

FARMSTEAD MAGAZINE

Home Gardening & Small Farming



All About Growing Carrots, Beets & Turnips
Thoughts on Killing My Fatted Calf
How to Get Your Livestock to Market
Sheep Dogs on the Farmstead
In Search of the Perfect Yellow Apple
Most Popular Fruit

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Farmstead Magazine is a unique publication for gardeners and small farmers everywhere. Each issue is a storehouse of practical, commonsense information. In addition to the variety of articles, there's a bookstore section, interviews, book reviews, plenty of original illustrations and a touch of humor now and then. So if you're looking to become self-reliant and improve your lot Farmstead belongs in your home.



Farmstead Magazine

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POSTMASTER: PLEASE SEND CHANGE OF ADDRESS FORM 3579 TO FARMSTEAD MAGAZINE, BOX 111, FREEDOM, MAINE 04941

Dear FARMSTEAD,

First. I read your article on the "Family Cow" and really enjoyed it. We have a small Jersey and just love her! So much in fact, that we're considering buying another. My advice to anyone looking to buy any type of livestock is to call your cooperative extension service. They're a wealth of information! We were lucky with our cow. We bought her from some friends who were moving away, so we knew all about her and had been buying milk from them. We also have two dairy farms just up the road and they have been a great help.

Second. I enjoyed your article "The Truth About Beans." We are big dry bean fans! We grew so many dry navy pea and red kidney beans last year, that we've got enough to last us all this winter! One thing I do not agree with:

Letters

we save our bean seed every year and have had no trouble with pests or diseases. We save our dry bean and string bean seed. We do practice crop rotation, though. To us, one big step to self-sufficiency is to raise your own garden seeds. Naturally, there are a lot of vegetables you can't do that with, for lack of space, but there are a few. One book that has helped us is "Raising Your Own Garden Seeds" from Johnny's Selected Seeds, Albion, Maine. So, that's the only thing I disagree with in that article.

Third. I enjoyed your article on the Amish people. I was born and raised in Iowa and they were an accustomed sight.



Fourth. I am looking for a magazine called "The Jersey Journal" about Jersey cows. I saw an advertisement once a long time ago, but not since. If anyone knows where to subscribe to it, please let me know.

Thank you.

Deby McLain
RFD 1

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Could you help us? We purchased a pure-bred Scotch Highland heifer. We have papers to re-register. However, the address on the papers is old and the letter was returned to us.

Could you or one of your readers tell us the current address of the Association? Also, we are having trouble finding a bull or semen to have her artificially bred. Any suggestions would be appreciated. Thank you.

Shirley Michili
Box 177 - Old Rt. 20
E. Nassau, New York 12062

CREDITS

We failed to give proper credit as follows:

"A Movable Heap" (Early Summer, 1979) by Annie Proulx and Lew Nichols.

Ink drawings for "Raising Guinea Birds" (Summer, 1979) by Lea Eggleston.

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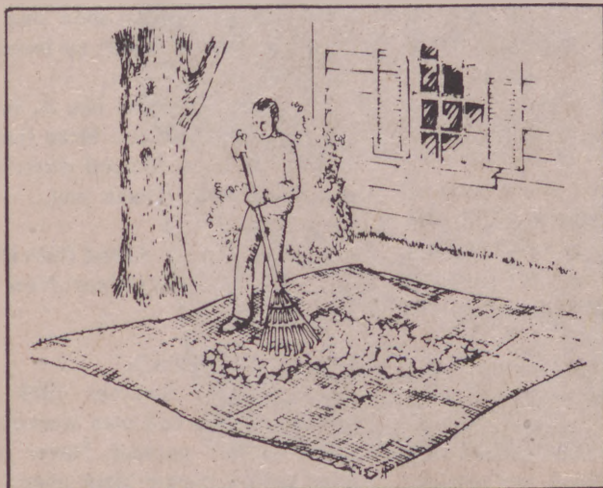
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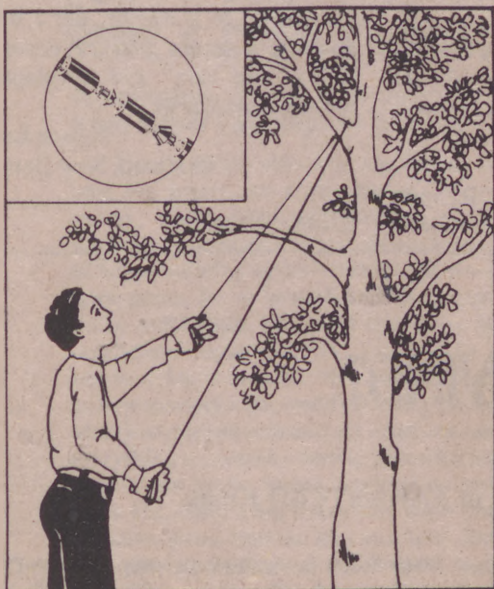
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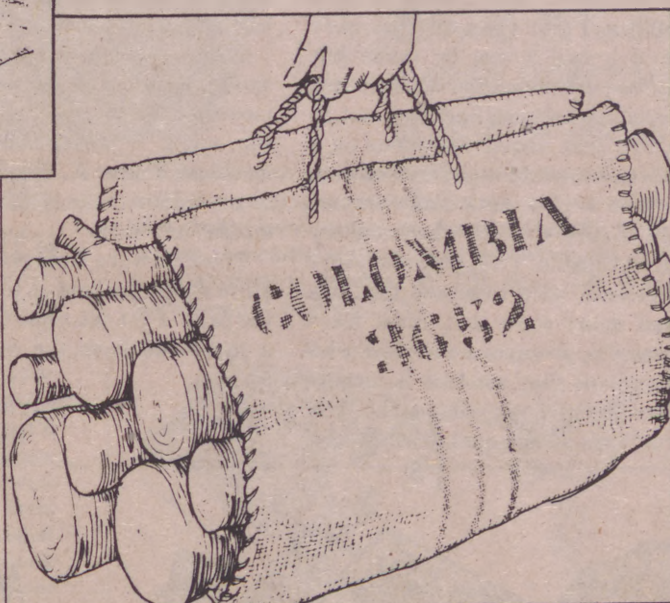
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Dear FARMSTEAD,

Regarding Richard Taber's letter to the editor in your Early Summer issue No. 24--Mr. Taber is essentially correct in his response to Lucretia Douglas' article in which he says baby calves should be fed two quarts of milk two times a day, not three. Better yet, one quart three times a day will have less impact on a new calf's stomach, and two alka-seltzer tablets dissolved in a few drops of water and fed to the calf just before its morning and evening feedings is a great scours preventer. This should be done for the first four days.

As to his letter regarding my article on cow buying, I really must take up my defense: I didn't say mastitis can't be cured--I said it can be cured but usually not permanently. The matter only came up because I advised not to buy a cow that tested suspicious on a mastitis test card. It would be foolish to buy a cow with a potentially serious difficult-to-cure disease when healthy ones are available. Twenty-seven years of experience with livestock that has included many cows that came fresh with mastitis, prompts me to stick with my statement that mastitis is usually not permanently curable, but will re-occur with subsequent freshenings.

I have a friend who tried an interesting thing: She had a goat that freshened with mastitis. She gave it all the blood-purifying herbs she could get it to eat, and the mastitis cleared right up.

Sherry Cook
Asotin, Washington 99402

Dear FARMSTEAD,

I notice on the front cover page of the Early Summer edition 1979, the picture of a team of horses drawing a mowing machine, with the teamster looking to his left watching the cutter bar as it cuts the hay.

