes. '

'COFFEE'SWIRL

Basic sweet dough:

1 cup mi1k
¼ cup shortening or oi1
¼ cup sugar or honey
1 egg
1 pkg. yeast
½ cup 1uke warm water
4 cups who1e wheat f1our
l tsp. salt

Sca1d mi1k; add oi1, sugar, and salt, cool to 1uke warm, add yeast softened in water, add egg. Gradua11y stir in f1our to form soft dough. Beat vigorous1y. Cover and let rise unti1 doub1ed in bu1k. Turn out on 1ight1y f1oured surface, knead slight1y. Roll dough in a 1 inch rope swir1 in greased 9 inch round cake pan. Let rise unti1 doub1ed in bu1k. Bake in 350 degree over for 35 minutes. Cool and spread with confectioners frosting. Put nuts and cherries on top.

BLACK PUMPERNICKEL BREAD

4 cups who1e wheat f1our
1½ cups rye f1our
¼ cup ye11ow corn mea1
2 Tbsp. dark molasses
1 sq. unsweetened chocolate
1 Tbsp. oil

2 pkg. dry yeast
2¼ cups water
1 Tbsp. caraway seed
2 tsp. salt
1 cup mashed potatoes

Mix yeast in ½ cup of the water and let is brew. Melt chocolate, molasses and oil together. Mix all ingredients together and knead for 10 minutes by hand, 5 minutes by mixer. Cover dough and let is rise until double in bulk. Punch down and form into one or two loaves. Let rise again and brush with oil. Bake at 350 degrees for 40 - 45 minutes. Cool on wire rack.

WHOLE WHEAT MUFFINS

Put into mixer:
1 cup white flour
½ tsp. salt
4 tsp. baking powder
½ cup brown sugar
1 cup whole wheat flour

Add:
1 cup milk
2 beaten eggs
1/3 cup cooking oil
½ cup oats or sprouted wheat

Bake in greased muffin tins at 425 degrees for 15 minutes. Makes 18 muffins.

CRACKERS

HONEY GRAHAM CRACKERS

Mix: 2 cups whole wheat flour
2 Tsp. baking powder
1 Tsp. salt
3 Tbsp. brown sugar

Cut in:
½ cup butter or margarine

Mix and add to flour:
2 Tbsp. honey
2 Tbsp. milk

Mix until dough sticks together, knead a dozen strokes. Roll out between waxed paper, ¼ of the dough at a time. Put on an ungreased cookie sheet. Cut with a pizza cutter. Make holes with fork or toothpick. Bake at 375° until lightly browned. When the edges start to brown, remove these and continue baking the center ones.

Variation: Substitute 1 cup each stirred brown rice flour and oat flour for whole wheat flour.

CHEESE CRACKERS

Mix together:
2 cups whole wheat flour
2 tsp. salt
2 tsp. baking powder
2 tsp. brown sugar

Cut in:
½ cup margarine
Add: 1/3 cup milk
1 cup grated cheddar cheese

Knead about a dozen strokes. It should stick together. Roll between wax paper and cut into different shapes. Bake on ungreased cookie sheet at 375° until lightly browned.

Variation: Add caraway seed, celery seeds, or onion powder to the dough before rolling.

DESSERTS

CARROT CAKE

2 cups sugar
4 cups whole wheat flour
2 tsp. cinnamon
½ tsp. salt
2 tsp. soda
4 eggs
1 can crushed pineapple (20 oz.)
2 cups shredded carrots
1½ cups nuts
½ cup coconut
2 tsp. vanilla
1¼ cup cooking oil
1¼ cup cooking oil
2 Tbsp. grated orange rind

Beat eggs until lemon colored, add sugar gradually and oil. Combine dry ingredients, add carrots, pineapple and dry ingredients. Add nuts and orange rind, and vanil1a and coconut. Bake 350° for 25-30 minutes. Makes 2 medium size drippers. Frost with cream cheese frosting.

FROSTINGS:
1 cube margarine
4 oz. cream cheese
1 pkg. pwd. sugar
chopped nuts (optional)

Beat until smooth and spread on cool cake.

PEANUT BUTTER OATMEAL COOKIES

1½ cup peanut butter
3/4 cup butter or margarine
3/4 cup shortening
3¼ cups firmly packed brown sugar
3 eggs
3 tsp. vanilla
3 cups whole wheat flour
3 tsp. baking powder
1½ tsp. salt
3 cups rolled oats

Mix together peanut butter, shortening, and sugar. Beat in eggs and vanilla, mix well. Sift dry ingredients and add to creamed mixture. Stir in oats and form into 1" bal1s. Bake on ungreased cookie sheet at 350° for 14 minutes.

CHOCOLATE CHIP COOKIES

2 cups shortening
4 cups brown sugar
2 tsp. soda
5-6 cups whole wheat f1our

6 eggs
l tsp. salt
l large pkg. chocolate chips

Cream shortening and sugar. Beat in eggs. Add dry ingredients and chips. Bake on greased cookie sheet 10-12 minutes at 375 degrees.

WHOLE WHEAT SPONGE CAKE

6 eggs
l½ Tbsp. water
1· tsP". salt
l tsp. vanilla
6 egg whites
½ tsp. cream of tartar
½ cup sugar "

Fold yolk mixture inta white mixture. Add by fourths l½ cup plus l Tbsp. flour. Fold in. Fold in l½ tsp. lemon juice or ¼ tsp. lemon extract. Bake at 340^0 for 40 minutes.

CEREALS GRANOLA

1. 2 cups flaked coconut
2. 8 cups rolled oats
3. 6 cups rolled wheat
4. 2 cups wheatgerm
5. l¼ cups brown sugar
6. ½ cup honey
7. l cup oi l
8. l cup water
9. 2 tsp. salt
10. 3 tsp. vanilla
11. 3/4 cup sesame seeds

Mix first 5 ingredients. Mix next 5 ingredients together. Pour over dry ingredients and mix well, until all flakes are coated. Spread in four dripper pans. Bake at 175^0 for l½ to 2 hours, until 1ight golden and dry. Stir occasionally during baking to prevent scorching around the edges. Toast sesame seeds for 10 minutes at 350^0. Stir in. Cool and store in air tight container.

May also use sunf1ower seeds, ràisins, nuts, etc.

GRANOLA

4 cups ro1led oats
4 cups rol1ed wheat
½ cup sesame seeds
1 cup wheat germ
l cup shredded coconut
1 cup sunflower seeds
½ cup honey
¼ cup cooking oi1

B1end al1 together. Put on a cookie sheet. Bake ½ hour at 325°. Stir every 10 minutes.

NUT-LIKE BREAKFAST FOOD

2 cups milk
½ cup sugar
2 tsp. baking powder
1 tsp. salt
3½ cups whole wheat f1our

Mix all ingredients together, adding enough whole wheat f1our to make a stiff batter. Pour the batter on a lightly buttered cookie

sheet. Sake at 350^0 for about 35-45 minutes. Cool, then break in pieces and run through a coarse fitting on a grinder. Put the crumbs on a baking sheet and toast in a 300^0 ôven until dry and crisp.

GLUTEN

Gluten is the protein part of the wheat. It is the substance which holds the carbon dioxide the yeast makes and enables the bread to rise. After the wheat is ground into flour the gluten can be separated from the rest by adding water to the flour and.washing out the starch. It is considered to be a principle source of protein along with eggs, milk, cheese, lean meat, and soybeans. It provides us with a low-cost tasty meal.

MAKING THE RAW GLUTEN

1. Place 7 cups flour in bowl.
2. Add 3 to 6 cups cool water or until flour is moistened. Cover and let rest 20 minutes.
3. Extract (wash) gluten from the soaked dough. Yield 1-2 cups.

The success of this method is having a thick dough; therefore, add water a little at a time, stirring with spoon until water has moistened the flour well.

NOTE: The amount of water varies. Less water is required when flour is a low protein or freshly ground. Equal amounts or l to 2 cups less water than flour is used with a higher protein flour.

MAKING RAW GLUTEN WITH AN ELECTRIC BREAD MIXER

1. Put in bowl and mix with kneading arm:
   7 cups cool water
   14 cups who1e wheat f1our (a few cups at a time) or desired amount, ùsing twice f1our as water
2. Knead 15 minutes on 1ow speed.
3. Extract (wash) gluten from mixed dough. Yie1d: 2-5 cups raw gluten.

Consistency of the flour and water mixture shou1d be 1ike bread dough and pull away from the sides of the bowl. If it does not, add more f1our.

WASHING THE GLUTEN

1. Cover dough with water in bow1 in which you have mixed the gluten. Work dough with hands to 1oosen it a bit.

2. Wjth a plate or pie tin under a plastic colander, place as much dough as you feel you can work with in the colander and hold under medium tap pressure. When the water comes out too much it washes away the bran.

3. Work dough with your hands until it becomes a tough, elastic-like texture (like bubble gum) and the water from the gluten comes out fairly clear. You will see specks of bran. Don1t try to get the bran out "completely.

RECIPES USING GLUTEN

GROUND GLUTEN

1. Place raw gluten on lightly oiled cookie sheet. Push from the center out and stretch on pan until gluten is fairly even, for easier handling let it rest 5 minutes after washing.

2. Bake in oyen at 350 degrees for 15 minutes. Prick it with a fork several times to release bubbles, and cook another 15 minutes. It will be done if it springs back when you press it.

3. Break gluten into pieces and put through food chopper. It now looks like ground meat. You can add it to hamburger, make a crunch out of it, and even make a pie crust with it.

MEAT BALLS

2 cups ground gluten
3 T finely minced onion
l T beef flavor
2 T flour
l - 2 eggs beaten
2 T oil
Salt and pepper to taste
(T. is a tablespoon)

Mix all ingredients together. Form in balls. Fry in skillet in a little oil (just heated through; they burn easily).

Serve in any dish that you would use regular hamburger in; in lasagne, with a gravy, or any tomato dish.

MARSHMALLOW MARVEL

40 marshmallows
l cup coconut
2 Tbsp. butter
2 cups Gluten Crunch(ground gluten, 4 Tbsp. honey, 3 Tbsp. butter, mix and bake)

Combine ground gluten and coconut. Melt butter and honey together. Mix all together. Spread on cookie sheet and bake 25-40 minutes at 300^0. Stir occasionally to avoid burning. Let cool. Product should be crispy.

GLUTEN STEAKS

1. Stretch or roll meat like pieces of raw gluten.
2. Drop in boiling beef boullion (ltsp. or cube to 1 cup water)
3. Simmer 2-3 hours or until liquid is absorbed.
4. Press out most of the excess moisture from steaks.
5. Roll in seasoned flour or in bread crumbs and fry in hot oiled pan.

Serve with mushroom gravy or eat as is.

Gluten methods and recipes from
The Gluten Book by Le Anta Moulton

OTHER GRAINS

RYE: Rye is a native of Russia and Northern Europe. It contains less gluten than wheat. It is excellent as a supplement to wheat. It may be used alone or added to other flours.

OATS: Oats are a very versatile grain, being used as a delicious cereal and as a supplementary grain in baking.

RICE: The principal source of rice has been in the Asian Continent. The whole kernel is very nutritious, especially in wild rice. It is cooked whole or ground into rice flour.

BARLEY: A native grain of Eastern Europe, barley makes an excellent addition to soups and casseroles or as a rice substitute. It can also be ground and added to bread. Toast it and it makes a very good drink.

MILLET: A native grain of Africa, millet may be used in puddings, soup, bread, and casseroles. It can be used whole or ground. The flavor is similar to corn.

SOY: Soy contains the highest protein content of any vegetable and is very versatile. Soy milk, tofu cheese, meat substitutes, flour are just a few ways of using soy.

TRITICALE AND MP3: Two comparatively new strains of wheat,both of these have a very high protein content. (Usually over 16%) However, bread made entirely from these two grains does not rise properly to make a light loaf. Substitute these two grains with at least half wheat flour.

SPROUTS

Every home storage program shou1d contain seeds for sprouting. A fami1y cou1d maintain excellent hea1th during a time of emergency by combining these basic storage items with sprouts. Near1y a11 who1e grains are sproutab1e. Remember the seeds must be fresh (not old or damaged) seeds.

If fresh vegetab1es are not avai1ab1e for a pro1onged period of time, sprouting cou1d mean the difference between hea1th and i11ness. Sprouting makes grains become more digestab1e and the change on our bodies is not so drastic.

FOOD VALUE

Sprouting cerea1 grains not only exhibit intense enzymatic activity, but a1so attain what is probab1y the highest protein content in their 1ife cycle. Wheat has very 1itt1e vitamin C unti1 it is sprouted and then it is known to increase up to 600%. They are a1so higher in a11 the B vitamins than the original seeds.

ADDITIONAL FACTS

1. Grains and seeds are compact, 20 lbs. yie1d 400 lbs. of food.
2. Inexpensive, 20 lbs. of wheat cost app. $2.40.
3. Takes on1y 2 to 6 days from p1anting to harvesting.

WHAT TO SPROUT

Seeds sprouting in 2 days	Amount to store per person
Rye use 2 cups per quart	l0 1bs.
Wheat use 2 cups per quart	25 lbs.
Beans use 2 cups per quart	15 1bs.
Rice use 2 cups per quart	6 1bs.
Oats use 2 cups per quart	6 1bs.
Seeds sprouting in 3-5 days	
A1fa1fa use 1 Tbsp. per quart	6 1bs.
Lenti1s use 2 Tbsp. per quart	6 1bs.
Mung beans use 2 Tbsp. per quart	6 1bs.
C1over use 2 Tbsp. per quart	6 1bs.
Lettuce use 2 Tbsp. per quart	6 1bs.
Radish use 2 Tbsp. per quart	6 1bs.
Others to consider	
Peas	l0 lbs.
Millett	6 1bs.
Soybeans	15 1bs.

HOW TO SPRQUT

1. Select healthy, unbroken seeds. Soak overnight (½ cup beans to 2 cups water or 1 Tbsp. alfalfa) Quart jars make excellent sprouting containers. Make sure seeds are covered with water.

2. After soaking, drain the seeds well. Jar opening should be covered with a cheese cloth or nylon secured with a rubber band. If using flat tray, pour seeds into tray and make sure they drain welle Sprouts do not like wet feet.

3. Rinse the seeds at least three or four times daily with luke warm water, making sure to drain well after each rinsing.

4. When sprouts are proper length store in the refrigerator in plastic bag. They become rich in chlorophyl if placed in the sun a few days before serving.

SPROUTS ARE REAOY TO EAT WHEN:

1. Wheat sprout is the length of the seed.
2. Bean sprouts are 1½ to 3 inches long.
3. Alfalfa sprout is l to 2 inches long
4. Lentil sprout is l inch long
5. Soybean or pea sprout is 2 inches long.
6. Mung beans are sweetest after about 24 hours.

THE TEN DO NOTS OF SPROUTING

1. Do not leave seeds in water over 20 hours or under l0 hours."
2. Do not let seeds set in water while sprouting. They will sour. Be sure after each rinse to drain welle
3. If possible do not use chemically treated water. Pure water is best.
4. Do not use hot or cold water for soaking or rinsing. Keep water between 50-80 degrees.
5. Do not keep growing beyong their peak, or you have tough plants instead of tender sprouts.
6. Do not let seeds dry out, water morning, noon, evening, and night.
7. Do not buy cheap or old, hard seeds. They take a longer soaking time and may not sprout at all.
8. Do not buy treated seeds, make sure you ask for untreated seeds. Make sure alfalfa has gone through a scuffer mill to insure better sprouting. Unscuffed seeds are glossy and waxy looking. Scuffed seeds are dull. Scuffing scratches the wax coating so water can penetrate the outside and bring the seeds to life.
9. Do not use large amounts of seeds unless you can use them all. They expand at least 3 times, so don't overcrowd.

la. Do not get discouraged if you forget to rinse and they dry out, or you drown them and they go sour. Start over and develop a regular habit and they will take care of you.

INFORMATION ABOUT SEEDS TO SPROUT

Wheat: Sprout shou1d be no longer than **the berry** itse1f. Watch if they grow quick1y. Vitamins and minera1s great1y increase in amounts when sprouted, a1so amine acids. You can let the sprout grow and have wheat grass. Use it in sa1ads and store in refrigerator.

A1fa1fa: Named by Arabs as "Father of a11 Foods". It contains eight amino acids, a11 known vitamins inc1uding vitamin K, and vitamin U. It is especia11y high in vitamin D and E. and many important minera1s inc1uding iron, calcium and potassium.

Lenti1s: One of the oldest vegetab1es mentioned in the Bible. In fact 1enti1 soup was what Esau gave up his birthright for. They contain 24% protein as we11 as vitamins C, and E, iron, phosphorus and potassium. They have a tangy strong f1avor and are wonderfu1 served a1one or mixed with green sa1ads.

Millet: Contain near1y 10% protein and phosphorus and Vitamin B^2, rich in iron and niacin. It is easi1y digested, making it suitab1e for babies and chi1dren. These sprouts have a sweet f1avor simi1ar to corn. They can be cooked as a etable or a breakfast cerea1.

Mung Beans: They are part of the soybean fami1y. This is the on1y bean that is rinsed first in hot water for 5 minutes. Then soak overnight in 70^0 water. Preferable 18-24 hours. They must be grown in the dark and rinsed often. They must be drained good or they will go sour. Do not over sprout as they tend to become tough. They are used in sa1ads, cooked in a11 oriental dishes, or used in a vegetab1e dip. They are 25% protein and are a good source of choline, calcium, iron and vitamins A and E.

Soy Beans: These sprouts have about eight times the vitamin D content of oranges or 1emons. ½ cup of soybeans equals 6 glasses of orange juice. It is a1so an excellent source of the B vitamins. Soybeans must have severa1 changes of water whi1e soaking overnight. They have an anti-digestant enzyvme in them and it must be 1eached out.

RECIPES USING SPROUTS'"

SPROUTED WHOLE WHEAT BREAD

3 cups warm water
2 Tbsp. dry yeast
1½ Tbsp. salt
½ cup honey
3 Tbsp. sa1ad oi1
3½ cues white f1our
2 cups who1e wheat f1our
2 cups wheat sprouts (who1e or ground)

Dissolve yeast in l cup of warm water in large mixing bowl. Add rest of warm water and salt, honey and oil. Stir in the white flour and beat dough until it is elastic. Let dough rise, keeping temperature around 80°. When dough has risen, add the wheat sprouts and work in the whole wheat flour. Knead until dough is smooth and elastic. Place in oiled bowl. Coyer and let rise in warm place unti1 double in bulk. Bake at 375° for 25 minutes, then lower heat to 300° and bake another 35 minutes.

BEAN SPROUT SALAD

1.can green beans drained
3 cups bean sprouts
1 can wax beans (drained)
1 can chick-peas, drained
3/4 cup eider vinegar
1 cup sugar
½ cup salad oil
2 tsP. dry mustard
1 cup chopped onion
salt and pepoer to taste

Put sprouts and beans in large bowl. Mix remaining ingredients and pour over beans. Toss well, coyer and marinate 3-4 hours in refrigerator. Makes 10-12 servings.

SPROUTED-WHEAT BALLS

2 cups sprouted wheat
1 cup a1monds, walnuts or other
1 large onion
1 cup milk
1½ cups fine dry bread crumbs
1 tsp. salt
2 Tbsp. veg. oil
parsley

Force first 3 ingredients through coarse blade of food chopper. Stir in milk. Then add next 3 ingredients and mix welle Let stand 10 minutes to allow crumbs to absorb liquid, then shape in 1¼" balls. Put on greased cookie sheet and bake golden brown. Garnish with parsley. Good with meat gravy or cream sauce.

CREOLE SPROUTS

l Tbsp. veg. oil
1/3 cup minced onion
½ cup diced ce1ery
1 can stewed tomatoes
1 bav 1eaf'
½ tsr. salt
2 cups bean sprouts

Heat oi1 in ski11et, add onion and celery and saute unti1 Qo1den brown. Add next three ingredients, bring to boi1 and simmer, uncovered 10 minutes. Remove bay 1eaf. Steam sprouts in covered saucepan about 5 minutes. Add to first mixture and heat 5 minûtes. Makes 4

EGG FOO YOUNG

6 eggs
1 tsp. salt
2 Tbsp. chopped green pepper
½ cup chopped onion
2 cups bean sprouts, we11 drained

Beat eggs unti1 frothy. Add remaining ingredients and mix we11. r,enerous1y grease ski11et, pour in ½ cup of egg mixture and brown on

both sides. Repeat until all of the mixture is used. This makes 4-6 servings.