In my farming days, I have always driven a pair of horses drawing a mowing machine with a cutter bar on the right. I never saw a mowing machine (Walter A. Wood, McCormick, or any other make,) with a cutter bar on the left side.

If you turn the front cover and hold it up to a light looking at the back side of the page--I get the right view. Anyhow, it looks odd from the front view.

Herbert A. Herling
Gardiner, Maine

Dear FARMSTEAD,

We have really enjoyed your magazine and are interested in the Early Summer 1979 cover.

If it is not an error in photography, does the farmer really have a left-sided mowing machine? Are the horses trained to "gee" rather than "haw," and "haw" instead of "gee" to match the machine?

We have a machine like it, but the cut bar is on the right. More than one person has been dumped when it hits something solid. Thank you.

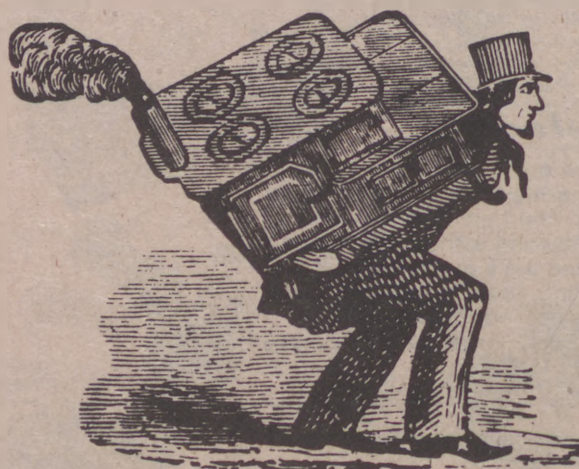
Al and Ruth Decker
Windsor, New York

Dear FARMSTEAD,

Your Early Summer 1979 cover picture (horses and man working in a field) left me puzzled. Never have I ever seen a mower than operated on the left side. Only after holding the picture up to a mirror, did I find the answer. I guess you reversed your "horse and cart" and developed the picture backwards.

Nelson Eastman
Chatham, New Hampshire

Editor: "Yup."



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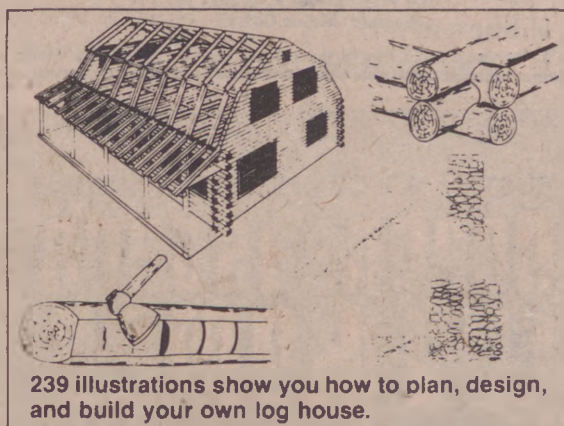
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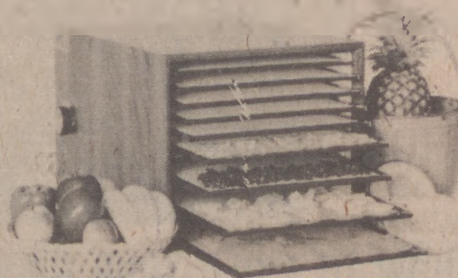
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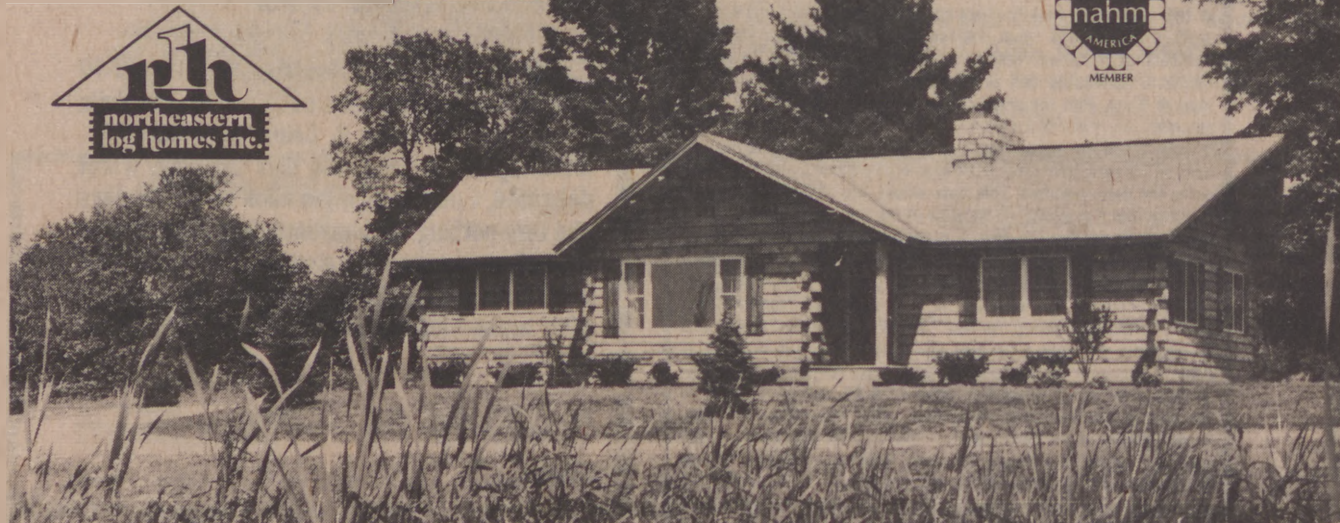
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We contacted Warren C. Stiles, the extension fruit trees specialist over at the University of Maine concerning the problem, and here is what he says:

"The problem described is indicative of winter injury. In many cases such as this, the cold damage to conductive tissues is not severe enough to prevent the plant from flowering and/or leafing out, but is evident as heat or moisture stress occurs. If the tissues have not dried out, recovery is often facilitated by applying a spray containing boron to the affected plants.

For the person with just a few trees, this is most conveniently done by buying some boric acid at the drug store and applying through a spray containing the equivalent of one-half pound of boric acid per 100 gallons of

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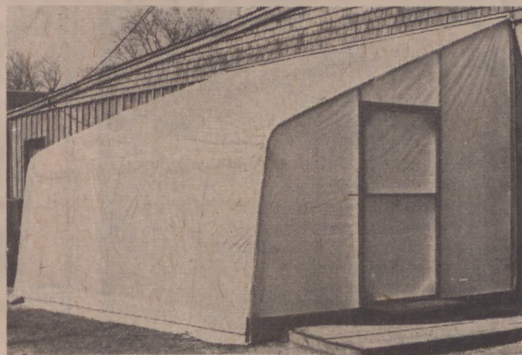
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Our local town council is considering an ordinance to ban the keeping of honeybees. As someone who likes to keep bees, what can I do about this?

This topic was discussed by Tom Sanford, an extension apiculturist of Ohio State University, in his column "The Bee Space."

"To some people, honey bees represent a health hazard because of their potential stinging behavior. This attitude and adverse reaction to sensationalized press reports about mass-stinging incidents or "killer bees" can sometimes lead to local ordinances banning beekeeping. Such ordinances are usually initiated by a few who have had adverse experiences with bees. Often, the beekeeper does not have a chance to present his side of the story. In all cases, prevention of a beekeeping ordinance is simpler than a cure. Once a law is on the books, it's extremely difficult to remove.

Let's look at some of the ways a beekeeper might retain the privilege of keeping bees.

1. Don't keep too many bees on your property. Usually one to two colonies per quarter acre are sufficient. Place the hives as far from the lot line and your neighbor's buildings as possible.