SPROUT SUEY

2 Tbsp. oil
1 lb. pork or beef in ½" squares
1 cup thinly sliced onion strips
2 tsp. salt
½ tsp. pepper
1½ cups diced celery.
¾ cup diced green pepper
3 cups mung or soy sprouts
1 Tbsp. soy sauce
2 Tbsp. flour
Hot cooked rice

Heat oil in skillet. Add meat and cook slowly about 30 minutes. Add next 6 ingredients and 1 cup boiling water. Simmer, covered 10 minutes. Make paste of soy sauce, flour and 1 Tbsp. hot water. Stir into mixture and cook until thick. Serve with rice. Makes 6 servings.

WHEAT AND CHEESE CASSEROLE

2 cups sprouted wheat
1 can cream of celery soup
½ tsp. dry mustard
½ tsp. salt
½ cup chopped pimento
½ cup large curd cottage cheese
½ cup grated cheddar cheese
¼ cup sour cream

Mix lightly, place in shallow baking dish. Top with more grated cheese or buttered bread crumbs. Bake 375 until lightly brown and bubbly.

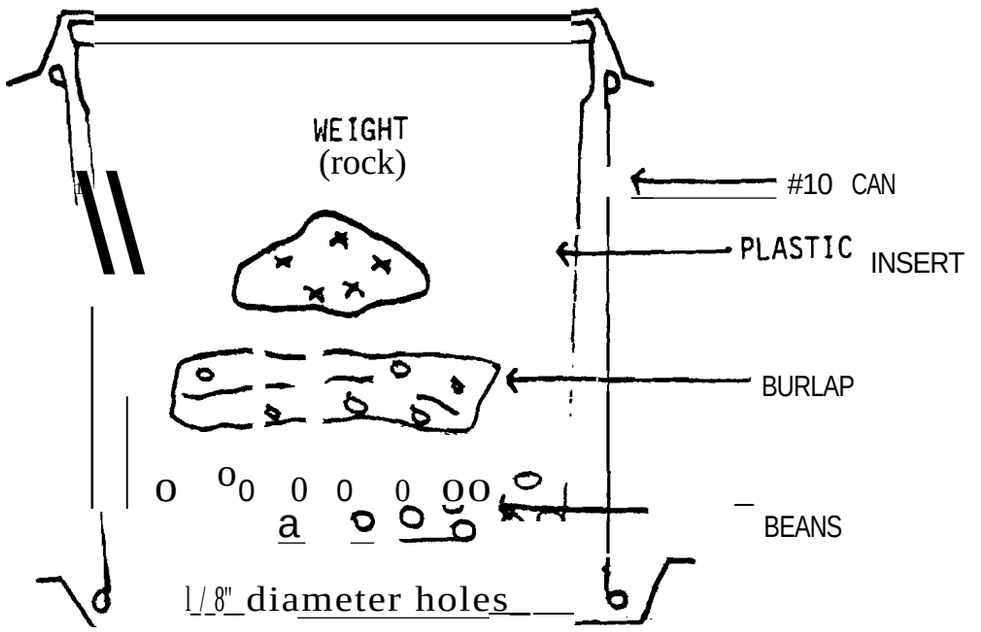
BEAN TERIYAKI

½ cup celery cut diagonally
½ cup thinly sliced onion
½ cup mushrooms, sliced
4 Tbsp. oil
2 cups wax beans (cooked)
2 cups green beans or cream
2 cups mung bean sprouts
2 Tbsp. soy sauce

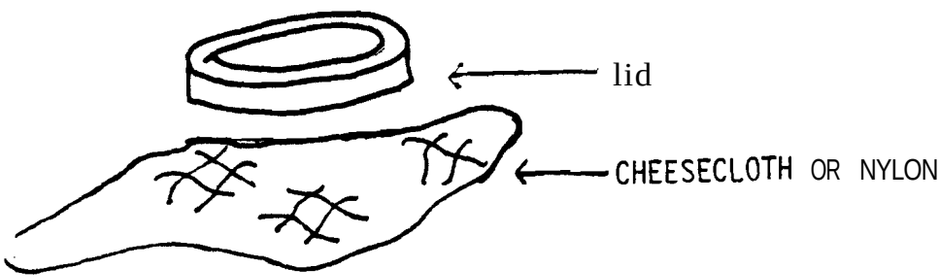
Saute celery, onions and mushrooms in oil. Add beans (liquid too) and simmer until done. Add sprouts and let simmer just until tender. Serve over rice.

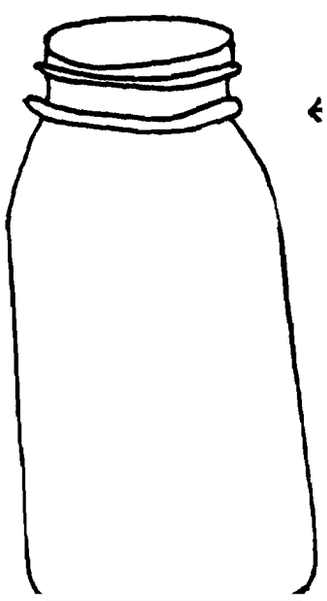
Illustrations from:
"How to Survive with Sprouting"
by Bugord S. Reynolds
Hanks Publishing Inc.

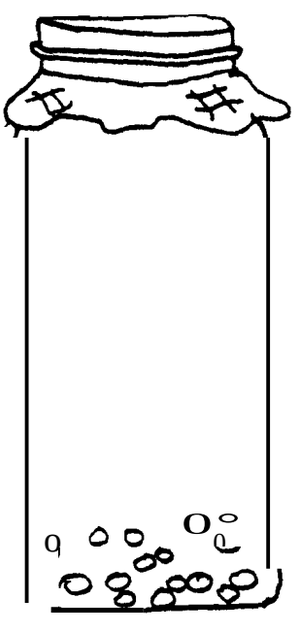
#10 CAN METHOO

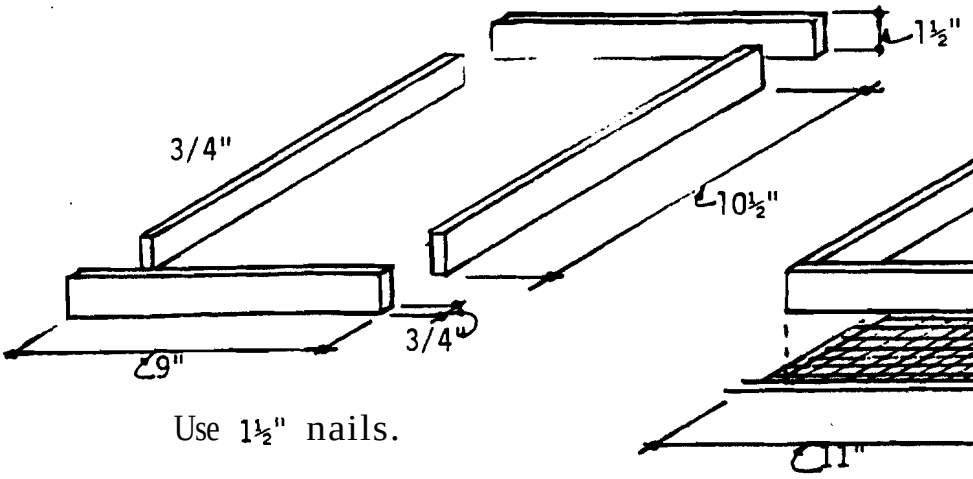


DRIP TRAY (PIE PAN)

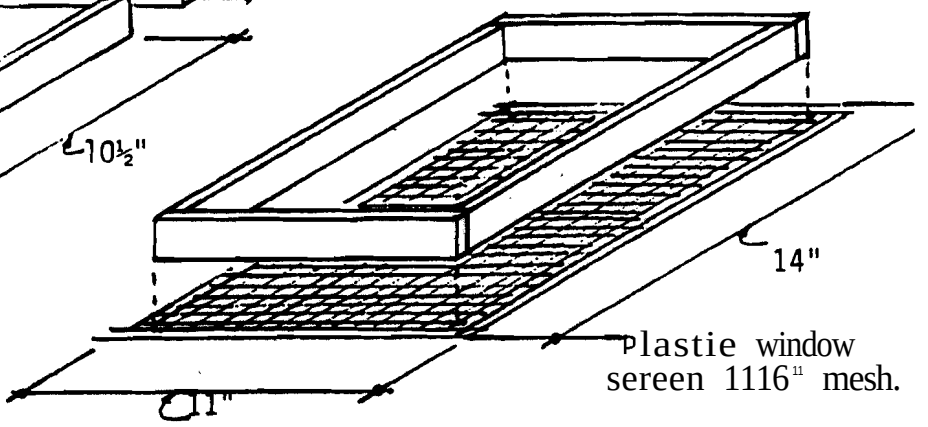




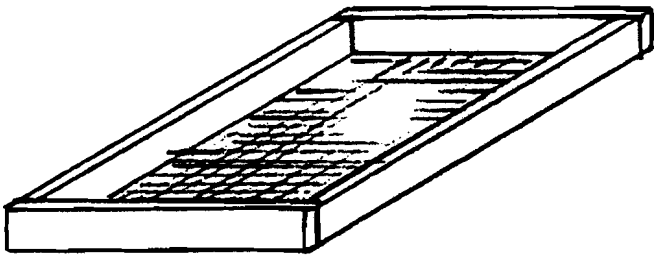




Use 1½" nails.

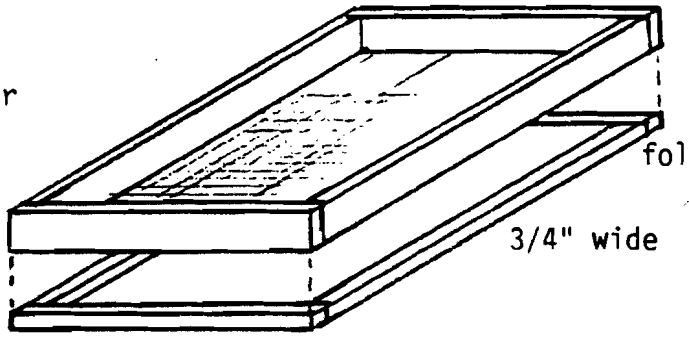


Plastic window screen 1116" mesh.



tacks or staples on sides or bottom.

or



1½" nails

½" thick more or less

SPROUTING TRAY

POWDERED MILK &CHEESE

Nonfat dry mi1k is a high priority item in our food storage plan. It cames in two varieties--not instant and instant.

"Nonfat powdered mi1k is made from natura1 surplus mi1k that is dried. The fat is removed. The vitamins A and D go out with the fat, making non-instant mi1k. The dry mi1k is the re-wet, the vitamins A and D added back, producing instant mi1k." (Bulletin from Flash Powdered Mi1k Co.)

HOW TO STORE:

Both are said to store we11. Regu1ar is 1ess expensive and takes upa 1itt1e 1ess storage space. It is suggested that mi1k purchased in large bags be transferred immedtate1y into sma11er air-tight containers. Purchase brands rated at 1ess than 4% moisture content.

The temperature at which it is stored is important to the she1f 1ife of mi1k. Make sure it is stored up off the cement f1oor in a cool, dry, c1ean place, at no more than 70^0. It will keep twice as long at a temperature of 40 .

Tests done by a dairy indicated that f1avor cou1d begin ta deteriorate after 6 to 8 months, however it is still useab1e.

On1y dry milk packed in cans under pressure will keep indefinitely.

USING POWDERED MILK IN RECIPES

You can substitute powdered mi1k in any recipe ca11ing for mi1k. Either reconstitute it before adding it to the recipe or add ¼ cup powdered mi1k with the dry ingredients and 1 cup water with the 1iquids. (For a recipe cal1ing for 1 cup of mi1k)

RECONSTITUTED MILK

Use 3/4 cup non-instant mi1k to 1 quart water (must beat with beater or in b1ender)

Use 1 1/3 cups crystal (instant) mi1k to 1 quart of water.

Whippèd Topping

½ cup water
1 Tbsp. lemon juice
½ cup non-fat powdered milk
2 Tbsp. sugar
¼ tsp. vanilla

Put water and lemon juice into a bowl and add the non-fat milk powder. Beat with a beater until stiff. Beat in sugar and vanilla. Chill and use as any whipped topping.

Sweetened Condensed Milk No. 1

4 cups.non-fat powdered milk
1 cup warm water

Mix together with mixer and add:

2 cups sugar
2 Tbsp. softened butter or margarine

This keeps for one month in the refrigerator. 1 3/4 cups of this mixture equals 1 cup of the commercial brand.

Raspberry Ice Cream

2 cans (10 oz. each) froien raspberries
1½ cups sugar

Mix raspberries and sugar. Let stand until sugar dissolves.

Add: 1 can (1 3/4 cup) sweetened condensed milk
1 pint whipping cream whipped and sweetened to taste

Put into freezer and fill with milk. Freeze. (use nonfat dry milk)

Pudding Mix

Combine and store in can with tight fitting lid:

1½ cups sugar
2½ cups nonfat dry milk
1¼ cup plus 1 Tbsp. flour

To make pudding:

Measure: 1¼ cup mix
2½ cup warm water
1 Tbsp. butter or margarine

Cook stirring constantly until thickened. Add butter and remove from stove. Cover and let stand 10 minutes. Beat eggs, add sorne hot mixture to egg. Blend egg mixture into hot pudding. Return to heat and stir in vanilla. (about 1 tsp.)

Orange Ice

6 oz. frozen orange juice concentrate
½ cup sugar or honey
¼ cup dry powdered milk
3 cues water
ice

Put all ingredients into a blender except the ice. Blend until mixed. Add ice and blend until it is mushy.

Cottage Cheese from Nonfat Dry Milk

Mix together: 2 qts. nonfat milk
½ cup buttermilk

Let stand overnight in warm place until it clabbers or until curd is set. Set mixture over hot water on very low heat. Do not let water boil. Heat only until whey comes to top. Stir around, test curd with finger. Curd should be soft and not tough. Heating takes about 5-10 minutes. Pour into strainer over a bowl, let drain, do not mash. When drained break up curd with a fork. Reserve 1 cup whey in fridge for a start for next batch. Salt to taste.

Buttermilk from Instant Nonfat Milk

Mix together: 1 cup instant dry mi1k
3 cups warm water
Stir"in: 1/3 cup butter

Mix and coyer. Let stand at room temperature 8 hours or unti1 thickened. Cover and refrigerate. You can save 1/3 cup buttenni1k to start a fresh batch of buttermi1k about 15 times. Then buy new buttermilk to start over.

Yogurt from Nonfat Dry Mi1k

l quart 1ukewarm water
2 cups powdered mi1k
2 Tbsp. plain yogurt or dry yogurt starter

B1end together adding yogurt 1ast.
Process in one of the fo11owing methods: In thermos bott1e, let stand overnight. Pour into clean pint jars or glasses, place in pan, fi11 water to neck of jars, put in oven at 110 degree setting. Takes about 3 hours to set up. Or place on a heat register, or wherever there is a 1itt1e heat that is constant. The temperature must not go above 120^0. You can a1so use a yogurt maker.

Cream Cheese

Hang yogurt in a cheese c1oth bag overnight, add salt to taste, can be used in dips, sauces or spreads.

Dressings

1 cup yogurt
1 cup mayonnaise

Mix together thorough1y and chi11. Can a1ways add seasonings or use plain.

Make a sour cream substitute from homemade yogurt by adding salt and seasonings. Add fruit and you have a dessert.

CHEESE MAKING

Cheesemaking may be a new experience for you, but actually, itls an art almost as old as civilization itself.

It all started (so the legend goes) when an Arabian merchant put some milk into a pouch made of a sheep's stomach and started out on a journey across the desert. Curing the day and heat of the sun combined with the enzymes in the lining of the stomach to separate the milk into curd and whey. That night the surprised traveler happily dined on snowy white curd and satisfied his thirst with whey.

Today cheese comes in an astonishing variety of textures, consistency, shapes, colors and flavors. There are more than a thousand different kinds.

Basically cheese is the solid part of milk containing 80% of the protein and most of the calcium and vitamins of the original milk - and in a highly digestible form.

COLBY CHEESE

NOTE: Before starting to make cheese, add. l tsp. buttermilk to l cup milk and let set at room temperature overnight until it sets. (like custard) If it doesn't set, discard and try again with a different brand of buttermilk. Some brands are not active and will not set the mixture. Once you have found an active brand use the same one each time.

1. PREPARE THE MILK: Pour l gallon of whole milk into the pan and stir in 3 Tbsp. buttermilk. Cover and let stand at room temoerature for 4-12 hours. Avoid direct sunlight.

2. ADD COLOR: Dissolve color tablet in 2 Tbsp. of cold water in a glass. Stir carefully. Do not spill, it is difficult to remove. Place pan of prepared milk on low heat. Put thermometer in milk and slowly raise temperature to 86^0. Pour in the color solution, then stir thoroughly.

3. ADD RENNET: Dissolve ¼ rennet tablet in 2 Tbso. of cold water. Stir. Note: Water must be cold -- and always mix and add color and rennet solutions separately, never toqether. Raise temperature of milk to 88 - 90^0. Pour in the Rennet solution slowly as you stir the milk, and continue stirring for l minute. Cover pan, remove fram heat, and let stand undisturbed 30 minutes.

4. TEST THE CURD: It should take between 30-45 minutes for the rennet to curdle the milk into something like custard. To test it, put a finger into the eurd at an angle and lift it out. The curd is ready to eut when it breaks elean over your finger. If it doesn't break clean after 30 minutes check again every 5 minutes until it does.

5. CUT THE CURD: With a long knife or spatula cut all the way through the curd in parallel lines about ½" apart. Then turn pan and cut again.

6. STIR THE CURD: With your hand, stir the curd continuously for 15 minutes with long slow, gentle movements, working it around and from the bottom up. Carefully cut up larger pieces.that come up from the bottom making all the pieces about the same size - don't squash the curd.

7. COOK THE CURD: Put the pan of curd and whey back on the stove and very slowly raise the temperature to 102^0. This should take 20-30 minutes. During this time, gently stir with a spoon every few minutes to keep curd from sticking together. Continue cooking at 102^0 for about 1 hour, stirring gently with a spoon every few minutes. Cooking is complete when the curd holds its shape and readily falls apart when held on your hand for a few seconds.

8. FIRM THE CURD: Remove the pan from stove and let curd and whey stand for 1 hour, stirring every 5-10 minutes. The curd will become firm enough to easily shake apart when pieces are pressed together.

9; DRAIN OFF THE WHEY: Line a colander or strainer with a 24" square of cheesecloth, place it in the sink and pour in the curd and whey to drain off the whey.

10. SALT THE CURD: Put the cheeseeloth full of curd back in the colander and sprinkle in 3 teaspoons of salt. Work it in.gently with hands, then do the same with 2 more teaspoons of salt. Note: The salt is for flavoring

11. DRAIN THE CURD: Tie corners of cloth together, forming the curd into a ball. Squeeze out as much whey as you can, then hang up to drain 20-30 minutes.

12. PRESS CURD IN PRESS Now turn the curd into a press. Put cheese on a board and push another board down to rest on cheese; Place 2 bricks on top. Let set 12-24 hours. Whey will continue to drain off as it turns to cheese.

13. DRY CHEESE: Take out of press, remove cheesec1oth and let cheese dry. Put it on a rack or plate at room temperature for 6 - 12 hours. Turn it occasiona11y unti1 the entire surface is dry. Eat it now or ripen for a me11 ow f1 avor.

CHEDDAR CHEESE·

Fo11ow same steps except: OMIT step 8 (firm the curd) and go to step 9 (drain off the whey) then: step 10 (cheddar the curd: Place a coo1ing rack in a je11y roll pan, cover with a double layer of cheese c1oth and spread curd to a thickness of 1". Put thermometer in curd, heat pan to 98°. Exact heat is critical ... too much will ruin the cheese. Coyer pan to maintain temperature. In 20 minutes the curd will turn into a solid mass. Slice into 1" strips and turn every 15 minutes. Maintain a 95-100° temperature. Remove from heat and cut into 3/11." cubes. Step 11 (add salt), put cubes in bow1 and sprinkle 3 tsp. sa1t. Work with hands and repeat with 2 more tsp. salt. Let stand 15-20 minutes. Step 12 (press) same as co1by. Step 13. (dry) same procedure as colby.

MOZZARELLA CHEESE

Fo11ow these steps out1ined for Colby:

Step 1. PREPARE MILK. OMIT STEP 2. (add co1or) DO STEP 3. ADD RENNET Step 4. TEST CURD. OMIT STEP 5. (cut curd) INSTEAD: STEP 6. BREAK UP CURD After curd develops, break it up with your hands instead of cutting with knife. Heat curd and whey unti1 they're as hot as your hands can stand. Then mat curd in whey until it's firm. STEP 7. PRESS CURD: Put in press firmly, put whole thing back in the whey and heat just below boiling DO NOT BOIL WHEY. With press still in whey remove pan from stove and let stand until cool. Remove press and let drain. Let drain for 24 hours. After cheese is removed from press, it is soft and palatable, ready for eating or cooking.

Cheese can be made from fresh raw milk, homogenized mi1k or you can use nonfat powdered milk. However, when using powdered mi1k, add 1 cup of whipping cream. Mix it a day or two ahead and let it set in the refrigerator and it will coagulate faster.

CHEESE SPREAD

1 lb. colby or cheddar, grated
½ tsp. dry mustard or 1 Tbsp. prepared mustard
¼ lb. butter or margarine
1/8 to 1/4 cup mi1k or cream

Mix mustard and butter with cheese, blend in mi1k for smooth consistency. Season to taste with onion salt, garlic salt, caraway or other spices. Spread on cracker, keep in refrigerator in sea1ed containers.

CHEDDAR DUNK

3/4 lb. cheddar shredded fine
3 Tbsp. cream
2/3 tsp. dry mustard or 1½ tsp. prepared mustard
1½ tsp. worcestershire sauce

Mash shredded cheese with cream until fluffy. Add seasonings and serve in a bowl for dip.

CHEESE SAUCE

1 can evaporated milk
2 Tbsp. butter or margarine
1 Tbsp. flour
2 Tbsp. minced onion
¼ tsp. paprika
¼ tsp. dry mustard
½ tsp. worcestershire sauce
1 cup shredded cheddar cheese
½ tsp. salt

Heat butter and add onion, heating until transparent, blend in salt, paprika, mustard, worcestershire sauce and flour. Heat until mixture bubbles, stirring constantly. Remove and gradually stir in milk. Return to heat and bring rapidly to boiling, stirring constantly; cook 1-2 minutes. Serve over green beans or other vegetables.

HONEY

Honey and/or sugar are basic storage items recommended in our storage plan. Both store very well. Some say there is no difference in food value, while others claim honey is more nutritious. It is sweeter, and baked products stay fresher longer when it is used. Honey also contains more calories by volume but less calories than sugar by weight.

HINTS ON USING HONEY: Try recipes developed for honey or to substitute honey for sugar in a recipe:

1. Substitute equal amounts of honey for sugar up to 1 cup.
2. Since honey is sweeter try using half as much honey.
3. For every cup honey used to replace sugar in recipes:
   a. Reduce liquid to ¼ cup or add more flour to get desired consistency.
   b. Add ½ tsp. baking soda (to reduce acid) unless using sour milk.
   c. Lower oven temperature 25°.
4. Always mix honey with the liquid ingredients and nlix thoroughly.

RECIPES USING HONEY:

Start by making honey butter as a delicious spread on bread and rolls. Mix together: 1 cup honey and ½ cup butter.

HONEY CANDY

2 cups honey

Cook honey to hard crack stage, do not stir. Pour into buttered pan and cool. As soon as it is cool enough to handle, start pulling and stretching until it becomes light colored. Cut into bite size pieces.

COCONUT HONEY SPREAD

2 cups honey
½ cup coconut
3/4 cup butter or margarine
1 tsp. coconut extract

Cream together honey and butter or margarine until smooth. Stir in coconut and extract. Store in covered jar in refrigerator. Makes 3 cups. Good to spread on bread or toast, hot cakes or muffins.

PEANUT BUTTER CHEWS

1 cup peanut butter
1 cup honey
1cup nonfat instant dry milk

Add peanut butter to warm honey and mix thoroughly. Knead in the dry milk. Form into balls or press into flat pan and cut in squares. Variations: Add rice krispies, sunflower seeds, chocolate chips, nuts, or rolled oats.

GOLDEN WEST FRUITCAKE

1 cup dried apricots
2 cups dark raisins
2 cups light raisins
1 1b. fruit mix
1½ cups diced candied pineapple
3 cups candied cherries
1 cup slivered almonds
l cup chopped walnuts
½ tsp. cloves
1 cup shortening
1 cup honey
l cup sugar
6 eggs
2½ cups flour
1¼ tsp. salt
½ tsp. baking soda
1 tsp. cinnamon

Cut up apricots, cover with boiling water. Let stand 1 hour then drain. Combine remaining fruit and nuts. Cream shortening, honey and Sugar. Beat in eggs, one at a time. Sift dry ingredients; blend in batter. Stir in fruit and nuts. Mix welle Bake at 275^0 for 2½ to 3 hours. or until cakes test done. Cover with brown paper if tops start browning too much. Cool and wrap and store.
Yields: 8 1 pound loaf cakes or 5 1½ pound cakes.

NOTES

MAKE YOUR OWN POWDERED SUGAR: Put 1 cup granulated sugar blender. Blend for 5 minutes or until sugar is powdery. You may add 2 Tbsp. of cornstarch to the sugar.

SOYBEANS

. It is believed that the Chinese Nation exists today because of its use of soybeans in some form. The meat supply there is very small so they have had to get their protein from this vegetable source. The soybean was mentioned 4000 years age in Chinese records. Soybeans were introduced in the United States in 1804.

NUTRITIONAL VALUE

Soybeans are among the top 5 great protein foods. They have a high quality and quantity of protein. Chemical analysis shows soybeans to contain in almost maximum proportions the amino acids essential in the diet of men and animals. Thus, they are complete enough to sustain life for long periods of time.

Because it contains little starch, it has been utilized for many years in the diet of diabetics. The carbohydrate content is only half that of other dry beans.

Soybeans contain both vitamins and minerals. They are especially rich in calcium, phosphorus, and iron. The green soybean contains Vitamins A, B, and some C. It also contains lecithin, a fat-soluable substance, which, according to research done at New York University, Northwestern University and University of Chicago, helps disperse fatty materials, and cholesterol in certain vital organs. It is also known to be part of the sheath around brain and nerve cells.

USES:

1. GREEN VEGETABLE: Soybeans may be grown as other beans. When they are still green, but of full size, pick them. Remove beans from pods by boiling about 5 minutes. After the beans are removed, they may be steamed or boiled in salted water.

2. DRY SOYBEANS: After the beans have fully matured they are removed from the pod, giving dry soybeans. They require longer cooking time than other beans.

3. ROASTED SOYBEANS: Roasted soybeans are dry soybeans which have been soaked overnight, drained and deep fat fried unti1 golden brown.

4. SPROUTED SOYBEANS: During Wor1d War II soybean sprouts were considered an important answer to the meat shortage prob1em. The great value of the sprouts is that they are an excellent source of Vitamin C, a high qua1ity source of protein and it is a fresh vegetab1e. Sprouts require on1y a few minutes cooking time. Serve them plain or added to soups or scramb1ed eggs.

5. SOYMILK: Soymi1k is referred to as the cow of China. Lacking mi1k, they have used mi1k made from soybeans. It is best known for those who are a11ergic to cows' mi1k, and has saved the hea1th of many infants. It is now being recommended by physicians for those who have suffered from or are high risk for degenerative heart disease, who need a milk with unsaturated fat.

6. SOYCHEESE: Soycheese is referred to by the Orienta1s as the meat without a bone. It is prepared by curd1ing soymilk and separating the curd from the whey. It may be used as meat, fish, cheese or a sandwich spread. Mashed and seasoned it resemb1es cottage cheese but sliced and cooked it substitutes as a meat or fish dish. Sweeten it and it's a dessert.

7. SOYFLOUR: Soyflour is used commercia1ly in cooking pastries. It is sa used for it keeps baked products from becoming sta1e and reduces fat absorption in doughnuts and it provides a fine even texture. It contains no gluten and must be used with r.egu1ar f1our.

RECIPES USING SOYBEANS

SOYMILK

For 1 gallon soy milk, begin with 1 quart soybeans.

Soak l quart dry soybeans overnight. If you change the water once or twice during soaking the beans it will have a milder flavor.
Pour off soaking water and rinse beans.
Put beans in a pan and cover with hot water. Bring to near boil.
Pour off water and rinse with hot water. :
Repeat the heating and rinsing 3 more times.
Put 1 cup of beans in b1ender.
Add l cup water and blend for about one minute.
Pour into c1oth bag, and squeeze as much liquid from bag as possible.
Pour-the mash in a separate container for other uses.
Repeat b1ending and squeezing until all beans are used.
Place 1iquid in pan and add 1 cup of water for each cup of beans used and boil for 30 minutes.
Stir with a spatula unti1 it boi1s ta keep it from sticking. (once it boi1s it won't stick). Boi1ing makes the milk more digestab1e.

Add 1½ tsp. salt, ½ to 3/4 cup honey and 1 tsp. vanilla
Chi 11

USES FOR SOY MILK: Use it to extend meat such as hamburger, ½ cup to 1 lb. Mash may be added to a bread recipe for added nutrition and a fine texture.

SOYBEANS IN PUMPKIN PIE

Follow soy milk recipe to point after blending 1 cup beans to 1 cup water. Use this instead of pumpkin in recipes.

BAKED SOYBEANS

8 cups boiled soybeans
¼ 1b. salt pork
2 Tbsp. molasses
1 tsp. prepared mustard

Soak 1 lb. of dry beans overnight in water and drain. Boil in water for about ½ hour. Cover soybeans with the molasses and mustard mixture, place pork on beans and cover. Bake slowly 4-5 hours. Add more water if needed. Uncover last hour of baking.
Variation: Add onion and tomate juice.

SOYBEAN SOUFFLE

3 cups soybean pulp
3 eggs
1 Tbsp. chopped onion
2 Tbsp. chopped parsley
salt and pepper to taste

Beat yolks of egg and add them to other ingredients. Then fold this mixture into well beaten egg whites, and pour into greased baking dish. Bake in a moderate oven 325^0 for 30 minutes or until set. Serve immediately.

STUFFED PEPPERS

8-9 green peppers
1 tsp. salt
2 cups soybean pulp
½ cup diced celery (cooked in ¼ c. water)
½ cup or more tomatoes
1 tsp. minced on;on
buttered bread crumbs

Remove seeds and inner partitions from green peppers. Parboil peppers for 3 minutes in salted water. Sprinkle inside with salt. Fill with mixture of pulp, celery, tomatoes, and onion. Cover tops with buttered crumbs. Place in greased pan and bake in a hot aven 410^0 for 25-30 minutes or until peppers are soft.

SOYBEAN CASSEROLE

2 cups cooked soybeans, chopped
¼ cup diced salt pork
2 cups chopped ce1ery
2 Tbsp. chopped onions
2 Tbsp. chopped green peppers
6 Tbsp. f1our
2 cups mi1k
1 Tbsp. salt
1 cup buttered bread crumbs

Brown pork, add ce1ery, onion and pepper, saute 5 minutes. Add thickening made fram f1our, mi1k, and salt. Stir unti1 reaches boi1ing point. Stir in the cooked beans and pour into greased baking dish. Cover with bread crumbs. Bake 350° for 30 minutes.

PUMPKIN OR SOY BARS

1 cup white sugar
1 cup brown sugar
4 eggs
1 cup sa1ad oi1
2 cups f1our
1 tsp. soda
2 tsp. baking powder
2 tsp. cinnamon

Mix 1iquid ingredients together. Mix dry ingredients together. Mix 1iquid mixture with dry mixture. Bake at 350° for 30 minutes. Frost.

FROSTING

1 3 oz. pkg. cream cheese
3/4 cup soft margarine
2 cups powdered sugar
1 tsp. vani11a
1 tsp. mi1k

Beat with electric beater unti1 smooth.

SOYCHEESE OR TOFU

Wash edib1e soy bean, - 2 cups. Soak in co1d water overnight.
Rinse beans we11. Liquify beans till very smooth and not gritty feeling. 1 part beans to 2-3 parts water. (mix pu1p with more water use 1 quart water total for every cup of soaked beans)
Separate residue from mi1k (squeeze out mi1k in c1ean dish towe1)
Add 1 Tbsp. salt (disso1ved in ¼ cup warm water) to mi1k stirring whi1e slow1y adding it. Stir even1y but not too much.
Wait 5-10 minutes unti1 mi1k curd1es we11. Then gent1y lift the curd into a dish towe1 or cheese cloth. Rinse. App1y a 1ittle pressure to mo1d the curd. Let drain we11 2-3 hours or 1ess.
Put curd in a container fi11ed with co1d water. Store in refrigerator.

This is de1icious scramb1ed with eggs, or spread on toast.

To mold a beautiful curd: Make a small box 5 x 5 without top or bottom. Put cheese cloth in box. Put curd in cheese cloth. Fold cheese cloth over curd. Apply a weight.

SOYBEAN SOUP

3 cups cooked soybeans
l quart soup stock

Blend half the beans with half the soup stock until smooth.
Add vegetables chopped and steamed:

2 onions
2 ribs celery
1 green pepper
2 carrots
2 cups tomatoes
1 clove garlic

Add:

2 Tbsp. 0;1
l½ tsp. salt
l tsp. thyme
1 Tbsp. chopped parsley

DEHYDRATED FOODS

Preserving food by drying is the oldest method of food preservation. Sun drying of fruits and vegetables was practiced before biblical times by the Chinese, Hindus, Greeks and Egyptians. It has gained considerable popularity in recent years.

Drying is a comparatively simple process. It requires little outlay of equipment, time and money. It is economical, since it does not require sugar, jars and such materials used in other methods of preservation. It does, however, take time, constant attention, skill and an understanding of the principles of food drying methods. Heat and air are required to accomplish this. Heat must be held at a temperature that does not affect the texture, color, flavor, and nutritional value of the product.

ADVANTAGES:

1. It minimizes storage problems. The dried product's weight is from one-fourth to one-tenth or less than the fresh product.
2. It can be kept almost indefinitely, if stored under proper conditions.
3. Nutritional value remains the same as the original foods, if dehydrated with the recommended proper temperature.
4. Seasoning mixes, potatoes, jerky, fruit rolls, etc. can be made at home for a fraction of the cost of purchased foods.
5. It's fun!!

METHODS OF DEHYDRATING

1. SUN DRYING

This is the oldest known method of food preservation. It is the evaporation of water by-productsby sun or solar heat, assisted by movements of surrounding air. Products are spread on containers of one kind or another and put in the sun to dry. The products must be protected from insects and sheltered at night. It requires a rainless season

of bright sunshine. This method is slow. Before storing, food should be placed in an artificial drying device for 20-30 minutes, to complete the drying and destroy any bacteria.

2. SPECIALLY BUILT DEHYDRATORS

Dehydrators can be built any size and shape. Warm moving air dries the food on racks. A heating element provides the heat. These can be special heating elements or light bulbs. A fan at the bottom circulates the air through the food to the top where the moist air escapes through a vent that can be regulated. A hole near the bottom provides a fresh air intake. Many advantages ... no disadvantages.

3. USE OF A NET BAG

Food can be prepared and placed in a net bag and hung on the clothesline. Again, "the advantage ;s that it requires litt1e investment and does keep the insects out. However, the bag must be brought in each night and each time it rains. The bag must be shaken regularly to redistribute food so that it will dry evenly.

4. OVEN DRYING

The kitchen must be well ventilated and care must be taken to keep the heat low. It is a difficult method, but with practice, and experience it can be done.

For a gas range, the door must be kept open 8 inches. This helps control temperature, but is also necessary to a1low the escape of the moisture through air circulation.

In an electric oven, the door is open 2 inches. DO NOT ALLOW THE HEAT TO RISE ABOVE 140^0. Keep it as close to 125^0 as possible. Too low a temperature will sour the food. Too high a temperature will harden it on the outside and prevent moi sture from being released fram the inside. Trays must be alternated.

DIRECTIONS FOR DRYING FOOD

The length of drying time will vary depending on the size of the thickness of slices, amount of heat and relative humidity.

PRODUCT	PREPARATION	AVERAGE DRYING TIME
Apples	Peel and core, cut into rings or slices about 1/8" thick. Drop into preservation solution. Place one layer deep on trays.	12-15 hours
Apricots	Wash, do not peel. Cut in half. Drop into solution for 2 minutes. Place out cut side down.	24-36 hours
Bananas	Select ripe, firm fruit; trim off any bruised spots. Slice 1/8" thick, drop into solution for 2 minutes.	15-24 hours

Berries	Use firm berries, wash, sort and drain; no other treatment is necessary. Slice strawberries 1/8" thick.	15-24 hours
Cherries	Use finm fruit. Remove pits. Let drain for 1 hour. If eut in ha1f, drying time is 1ess	24_36 hours
Grapes	Wash, if large, cut in half, spread deep. For best resu1ts use Thompson seed1ess grapes.	15-20 hours
Pears	Use firm fruit. Wash, core, pare. Cut into 1/8" slices. Drop in solution for 2 minutes, then drain.	15-24 hours
Peaehes	Use firm fruit, wash and peel, slice 1/8" thick and drop in solution for 2 minutes. Drain.	15-24 hours
P1ums and Prunes	Wash, cut in ha1f and take out pits. Dip into solution for 2 minutes and place cut side down one layer deep.	12-15 hours
Asparagus	Use tender tips. Steam 5-8 minutes.	7-9 hours
Beans, snap	Wash, split 1engthwise, or cut into 1" pieces. Steam 15-20 minutes.	12-14 hours
Beans, lima	Use mature, but tender beans. She11 and wash Steam 8-12 minutes.	8-10 hours
Beets	Wash trim tips, but 1eave crown. After steaming cut into 1/8" slices. Large beets may be pee1ed first. Steam or cook til1 tender, 35-40 minutes.	10-12 hours
Cabbage	Remove outer 1eaves; quarter head, core; cut into slices or shred.	10-12 hours
Ce1ery	Trim, wash, cut into pieces 1/8" thick, use 1eaves, too.	12-15 hours
Corn	Husk, steam on cob or dip in boi1ing water 3 minutes, then cut off the cob.	12-15 hours
Cucumbers	Peel, cut in 1/8" slices.	10-12 hours
Onions	Remove outer discolored layers. Slice or shred	8-10 hours
Peas	She11, c1ean and grade. Work quick1y, peas 1ose quality when shelled. Steam 10-15 min.	8-10 hours
Peppers (green)	Wash, c1ean out seeds. Cut into sma11 pieces Can be dried without steaming or steam 5-8 min.	8-12 hours
Potatoes	Wash peel if desired, slice or dice. Rinse in co1d water. Steam 4-6 minutes and rinse again.	8-12 hours
Soybeans	Edib1e and green. Steam pods, then she11 Steam 5-7 minutes.	6-S hours
Squash & Pumpkin	Wash, cut into pieces. Peel and scrape off fiber and seeds. Cut into slices l/8" thick. Steam 4-6 minutes.	12-16 hours
Spinach	Wash, cut into pieces, best to 1eave 1eaves who1e. Steam 4-6 minutes. Loosen 1eaves during the drying process.	8-10 hours
Tomatoes	Wash and slice 1/8" thick. **Place on paper or** cloth towe1 to absorb moisture. No steaming necessary.	10-15 hours

PRESERVATIVES

1. Commercial: Erythorbic Acid or Ascorbic Acid (Fruit Fresh, etc.)
   Sodium Bisulfite Solution
   Combination of above if desired.