2. Place barriers such as solid fences or tight hedges in front of the hives. The insects are then forced to get up in the air quickly and will fly over the heads of nearby pedestrians or neighbors working in their yards.

3. Avoid aggressive bees by requeening with gentle stock and learn to work colonies correctly. Use judicious smoking, slow deliberate movements, work under optimal conditions and prevent swarming. Quickly remove any stray swarms. This will add to your neighbor's peace of mind.

4. Always be conscious of the bees' needs. Provide water to prevent the insects from using nearby swimming pools. Feed pollen substitute, if they become a nuisance by foraging on sawdust or dried dog food.

Finally, institute a good public relations program. This includes talking to neighborhood garden clubs, indicating to your immediate neighbors the value of the honey bee to agriculture and ornamental plants and by liberally dispensing honey. If all fails, contact your county agent, local or state beekeeping association or nearby dealer for help.

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Can you tell me where I can get information on "Kudzu?" Does it grow from seed or root, and where can I write to get it? Does it make good pasture or hay? It seems to be in Smokey Mountain Park and along highways in the South and in Missouri, too.

Kudzu is usually propagated from plants and can be purchased from several Southern nurseries. You could probably also grow it by digging up some of the rather large rootstocks in the winter. It was imported to this country as a forage crop but became used mostly for erosion control. It is an excellent quality legume for forage or hay, but because of its vine-type growth, it is difficult to make into hay. All classes of livestock love it, but if they are allowed to continuously graze, they will kill it out. Therefore, you must control the level of grazing on it.

In case you do not know, Kudzu is a rather controversial plant because of its tendency to escape into wild areas and grow into such a jungle that it smothers native plants -- even trees. In Japan, however, it is considered to be very useful, and all parts of the plant are used for human food.

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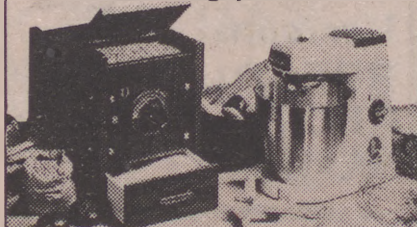
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hens lay low-cholesterol eggs

The cholesterol level in egg yolks, the site of most egg cholesterol, can be controlled by altering a hen's diet. James L. McNaughton finds that feeding hens sunflower meal (as 9 percent of their diet) reduces the yolk cholesterol by 13 percent. Other high-fiber feed components, such as wood shavings, are somewhat less effective in reducing the cholesterol level. From his research at the USDA South Central Poultry Research Laboratory in Mississippi State, McNaughton suggests coarse dietary fibers scrape cholesterol-containing cells from a hen's small intestine. The result: significant cut in egg cholesterol.

--Science News

nitrite argument has two sides

As fire for the other side of the nitrite controversy, Dr. F.E. Deatherage, biochemist at Ohio State University, has suggested that the human body's normal production of nitrite in the intestine is a natural defense against botulism spores. We are constantly exposed to botulism spores, but the bacteria seldom produces toxin in our intestines. Dr. Deatherage suggests it is nitrite that prevents its growth and toxin production in our intestine. He cites the "sudden infant death syndrome" as evidence. This is where babies die suddenly in their cribs for no apparent reason. In several cases the cause of death has been traced to the vegetative growth of the bacteria *Clostridium botulinum*. Normal bacterial nitrification processes producing nitrite have not been significantly developed in the first months of life to protect some babies.

--American Agriculturist

abolish family farm

One of the primary policies of the Carter administration is to abolish family farms in favor of megafarms, claims a report in the *Amarillo Sunday News-Globe*. The *Amarillo* paper reported that the "stepped up campaign against American family farmers by the Carter administration coincides with the complete takeover of the Agriculture Department by David Rockefeller's Trilateral Commission."



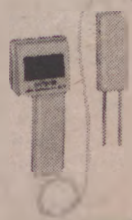
The article referred to the induction of Agriculture Secretary Bob Bergland into the Commission last year.

The paper also cited a USDA task force report issued late last year which recommended that legislation be passed to drive down the prices received by farmers for produce; that prices paid by farmers for energy be increased; and that groundwater use by farmers be heavily taxed. Other recommendations by the task force would also result in many more farmers being driven off the land, a move which the *Amarillo Sunday News-Globe* tied directly to the Trilateral Commission. The paper cited comments by Bergland that meeting farmers' requests would be bad for large, multinational megabanks." The Rockefellers' Chase Manhattan Bank was specifically cited by Bergland as one bank that stood to lose if pro-farmer's policies were adopted.

--Acres U.S.A.

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more natural pesticides

Because of the health, environmental and resistance problems associated with synthetic pesticides, scientists are scrutinizing the plant world to find more natural pesticides. Stephen Hsia, an associate at the University of Wisconsin, has found a component of calmus or sweet flag, beta-asarone, which sterilizes insects of several species. Hsia expects the chemical to be useful for protecting stored grain because it is potent against the rice weevil, and being volatile it can permeate storage areas without leaving a residue.

Cocobola, a Panamanian hardwood, is resistant to fungal attack and is the source of several chemicals being studied by a USDA lab at Berkley. By structurally changing the molecules of several chemicals found in the plant, scientists have found compounds to sterilize flies, inhibit development of malaria mosquitos, repel flour beetles and are toxic to several crop insect pests.

Insects have to be stimulated to eat. They touch a plant and detect something like sugar and begin to eat. *Ajugara remota*, a plant native to Africa, contains a chemical that blocks these receptor sites and turns off an

insect's desire to eat, even to the point of starvation. Dr. David Goldsmith, of Emory University, is trying to develop a synthetic version of the chemical Ajugarin-1 to use as an insecticide.

tooth decay an old problem

Tooth decay in children is not only a present-day problem. A seventeen year-long study of prehistoric American Indian skeletal remains done by Lucile St. Hoyme of the Division of Physical Anthropology at the National Museum of Natural History, showed that approximately 60 percent of the children had crown cavities. The main sweet available then were berries, small wild grapes, and in the Northeast, maple sugar. But St. Hoyme feels sweets were not the culprit. She correlates the presence of cavities with a general decline in health, probably from a change in life styles from roving band hunters to permanent village dwellers where they were more subject to contagions. Increasing populations made food more scarce, further weakening these Pre-Columbian Indians.

--Science News

new earth expo in portland, maine

Visitors to the New Earth Exposition, October 5, 6 and 7 at the Cumberland County Civic Center, Portland, Maine, will find hundreds of exciting and practical solutions to everyday problems of energy, shelter, health, nutrition and the environment. More than 100 small businesses and organizations will fill the exhibition hall with wood stoves, alternate fuel heating systems, solar water heaters and food cookers, natural foods and equipment, gardening and harvesting ideas and supplies, health care and self-awareness products, educational services and creative vacation ideas.

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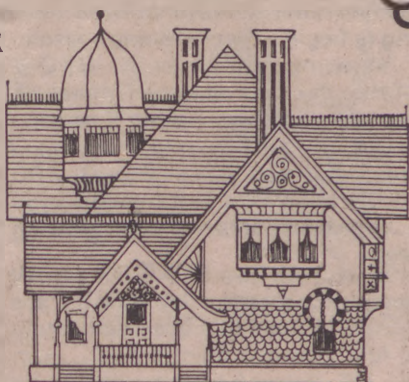
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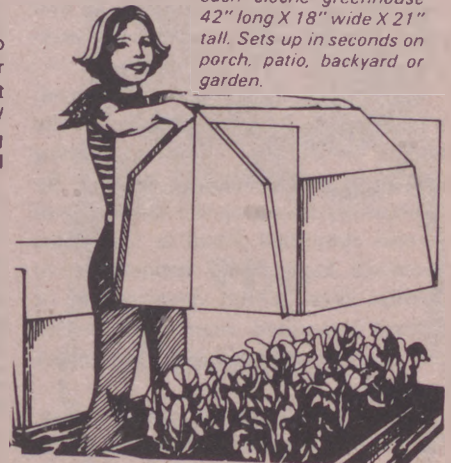
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onions—tearful but healthful

Propanethial S-oxide is the chemical found in onions which causes tears. When this chemical is dissolved in water, it forms sulfuric acid. Researchers at the University of Missouri suggest that this chemical dissolves in water in the eye and causes a low concentration of sulfuric acid and produces tears in onion slicers. Scientists at East Texas State University have identified prostaglandin A in an extract of onions, and this chemical is known to lower blood pressure. This is the first discovery of prostaglandin A in a plant. An onion extract, when injected, successfully lowered the blood pressure of rats. The researchers are not certain, however, whether the chemical would survive in the human digestive system in sufficient concentrations to be an effective remedy.

--Science News

deer repelled by human hair

Human hair wrapped in nylon nets have been experimented with as deer repellents by biologists at the New York Botanical Garden's Cary Arboretum. Hair balls have been suspended from about 200 trees in the 2,000 acre arboretum. It has been found that deer will not come within one meter of a hair ball. This year the research has been expanded to determine what types of hair repel deer, how long is the hair effective, different packaging techniques and chemical analysis to determine what scent in human hair is repellent to deer.

--Conservation News

big wind power experiment

A full-scale wind generating experiment in a gusty valley south of San Francisco? California's Department of Water Resources, in an agreement with U.S. Windpower, Inc. of Massachusetts, will buy 2.5 million kilowatt-hours of electricity from 20 windmills that will be erected at Pacheco Pass. The project was announced in April at an American Wind Energy Association's meeting and has been called the "biggest wind energy system going on the planet." If it passes state environmental review, the project would supply enough power for a thousand people and save 175,000 barrels of oil a year. The state will pay the 3½ cents a kilowatt hour for the power, equal to current rates for electricity from conventional power plants.

--Conservation News

methane cars

According to the American Gas Association, powering a car with methane costs 54 percent less than an electric car, 43 percent less than a diesel car and 59 percent less than a gasoline fueled car. A methane car is also much less polluting than other cars, except for electric cars. The drawbacks to converting cars to operate on methane is the \$1,200. price tag on converting a gasoline car to a dual (methane and gasoline) fuel system car. Worldwide, there are 400,000 cars operating on methane.

--Science News

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The Truth About Root Crops

by Louis V. Wilcox, Jr.

The collection of plants that make up what we call root crops, are a good group for the home gardener. They are all relatively easy to grow, and because of their ease of storage, they can be produced for year-round use. But be careful they don't fall into the "out of sight, out of mind" category. All too often, we forget to plant them, or we don't plant enough to last the year, or we forget to make provisions for storing them. What's more, for a long time they were forgotten by researchers.

In considering this group of plants, it is important to remember that all the cultural practices used with them are oriented towards good root growth and not necessarily toward good top growth. This does not mean that you should neglect the top growth of the plant, since that is the source of the materials that will be stored in the roots, but you will want to provide conditions for growth that favor the development of roots over the tops. For instance, high nitrogen soils favor the growth of tops over roots, so you'll need a soil that is well balanced, if not high on phosphorus and potassium. Soils to which a great deal of manure has been added are all right as long as you add sufficient phosphorus and potassium to balance out the excess nitrogen.

In this article, I will consider the following root crops: carrots, beets, turnips, rutabaga, radishes, parsnips, salsify and horseradish. I will not cover the sugar beet which is rarely grown in the home garden, except when it is used for pig food; nor will I attempt to cover naturally growing root crops such as cattails. For more information on the storage of these root crops, you should refer to my previous article (Farmstead, "Preserving Your Garden's Bounty," Fall 1978).

Carrots

Carrot (*Daucus Carota* var. *sativus*) is what it is today as the result of the efforts of the French horticulturist, Vilmorin-Andrieux, more than 100 years ago. Vilmorin-Andrieux cultivated the common Queen Anne's Lace you see along roadsides, and selected plants that produced thick roots. Eventually, he was able to produce a plant that had thick, bright orange roots. Since that time, horticulturists have improved the carrot by breeding for new and better varieties.

A deep, friable soil properly prepared, is the secret to success in growing carrots. Carrots do not do well on heavy, clay soils. A rich loam soil is about the best, and regardless of the soil type, the earth must be dug deeply or rototilled so that the soil is friable down to a depth of 6 to 8 inches. In so doing, you should remove as many of the rocks and stones as possible. Leaving rocks and stones in the soil will cause misshapen carrot roots for the roots will conform to the shape of the rock or stone when they meet it in the soil. The soil pH should be adjusted to about 6.0 to 6.5.

When preparing the soil, do not go too heavy on the manure. This raises the nitrogen level considerably, and if you do not balance it with phosphorus and potassium, you will end up with a lot of carrot leaves and not much in the way of roots. In particular, you should add potassium, and this can be done very simply by adding either wood ashes or a 5-10-10 fertilizer. Rather than add manure to the soil, you should add compost that has composted for a good long period. This increases the organic content in the soil and gives the soil better water holding capacity. But, it does not greatly increase the nitrogen level.

Carrots can be started in the cold bed or in the house, but it is difficult. Carrots do not transplant as well as

beets, so I strongly recommend that carrots be started from seed right in the garden.

Carrot seed should be planted about 1/4 inch deep. You will ultimately want your carrots spaced about two to three inches apart. Unless I am using pelleted seed, I do not usually get the seeds spaced two to three inches apart. But, I do not worry about it, for I can harvest small carrots early on in the season, and this does my thinning for me. If you try this, make sure that you do it carefully for you can disrupt nearby carrots by thinning too rigorously. Most gardeners, however, thin carrots when the greens are about one inch tall. When I use the pelleted seed, I space them so that I will not have to thin them later on.

Carrot seeds are one of the slowest to germinate in the garden. It takes anywhere from ten days to three weeks. Do not plant carrot seeds in a soil that will form a hard crust, for they won't be able to get out of the ground. One of the best things to do is to water carrot rows regularly until they come up so that a hard crust does not form. Many gardeners will plant a few radish or lettuce seed with the carrots. The radish and lettuce come up very quickly and give you an idea of where the row of carrots is located. I do not recommend this, however, for the simple reason that when it comes time to pull up the radishes, you will disturb the carrots. Carrots do not like being disturbed when they are young. For anyone who is planting less than 1000 carrots, I highly recommend the use of pelleted seed. It makes it easy to plant and space them.

There are several different planting arrangements when growing carrots. The old tried and true method is to space the rows one foot apart. If you are limited on space, this is the best, but with such little space between the rows, it is not easy to



Alex Goodman

weed the carrots. Carrots do not do well in competition with weeds, and must be weeded regularly. Many gardeners are now planting their rows two to three feet apart so that they can run a rototiller or cultivator between the rows. When using this method, you still have to pull out the weeds that grow between the carrot plants, but you have much more space to move around in.