2. Dip fruit in salt-water bath of 4-5 Tbsp. salt to 1 gallon water for 10 minutes or dip fruit into medium sugar syrup, drain well.

SUGGESTIONS FOR FRUIT

APPLES: 1. Sprinkle jell on slices; 2. Dip into lemon juice (1 Tbsp. to ½ cup water); 3. Sprinkle coconut that has been ground fine in blender; 4. Dip slices into a solution of corn syrup or honey; or 5. Sprinkle with cinnamon and sugar.

PEARS AND BANANAS: 1. Sprinkle with a variety of jello flavors. 2. Sprinkle with cinnamon and sugar.

PRUNES OR PLUMS: 1. Half and remove pits; use a little lemon juice on inside; or 2. Sprinkle with either pineapple, orange or black cherry jello.

TESTING VEGETABLES FOR DRYNESS

VEGETABLE	TEST
Beans	Brittle
Beets	Tough, leathery
Broccoli	Brittle
Cabbage	Tough to brittle
Carrots	Tough to brittle
Cauliflower	Brittle
Celery	Tough to brittle
Corn	Dry; brittle
Onions	Brittle
Peas	Hard, wrinkled
Peppers	Tough to brittle
Potatoes	Brittle
Pumpkin	Tough to brittle
Spinach-Chard	Brittle
Tomatoes	Leathery

FRUITS	TEST
Apples	Leathery; no moist.
Apricots	Leathery-not sticky
Nectarines	Leathery-not sticky
Peaches	Leathery-not sticky
Large plums	Leathery-not sticky-
Prunes	Leathery-not sticky
Bananas	Pliable, leathery
Berries	Hard & brittle
Cherries	Leathery-not sticky
Grapes	Pliable-leathery
Pears	Pliable, leathery
Rhubarb	Brittle

STORAGE

When fruit or vegetables are dry enough, remove trays from the dehydrator and cool thoroughly. Remove as soon as fruit has cooled. Store in covered containers.

DIRECTIONS FOR RECONSTITUTING VEGETABLES

General Rule: Use 1 cup dehydrated vegetables
2 cups hot water, do not add salt yet

Soak vegetables for ½ hour or longer until vegetables are reconstituted, then cook on medium heat until tender. Now add salt and simmer 5 min.

One cup dried vegetables is sufficient to serve 4-5 people. Vegetables can be powdered after they are dried and used in soups or purees. Grind dried corn in grinder to make excellent corn meal.

DIRECTIONS FOR RECONSTITUTING FRUIT

General Rule: Use 1 cup dehydrated fruit
2 cups warm water, add no sugar yet

Let sit for ½ hour or until fruit is plump. Cook over medium heat until fruit is tender, then add sugar. For pies, cool liquid and add thickening. For desserts calling for fresh fruit use: 1 cup dehydrated fruit to 1 cup warm water. Let sit until liquid is absorbed and fruit is plump.

FRUIT LEATHER

1. Wash (pit when necessary) desired fruit. Most fruits do not need to be peeled. Place fruit in blender and puree. Add 1 Tbsp. honey, corn syrup, or sugar to each cup of puree. Line a cookie sheet with plastic wrap.
2. Spread puree evenly over the plastic, leaving a bit on the edge for easy removal. Place on table in hot sun to dry.
3. When leather is dry, peel from plastic and roll, or leave plastic on when rolling to keep leather from sticking to itself.
4. Store in air-tight containers in a cool dark place, off cement floor.

JERKY AND STEW MEATS

There are two purposes for dehydrating meats and the end use dictates which of the two methods is used. The first is for making jerky, which is dried and seasoned meat that is eaten in its dry state and is not to be reconstituted or cooked. The drying method is achieved by using a smokehouse, small commercial, or homemade smoker or oven. FAT MUST BE REMOVED!! Commercial seasonings are available. However, you may want to make your own.

Cut meat into strips ½ inch wide and ¼ inch thick. Best results are achieved in making jerky or meat that is marinated overnight.

Suggested Seasonings:
1. 3 lbs. meat, 1 tsp. pepper, 1 Tbsp. salt, 1/3 cup Worchestershire, 1 tsp. onion powder, ¼ cup soy sauce
2. Equal parts of salt, pepper, oregano, thyme, basil.
3. Equal parts of salt and sugar

Spread meat on wire racks, place in smoker or oven. Jerky is done when it is shriveled up and black.

If meats are to be reconstituted it must be cooked first. Chicken, turkey, and beef must be cooked to their tender done stage before they are sliced, diced, chopped, or stripped for drying. Cut it ready for your personal recipes. The cooked dehydrated meat will be quite crisp when dry enough to store.

RECIPES USING DEHYDRATED FOODS

APRICOT NUT BREAD

Soak: 1 cup dehydrated apricots in 1 cup water unti1 reconstituted.
Sift: 2½ cups flour, 3 tsp. baking powder and ½ tsp. salt.
Beat until light: 2 eggs, and gradual1y beat in *3/4* cup sugar.
Drain 1iquid from apricots, add enough mi1k to make l cup. Put liquid into 3 quart mixing bow1. Stir in the egg mixture, 2 Tbsp. melted shortening and drained apricots. Add and beat we11 flour mixture and ½ cup chopped nuts. Pour into greased loaf pan. Let stand 10 minutes.
Cover with pan of same size and place in 350 degree oven. Bake 20 minutes. Uncover and bake unti1 loaf is done. Remove from pan and cool.

APRICOT LOAF

3/4 cup chopped dried apricots
½ cup chopped wa1nuts
¼ cup flour
l box cake mix
¼ cup mi1k
¼ cup orange juice

Put apricots into sma11 saucepan with l Tbsp. water. Cover, bring to boil, turn off heat immediately and let stand 10 minutes. In sma11 bow1, stir apricots and nuts into flour until coated, set aside. Empty cake mix into mixing bow1. Add orange juice and milk and blend until ingredients are moistened. Beat one minute at· medium speed or 150 strokes by hand. B1end in eggs. Beat 2 minutes at medium speed or 350 strokes by hand. Bake at 350 degrees for 60 minutes or until toothpick comes out clean. Cool in pan 30 minutes. Turn out on rack. When cool, serve with orange butter.

ORANGE BUTTER

B1end ¼ tsp. grated orange rind with ½ cup softened butter or margarine.

GLAZED FRE5H APPLE COOKIE5

Mix *3/4* cup dried app1es with 1 cup water. Let stand unti1 app1es have absorbed most of the water.
Cream: ½ cup shortening
1/3 cup brown sugar
1 egg
Sift: 2 cups flour
1 tsp. soda
½ tsp. salt
1 tsp. ci nnamon
½ tsp. nutmeg
Add ½ dry ingredients to shortening, sugar, egg misture. Mix thorough1y. Add and b1end: ¼ cup apple juice or milk. Add rest of dry ingredients, drained app1es. Drop by teaspoonfu1s on greased cookie sheet. Sake 400 degrees for 10-12 minutes. Frost whi1e hot with vanilla glaze.

GLAZE: Mix well cup powdered sugar, 2½ Tbsp. apple juiee or milk. ½ tsp. salt, and ¼ tsp. vani11a and 1 Tbsp. butter.

APPLE BETTY

Mix and simmer unti1 tender: ½ up dried app1es in 3 cups water. Combine and put into buttered casserole dish 1½ cups soft bread crumbs, 1/3 cup brown sugar and 1 tsp. cinnamon. Mix in drained app1es (save the juice). Pour over mixture in dish ¼ cup me1ted butter, 3/4 cup water drained from app1es and ½ cup soft bread crumbs with a 1itt1e extra me1ted butter and sprink1e over top. Bake at 350 degrees for 30-45 minutes.

CARROT PUDDING

Soak: ½ cup dried carrots in 3/4 cup water unti1 reconstituted then grind or cut into sma11 pieces (carrots ground before drying are excellent)
Sift: 1 3/4 cup flour
1½ tsp. baking powder
½ tsp. salt
¼ tsp. soda
Cream: 1/3 cup shortening
Add: 1 cup sugar
1 tsp. vani11a or 1emon extraet
1 beaten egg

Add a1ternate1y with f1our, 1 cup buttennilk or sour milk. Beat smooth after each addition. Sprink1e over and fo1d in pieces of carrot. Pour. into prepared 9x9 pan. Bake 375 degrees 30-35 minutes or unti1 it tests done. Remove from pan and cool to 1ukewann. Serve with whipped cream.

APPLE CRUMB CAKE

Soak: 2 cups dried app1es
2 cups water

Mix: 1 cup oatmea1 ½ tsp. soda
1 cup flour ½ cup margarine
½ cup brown sugar

Pat ha1f of mixture in bottom of 8x8 pan. Spread reconstituted drained app1es over top of crumb1y mixture. Sprink1e with sugar and cinnamon and cover with remaining crumbs. Bake *350* degrees for 1 hour. Serve warm orcold. May be kept in refrigerator and served very co1d with ice cream.
Note: Dried, reconstituted peaches, apricots or prunes may be substituted.

CARROT CAKE

Soak: 1½ cup dried carrots
2 cups cold water — Drain and grind in food grinder, or grater.

Mix:
- 1 cup white sugar
- 1 cup brown sugar
- 2 cups flour
- 1 tsp. salt
- 1 tsp. baking powder
- 2 tsp. cinnamon

Add:
- 2 cups shortening
- Reconstituted ground carrots
- 1 cup chopped nuts
- 1 cup raisins

Pour into 2 greased loaf pans or 9x13" pan.
Sake at 350 degrees for 45-55 minutes.

CORN BREAD

Grind 1 1/3 cups dried corn. This will yield 1 cup cornmeal.

Mix:
- 1 cup white or whole wheat flour
- ¼ cup sugar
- 4 tsp. baking powder
- 3/4 cup cornmeal

Add:
- 1 cup milk or buttermilk
- ¼ cup liquid shortening
- 2 eggs

Pour into greased 8x8x2" pan and bake in 425 degree oven for 20-25 minutes.

CREAMED PEAS AND NEW POTATOES

Soak:
- 2 cups dehydrated potatoes
- 3/4 cup dehydrated peas
- 1 tsp. dehydrated onion
- 4 cups water

Cook the reconstituted potatoes onions and peas until tender, about 30 minutes. Drain off liquid, reserving ½ cup.
Add to vegetables 1¼ tsp. salt, ½ cup evaporated milk, 2 Tbsp. butter, ½ cup of the reserved liquide Simmer very slowly until liquid is somewhat thickened.

POTATOES AU GRATIN

Soak 5½ cups dehydrated potatoes in 6 cups water until reconstituted.
Combine with: 2 cups thin white sauce in sauce-pan and heat gently until sauce bubbles.
Arrange layers of the creamed potatoes in a buttered casserole dish with grated cheese between layers and on top. Cover and bake 350 degrees until potatoes are tender, about 30 minutes. Then remove cover and brown the

surface, either in aven with temperature increased ta 450 degrees or under the broi 1er.
For variation in color and flavor, add reconstituted drained green pepper, or pimento, or both, to the creamed potatoes before placing in casserole. dish.

BUTTERED CORN

Soak: 2 cups dehydrated corn in 4 cups water until reconstituted. Cook over medium heat until completely tender. Add salt to suit taste and 2-3 Tbsp. butter. Heat until butter is melted and water is evapora ted.
Yield: Approximately 5 servings.

GREEN SPLIT PEA SOUP

Soak 15 minutes, drain and cook in 3 quarts of fresh water:
1 lb. split green peas
Add: 1 lb. pork sausage rolled into 1" balls and rol1ed in flour.
Cook soup until sausage is done.
Add: ½ cup dehydrated diced celery
½ cup dehydrated diced onions
½ cup dehydrated diced potatoes
Cook slowly for several hours.
Yield: 12 servings.

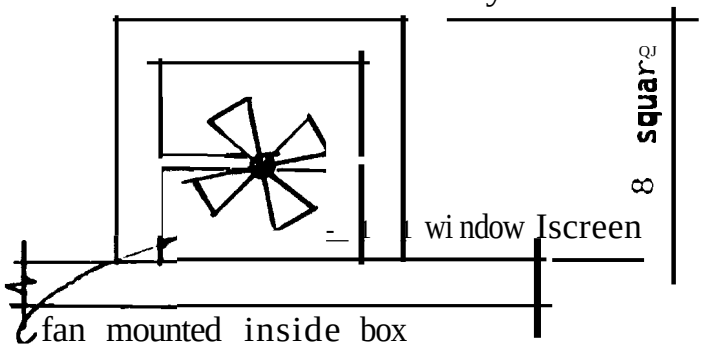
CREAM OF POTATO SOUP

Put into large pan, and bring to boil and simmer until tender:
2 cups diced drhydrated potatoes
¼ cup dehydrated diced onions
½ cup dehydrated diced peppers (green)
½ cup dehydrated celery
1 small whole red pepper
5 cups water
When vegetables are tender, mash potatoes with masher and add l Tbsp. butter and l cup evaporated milk (do not dilute), salt and pepper to taste. When mixed thoroughly and heated through take out red pepper.

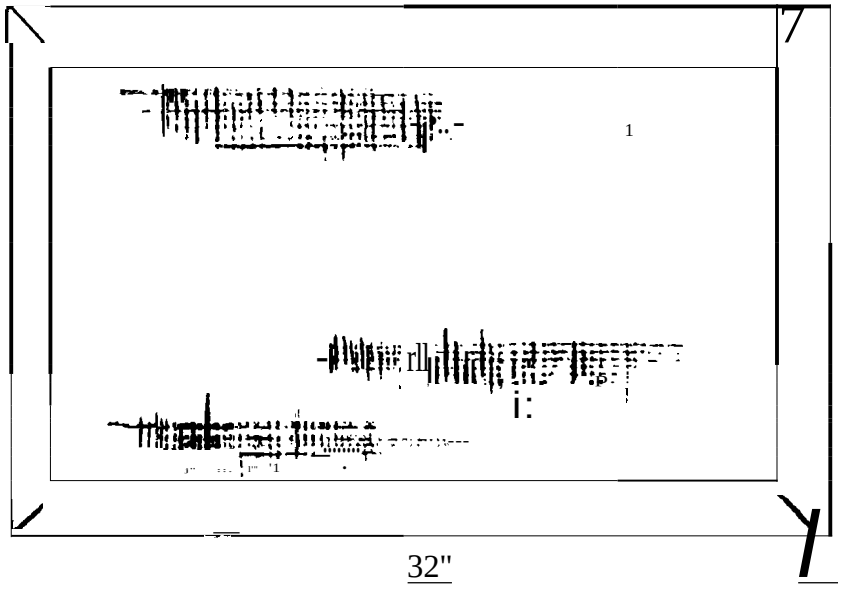
FRIUT & VEGETABLE DEHYDRATOR

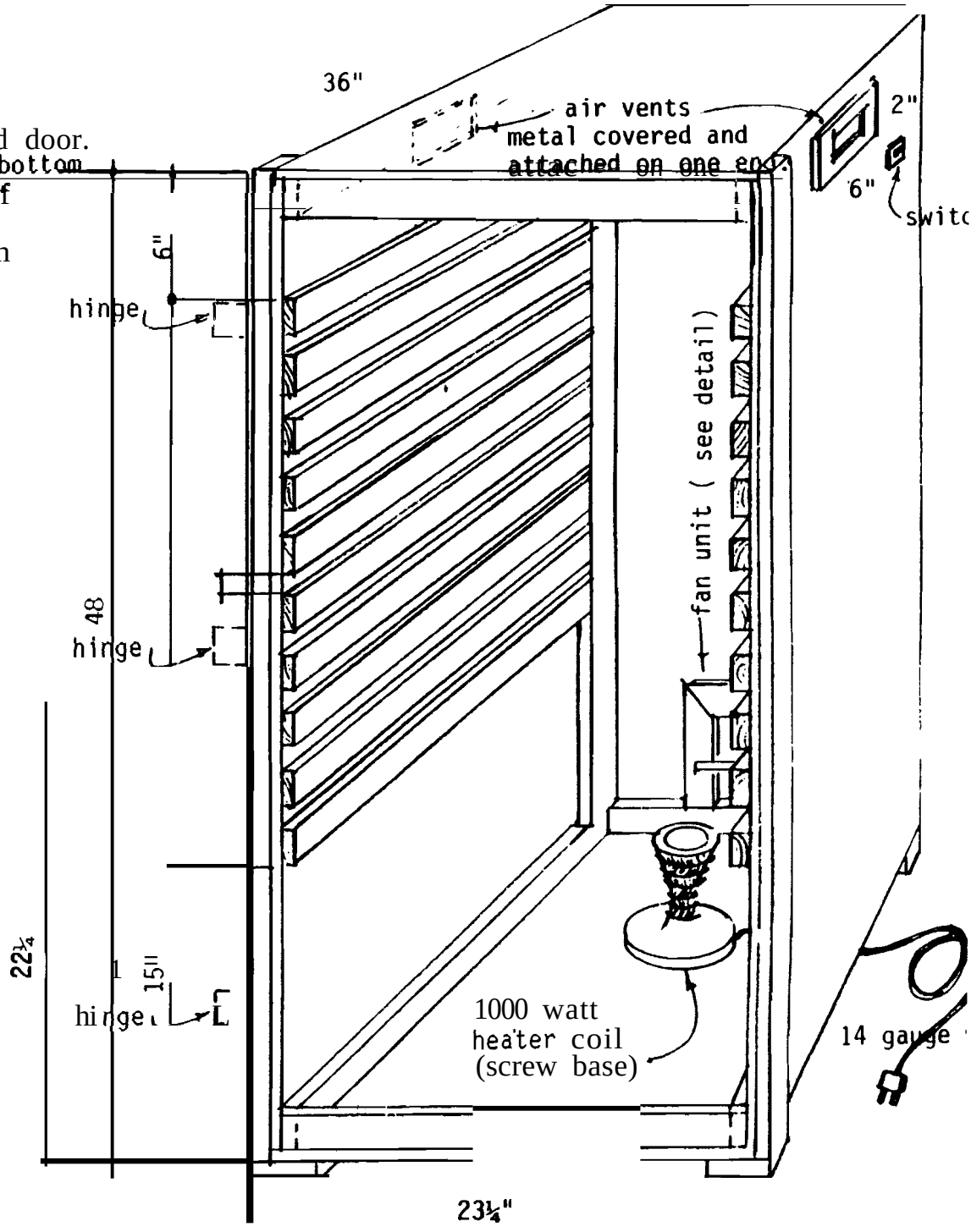
CONSTRUCTION:

1. 3/8" particle board top, sides, back, and door.
2. 5/8" or 2 layers of 3/8" particle board bottom
3. Box frame, rack frame, rack slides are of 1"x2" firstripping.
4. Rack covered with ½" or ½" hardware cloth (heavy nylon screen).
5. Have door latch top and bottom to prevent warp.
6. Have fan blow air directly on coil.



connect coil and fan to same switch.





Open Kettle Method

This method is best used for jelly. jam. preserves. and butters. which have enough sugar added to help keep them from spoiling. Also for pickles and relishes.

Sterilizing jars: Wash thorough1y with soap and warm water. Rinse well, place in pan with folded cloth or rack in bottorn. Cover jars with water and bail for 15 minutes. Jars shou1d rernain in water until ready to use. Adishwasher does not sterilize jars.

Preparing 1ids: Scald Lids by placing them in a pan and oouring boiling water over them. DO NOT BOIL. Let them stay in the water until ready to use. Screw bands must be cl ean and in good condition, but will not require scalding.

Fill only one jar at a time. Wipe the jar carefully to make sure no speck of sugar, pulp, seeds, or syrup remain on it. Place the lid on the jar and screw on the band as tight as possible without using a jar wrench. Cool away' from draft and not on a cold surface.

Pectin is necessary for most jams and jellies to ensure a better flavor and texture. If bottled or sweetened frozen fruits are used, a liquid pectin is best. With fresh fruits, one of several powdered pectins may be used.

Pectin may also be obtained by boiling apples or apple peelings barely covered with water for about 20 minutes. Drain, and save the liquid. Add the same amount of water again to the peelings. Boil again for the same length of time, then drain again and save liquid. Strain. Combine the two liquids and reduce by boiling to ½ the volume. May be used in place of a package of pectin powder.