Another method which is receiving more attention recently is the broad band planting of carrots. In this, you broadcast seed over a row that is one to two feet wide. It is recommended that when the plants are about one inch tall, you pull an iron rake through the carrots. This is supposed to thin the carrots and remove the weeds. I do not encourage you to try this method unless you have a real experimental bent and are willing to face the fact that you may not have too many carrots. In using it in our own garden, we have found that the raking really sets the carrots back as compared to ones grown in straight, single rows. When we do use the broad row technique, we hand weed and thin just as you would do with the single row planting. The one place that this technique is of use is when you are limited on space. There is no question that with care, you can cram a lot of carrots into much less space than when you space single rows three feet apart. The other place that I find this technique of use is when you use the French intensive method in raised beds.

Carrots, as compared to some other garden crops, face relatively few diseases and pest. Thus, you do not have to consider this aspect of gardening when selecting varieties to be grown. You really only need to consider whether you want a short, medium, or long carrot. And, the length should be determined by the type of soil that you have. The heavier your soil, the shorter the variety you should grow.

Some long varieties that you might want to try if you have a very friable soil that is free of stones and lumps are: Gold Pak, Emperor, Tendersweet, Scarlet Nantes, and Goldinhardt. Shorter varieties are: Nantes, Danvers Half-long, Oxheart, Royal Chantenay, Short n' Sweet, Little Finger, Gold Nugget. Some varieties are better for freezing, canning, and eating fresh right out of the garden. These include

such varieties as Redheart, Nantes Coreless, Gold Pak, and Nantes Half Long. All of these varieties are what are called coreless -- they do not have much of that darker orange core down the middle of the root. These varieties do not store well and you have to go to some of the fibrous varieties for storage such as Chantenay, Danvers, and Oxheart.

When planning your carrot plantings, you should try to get your first planting of coreless varieties in the ground as soon as the soil can be worked. You can plant about every two weeks until the end of May so that you will have a good supply of carrots for eating during the summer and for freezing and canning. You should plant some of the fibrous varieties toward the end of July. This is the crop that you can store for winter use in your root cellar. This crop can also be covered with hay bales late in the fall and harvested from under the hay bale for some time into the winter. Last year, we harvested carrots this way right up until New Years!

One last comment about carrots. Carrots need a lot of water on a regular basis. To preserve the moisture in the soil, it is well that you mulch the carrots once the plants are about two inches tall. And, even then, you may have to water if you want a good crop.

Beets

Beets are in the Chenopodiaceae or Goosefoot Family, a relatively small family of only some 250 genera. Beet or *Beta vulgaris* L. is known as the garden beet, yellow beet, red beet, beetroot, sugar beet, mangel, mangel-worzel and mangold. Obviously, these are names for many different cultivars. The beet is used for many purposes ranging from use of the foliage, to use of the roots for sugar, to use of the root as an ordinary table vegetable. The table beet is closely related to Swiss Chard, and in fact, Swiss Chard was used by man before the use of the root as a source of food. The beet did not become popular until about the 16th century.

Like the carrot, the beet grows best in friable loam soil. Soil that contains a lot of rocks or is heavy with clay will not produce a good crop of beets. The soil should have a pH of about 6.5. The addition of well-rotted manure or compost to the soil will help a great deal as the water retaining ability of



the soil is increased. Again, you should not overload the soil with nitrogen. The soil must be balanced with phosphorus and potassium or you will end up with a lot of tops and no roots.

Beets germinate much more rapidly than carrots -- about 7 days. The items you find inside a package of beet seed, and the items that you are directed on the package to plant, are balls of seeds rather than single seeds. Each ball contains several seeds. Because of this, you should plant beet seed sparingly. I usually plant beet seed about a half-inch apart and still I have to thin the plants later on.

I frequently plant two single rows 4 to 6 inches apart and then space these double rows 2 to 3 feet apart so that I can run a rototiller between the sets of double rows. Beets can also be planted in one to two foot wide broad rows.

When beets are 4 to 6 inches tall, they should be thinned to stand about two inches apart. The thinnings can be used for salad greens or cooked beet tops when you allow the plants to get this large. When thinning, do it carefully so that you do not disrupt the plants that are left to grow.

Beets can be sown in the spring as soon as the soil can be worked. After that, it is well to plant more beets about every two weeks so that you will have a supply over the whole summer. Beets can be grown right through the hot months of the summer if you give them ample water; otherwise, beets become tough and stringy. If you have periods of alternating drought and wet periods, you will end up with white rings in the beet root. The round or globular varieties should be used in these early plantings. When it comes time to plant for a fall harvest (plantings that are made in late July), you should use the longer rooted varieties which store better in the root cellar.

Beets can also be started indoors or in the cold bed. They transplant extremely well. Get them into the garden when all danger of frost has past, and you will have beets weeks ahead of your neighbors.

As for varieties of beets, I recommend Detroit Red, Early Wonder, Ruby Queen, Burpee's Golden (a yellow beet that does not bleed), and Crosby's Egyptian. As I have stated before, try several varieties and select the one that does the best for you and the one that you like most.

Turnip

The turnip is a member of that great family, the Cruciferae. It is in the Rapifera group of **Brassica Rapa**, and is also commonly called Seven-Top Turnip or Rapini. Turnip had its origin in early Germanic civilizations and grew wild in the Baltic Sea area prior to its spread throughout Europe. It was first introduced to this continent in Canada and was widely used by the residents of the Massachusetts Bay Colony.

Turnips are a cool weather crop, though they are not as frost resistant as rutabagas. Turnips will not grow well where there are long, hot growing seasons. Turnips will grow on average soil where carrots and beets would not do so well on such soil. The pH of the soil should be around 6 to 6.5, and as is the case with both carrots and beets, the plants will grow better with the addition of phosphorus and potassium. Because turnip roots do not go as deep in the soil as the roots of carrots and beets, you do not have to be as concerned about the removal of stones and lumps before planting. Again, average soil will support a good crop of turnips.

Turnips can be sown in the spring after the soil is thoroughly warmed. Here in Maine, I usually get the first planting of turnips in around the 15th of May. They should be planted in single rows or double single rows. They do not do well in broad row plantings. The seed looks very similar to radish seed and is just as much of a dickens to plant. You can usually figure on thinning turnips when they are about one to two inches tall so that the plants are spaced two to three inches apart. If you like very large turnips, you should thin them to three to five inches apart. I prefer the smaller turnips because they are more tender.

As with beets and carrots you can put in successive plantings of turnips. For winter storage, you should get a planting in around the last week in July. Turnips take 45 to 60 days to mature, and this late July planting will just about beat the frost so that you can get them into root cellar storage. I have left turnips in the ground well into November. By that time, the tops are well frozen. . .and sometimes the roots too. So, be careful. You can leave them out for awhile, but remember that they are frost tender.



Turnips basically come in two types of varieties. There are the purple topped varieties and the all white varieties. It is a matter of personal preference as to which varieties you choose. Some good varieties to try are Purple Top White Globe, Purple Top Milan, and Tokyo Cross. If you like turnip greens, you should try Shogoin.

Carrots and beets have no major diseases or pests of great concern, but turnips do. Aphids frequently attack turnips. You can ignore them (which is frequently catastrophic), or you can spray. Malathion can be used if you follow the directions on the label carefully. The cabbage maggot will attack turnips. This can be controlled by sprinkling wood ash around the plants. Flea beetles will also attack, making mince meat out of the leaves. They can be controlled with a dusting of rotenone.

Rutabaga

Rutabaga or the 'Swede turnip' is very similar to the turnip, so I shall only comment on the differences between these two. The rutabaga takes about a month longer to grow to maturity, and the leaves are quite different from those of the turnip. The leaves are smooth and larger and look similar to cabbage leaves.

Rutabagas should not be planted until June or early July because they do not fare well in the hot summer days. They prefer cool growing conditions even more than turnips. Rutabagas survive frost much better than turnips, and the frost of the fall improve the flavor of the rutabaga.

Otherwise, the rutabaga is very similar to the turnip, including the diseases and pests that attack it. As for varieties, try American Yellow Top.

Radish

Radishes and spring rather go together. Radishes are a quick crop to grow -- about 30 days -- and they have many uses in the world of salads and snacks. Some people eat them because they are believed to be good for the kidneys.

Radish is one of the oldest cultured vegetables known to man. It was used in Egypt in the days of the pharaohs and the Greeks also used them. The English used them a great deal in various sauces that were served with meat -- no doubt, to disguise the flavor



of the meat since they did not have refrigeration back in those days. It is used heavily now in Asia as a winter vegetable, though we here in America still use it pretty much as a side attraction.

If you have never gardened before, you should start with radishes. They are very easy and quick to grow and require about the same soil conditions as turnips.

Radishes can be sown in the spring as soon as the soil is workable. Germination will take a little longer at that time than later, but they will still germinate in about three to seven days. The soil should be kept moist while they are germinating so that a crust does not form on top of the soil. The seed should be planted about $\frac{1}{4}$ to $\frac{1}{2}$ inch deep and spaced about $\frac{1}{2}$ inch apart. When the seed germinates, they can then be thinned to about one inch apart. Radishes should be planted in single rows about one foot apart. They do not do well in broad row plantings. I have tried it, and you may want to try it too, but do not expect spectacular results. To get the best crop of radishes, you do need to keep them weed-free when they are growing.

Do not plant too many radishes at once. The whole row will mature at the same time, and you can eat only so many radishes at once. When they are left in the soil past maturity, they become pithy, hollow and lose their flavor. So, plant a few radishes about every ten days up until about the first of June. This way, you will have a continual supply of radishes up through the first week in July. You can start in again planting them about the second week in August so that you will have some in the fall.

One of the biggest problems in growing radishes is the cabbage maggot that tunnels into the roots. You can use a soil drench of diazinon at planting time to control them. Flea beetles will also chew up the leaves. This can be controlled with a dusting of rotenone.

Thus far, I have talked primarily about spring planting and have talked only of the radishes that are eaten right out of the garden. Actually, there are different types of radishes. The red radishes, which also come in cultivars with half the root red and half white, are the ones I've referred to thus far. But, there are also the white radishes which can be grown in early spring or late summer, and the black or Spanish radish which is grown as a fall crop. The black radish should be planted about the last week in July and can be left in the garden until about the beginning of November. It will survive some frost, but should not be left out when there is a freeze. The black radish can be stored in the root cellar, just as you would store carrots and beets.

Parsnip

Some people love parsnips, and others don't, but whatever your preference, this close relative of the carrot (*Pastinaca sativa*), is a familiar root crop. It is native to Europe and North America and likes cool to temperate conditions. In hot weather the roots become poor in quality.

Parsnips take about four months to mature, so it means that you should plant them in the early part of May. Perhaps more than other root crops, parsnips require that the soil be well prepared. The soil should be friable to a depth of one foot. This can be done by working the soil thoroughly, or by digging holes and placing specially sifted soil in the holes. Whichever method you use, the soil should be generously treated with rotted manure and/or compost. To this, you should add a good supply of phosphorus and potash. These should be mixed in the soil down to a depth of at least one foot so that the roots will grow deeply and not stay near the surface.

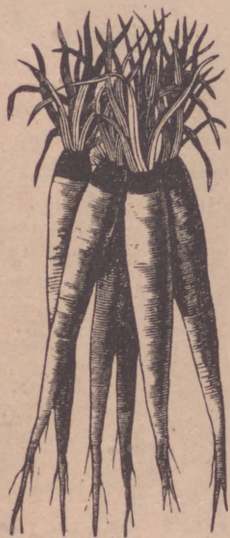
Like carrots, parsnips are slow to germinate and take about 14 to 21 days. The seed should be planted $\frac{1}{2}$ to $\frac{3}{4}$ inch deep and about two inches apart. If you dig holes for the parsnips, plant three seeds per hole, and thin to one plant after they germinate. The rows of parsnips should be at least 18 inches apart. If you have seeded in rows, thin the plants to stand about four to six inches apart after the seed germinates.

The reason for the wide spacing of the rows is that the plants will grow to

four feet in height. Further, these large tops produce the tap root which is about 12 to 15 inches long. Very simply, this is a large plant and requires a lot of space.

Parsnips have no serious diseases or pests that you need worry about. When it comes time to harvest them, they must be dug up, not pulled out of the ground. Some people harvest them late in the fall and put them in the root cellar. Others insist that they are best when left in the ground over the winter and harvested in the spring. In either case, the cold of the winter or the root cellar tends to make them sweeter.

If you are interested in trying parsnips, try one of the following cultivars: Hollow Crown, All American or Model.



Salsify

There are two different salsifys, both of which are in the Compositae family. Though they are similar in appearance to parsnip, they are not related. *Tragopogon porrifolius* L. is the white salsify and is also called vegetable-oyster plant.

Scorzonera hispanica L. is the black salsify and is also known by the names Spanish salsify, viper's grass and black oyster plant.

Salsify is native to the Mediterranean area and did not come to this country until the 19th century. It goes without saying that salsify is native to warm parts of the world and is a bit difficult to grow in the cooler climes of the northern U.S.

Salsify is grown in a similar manner to parsnips. The soil must be friable down to a depth of one foot, and you

can use either of the methods described for parsnips in preparing the soil. The seed should be planted about $\frac{1}{4}$ to $\frac{1}{2}$ inch deep in rows one foot apart. Once the seed germinates, thin the plants to about 3 to 4 inches apart. When the seeds first come up out of the ground, they resemble onion seedlings, though the leaves are wider.

It takes about 4 months for salsify to mature. At that time, you should dig, not pull the roots. Again, some believe that the roots taste better when left in the ground until early winter. The roots are usually about 8 to 10 inches long and resemble a carrot in shape more than the shape of the parsnip. Salsify is not afflicted with any major diseases or pests, so there is no need to worry on that score. The biggest problem the grower faces is the length of the growing season and the need for warm weather.

Horse Radish

Always leave the best to last, I say! Unlike most of the other root crops I have described, this one is not eaten as a main dish. It belongs in the condiment department. Horse radish has been grown for centuries in eastern Europe prior to its spread to the rest of Europe and America. The Germans have long been heavy users of horse radish. In most cases, it is used on meat dishes. No doubt this stems from the fact that prior to refrigeration, people had to do something to mask the smell and taste of tainted meat. In fact, many of our herbs and condiments originally were used to cover up the bad state of old meat or help meat keep longer.

Horse radish or *Armoracia rusticana*, is in the Cruciferae family, a family with many odoriferous members. It grows best where there are long cool summers. Like all root crops, the soil should be well prepared and friable. If the soil tends to be very acid, an addition of lime to the soil will help the crop grow.

Horse radish is grown from root pieces. The plant does flower, but seed is never produced. You can buy root pieces from mail-order houses or borrow some from a neighbor. As soon as the ground can be worked in the spring, you can plant these sections. They should be planted one to two inches deep in the soil. From then on, all you need do is keep the area weed free.

In the fall, dig up the horse radish plants. In so doing, cut off several five to eight inch long side roots, tie them in a bundle, and put them in your root cellar. These can be planted next spring. The remainder can be stored in the root cellar until used, or can be cleaned, ground up and stored in a jar with some vinegar. As you know, a little horse radish goes a long way, so don't end up producing enough for the whole neighborhood.