Addi ng lemon juice to jellies and jams not only intensifies the flavor, but will add to the jelling quality of the fruit. Many fruits. such as peaches and grapes, do not have sufficient pectin to allow the fruit to jell if using only fruit and sugar, unless prolonged boiling is used. Lemon juice also keeps fruit from darkening.

Boiling Water Bath Method

This method is used for processing fruits, tomatoes, and pickles. These are acid foods and can be canned safely at boiling temperature.

A water bath canner may be purchased or can be made from a large kettle that is deep enough to allow water to cover jars at least one inch over the top and a little extra space for boiling. The canner must have a rack to hold jars at least ½ inch above bottom of canner The canner should have a cover, which helps keep water at a good rolling boil during processing.

1. Before preparing food, place the water bath canner on the heat with sufficient water to cover the jars at least one inch over the top. This allows water to be heating while preparing food. Water should not be boiling when jars of food are placed in it.
2. Prepare only enough jars of food at one time to fill the canner.
3. Place jars on the rack in the canner far enough apart to allow circulation of water between them. Add boilingwater if jars are not covered at least one inch. Start counting processing time as soon as the water in the canner reaches a good rolling boil. Keep the water boiling all during the processing time. If water boils down add sufficient boiling water to keep it at the required height.
4. Process the recommended length of time.
5. When done, remove jars from the canner. Immediately tighten screw bands again as much as possible. Set jars upright 2 or 3 inches apart on several thicknesses of cloth or on a rack to cool. Do not cover jars, or set on cool surface or in a draft.
6. When jars are cool, test seal and remove screw band if desired.
7. Before storing, wash jars of food in warrn, soapy water; rinse, and dry.

Three Way Test for Seal

1. Hear the lid plink as it snaps down while jar is cooling or tap jar with a spoon. A clear ringing sound means a seal. If food touches the lid, the sound will be dull, but not hollow or empty like unsealed jars.
2. If the lid is curved down, the jar is sealed.
3. Press the center of the lid - if it is down and will not move, the jar is sealèd. If the jar is not sealed, you may reprocess the contents and thus save the food.

Pressure Canning

A pressure cooker or canner is a very necessary item for processing meats, fish, fowl, and all vegetables other than tomatoes. The general steps which apply to all types of canners are as follows:

1. Prepare jars and food according to recipe.
2. When food is ready to be packed in jars, set canner on heat with water in it.
3. As each jar is filled and cap firrnly tightened, set it on the

rack in the canner. Do this BEFORE the water begins to boi1, as the jars may crack if p1aced direct1y in boi1ing water.

4. Set the jars apart so steam can circu1ate free1y. Fo11ow canner manufacturer's instructions. Adjust the coyer of the canner and fasten secure1y.

5. Exhaust canner. Leave petcock open and let steam escape free1y for 7 to 10 minutes. Close petcock. When required amount of pressure is shown on gauge, start counting processing time. Adjust heat to keep pressure steady.

6. Process for required 1ength of time.

7. When done, remove canner from heat. Make no attempt to lower pressure. Let canner stand unti1 hand on pressure gauge returns to zero. Open petcock gradua11y. If no steam escapes, pressure is down. Remove coyer from canner.

8. Remove jars from canner and set upright, 2 or 3 inches apart on cloth or rack. Do not set jars on cool surface. Do notver them. Do not tighten screw bands.

9. When jars are cool, test for sea1 and remove screw bands.

10. Before storing, wash jars of food with warm,soapy water; rinse and dry.

Methods for Packing Jars

Raw or Co1d Pack Method: Pack unheated or raw food into the jar, then add boi1ing 1iquid --- syrup, water, or juice --- 1eaving 1½ inches head space. The jars are sea1ed and then processed. Most fruits and tomatoes are best if packed raw.

Hot Pack Method: Uti1izes a short precooking. Boi1ing hot food is then packed into c1ean jars, sea1ed, and processed immediate1y. The hot pack is more satisfactory for vegetab1es and meats that will be processed in a pressure cooker or canner. Large fruits such as pears and peaches can be either co1d or hot packed. Fruits such as app1es and rhubarb are best if hot packed. Fi11 jar with syrup, juice, or water, 1eaving a ha1f-inch head space.

FOOD POISONING

To safeguard against food poisoning from canned foods, be sure to heat any questionab1e food (a11 home-canned meats and vegetab1es except tomatoes and sauerkraut) to boi1ing temperature, and hold it there for 10-15 minutes. The botu1inus baci11i dies at 170^0 F so holding the food at the boi1ing temperature of 212^0 insures minimum safety. Don't even taste the food until the boi1ing has been done. After it is boi1ed let your taste buds and hunger guide your decision to taste or eat it. If the food was spoi1ed it may still produce an upset stomach but will not 1ike1y be serious.

Proper Storage of Canned Goods

Proper storage conditions a1most guarantee a good she1f 1ife. The 1ength of time they can be stored is 1arge1y determined by the storage temperature. A dry place with a moderate1y cool but not freezing

temperature (50 - 58^0 F.). The coo1er and drier canned goods are kept, the longer they will 1ast. Under proper storage conditions most canned goods remain usable for several years.

Do not store cans or containers directly on a cement floor; cement has a tendency to sweat.

Shelf Li fe

Products high in acid have a short she1f life (cherries, berries, plums, and prunes). They store we11 for one or two years. Fruits such as peaches, pears, apricots, and applesauce generally keep for two or three years. Canned vegetables such as beets, carrots, green beans, spinach, tomatoes, and tomato juice should keep from three ta four years. Vegetables and meats such as peas, corn, lima beans, and roast beef keep from three ta five years. Canned milk should be agitated about every thirty days, and shauld be used within one year. It is best to have a regular turnover once a year at least.

Kerr Home Canning and Freezing Book and Just in Case by Barbara G. Sals

APPROXIMATE YIELDS OF FRESH FRUIT WHEN BOTTLED

FOOD		CANNED AMOUNT
Apples	l bushel-48 lbs.	16-20 quarts
Apricots	l bushel-50 lbs.	20-24 quarts
Berries	24 Qts. crate	12-18 quarts
Cherries	1 bushel-56 lbs.	22-32 quarts
Peaches	l bushel-48 lbs.	18-24 quarts
Pears	1 bushel-50 lbs.	20-25 quarts
P1ums	l bushel-56 lbs.	24-30 quarts
Strawberries	24 quart crate	12-16 quarts
Tomatoes	l bushel-53 lbs.	15-20 quarts
Asparagus	l bushel-45 lbs.	11 quarts
Beans, Lima in pod	l bushel-32 lbs.	6-8 quarts
Beets	l bushel-52 lbs.	17-20 quarts
Carrots	l bushel-50 lbs.	16-20 quarts
Corn	l bushel-35 lbs.	8-9 "quarts
Peas, in pod	l bushel-30 lbs.	12-15 quarts
Pumpkin	l bushel-50 lbs.	15 quarts
Spinach	1 bushel-18 lbs.	6-9 quarts
Squash	l bushel-40 lbs.	16-20

SOURDOUGH

Sourdough is just a form of wild yeast. Make it with flour and water mixed together and set it in a warm place until itferments. It should be stored in glass, plastic or a crack, never metal. Never fill container more than half full because sourdough bubbles up when fermenting.

When a recipe calls for sourdough, remove the amount needed, but always leave at least ½ cup for your next "start". Refrigerate your start but if kept at room temperature add a little flour and water every few days to keep it "fed" which prevents spoilage.

HINTS FOR SOURDOUGH COOKING

1. If a strong flavor is desired leave out soda.
2. If it turns green ... throw it out and start over.
3. Use any kind of flour.
4. Don't overmix the batter, it thins as it ferments.
5. Sourdough cooking takes a little more heat and longer cooking time.
6. Bread and rolls require vigorous starts.
7. Doughs are better if kept softer than stiffer.

BASIC SOURDOUGH START

Blend: 2 cups flour with 1 pkg. (1 tbsp. yeast) and 2 CUPS warm water

Combine ingredients and mix well. Place in a warm place overnight. In the morning put ½ cup of starter in a scalded pint jar with a lid and store in the refrigerator for future use ... this is the sourdough starter. Use the rest immediately for baking pancakes, bread or cake. To use start again place in mixing bowl add 2 cups milk, 2 cups flour, beat well and set overnight.

SOURDOUGH HOTCAKES

l tsp. salt
1 Tbsp. sugar
3 Tbsp. melted shortening
1 tsp. soda
1-2 eggs

Six ta eight hours (night before) set sponge (batter) as directed above. In the morning save ½ cup for the next start. Add dry ingredients, eggs and blend well. Add shortening. Bake on hot griddle.

Variations: Add ½ cup whole wheat flour, cornmeal, wheat germ or bran.

WAFFLES

Use the same method as with pancakes. Make the batter (or sponge) the night before making it slightly thicker, and let it stand overnight. Use 2 eggs and ¼ cup melted shortening or ail. Bake on hot waffle iron.

BISCUITS

½ cup starter
2 cups flour
1 Tbsp. sugar
½ tsp. soda
1 cup milk
3/4 tsp. salt
1 tsp. baking powder
bacon grease or butter

Mix starter, milk, 1 cup flour in large bowl. Night before if for breakfast, or in the morning if for dinner. Cover bowl. Let rise. Turn this out onto ½ cup flour on bread board. Combine salt, sugar, baking powder and soda with remaining ½ cup flour and sift over top. With hands mixing into the soft dough. Knead lightly. Place in pan and let rise 30 minutes. Bake at 400° for 18-20 minutes.

SOURDOUGH BREAD

4 cups sifted flour
2 Tbsp. sugar
2 Tbsp. shortening
1-2 eggs
1 tsp. salt
¼ tsp. soda

Set sponge and save ½ cup starter. Sift dry ingredients into a bowl, making a well in the center. Add shortening to sponge and mix well. Add beaten eggs. Pour into well. Add enough flour to make a soft dough for kneading. Knead on floured board for 10 minutes. Place in greased bowl, cover and let rise in warm place for 2-4 hours or until it doubles. (Will rise faster if you add some dry yeast in ¼ cup warm water to sponge) Dissolve ¼ tsp. soda in Tbsp. of warm water and add to dough. Knead thoroughly. Shape dough into loaves in bread pans and let rise. Bake 375° for 50-60 minutes.

FRENCH BREAD

1¼ cups warm water
½ tsp. soda
2 tsp. salt
1 cup starter
2 cups flour
1-2 Tbsp. sugar
4 cups unsifted flour
1 pkg. dry yeast.

Pour warm water in large mixing bowl. Stir in yeast. Add starter, 4 cups flour, salt and sugar. Stir well 3 minutes with wooden spoon. Turn in large greased bowl. Let rise in warm place until doubled in bulk. Mix soda with 1 cup flour. Stir in dough, it will be stiff. Knead on floured board for 5-8 minutes. Shape into 2 oblong loaves or 1 large round one. Put on lightly greased cookie sheet. Cover, rise to nearly double. Make diagonal slashes across loaf with sharp knife. Put pan of hot water in bottom of oven. Before baking brush outside with water. Bake at 400° for 45 minutes or until well browned.

SOURDOUGH OATMEAL COOKIES

1½ cups brown sugar
½ cup shortening
½ cup butter
2 cups sourdough
3 cups rolled oats
1½ cups flour
1 tsp. cinnamon
1 tsp. baking soda

Cream sugar, shortening and butter. Add rest of ingredients and blend well. Chill. Roll on floured board and cut with cutter. Bake on greased cookie sheet at 375^0 for 12-15 minutes.

SOURDOUGH CHOCOLATE CAKE

½ cup starter 1 cup milk 1½ cup flour

Mix well and let stand 2-3 hours in a warm place until bubbley and there is a clean sour milk odor.

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

Cream shortening, sugar, flavorings, salt and soda. Add eggs one at a time, beating well after each addition. Combine creamed mixture and melted chocolate with sourdough mixture. Stir 300 strokes or mix at low speed until blended. Pour into two loaf pans or one large pan. Sake at 350^0 for 25 minutes or until done. Cool and frost with butterscotch-chocolate frosting or other icing of your choice.

SOURDOUGH MUFFINS

1½ cups whole wheat flour
½ cup sugar
1 tsp. soda
½ cup melted shortening
1-2 eggs
1 cup raisins

Set sponge as usual, saving ½ cup. Sift dry ingredients. Make well, mix egg and oil thoroughly. Pour into well and stir only to moisten. Sake 375^0 for 30-35 minutes.

MAKING YOUR OWN YEAST

WILD YEAST

2 cups flour 2 cups warm water 2 tsp. honey

Mix well and place in bottle or crock, uncovered. Allow mixture to ferment 5 days in a warm room. Stir it several times a day, thus aerating the batter and permitting the air to activate the mixture. It will smell yeasty and small bubbles will come to the top.

Wi1d yeast is used in varying amounts in recipes for bread, rol1s, hot cakes, etc. The 5th day after using some, "feed" the starter (to replace the amount used in baking) using equa1 parts of f10ur and water or potato water. In another 24 hours, the yeast will foam and work and be ready to use again.

Store in the refrigerator in a glass or crockery container with a tight 1id. Shake it often to activate it before using it again, add 2-3 Tbsp. flour and the same amount of water and store.

Note: You can use homemade wi1d yeast in place of a11 or part of the commercial yeast in a recipe. You can produce yeast by putting a chip from a live oak tree into a mixture of flour and water. You can make bread without any yeast if you allow 24 hours for rising.

SOUROOUGH WITH POTATO WATER

Sift together: 5 cups flour
2½ tsp. sa1 t
Add and stir: 3 Tbsp. honey or sugar
4-5 cups potato water

Use a large crock as mixture will bubb1e up. Let set in warm temperature, 55-100° for about 2 days (if you have a 1itt1e yeast, it can be added, it won't take so long to rise)

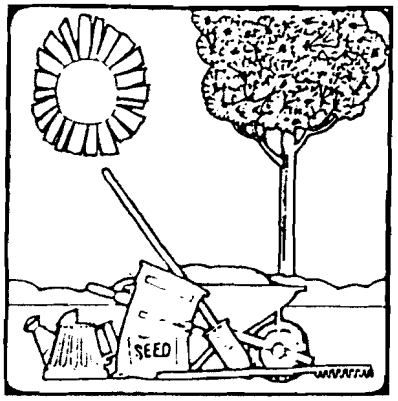
EVERLASTING YEAST

1 qt. warm potato water
½ yeast cake or ½ Tbsp. dry yeast
1 tsp. sa1 t
2 Tbsp. sugar
2 cups flour

Stir a11 ingredients and put them ;n a warm place to rise unti1 ready to mix for baking. "Leave a sma11 amount of the yeast for a start next time. Keep in a cool place unti1 a few hours before ready to use again. Add the same ingredients except yeast, to the start for the next baking. This way a1ways keeping a bit of ever1asting yeast, remaking sorne each time, will a110w you to keep yeast on hand indefinite1y. Between uses, keep in covered jar in the frigerator.

EGG SUBSTITUTE

This is for use in baking.
Before starting to mix the recipe for cookies, cakes, etc., combine 1 tsp. knox unf1avored ge1atin with 3 Tbsp. co1d water and 2 Tbsp. plus 1 tsp. boi1ing water. This mixture will substitute for 1 egg in a recipe. For 2 eggs combine 2 tsp. ge1atin, ½ cup co1d water and 1/3 cup boi1ing water.



GARDENING

WATER SAVING KNOW HOW

You shou1d know in the beginning that you never work the soi1 when it is too wet. To determine if the soi1 is dry enough to work, squeeze a handfu1 into a tight ba11, if the ba11 crumb1es, it is safe to work. If the soi1 clings together and is sticky, it is too wet.

IN DROUGHT CONDITIONS:

1. Use varieties of seeds that are more drought resistant, disease resistant, and that will mature ear1ier. (Peas, carrots, radishes, beets, lettuce, and ear1y corn)

2. Reduce the amount of ferti1izer as less vegetab1e growth will take 1ess water.

3. Bui1d tree wells or water basins around trees and shrubs.

4. Use a "soaker" made of canvas or a perforated hose which allows water to run direct1y into the ground.

5. A drip (trickle) irrigation system will grow plants with about ha1f the water used by other watering methods. Sprink1ing high into the air allows moisture evaporation before it reaches the ground.

6. A higher eut on the grass means a hea1thier lawn with a deeper root.

7. Sprink1ing 5-10 minutes every day is inefficient. Two inches per week is a good target with more or less, depending on the weather. Place a cup in the 1awn or garden and when it gets two inches of water in it, that is sufficient. Drying out the soi1 forces roots into more nutritious ground.

8. Consider minimum or no tillage, as disturbing the soil means moisture loss.

9. Staked tomato plants sticking up in the air may take twice as much moisture from the soi1 as one which is a1lowed to run on the ground. However, staking up tomatoes and pinching 1aterals will help fruit to ripen faster, because the sun and air are allowed better access to the plant.

10. Some say corn does better to let it wilt, others say maintain enough moisture so that plants will never wilt or curl. This is especially true when the ears are developing and ripening.

11. Weeds compete with cultivated plants, not only for nutrients, oxygen, and light, but also for moisture.

12. Proper mulches (organic, plastic, paper, shade) will reduce moisture needs by reducing evaporation. Production should also be increased. However, do not mulch until after the weather has warmed up the ground.

ADVANTAGES OF PLAT OR WIDE PLANTING

1. A vegetative cover in a plot, bed or wide row, will provide a shade mulch and the moisture will be retained longer.

2. Time will be saved by having to water less, weeding time will be shortened because not permitting the sun ta reach the soil, the weeds will not germinate. less harvesting time will be required as you do not have to cover as great an area.

3. A shade mulch saves labor and expense of buying and hauling in large amounts of mulching material. You may want to mulch between the plots, but not between the plants themselves. Shade will keep the soil temperature more constant and will lessen the likelihood of nemotode invasion. Shade also keeps the soil cooler and permits better cool-weather crops in heat.

4. More square feet of gardening space is actually praducing food because less space is wasted on cultivated areas between rows.

5. Wide row or plat planting makes for cleaner praduce, as only the edges of the planting recieve the mud-splashing fram sprinkling or rain. Also only the rows edges feel the drying effects of the wind.

6. Vegetables may be smaller, but they should be crisper, tastier, and more moist. listed are some vegetables suited for plots or wide rows.

Radishes	Chard	Onions
Beets	Cress	Chives
Carrots	Kale	Garlic
Turnips	lettuce	oil
Parsnips	Spinach	Beans (2½" -3/1 apart)
Rutabagas	Cabbage	Peas (2" apart)

SOIL IMPROVEMENT

By adding compost or other organic matter, you can improve soil quality. Humus opens up the soil structure increasing the air spaces

between minera1 and other partic1es, great1y improving drainage and aeration. It a1so softens the soi1 surface thus allowing greater moisture absorbtion. Humas a1so helps to retain the water at a 1eve1 in the soi1 where it is readi1y accessible to plants for a longer period of time.

NUTRIENT COMPARABLE TABLE

Materia1	% Nitrogen	% Phosphate	% Potassium
Dried B100d	13.0	2.0	1.0
Hoof and Horn	12.0	2.0	
Fish Meal	10.0	4.0	
B100d and Bone	6.5	7.0	
Bane Meal	3.0	15.0	
Pou1try Manure	1.6	1.8	7.0
Good Garden Compost	1.5	2.0	0.7
Horse Manure	0.7	0.5	0.7
Cow Manure	0.6	0.4	0.3
Farmyear Manure	0.6	0.4	0.5
Pig Manure	0.5	0.3	0.4
Sewage Sludge	0.5	0.5	0.2
Peat Moss	0.5	1.0	0.3
Town Waste	1.2	0.5	0.3

Three main types of soi1 are clay, sandy and loam. You can improve soi1 by adding one kind to another.

Soi1 can be a1kaline, acid or neutra1 which is between PH 6.5 and PH 7. Moist Utah soi1s are a1ka1ine and usua11y have a sufficient amount of potassium avai1àb1e. For nitrogen needs ammonium sulfate, which tontains some sulphur, seems to be better than ammonium nitrate.