Horse radish plants grow to be about two feet tall and about two feet in diameter. Thus, you must give them ample space wherever you plant them. I usually spread them around my garden wherever I have extra space. I dig them every fall for the simple reason that plants left to grow from year to year will soon produce very thin and spindly roots which are not of much use. You can also increase the size of the roots by root thinning during the growing season. About six weeks after the plants have started to grow, clear the soil back from the top of the roots and break off all but the largest side roots. This will then force the plant to put all its energy into just a few roots. The object here is to grow a few large ones, some of which you will use to make horse radish sauce, and the remainder will be used to start next year's crop.

We have wandered through many of the root crops that can be grown in northern gardens. They do make a refreshing addition to any garden in terms of the variety of meals that can be prepared. Root crops are really rather simple to grow. The hardest work comes in the spring in preparing the soil. After that, it is a simple case of weeding and watering, for most of them are not subject to a lot of diseases and pests. So, give them a try and get to the root of some of your nutritional needs, too!



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Thoughts on Killing My Fatted Calf

by Gay Weeks Neale

Clarence arrived at six-forty. But I'm on to this game that the farmers play, testing to see how early they can get you out of bed. I've been up for an hour. When he drives in, I'm on the porch, reading the paper and drinking my tea. He has the pickup's parking lights on. It's a hot, misty Virginia morning.

I'm ready. We exchange a bit of small talk, "Goin' to be a hot one. Sure wish we'd get some rain."

We go to the barn. He backs his pickup around so it closes off one door of a stall. Above the sides there is a wall of slats nailed to a frame of two-by-fours, extending the box sides of the truck bed up another six feet. It doesn't look too strong.

Together we rig various pieces of plywood to close off the available holes between the truck and the barn, and we lean an old door from the barn floor up to the truck bed to make a ramp.

Clarence is not the average black Virginia farmer. His education is good, and he is a dapper dresser. Even today, although he has condescended to wear work shoes, he has on brown slacks and a co-ordinating brown nylon knit golf shirt. He wears, as always, a hat with a small brim and a silk band. He is the county agent as well as being a farmer,

the man people go to for advice on just about everything. He has been a good friend since I've moved here, helping me out of some farmy troubles, and I think he alternately admires and feels sorry for me.

He is being very helpful, but I can tell he is not too eager to enter in, nose to nose, with this whole adventure. I go and turn the bull -- we call him "Dumbull" out of his field, and he bucks about a little on the back lawn, showing his stuff. Then he heads for the barn where he knows, somewhere in his dim brain, corn is found. We easily shoo him into the proper stall.

Then for a sweaty fifteen minutes we try to poke him and prod him up the door-walkway into the truck. I try rattling the cut-down plastic milk jug full of corn, the sound of which he knows so well. My arm swings into his vision, sticking through the sides of the truck, luring him into the truck bed. The door is too much for him, however.

I am leery of this beast. He is huge. I had a technicolor bruise on one hip for a month, courtesy of his right horn. But in exasperation, I climb into the truck bed, wading in the thick carpet of straw Clarence has provided, to lure him with my presence. It occurs to me that I have on a red plaid shirt.

Just before I lose my patience entirely, and when I am ready to cut loose with an oath or two, the bull puts one hoof on the door and shifts his

weight. I toss the corn in the corner of the truck bed, slither out the hole remaining, and Clarence gives him a poke with a two-by-four that goads him into the truck. Together we wrestle and tie the back part of the wood cage in place, and close the back gate of the truck.

I get ready to follow Clarence in my pick-up.

Clarence is well aware that I'm a novice at this farmer stuff, but he's nice enough not to put me down by reminding me. He phrases his advice to me, unless solicited, in a very careful way, and leans now out of the pickup and yells, "You forgot the bucket for the liver." Not -- "Did you know you have to have a bucket for the liver?"

I lie. "Right! I had it ready in the kitchen!" I run through the house, dump zucchini out of a bucket and all over the kitchen floor, and scoop up a handful of plastic garbage bags.

Our procession begins. We go about ten miles, me following, watching the bull shift his weight from one side of the truck to the other, bearing down hard on the springs. "That's a pretty big piece of potroast," I think. We pass people we know, and wave. We pass other trucks and wave. It's a friendly place. The sun is getting up now, as slowly as I wish I had, cutting through the mist.

Over a railroad track, down a tree-lined strip of double gravel, and

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finally we drive up to a charming house. Behind it are numerous out-buildings. We drive on past them, across a stream (dry now) to sheds, barns and a big green field. I park the truck. Clarence drives over farther and parks. We get out and walk over.

Two men are stripping the hide off a big Angus. It is suspended in midair from a double hook, one prong through each back leg. The carcass is white with fat and cool looking. The feet and head are cut off. It looks so remote from anything once living. From the neck, steady black-red drops fall on the grass, nothing more. The head sits on the green grass, eyes rolled back, looking like a papier mache steak house ad until you walk around and see the tubes sticking out of the red-meat at the other end. A cat wanders around it, taking a few nibbles. Someone throws a galvanized washtub over the head.

The local dairyman who's brought the Angus to be slaughtered is watching the workmen closely. As I walk up, they all turn and look at me, a plump, forty-year-old lady in a messy shirt and jeans. I am definitely out of place. Clarence introduces me to the dairyman. I shake hands, and he looks me over hard. He knows who I am, of course. It's a small place. He wears the standard farmer outfit, grey drill jumpsuit with snaps up the front and a billed cap with the insignia of a tractor company on the front.

The Angus is hanging from the double hook swung up high on a boom behind a big tractor. The tractor's motor is running and I can't figure out why, until one of the men gets inside and pulls something that raises the boom another foot. Now they can strip the lower part of the animal without stooping. They finish off quickly and throw the hide on the grass by the head.

The two workmen, one old and grizzled and the other young and wiry and joking most of the time, stop now. We are waiting, it seems, for George, who owns the place. Everyone is talking about hogs, for the hog market is good now.

George is about sixty-five -- thin, bird-like and quick moving. He wears thick glasses, and his right eye wanders up and into his skull while his left looks you right on. We are introduced, and he is softly conversational. He knew I was coming.

He climbs agilely up into the big

tractor and moves it and the suspended Angus carcass over to a small dump truck parked against the pines. The bed of the truck is raised at about a 12 degree angle. The back of the tractor is about two feet from the back of the truck. John slips into the gap and cuts with a butcher knife from the diaphragm down the breast of the upside-down cow. George works the controls smoothly and the cow rises into the air, moves back, and lowers so its severed neck is resting on the end of the slanted truck bed. John hops onto the truck, and the older man climbs in with difficulty. They start cutting, using butcher knives and a large, two-foot-long hacksaw at times, until the carcass is opened down the front. Out of it spill the intestines, and after a few deft cuts by John, the stomach emerges -- huge, bloated, veins moving behind the vellum of the outside sac. The liver is sheared out expertly, and John holds it aloft like a trophy. It looks like it must weigh about twenty pounds. The farmer holds a clean-looking galvanized bucket while John slides the liver in it. He takes the heart too. The rest of the Angus' innards -- some more tubing for eating purposes and a vast pulpy mass that is the lungs -- fall neatly on the truck bed. There is almost no blood.

"Half the weight of the cow," George says. Then he leans out of the cab. "Bout halves out, don't it, Clarence? Meat and waste?"

Clarence nods. The tractor's noise blocks out talk. George has been sitting in the cab, smoking a cigarette. Now he moves the tractor into gear, and the beef is moved forward about fifty feet to a place where an electric cord and a garden hose snake dangerously together. Clear white layers of cartilage and fat encase the meat as neatly as a glove. The dripping from the neck has stopped. It's hard to think of it as a neck.