Artificial ferti1izers. do nothing for the soi1, they feed the plants. Numbers on ferti1izer 1ike 10-5-10 refer to the amount of pounds per 100 pounds. The first refers to nitrogen, the second to phosphorus and the third to potassium. Some ferti1izers have trace elements added.

For the natura1 gardener 1eaves contain many of the essentia1 trace minera1 elements such as boron, cobalt and magnesium, in addition to the basic nutrients of nitrogen, phosphorus, and potassium. Tree roots, searching deep in the sail, bring these e1ements up into their 1eaves. Harvest these trace minerals "by tilling in leaves.

A1uminum su1phate can 1eave deposits of aluminum in the soi1 which can be poisonous to both plants and people. Su1phur can a1so be toxic 50 perhaps you shou1d only use them on ornamenta1s.

Pete Moss will make soi1 more acid whi1e nitrogen rich compost makes it more a1kaline.

Sail can be improved by a three ta four year plan crop rotation of legumes, light feeders and greedy feeders.

PLOT 1	PLOT 2	PLOT 3	PLOT 4
1st year			
Legumes Beans, peas etc. these can contribute more nitrogen than they take out also use as an edible coyer crop tilling in after harvest	Light feeders small seeds most root veg. Beets Carrots Onions Parsnips Radishes Turnips	Heavy feeders usually large seeds Cabbage Cauliflower Celery Lettuce Spinach Corn Cucumbers Melons Potatoes Tomatoes Squash	Perennials Herbs Rhubarb Asparagus Berries or Green manure
2nd year			
Heavy feeders	Legumes	Light feeders	
3rd year			
Light feeders	Heavy feeders	Legumes	

One problem with crop rotation is the fact that you will have more heavy feeders to grow than you do light feeders or legumes, so consider using legumes as a coyer crop planted among the heavy feeders or after harvest. For example, plant corn rows 3 feet apart with a wide row of peas or beans between. When corn is 3" tall plant two bush beans between corn hills or pole beans planted with the corn may use the corn to climb.

Any extra space or after harvest Green manure crops are available for a number of reasons:

1. to prevent erosion
2. to capture left-over fertilizer
3. to add nutrients (particularly if you plant legumes)
4. to add organic matter
5. to reduce pests
6. to feed earthworms
7. to increase the biological activity of the soil

To be effective a green manure crop should:

1. be easy to grow
2. grow fast
3. produce abundant leaves, roots or both
4. be turned under before it matures.

Yellowing or chlorosis can be caused by lack of iron. This can be corrected by liquid iron, iron chelates powder, aluminum sulphate, or sulphur. It can also be caused by over watering and cold damp weather.

COMPOST

GARBAGE CAN TYPE

Use a 50 gallon drum (or any other). Open the top and out small holes in the bottom, with a trap underneath to catch any moisture. This is a good fluid to dilute and water house plants. Put 2-3 inches of good soil on the bottom of the can, and either red wigglersor angle worms about 500-1000. Each day take the garbage (no meat or bones) and put it in the can and cover with soil. When can becomes full start on another.

This system can be used in winter in the basement, greenhouse, etc. Keep it warm enough to keep from freezing, or make it in summer outside.

14 DAY METHOD

The keystone of this method is thegrinding or shredding of all material used. Grinding has these effects on compost:

1. The surface area of material on which microorganisms can multiplv is greatly decreased.
2. Aeration of the mass is improved because shredded material has less tendency to mat or pack down.
3. Moisture control is imoroved.
4. Turning of the heap is much easier.

No layering of material is used. It is mixed either before or after shredding, then piled in heaps no more than 5 feet in height. After only 3 days, the heap is turned. Turning is continued at 2-3 day intervals. After 12-14 days, the heat of the pile has dropped and the compost is sufficiently decayed to use on the soil.

If compost is being made for garden use, turning can be done by hand. Turning a shredded heap is not laborious, because it is light and fluffy.

Manure is essential to fast composting. It supplies nitrogen, performs the wonderful service of heating up the heap auickly.

Shredding is essential, either by a compost shredder or a small rotary lawnmower. Moisture is also needed if composting is to take place quickly. If your heap is made of predominately dry materials, it is good to water it liberally when it is first made. It is usually not necessary to water it again for 10 days (if this heap is made of shredded material).

Leaves make a good basic raw material to start with. Use a leaf mulching attachment on your mower and you can cut up a tremendous pile in a matter of minutes. In addition to leaves you need grass clippings and add manure for optimum composting. A good formula is:
100 lbs of leaves -- 100 lbs. of grass clippings-- 100 lbs. of manure. You can also use weeds, garbageor spoiled hay.

If the pile does not become active by the second day, you probably have not put enough manure or highly nitroqenous material in it. If the weather is hot and your heap begins to dry out, keep watering it. Don'tlet it get soggy, however. At the end of l0 days your heap should begin to cool, then it is ready and you can feel satisfied.

PLANNING YOUR GARDEN

Gardening,like any other endeavor is dependent on a good plan. It helps utilize space and water. Be aware of family likes and dislikes, sail ·types, and planting times. Exoeriment with new seeds, brands and techniques. Jot down these things so that next time you can avoid errors.

VEGETABLES	START INDOORS	PLANT OUTDOORS
Asparagus, beets, carrots Chard. Kohlrabi, Lettuce, anion, Peas, Parsnips, Spinach, Turnips, Radish·		March 15 - May
Broccoli. Cabbage (early) Cauliflower, Brussel Sprouts	March l, or 5-6 weeks before planting	April 15 - May
Beans, Celerv, Corn Cucumber (seeds) Parsley, anion		May 20
Pumpkin, Squash. Melons Cantaloupe		May 20
Tomato, Pepper. Eggplant	March 15 (3-4 weeks before)	May 20

Follow instructions on seed packets and fertilizer bags.

SEEDING AND TRANSPLANTING

Success in growing good transplants depends on how these basic requirements are met:

1. DISEASE FREE GROWING MEDIUM: What you want is sterile, moisture retentive. airy. and a fine texture suitable for tiny plants and roots. Many are available: Sphognum moss, vermiculite. perlite or synthetic soil mixes.
2. WARMTH AND MOISTURE FOR SEED GERMINATION: Place container in semishade, where temperatures will be 68-75^0 during the day. Whether outdoors, or indoors, in dry areas coyer the top of containers with several layers of newspaper, a pane of glass or enclose in a plastic bag.
3. ADEQUATE LIGHT FOR STOCKY GROWTH: When seedlings begin to come up gradually give the container full sunshine and cooler temperatures. Keep the soil moist but never soggy. Artificial light may give a big headstart. Special Flourescent lights encourage flowering. but incandescent bulbs are sufficient for starting seeds and for foliage growth.

4. HARDENING: Young plants shou1d not go direct1y from an indoor environment to the open garden. Take them outside in the daytime and bring them in again at night if frost is likely. In one way or another expose them to lower temperatures about 2 weeks before setting out. Expose them also to more sunlight. Protect them from the wind.

DO NOT START PLANTS TOO SOON: The averaqe time needed for sowing to setting in the permanent place is 4-8 weeks.

WAYS AND IOEAS OF GARDENERS

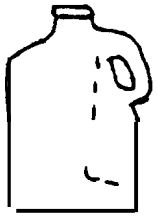
1. Plant most important crops on most productive soil .
2. Use old nylons to tie up tender plants.
3. Clip runners on sauash post the last squash so the growth into the squash instead of the plant.
4. Hybrid seeds are not the best to save for planting next year.
5. Sweet corn varieties will cross and influence the taste, if p1anted close together. Separate summer souash a1so.
6. By p1acing immature melons off the ground above foliage, on tin cans where they can get more sun, they will ripen 2 weeks earlier.
7. A perfect time to pick cantaloupe is when a 5/8" groove developes around the stem where it attaches to the melon.
8. Dig a hole, put in 6" of manure, next put in 14" of soi1, then a layer of soi1 and manure. (manure in bottom gives off heat and you are working on the same princip1e as the oldtime hot beds) Place tire tube fi11ed with water around ho1e and plant. The tube will draw heat in the day and stay warm into the night. The tube will a1so act as a mu1ch holding in moi sture and keeping weeds down. If you are short of water, you may have use for water in the tube later.
9. Dil1 can be frozen when at its best stage for pickling (just before the flowers open). Seeds can be dried when mature. For best results pick di11 flowers fresh from the garden.
1a. When transp1anting tomatoes, remove all but the topmost leaves, 1ay it on its side in the furrow so it will root all along the stem.
11. When putting out onion sets for green onions, plant extra deep and you should have more white stem to eat.
12. Plant Russian sunflowers with pole beans.
13. Don't pull rhubarb the first year. Division of first year roots should have that first season to become firmly rooted. Don't leave broken stalks in plant, it will cause deterioration.
14. Tansy discourages ants, f1ies and cabbage loopers.
15. Tomatoes in the rose garden will prevent black spots on roses.
16. A strong tea made of boiling water, garlic and a good portion of red pepper, sprink1ed or sprayed on cabbage plants will keep away bugs.
17. Wood ashes and sand will discourage slugs and cabbage worms.
18. Basil and tomatoes help each other by enhancing flavor and growth. Basil in kitchen window will keep flies out.
19. Plant potatoes near beans, corn, cabbage, marigolds and eggplants. Keep them away from pumpkin, tomato, squash and cucumbers.

20. Watermelons may be planted in potatoes, especially if potatoes are mulched with straw.
21. White lime does wonders as a bug killer sprinkled on plants and. around ant hills.
22. One teaspoon salt in the center of a dandelion is supposed to kill it.
23. Friendly bugs in our area are: the lady bug which will eat 55 aphids per day, fire flies will eat the larva stage of cutworms, adult slugs and snails, and worms aerate the sail.
24. Snakes, frogs, toads, birds all eat insects ta help the qardener.
25. Apple picker from a·clorox jug is very handy. (See below)"
26. Control· weeds early. An hour spent hoeing small weeds will save hours of work later on.
27. Keep space occùpied. When early crops such as lettuce, peas, radish and spinach are gone, make second seedings, or plant such things as snap beans, beets, broccoli, cabbage, carrots, corn or chard.

NOTES

FRUIT PICKER

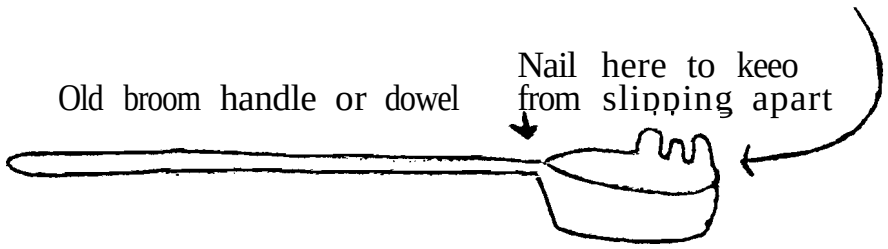
Cut away "the handle side"
with a sharp knife



Rounded fingers cut
from the bottolllof bottle

Old broom handle or dowel

Nail here to keeo
from slipping apart



WATER STORAGE

In our modern day life, we take our dear water for granted. We expect water to rush from the tap every time we turn the tap on. However, many circumstances ranging from repair work and electricity failure (pumps need electricity to pumo the water) to an earthquake or other disasters can interrupt or contaminate our water.

In such cases, an emergency supply of stored water at home can be of great value.

We should recognize the fact that if we are forced to use water of unknown quality - no home method of water treatment can guarantee safety of the water.

Various sources recommend storing a two weeks' supply of water. The amount often recommended is seven gallons per person for drinkinq and food preparation and another seven gallons for limited uses - such as hand washing, teeth brushing, and dish washinq.

CONTAINERS FOR WATER STORAGE

Many kinds of plastics exist - polyethylene plastic is commonly used for containers of various sizes - including large 57 gallon drums. Care should be taken to use containers made of plastic approved for food contact by the FDA. Plastic containers which are not intended for food contact, such as vinyl plastic water beds, may leath undesirable chemicals into stored water. Leaching of chemicals from approved plastic into water is negligable.

Generally, polyethylene plastic containers are safe for water storage. One example of a common container designed for liquid food contact is the disposable, gallon-size, plastic milk bottle. Liquid chlorine bleach bottles may be used for water storage, if the bottles are thoroughly rinsed with hot water and allowed to dry. If bleach bottles must be used for water storage be certain to remove the bleach label and write the word WATER indelibly across the bottle.

Polyethylene and other plastic containers tend to be permeable to oxygen and carbon dioxide. This causes no problem if the containers are clean and sanitary.

The penneabi1ity of plastics can be a nrob1em if plastic jugs are stored near gaso1ine, kerosine, pesticides, or simi1ar substances. Such vapors cou1d penetrate through the plastic and affect the water.

SANITARY METHODS OF WATER STORAGE

Stored water must be c1ean water. Use the best qua1ity water avai1ab1e for water storage. Water from systems with a State Division of Hea1th "approvedll of "provisionally approved" rating is recommended.

For long term storage, water shou1d be steri1ized or disinfected.

1. Sterilization recommended by Utah State University Extension Service says to: Fi11 c1eanglass fruit jars with water, 1eaving one inch of headspace at the top of the jar. Place c1ean steri1ized 1ids on jar and process. Quart jars for 20 minutes and two-quart jar sizes for 25 minutes.
2. Disinfecting can be done effective1y by using chlorine b1each. Water stored in plastic or glass containers can be earily disinfected for 10ng-term storage by treating each gallon with 16 drops or ¼ tsp. of 1iquid ch10rine b1each (Clorox or Purex type b1eaches, containing 4-6% sodium hypochlorite) This will ki11 any residua1 mi1k bacteria in washed mi1k bott1es. However, mi1k bott1es must be thorough1y c1eansed to prevent sour-mi1k odor and taste.

Steri1ized or disinfected water - stored in c1ean, food-contact approvedcontainers with secure 1ids or caps shou1d be safe for use even after severa1 years of storage.

Replacement of stored water with fresh water shou1d be necessary on1y if stored water becomes contaminated in any way or if the containers shou1d begin to 1eak. Be sure to label each container as it is fil1ed. Then there is no question as to its contents when it is used. Mark the date fi11ed, a1so.

The above information was taken from a pamphlet:

"Emergency Water: Home Storage and Emergency Disinfection"
A copy may be obtained by writing: Division of Health
44 Medical Drive
Salt Lake City, Utah 84113

Water	hydroclorite 5.25 % Bleach		2 percent tincture of iodine	
	clear	cloudy	clear	cloudy
1 qt	2 drops	4 drops	3 drops	6 drops
1 gallon	8 drops	16 drops	12 drops	24 drops or ¼ tsp
5 gallon	1 tsp	1 tsp	¾ tsp.	1½ tsp

FUEL

When plans are made to meet emergencies, fuel and heat are all too often overlooked. So excellent are the services of the electric and natural gas companies that we think nothing could happen to them. But they are subject to breakdown, fuel shortages, and natural disasters. Some ideas are here presented for providing yourself with fuel and heat if the old stand-bys should falter.

KINDS OF FUEL

COAL

Coal stores well if kept dark and away from air. Air speeds deterioration and breakdown, causing it to burn more rapidly. The amount of coal needed for heat will depend on the home size, the amount of insulation, and the temperature to be maintained. A house with one thousand square feet of space, three inches of wall insulation, and six inches of ceiling insulation, if kept at 70° F., would use approximately five to six tons of coal in one year.

The cost of coal varies from company to company, depending on the time of year, whether or not it's delivered, and other factors. It pays to compare prices.

WOOD

It takes approximately eight cords of the best hardwood to heat the average home for one year, making it about the most expensive fuel that can be used for home heating. If soft wood is used, figure on burning more.

Hardwood, which is slow burning and sustains coals, feels solid and heavy in the hand. Because hardwood is more difficult to burn than soft wood, a good supply of kindling is necessary to get going Soft wood is lightweight and burns very rapidly, leaving a good supply of ashes,but very few coals for cooking.

NEWSPAPERS FOR FUEL

Use the following method to make newspaper logs; a good, inexpensive source of fuel. Divide the day's paper into sections and fold them to one-half page size. (About 12x15 and ½" thick or less) Place them in a tub of water and soak overnight or add 1/16 cup of detergent to a laundry tub of water and soak an hour or two.

Then, while wet, roll the sections individually on a one-inch 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" shouid be about 12 inches long and two to four inches in diameter. They are ready to use when completely dry. The average weekday newspaper will make two or three logs.

PROPANE

Propane can be purchased prepackaged in throw-away containers or can be stored in your own containers. This is one of the cleanest, most efficient fuels available. If you have camping equipment that is designed for propane, store a few containers of fuel. Your camping equipment is ideal for emergency use.

There are many different brands of propane on the market. Thoroughly read the instructions on use and disposal before using any of it. General safety precautions for all brands are: Never freeze; never incinerate; use only as directed.

WHITE GAS

White gas used in sorne camping equioment is clean and efficient. If you have camping gear that requires white gas, it would be well to store sorne. When storing white gas, or any other 1iquid fuel, use proper containers (metal), clearly marked and aporoved by local and state safety codes. Never store fuels in the house or near a heater. Use metal storage cabinets, vented top and bottom, with a locking device, and keep it locked at all times. Many curious children are seriously injured each year because of carelessness in handling products such as these.

KEROSENE

The most common home usage for this fuel is in heaters and lamps. Very rarely is it used in cooking. In storing kerosene follow all safety precautions listed by state and local safety codes. Use only metal containers and store them in well ventilated, cool locations. If you have a kerosene lamp for emergency lighting, don't forget to store extra wicks.

TRENCH CANDLES

Instructions on making trench candles are found later in this booklet. Trench candles can be used as a fireplace fuel, much the same as a newspaper log. The difference is that trench candles are dipped in paraffin, and will burn longer than a simple paoer log. When using them as fireplace logs do not cut them into short editions as you would for candles.

CHARCOAL

With a few charcoal briquets, you can not only cook a meal but provide some heat. Available at nearly all markets, charcoal also can be made at home. It can be stored safely as purchased. Keep it dry. Do not burn briquets in a non-ventilated area.

For making your own charcoal, select twigs, limbs and branches of fruit, nut, and other hardwood trees. Black walnuts and peach or apricot pits also make excellent briquets. Any of the foregoing will make a hot fire and give off very little smoke. After cutting the wood into desired sizes, place it in a can which has a few holes punched in it, put a lid on the can, and cook the briquets in a hot fire. Holes in the can allow gasses and flames to escape, while exclusion of oxygen keeps the wood: nuts, or pits from being completely consumed and turning to ashes. When the flames from the holes in the can turn yellow-red remove can from fire, and allow to cool. Store briquets in moisture-proof containers.

HEATERS

CATALYTIC HEATERS

Several manufacturers of camping equipment make catalytic heaters which use white gas or propane. They store easily, and if taken care of will give years of service. Make sur.e area is well-ventilated.

SMALL IRON STOVES

Small iron stoves are great for heating or cooking, yet inexpensive to buy. Available with or without ovens, they could be a life-saver. The stove surface can get very hot, so keep chi1dren away when in use. Use wood, paper logs, charcoal or coal.

EMERGENCY COOKING STOVES

Aside from possible availability of the commercially made charcoal grill, Many different stoves can be made at home with materials that are on hand, not much cost is involved and they work well. The ideas presented below are not all oriqinal, but have been developed ta meet needs and requirements of some families. Look around and see what materials you have that you cou1d transform into a handy emergency stove. Don't be afraid to experiment. The real test is cooking a meal on your invention.

CHARCOAL STOVE

A charcoal stove is one of the easiest stoves to make. The materia1s needed are: 1 three lb. coffee can, 3 wire clotheshangers, 6 feet of soft baling wire, and a can opener for removing lids of cans. You will also need an opener with a pointed end.

Remove the 1id from one end of the can. At the opposite end, using the pointed can opener, punch ho1es in the side of the can. Completely encirc1e the can with holes but do not connect them. The stove is now ready to use.

To make the grate for a charcoa1 stove, straighten out three wire hangers. Cut two of them into 7" long pieces. Take the third wire and bend it in halves to make the handle for your grate. Now weave the 7" pieces of wire and handle together in a waffle weave. With small pieces of soft wire, wire the grate together at each place where one wire crosses another. Twist wire, leaving about 3/8" of twisted wire hanging straight down to keep the grate from slipping off the stove. To complete, bend free ends of grate wires toward one another.--A little effort and about one hour time, and that's all!

Put in alternate layers of wadded-up newspaper and pieces of charcoal until the can is full, then insert a lighted match through one of the air holes at the bottom of the stove. If the paper burns but the charcoal does not 1ight, empty the stove and repeat the process, using more paper.

TIN CAN STOVE

The buddy stove or tin can stove is generally used only for cooking but could provide some heat for an hour or two. A one gallon can is a1l you need for the stove. Cut out the end of the can and slide it down against the other end. This doubles the thickness and helps to give more even heat. To hold the cut-out piece in place, punch a series of even1y spaced openings three inches high and four inches wide. This opening is used to insert the fuel canister and a1so gives needed ventilation. Cooking is done direct1y on the can.

To make an oven to fit your tin can stove, use a shortening can. Remove both ends and wire a piece of see-through plastic roasting wrap over one end so that you can watch the food bake. Place the oven (plastic side up) on your stove. The heat will rise into it and cook whatever is placed inside the oven.

FUEL FOR TIN CAN STOVES

Fuel for tin can stoves is easi1y made at home. A tuna fish can makes an idea1 container, and the 1id can be used as a damper. Cut a strip of cardboard as wide as the can is deep. Coil the cardboard and place it in the tuna can. Continue this process until the can is filled, then melt a small piece of paraffin wax and pour this over the cardboard. When the wax is cool and solidified, the fuel is ready to use.

If no other fuel is avai1ab1e, a smal1 candle can be used for heat in the tin can stove.

A damper is used to control the flame produced by the fuel canister. To make a damper, use the removed 1id of the tuna can. Straighten out a wire hanger's bends and kinks. Punch two ho1es in the 1id, parallel to each other and just large enough for the eut ends of the coat hanger to pass through. Cut a 1ength of coat hanger twenty inches

long, double the wire in halves, then bend down an inch and a half of the doubled end and half an inch on the two straight ends. Insert the two straight ends in the two holes previously punched in the lid, then turn the lid over and bend the protruding ends of the coat hanger flat against the lid. Punch two more holes on each side of the can and, with a fine wire, wire the handle to the lid.

OTHER EMERGENCY COOKING STOVES

Barrel stove (barrel cut lengthwise with a grate), aluminum foil cooking, dutch oven, spit cooking, camp stoves, open, fire, reflector oven.

HEAT TAB STOVE

The heat tab stove is a very small, three-leqged stove with a cup in the center Just large enough to hold a one-inch diameter by half-inch thick fuel tablet. Many backpacking campers use this little stove on overnight hikes. It folds into a compact unit that fits into a very small space. While it is generally considered to be a one-man stove, it could serve in a short-terrn crisis to heat food or warm a baby bottle.

CANNED HEAT

Canned heat is a fuel that cornes in a small can, and when lit provides sufficient heat to cook a meal. When the cooking is finished, you Just slip the lid in place and the flame is snuffed out. If the lid is kept tightly closed the fuel will store for many years. I have a few cans that were kept for 14 years. Upon opening one of the cans, I found that about a third of the fuel had evaporated. However, time had not diminished the strength of the remaining fuel. When a match was p1aced in the can, it ignited immediately. Most manufacturers of canned heat a1so market a sma11, collapsible one or two burner stove to use with the fuel.

IF THE LIGHT SWITCH FAILS

A variety of candles can be made fairly inexpensively at home. They range from strictly utility candles to the kind you could put on an elegantly set table.

TRENCH CANDLES

One of the easiest and most inexpensive versions of an emerqency candle, the trench candle, also can be used as emerqency fuel. It is made from rolls of newspaper soaked in paraffin.

1. Place a narrow strip of cloth or twisted strong (for a wick) on the edge of newspapers of six to ten layers.
2. Roll the paper very tight1y, 1eaving about three quarters of an inch of wick extending at each end.

3. Tie the roll firmly with string or wire at two to four inch intervals.
4. With a small saw, cut one inch above each tied place and pull the cut sections into cone shapes. Pull the center string in each piece toward the top of the cone so it will serve as a wick.
5. Melt paraffin in a large saucepan set inside a larger pan of hot water. Soak the pieces of candle in the paraffin for about two minutes.
6. Remove the candles and place on a newspaper to dry.
7. Store these candles in a cool place until you want to use them.

Several kinds of wax are used in candlemaking, the difference being in their hardness. Wax comes in eleven pound slabs, in chunks, and in one and two pound slabs. The cost of wax may be less if it is purchased in a hardware or discount store rather than in a craft shop.

CANDLES

Approximate burning times are as follows:

3/4 inch diameter, 4 inches tall --- will burn 2½ hours
7/8 inch diameter, 4 inches tall --- will burn 5 hours
2 inches square, 4 inches tall --- will burn 28 hours
2 inches square, 9 inches tall --- will burn 63 hours

OTHER METHOOS OF LIGHTING

Kerosene lamps, camping lanterns, flashlights.

STORAGE CANOLES

The storage candle is very easy to make and store.

Any type can be used. but a 46 ounce juice can is a very convenient size candle. For one candle. use 2 cans sawdust, 1¼ cops melted hot wax, and candle wick or string.

Slowly pour hot wax into sawdust and mix together with wooden spoon until you can handle with hands. Then mix together with hands until wax and sawdust are mixed well. It should look like graham cracker crust texture.

Tie a piece of candle wick or string ta a nail and put in middle of can. Tie the other end of the wick to a penc1l and place across the top of the can. This keeps the string in place while you are fil1ing the can with the wax mixture. You car. also dip wick in hot wax ta make it stiff before placing it in the cano Pack down the mixture as tight as you can with fists a little at a time. The tighter you pack it, the longer it will burn. Leave about 1 to 1½ inches at the top and when packed good. pour a little hot wax over the top to seal the candle.

Don't put too much wax in sawdust. If you do, the candle will burn too fast. Also, when you burn your candles be sure you have some ventilation in the room. If done properly, the candles should burn up to 30 hours. Three of the 46 ounce size candles will heat an average room. They can also be used to cook on.

NOTES

SOAPS & CLEANING SUPPLIES

BAR SOAP

Place in large ename1 vesse1. Strain 11 cups fat, heated unti1 warm

Add:
- 6 cups co1d water
- ½ cup borax
- 1 can 1ye
- ½ cup ammonia
- 4 tsp. oi1 of sassafras
- ½ cup sugar

Boil sugar in 1 cup of the water, then add to the rest of the water. Then mix a11 together. Pour into heated grease and stir. Stir unti1 thickened and looks 1ike cream, then add oi1 and pour into mo1ds. Before it sets uo cut into bars.

GRANULATED SOAP

Make this soap outdoors.

- 2½ quarts water (rain water is best)
- 2 quarts grease (strained, me1ted, hot)
- 1 cup clorox
- 1 cup 1ye
- 2 Tbsp. borax

Mix clorox, water, 1ye and grease slowly stir often during the first day. Allow 2 weeks to cure, during that time stir occasionally.

HAND SOAP

- 1 Tbsp. 1ye
- ¼ cup cold water
- 1 cup 1ukewarm strained and me1ted fat
- 1 Tbsp. 1emon juice

Put in plastic container, gently stir 1ye into cold water, using wooden sooon. Slow1y add 1ukewarm fat and continue to stir unti1 it's thickened and comes away from the sides of plastic. Add 1emon juice. Pour mix into plastic molds, cover with plastic wrap, let set for 24 hours, remove soap from mo1ds. Let dry for 14 days.

DETERGENT SOAP SYNTHETIC DETERGENTS

There are more than 30 different detergents on the she1ves of most large grocery stores. Each is advertised as having superior qualities to match the specific needs of homemakers. Consequent1y homemakers everywhere are asking "What is the BEST deterqent for the fami 1y wash?"

A knowledge of the characteristics of each type of deterqent shou1d help to clarify the situation and permit choice making to be done on the basis of facts rather than high pressure advertising and salesmanship.

SOAPS Soap is the detergent most fami1iar to everyone. It is made from fat and lye. There are two types of 1aundry soap. Unbui1t, which is almost pure soap, and bui1t soap, a mixture of soap and one or more chemicals ca11ed bui1ders.

Unbuilt soaps are intended for 1aundering fine fabrics. Some examples are: Ivory Snow, Ivory Flakes and Lux Flakes.

Built soaps, the kind used for the fami1y wash and all deep c1eaning contain not less than 50% soap with varying amounts of alkaline builders such as washing soda, borax, traisodium phosphate and various complex phosphates. These chemica1s air in removing soi1 by improving the cleaning action of the soap and softening the hard water. Common brands of bui1t soap contain 55-80% soap and sometimes in addition to the bui1ders, a fluorescent dye for whitening c10thes. Examp1es are Fels Naptha, Duz, and White King.

SYNTHETIC DETERGENTS Synthetic detergents were developed to obtain washing preparations that wou1d overcome some of the disadvantages of soap. As with soaps, there are two types of synthetic detergents, unbui1t and bui1t. Bui1t detergents are a1so avai1ab1e as high sudsers and low sudsers.

High sudsing detergents are excellent for use in conventiona1 washers and top loading washers. They cannot be used satisfactori1y in tumb1er type automatic washers because they produce too much suds. To adjust high sudsing detergents to usab1e suds 1imit, it wou1d be necessary to reduce the amount far from what is necessary to wash clothes c1ean. Gray bui1d-up wou1d be the resu1t.

Unbuilt detergents may contain on1y 30 to 40% pure deterqent. In addition they have from 50-60% neutra1 salts but not alka1ine salt builders. Being neutra1 and cantaining no a1ka1i makes this kind of a detergent idea1 for carpetc1eaning and for washing de1icate fabrics. Examples of dry unbui1t synthetic detergents inc1ude: Dreft, Trend and Vel. Liquid: Lux, Ivory, Chiffon, Ve1 and Joy.

The built synthetics, like the bui1t soaps, contain a1ka1ine salts which increase their cleaning abi1ity. Bui1t synthetics are for washing heavi1y soi1ed clothes. Low sudsing examp1es inc1ude: All. Dash, AD, and Spin. High sudsing (Dry) are Tide. Duz. Oxydo1. High sudsing (liquid) Dash, Bex, and Hum.

EFFICIENCY OF DETERGENTS A11 detergents remove more soi1 in hot water than in lukewarm and are much more effective in soft water than hard. It takes approximately three times as much soap in hard water than in soft water to remove the same amount of soil.This is because considerable soap is used up in softening the hard water.

More recent1y co1d water detergents have been developed and they work very we11.

DRAIN CLEANERS IT'S EASY TO MAKE

Drains need to be c1eaned regularly to keep thern fresh and free-running. Here's·a formula for a compound which will keep your drains clean without draining your pocketbook.

You will need BAKING SODA, TABLE SALT, CREAM OF TARTAR and a container. (A11 avai1ab1e at your supermarket)

Dry mix one cup ofBAKINGSODA, one cup of TABLE SALT and ¼CUP CREAM OF TARTAR in a bow1. Store in container.

To use, put ¼ cup in drain, add one cup water. Note c1eaning bubb1ing action. When bubbling has stopped, run WATER through drain.

The cost of making your own drain c1eaner is apnroximate1y four and ahalfcents per ounce.

MAKING LAMP OILCAN BE EASY

In the stark realities of our time, making ends meet becomes quite a challenge.

Our homes shou1d be havens where we can relax and "recharge our batteries" for the next day's strugg1e. And few things contribute as much to the atmosphere of serenity as the old-fashioned oi1 1amp.

Most hardware stores now se11 lamps and patio oi1 that's Quite expensive. But you can easi1y make your own at a fraction of the store price.

You'll need three ounces of ordinary agricultural LIME (if you don't a1ready have some for your garden, any building supply or garden shop will have it), one gallon of KEROSENE, (from a filling station), a few drops of OIL-SOLUBLE DYE (from a paint store), and severa1 layers of cheesecloth.

Pour the kerosene into an open-top vessel and add the lime. Stir mixture continuously for at 1east two minutes.

Because kerosene is flammable, an electric mixer should not be used. An ordinary egg beater works fine, and of course, mixinq must be done in a wel1-venti1ated area away fram any flame.

Next stir in the oil-so1uble dye to obtain the color you want. The mixture should now be strained through cheesecloth to remove any undisso1ved particles, and stored in a sealed glass, metal or plastic container

Remember, kerosene is toxic as well as flammable and should be kept well out of the reach of children.

TO CLEAN CERAMIC TILE

Ceramic tile is made from various types of clay and other minerals. The mastic mix is packed into molds and then fired at high temperatures. In some cases the initial firing may also produce the final finish, however in others a finished coat, called a frit, is fires on the surface of the substrate as a secondary operation.

Frits are made up in liquid form, and painted or sprayed on the substrate. These usually contain glass in some form or the other, and the color desired for the finished surface.

Herels a formula that's inexpensive to make and will do a good job.

You'll need two tablespoons TRISODIUM PHOSPHATE (TSP) --- available at hardware stores -- and one gallon water. Mix together and wipe over tile with a sponge dampened in the solution. Store the solution in glass or plastic jug.

MAKE YOUR OWN DEODORANT

The American obsession with smelling aood is a commendable one, but the cost of being socially aceeptable for a family of four is unacceptable.

When you see how little it costs to make a quality deodorant right in your own kitchen, you'll be shocked at the prices you have been paying--for fancy packaging and outlandishly expensive advertising.

Here is an inflation-beater formula for a highly effective deodorant.

Youlll need sorne powdered ALUM and a plastic spray bottle, as well as water-soluble perfume if you desire'a scented product.

Mix two tablespoons of ALUM into one pint of warm water. Add srnall amount of cologne or shaving lotion for scent.

Transfer to spray bottle, or apply with a dab of cotton or soft cloth.

The cost of making your own liquid underarm deodorant is aoproximately one cent per ounce.

If you wish to make up a larger quantity and even save more, buy your material at a chemical supply company.

MAKE-IT-YOURSELF AFTER SHAVE LOTION

Using a soothing and refreshing lotion after-shaving is a pleasant experience for any man. But it's not so pleasant to buy it at about 10 times what you can make it for.

Measure two cups of water into a container. Add one cup ISOPROPYL ALCOHOL (91 percent) to the water. Next, add two tablespoons of GLYCERIN and one teaspoon of BORIC ACID. If you wish, add a few drops of your favorite cologne. ISOPROPYL ALCOHOL can be obtained from your druggist, and is not to be taken internally.

Like any product you make at home you should store this one safely.

A FIREPLACE SOOT REMOVER

Fireplace smoke should go up the chimney, not into the house. But unfortunately this is not always the case.

A frequent cause is a built-up of carbon deposits (soot) on the surfaces of the flue. Here's a simple, low-cost way to reduce this build-up.

Mix one cup of SODIUM CHLORIDE (ordinary table salt) with one cup of powdered ZINC OXIDE, available from most drug stores.

Sprinkle one cup of this mixture on a hot fire. After about five minutes distribute the balance on the legs.

Do not store in metal container as salt is corrosive.

Your cost of making fireplace soot remover is about twelve cents per ounce.

Store this one safely, label it - listing ingredients and noting any cautions - and keep it out of reach of children.

MAKE-IT-YOURSELF MOTH REPELLENT

Here is a simple, inexpensive way to protect your woolens. Cut cardboard strips about two inches bv four inches and punch a hole near the center of the top edge. Now you'll need one pound of PARADICHLOROBENZENE (don't let this-seven-syllable word scare you, ask for moth .. crystals at your hardware store and you'll have it)

Put the Paradichlorobenzene in the top of a double boiler (the amount depends on how many cards you plan to coat), and turn on the heat. When the material has melted dip the cards into it reoeatedly, allowing cooling between each dip, until a coating of about ¼ inch has built up on each side of the cards.

Note: PARADICHLOROBENZENE is moderately toxic and vapors are irritating to eyes. Melt in a well-ventilated area such as under a stove exhaust fan. Store exeess material in airtight glass or plastic jar.

A CHEAP WINDOW CLEANER

Here's a way to make your own window cleaner at a fraction of your store-bought brand the store-bought price.

You'll need sorne ETHYLENE GLYCOL (this is permanent antifreeze that you get at your service station and use in your car radiator, and can be bought in small cans), and some plain tap water.

Measure out three cups of water and stir in two tablespoons of the ETHYLENE GLYCOL. Transfer to a plastic spray bottle, spray glass, and wipe with a lint-free cloth.

The cast of making your own window cleaner spray is approximately one-quarter cent per ounce.

CLEANER FOR A TYPEWRITER

If the "0" on your typewriter looks 1ike a big period instead of a O circle, and other characters have black centers instead of open ones, your keys need to be cleaned.

Here's an easy-to-make formula that does a good job and will save your money.

You'll need one and one-half cups of ISOPROPYL ALCOHOL. and one cup of DEMINERALIZED or DISTILLED WATER. Simply mix the two and your product is ready to go.

If your machine is of the "type bar" kind. apply fluid with a brush to the type face and blot out excess with a lint-free cloth or absorbent paper.

In case of "wheel" or "ball" type machines the ball may be removed and allowed to soak for a few minutes in the solution. and then blotted dry.

TRY A MAKE-IT-YOURSELF METAL CLEANER

This formula will keep all metals looking the way they did when they came from the mills.

Take one-eighth cup of TRI SODIUM PHOSPHATE (TSP) (available at paint and hardware stores) and dry-mix with one cup of ordinary SODA ASH (also at hardware stores) and add one-fourth cup of ordinary BAKING SODA, available at your grocers.

Dip a damp cloth or sponge in the mixture and rub the metal. Rinse with clear water and dry with soft cloth.

The cost of making your own metal polish and cleaner is approximately five cents per ounce.

MAGIC IN YOUR VINEGAR BOTTLE

SEWING ROOM: To remove shine from trousers or skirt, place article on flat surface. Dip a cloth in vinegar; wring out thorouqhly. Rub the shiny spot with the cloth, odor should disappear as it dries.

Try this, also when letting down a hem in a wool skirt, where a stubborn crease remains that s1mply won't come out with ironing It is also helpful on other fabrics.

BATHROOM: Shower heads all fouled up? Remove them and boil in vineaar and water until the lime deposits have disappeared.

KITCHEN: l tsp. of vinegar in boiling water and you may boil a cracked egg. Try a little vinegar in the cooking water for poached eqgs too, to keep them from spreading. For light fluffy rice, add a tsp. of vinegar to the cooking water. For the odor of onion on your hands rub vinegar on the hands and the odor will disappear. Too much salt in your soup or other food? Add a tsp. of vinegar and a tsp. of sugar and reheat.

HOUSEHOLD CLEANING: Add ½ cup vinegar to half bucket of clear warm water to wash windows and make them sparkle. For varnished or shellaced floors, doors and woodwork, try this same formula, but be sure your cleaning cloth is wrung out as dry as possible.

When it comes to major household face lifting, keep your vinegar bottle handy to remove paint spots from glass and to soften-hardened paint brushes. And if you have ever tried to remove old wal1paper fram walls, you will appreciate this tip: First sand wallpaper to allow liquid to penetrate. Next, spray paper with a mixture of ¼ cup vinegar to each quart of water {hot} used. Allow to soak about five minutes and then scrape off.

WASHING: Add ½ ta ¼ cup vinegar to the rinse water for a soft and fluffy wash. This method also helps to keep soap residue fram accumulating on the clothes or lines.

WINDOWS

l Tbsp. household ammonia to 1 quart of water {warm}, or
½ tbsp. kerosene to 1 qt. warm water or,
3 Tbsp. denatured alcohol to 1 quart warm water, or
½ cup water, ½ cup rubbing alcohol, few drops of bluing. This will really make the windows shine. Newspaper also makes windows shine since newspaper print contains alcohol and ink and bluing.

To make windows spot resistant use a little cold water starch in your pail of water. This puts a coating on the windows that the spots don't like to adhere to.

Use hot vinegar on glass to remove dabs of paint. This is much quicker and safer than using a razor blade.

DOING THE WALLS

Cleaning: Crayon marks on wallpaper can be removed by 1ight1y rubbing over the crayon with dry soap fi11ed steel wao1 pad.
Liquid window spray removes pencil and crayon marks on painted wa11s and woodwork. Wipe with a c1ean c1oth. To prevent streaking when washing painted walls, start at the top and work down; by doing it this way any water running down can quick1y and easily be wiped away.

FIRST AID RECIPES

l Tbsp. soda few drops water	Effective paste for bee stings, insect bites
½ cup vinegar ¼ cup water	Gargle for sore and irritated throats
l pt. of water l tsp. salt cap solution in air tight bottle	Sterile Saline
3 tsp. syrup of ipecac followed by full glass of 1iquid	Induce vomiting
½ cup honey ½ cup lemon juice	Mix and use for cough syrup
-1. Tbsp. mustard l Tbsp. flour l Tbsp. water	Mix and spread between cloth. Put on chest for mustard p1aster. Do not leave on over 10 minutes.

Salt solution for heat exhaustion
½ tsp. salt per ½ cup water
Administer 3 or 4 doses for every 15 minutes.

If the face is red, raise the head:
If the face is pale, raise the tail.

Remember "Beer Barrel Polka" when checking for vital signs.
Breathing
Bleeding
Pulse

Canker medicine

l pt. tame sage tea	l tsp. al um	1 pt. vinegar
l tsp. Golden Sea1	l Tbsp. gun powder	1 lb. sugar
l Tbsp. Borax	½ tso. sulphur	

Mix dry ingredients and add to hot liquid. Boil down to one pinto

Meat Tenderizer - Make a paste - Great for beestings

To take pain out of a burn:
Put in cold water immediately or
Vanilla will help ease the pain or
a paste of baking soda and water

HAND CREAM

DO NOT USE ALUMINUM OR STAINLESS STEEL UTENSILS

12 oz. glycerine (1½ cups) ½ tsp. boric acid powder or crystals
4 oz. stearic acid (½ cup) 2 cups warm water
½ oz. strong amonia- (1 tbsp. 30%) ½ bar cocoa butter r ½ oz. parafin wax or l tsp. melted wax

Melt cocoa butter or wax and add glycerine and stearic acid (heat to 155^0) in an enamel or glass double boiler. Add amonia. Remove from stove. Stir until mi1ky with a wooden soon. Add boric acid dissolved in warm water. Beat at high speedwith an electric mixer for 10 minutes. If desired color with food co1oring. Add perfume as desired.

HAND LOTION

2 oz. bay rum 2 oz. witch hazel
¼ oz. tincture benzoin ½ oz. gum tragacanth
2 oz. blycorine l pt. boiling water

These ingreddents can be purchased at a drugstore. Put liquids together. Pour boiling water over gum tragacanth and let stand 24 hours or over night. Then gradually beat in mixed liquids a little at a time until very smooth with an egg beater. Add perfume if desired.

SEWING NEEDS

When it comes to preparedness, you should have more than just food in the pantry. Your sewing pantry should contain the necessary tools and equipment.

SUGGESTED SUPPLIES

Vardage - it is wise to have some fabric on hand; keep it free from dust and protect it from insects.
Thread - Store only polyester thread as cotton thread tends to get brittle as it gets old. Store in air tight containers that are dry.
Scissors
Sewing Machine, needles, and oil
Basic patterns
Patches
Various sizes of elastic, snaps, hooks and eyes, trims, zippers, buttons
Needles, pins
Yarn

BEDDING

Blanket - Several sleeping bags, extra warm quilts, army blankets, or buy arctic type blankets that back-packers use. They are supposed to keep a person warm in zero degree weather. Buy them at a sporting store.

Sheets - Use them for bedding as well as for quilt tops, or emergency clothing and bandages. Store in plastic bags.

Sheet Blankets - Recommend two for each bed. Can be used for night clothes. Store in plastic bags or cedar chest.

QUILTING EQUIPMENT

Frames, C clamps, and saw horses or stands
Thread, needles (quilting and darning)
Yarn

CLOTHING

Men and boys: Shirts, pants, coats, sweaters, underc1othing, hats, hunting c1othing, shoes, socks.

Women and girls: Dress, blouses, pants, skirts, shoes, hose and socks, underc1othing, coats, sweaters.

Plan clothing for the type of weather that you have in the area you 1ive.

RECYCLING CLOTHING

Original Article.	Uses
Sheets	Pi1lowcases
	Crib sheets
	Women's and chi1dren's slips
	Shirts, blouses
	Bandages
	Backs for quilts
	Facings, 1inings
Men's shirts	Childrens shirts
	Girl's slips
Men's suits and pants	Skirts and jumpers
	Patchwork Qui1ts
Men's ties	Patchwork Quilts
Ladies' coats	Girls coats and skirts
	Afghans
	Quilts
Towels	Bibs, hot pads, wash cloths
	Toys
B1ankets	Jackets, 1ining for qui1ts
	Baby blankets, baby sleepers
Levis and Jeans	Children's pants and jackets
	Girl's skirts, purses
	Qui lts
Nylons	Crocheted rugs, stuffing for pi 11 ows and toys
Sweater	Unravel - use yarn for pot holders, wash Cloths
	Slippers
Cotton and Polyester	Children's blouses and skirts
	Pi llowcases
	Rug strips
Scraps	Quilts, chi1dren's clothing, afghans
	Squared for rugs
	Pi l10w tops
Anything too warn	Remove zippers, buttons, buck1es, trims rags

RECYCLING IS FUN - SEE HOW IT'S DONE

EMERGENCY PACK

The following supplies are recommended basica11y to satisfy some minimal food, clothing, hygiene and safety needs during short term emergencies.

Advanced preparation will provide the basis for "Instant Readiness". Local conditions, fami1y resources and special individua1 needs shou1d a11 be considered in preparing an emergency pack that wou1d be most he1p-fu1 to you and your fami1y.

Pack in a duffe1 bag, suitcase, or trunk to be evacuated on short notice. Store it where it can be grabbed in a hurry.

1. Basic supplies:

   Paper plates, cups and plastic forks, spoons, and knives
   Toi1et paper
   Paper towe1s
   Bar soap
   Extra garbage bags
   Can opener
   Small knives (pocket knife, boy scout knife)
   Heavy a1uminum foil
   Matches
   Sanitary napkins and disposab1e diapers (if needed)
   Comb, brush
   Toothbrushes and toothpaste
   Coloring books, crayons, games, knitting (think of fami1y needs)
   Emergency Sanitation Kit (plastic bucket and 1id, disinfectant spray, plastic liners and toilet tissue)

2. Food
   Canned and packaged food which can be opened and eaten co1d
   e.g. canned fruit cocktail, peaches, pears, vienna sausaqe, tuna, peanut butter, crackers, cookies, dried fruits and vegetab1es, jerky, hardtack, 1ifesavers, chocolate, chewing gum.
   Emergency bar. (think of your family's 1ikes and in terms of surviving for two days)
   Water

3. Medical supplies:

Aspirin
Bandaids
Gauze, antiseptic
Any Medication such as heat pills or insulin
Battery and Radio

4. Additional:

Hand ax, collapsable shovel
Change of clothing for each member of the family
Shoes
B1anket (1 or 2 people or space b1ankets)
Light jacket or sweatshirts
Flashlights
Extra batteries
Rope
Needles, thread, scissors
Lotion
Handiwipes
Kleenex
Liquid detergent
Shaving supplies
Candles
Cash
Toothpicks
Rubbing alcoho1
Tweezers
Table salt

SURVIVAL RATION BAR

3 cups rolled oats, barley or wheat
2½ cups powdered milk
1 cup sugar
3 Tbsp. honey
½ cup citrus flavored gelatin (jello)
3 Tbsp. water

Place all dry ingredientsexcept jello in a bowl. Add water to the honey and bring to a boil. Dissolve jello in the honey water mixture. Then add the dry ingredients. After mixing well add water a tsp. at a time until the mixture is barely moist enough to be molded. Shape into two bars. Each bar wi 11 be about the size of a 1arge match box and wi 11 be sufficient food for one day.

The bar can be eaten dry or cooked in about a pint ofwater. It may be dried in the oven in low heat, wrapped in foil and placed in a covered container for indefinite storage. Eachbar contains about 1,000 calories.

FIRST AID

PERMANENT EQUIPMENT

Scissors
Tweezers
Knife
Cup (measuring)
Thermometer
Hot water bott1e
F1ash1ight
Splints
Sling materia1
Triangu1ar bandages
Rope
B1ankets

EXPENDABLE SUPPLIES

Soap
Matches
Batteries
Needles
Safety Pins
Adhesive tape
Elastic Bandage
Gauze bandage
Sterile gauze dressings
Consecrated oil

MEDICATIONS

NON-PRESCRIPTION

Nose drops
Ear drops
Ipecac Syrup
Baking soda
Amnonia
Rubbing Alcoho1
Burn Ointment
Aspirin
Vitamins
Water purification tablets or bleach
Calamine lotion
Antiseptic Ointment
Merthiolate

PRESCRIPTION

Any specific medications prescribed by physician for individual problems.

1. Know how to Stop Bleeding

Cover wound with cleanest cloth immediate1y avai1able or bare hand and control b1eeding by DIRECT PRESSURE on the wound. (Most b1eeding can be stopped this way)

Bleeding from arms and legs may be contro11ed by these two PRESSURE POINTS and DIRECT PRESSURE.

1. ARM

to he1p control b1eeding in an arm press the blood vesse1 against upper arm bone with fingers on inside of arm ha1f-way between shoulder and e1bow.

2.LEG

to help control b1eeding from a 1eg press the blood vesse1 against the pelvic bone with side or hee1 of hand at the mid-way point of the crease between thigh and body.

IF THERE IS NOT A FRACTURE, ARMS AND LEGS MAY BE ELEVATED TO HELP STOP BLEEDING.

A TOURNIQUET SHOUlD NOT BE USED.

Puncture wounds are dangerous because germs are driven in deep and there is 1ittle b1eeding to wash any out. C1eanse wound with soap and water. Cover with sterile dressing and bandage. See a doctor.

There is danger of infection in even the sma11est wound. When medica1 advice is not avai1ab1e, wash hands, then wash wound thoroughly. Cover with a dry sterile dressing. If redness or swe11ing deve1ops, it is a sign of infection requiring a doctor's attention.

REMEMBER TO:

1. CONTROL BlEEDING
2. PROTECT FROM INFECTION
3. TREAT FOR SHOCK

II. Know how to Restore Breathing by Artificial Respiration

a. Mouth-to-mouth

Remove any foreign matter from mouth - tilt head back so chin points up.

Place your mouth TIGHTLY over his - close his nostrils with your fingers.

BLOW into mouth till chest rises

Remove your mouth and let air come out

Repeat - every 5 seconds (adults)
every 3 seconds (children)

KEEP AT IT TILL HE BREATHES!

GET MEDICAL HELP!

NOTE: If unable to get air in, roll onto side, slap on back, wipe out mouth- roll back - tilt head and jut jaw and tryagain!!

III. Know what to do if Someone Swallows Poison

IN MOST CASES: If victim is conscious, give large quantities of milk or to dilute poison.

Induce vomiting and continue giving fluids. Keep victim vomiting until only clear fluid cornes up.

Give specific antidote named on label. If this is not possible, give ACTIVATED MEDICINAL CHARCOAL MIXEO WITH WATER available from drug stores.

If victim is unconscious: Keep him warm and get medical care as fast as possible. Do not attempt to give fluids.

EXCEPTIONS: Do not induce vomiting if these substances have been swallowed

EXCEPTIONS: continued

STRONG ACIDS: Give glass of water, then milk of magnesia in solution. Follow with-milk, olive oil, or egg white.

STRONGALKALIS: Give glass of water, then diluted lemon juice or vinegar. Follow with milk, olive oil, or egg white.

STRYCHNINE: If onlv a few minutes have elapsed, give fluids and induce vomiting, but don't persist for long. Get medical attention Quickly, keeping patient quiet.

KEROSENE: Dilute. Do not induce vomiting.

ALWAYS CALL A DOCTOR

Some poisons have a delayed effect. All need medical attention. In many communities there are poison control centers to call for advice. If possible keep them breathing and take the bottle with you.

IV. KNOW WHAT TO DO ABOUT BURNS

1st degree burns: Skin reddened

WHAT TO DO

If you are certain it is a first degree burn, immerse quickly in cold water for several minutes to stop pain.

Cover with a thick, dry, sterile bandage.

2nd degree burns: Blisters develop.

Cut away loose clothing.

Immerse in cold water for 2 hours or apply clean cloths dampened in ice water. Blot dry.

Treat for shock.

3rd. degree burns: Skin destroyed
Tissues damaqed

Cut away loose clothing.
Cover burned area with a sterile dressing thick enough to keep air out.
Treat for shock.

Get Medical Aid at Once.

Sunburn: App1y co1d cream, sa1ad oil, or shortening to relieve pain of milk sunburn. Use a dry dressing and seek medica1 care for blister cases and extensive burns.

Chemica1 Burns: Use large quantities of running water to wash away chemica1s. App1y sterile dressing andget medica1 aid.

KNOW WHAT TO DO IN CASE OF BROKEN BONES (FRACTURES)

How to tell: Suspect a fracture if there is PAIN when moved - swe11ing-tenderness in area - deformity of bones in limbs.

SIMPLE FRACTURES: broken bone but no open wound
COMPOUND FRACTURES: broken bone with open wound (control b1eeding and app1y sterile dressing before splinting)

1. DON'T MOVE victim un1ess in the path of immediate danger
2. PLACE LIMB in as normal a position as possible without causing excessive pain.
3. APPLY EMERGENCY SPLINT to support injured part in one position, reduce pain,prevent further injury.

EMERGENCY SPLINT: May be anything that gives rigid support and ho1ds fractured part in one position - i.e. board, ski, pole, oar, pil1ow.

USE EXTREME CARE IN CASE OF:

FRACTURED SPINE: Keep person flat and do not move him into any other position.

FRACTURED NECK: Keep person on back with head we11-supported in straight position. Don't lift his head. Only we11-trained person"shou1d apply sp1ints to back or neck.

FRACTURED SKULL: Keep the persan complete1y quiet. Remove any foreign matter from mouth. Turn the head to the side so secretions drain fram the mouth.

SPRAINS: E1evate injured part. app1y ice packs or co1d cloths. Cal1 a doctor. Don't use heat. Do n't walk on a sprained ank1e.

STRAINS: Rest, and mil d heat applied to iniury. Use wet towels

BRUISES: Apply cold packs or ice bags.

IN EVERY INJURY THERE IS SOME SHOCJ SEVERE SHOCK CAN CAUSE DEATH

SHOCK

Shock is the fai1ure of body syste to work due to 1ack of blood circulation after an injury.

Vou can usually tell shock by victim's PALE FACE, MOIST SKIN, NAUSEA.

WHAT TO DO:

1. Get medica1 aide
2. Place head leve1 or lower than feet. (Un1ess injury would be aggravated by this position
3. Keep victim's body temp. norma:
4. Give fluids - water - if not unconscious or nauseated or has a penetrating abdominal wound.

ANTIDOTE AND FIRST AID FOR POISONING

An emergency always exists if someone swallows poison. Do not delay contacting hospital or physician to obtain advice concerning first aid materials that are not readily available. If necessary, summon police or rescue squad for assistance. Keep telephone numbers immediately available. Even after ernergency measures have been taken. always consult physician. A delayed reaction could be fatal.

It is important to di1ute or remove poisons as soon as possible. Keep Syrup of Ipecac (avai1ab1e from most pharmacies or poison centers) in your home to induce vomiting if recommended by physician or indicated on product label. If Syrup of Ipecac is not avai1ab1e, try to make patient vomit by tickling back of throat with finger, spoon, or simi1ar b1unt object after giving water. PLEASE, ho1d onto the object very carefully! !

HOWEVER...

Vomiting is not recommended in a11 cases. Never induce in a patient who is unconscious or convu1sing. Do not induce vomiting if swallowed substance is acidic or corrosive or petro1eum disti1late products.

If poison is from a container, take container with intact label to medica1 facility. If poisonous substance is a plant or other unlàbeled substance, be prepared to identify suspected substance. Save evidence such as portions of ingested materia1s from vomitus which may he1p identify plant or object invo1ved.

The following represent substances most frequent1y ingested by chi1dren, and first aid measures that may be employed unti1 medical aid can be summoned.

SUBSTANCE	EMERGENCY TREATMENT
MEDICINE (OVERDOSAGE)	
Aspirin and aspirin-containing medications Cough medicine Hormones (inc1uding thyroid prepar.)	Give 2-3 glasses of water or mi1k, then induce vomiting UNLESS patient is unconscious or convu1sing
Vitamins and Iron tab1ets	Induce vomiting. Then give glass of mi1k.
sleepi ng pi 11 s	Induce vomiting. Do not induce vomiting or force 1iquids if patient is unconscious.

SUBSTANCE	EMERGENCY TREATMENT
Tranquilizers	Induce vomiting un1ess patient is unconscious. Give 2 tbsp. epsom sa1ts in 2 glasses of water.
HOUSEHOLD CLEANING AND POLISHING AGENTS	
Laundry b1each Automatic dishwasher detergents Household cleaners Furniture Polish Cleaning fluir (gasoline, kerosene) Charcoal fire starter	Give 2-3 glasses of milk or water immediately. Do not induce vomiting.
Toilet bowl and stain cleaners	Do not induce vomiting. Give 2-3 glasses of mi1k or water at once. Avoid gas-forming carbonates and bicarbonates.
Wax Remover	Give milk or water. Do not induce vomiting
Fabric softeners	Give milk. Neutralize with weak soap (not detergent) solution. Induce vomiting.
Household ammonia	Give citrus juice or diluted (1 tbsp. per glassful) vinegar. Then give 2 rawegg whites or 2 oz. olive oil. Do not induce vom1ting.
INSECTICIDES, POISON SUBSTANCES, PAINTS (read labels for content)	
Arsenic	Give glass of milk 1mmediately and induce vomiting. Then g1ve activated-charcoal (available fram pharmacist)
DDT	Induce vomiting. Give 2 tbsp. eosom salts in 2 glasses of water.
Lye	Do not induce vomiting, give solution of vinegar(2 tbsp. vinegar in 2 gls. water) Give 2 raw egg whites or 2 oz. olive oil.

SUBSTANCE	EMERGENCY TREATMENT
Paint (dry)	Give mi1k or water. Induce vomiting.
Paint (liquid)	Give 2-3 glasses of mi1k or water. Do not induce vomiting.
COSMETICS	
Cologne or perfume Hand lotion Liquid makeup Skin lotion After-shave lotion	Give mi1k. Induce vomiting if large amounts ingested.
Deodorant	Give mi1k of magnesia, induce vomiting
Bubb1e bath liquid Hair rinse Shampoo	Give mi1k or water at once. Induce vomiting.
Nai1 polish and removers Lacquers Bath oi1	Give mi1k. Induce vomiting.
Home permanent neutra1izer Permanent wave solution	Give mi1k or water. Induce vomiting. Then g;ve weak acid such as 1emonade, citrus juice di1uted vinegar.
PLANTS	
Any plant is a potential poison	Induce vomiting if convulsions not imminent. Give artificial respiration if necessary.

KEEP CALM**********DO NOT PANIC**********CALL FOR HELP

THE HEIMLICH MANEUVER FOR CHOKING

Stand behind the victim and put both of your arms around him. Let his head, arms and upper torso hang forward. Grab your fist with your other hand and place it against his abdomen slight1y above the navel and below the rib cage. Press up rapid1y against his abdomen. This forces

the diaphragm up and compresses the lungs. Hopefully the food will pop out like a cork from a champagne bottle.

If the victim is too heavy for you to hold, lay him on his back and sit on his hips. With the heel of your left hand pressing against the back of your right hand, push forward into his abdomen just above the belt.

A second person should be prepared to remove the ejected food from the victim's mouth - particularly if he's on his back - with a spoon or fingers.

Apply artificial respiration if the victim still has trouble breathing after the food is removed. Then get him to a doctor to have him checked over.

If you choke on something while you are alone, use the technique on yourself by pressing your fist rapidly up against your abdomen.