Clarence and I stand, talking in a fashion about tractors and parts, while John uses a small electric chain saw to split the entire carcass into two parts. The sawdust, really meat and bone dust, flies back, coating John's arm and right side. I go forward at one point to sit on the front tractor tire and talk to George. He has shut down the motor and is smoking another cigarette, one leg crooked over a control handle. I ask what he does with the hides.

"Take them to the dump." I ask if I might have them. He says, "Sure." I

start to explain that I'm reading about tanning and want to try it, and mention that the book I'm reading was written in the thirties when people did a lot of things themselves. This pulls a plug.

"We had a farm in the thirties. . ." he begins. I hear about the sheep they tanned, about making rugs and the food they put down. ("Bent the shelves. . .") He looks back where John is still grinding away down through the middle of the cow's backbone with the chain saw. Nimble, George hops down out of the cab. He touches John on the shoulder. It is a surprisingly familiar gesture. John stops the saw and George hands him the hacksaw. Then George holds the carcass, using his body spreading the long cut. John, without a word, understands and cuts some pivotal bone by hand. Then he turns on the chain saw and continues. George hops back up into the cab of the tractor.

I look beyond the hog-scalding trough in the center of the field and see Clarence and the other man walking around Clarence's truck. The man has a twenty-two rifle in his hands, an ineffectual looking weapon compared with the bulk of the bull.

I go to them. It is why I came, after all. I feel a ridiculous, almost perverse, moral obligation to go through this process. When I first moved south, I bought half a cow from a neighboring farmer. He was jolly, delivered it to my door cut up in neat, labeled brown freezer packages. I was delighted. The best meat I'd ever had, and it was completely without additives, steroids, all those things they dump into commercially fattened cows. I later found that I had payed a fancy price for my meat by local standards, if not by a high-priced supermarket. The farmer had seen me coming. Then I got two innocent-looking bulls from a dairy farmer, babies just off their mothers. I raised them and fattened one and sent him off, waving goodbye, to be killed. I went down and picked up the meat later. The people at the locker were very nice, and I got a very good deal on the meat. When I added it all up, from hamburgers to rib roasts, it cost me about \$.65 a pound. Of course that's not counting my pasturage, my time, and the bill for the electric fence I resorted to when they got big. Nor does it include several five dollar bills given a neighboring man, who helped me chase them the mornings they got loose. I

still rejoice in my bargain, in my perspicacity in buying a farm on which to raise my children, and on my success at this farmstead project.

But something still wasn't right. If I was going to eat meat (and I was; I'm not a vegetarian), I ought to see it all from the beginning to end. I was still copping out on the coup de grace. I was still playing at farmer.

So, with this bull, I have come to a rural butcher -- a back-yard man. And this is the moment of truth. The bull,

too dumb to sense fear or anything dramatic, is simply restless. He moves around in the truck aimlessly. As the man gets him between his sights, head on, he tosses those horns and moves his feet.

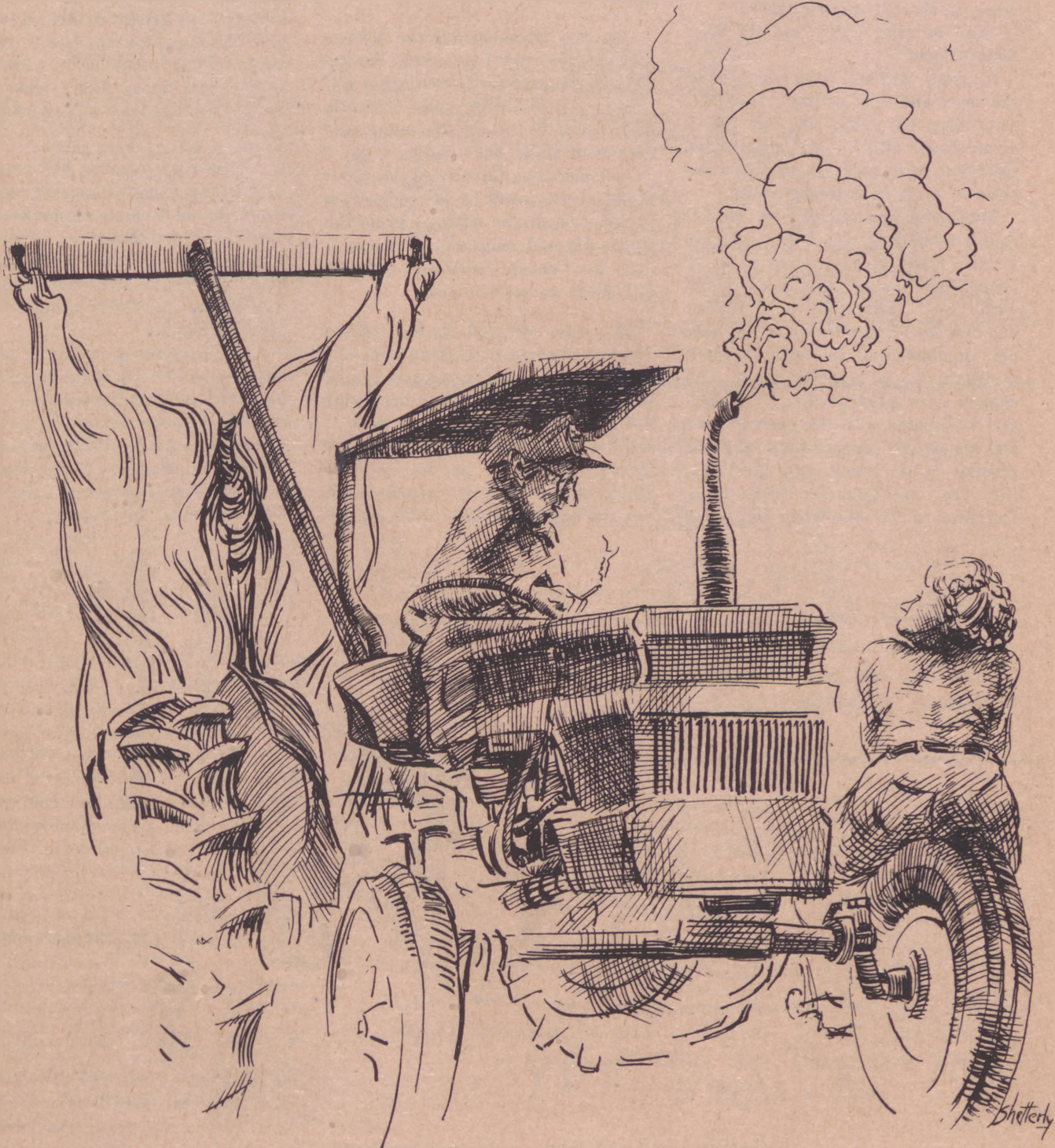
"OK," I say to the man with the rifle. "Get ready."

He raises his rifle.

"Hey!" I call to the bull. "Dumbull! Hey, look at me!" The bull raises his head and regards me steadily. The man shoots. The ridiculous twenty-pop is

echoed by the instantaneous crash as the bull falls totally to the floor of the truck. The bed of the truck rocks and tilts.

Quickly Clarence pulls the rope away from the back gate and the man leaps into the truck and slits the animal's throat. I gulp. This is really the hard part. The throat is slit from horn to horn almost, through a mere skin wall, to the artery. And a gush of blood sounding like water from a hose,



swashes out. The man leaps aside, as blood cascades off the tailgate.

Everything is suddenly in primary, crayon box colors -- the red blood, the green grass, the blue sky, the black and white bull. I watch as the big bull lies there, twitching and kicking the side of the truck in reflex, arching his body, then falling still, to twitch disconcertingly one more time, a few minutes later.

"Oh, Clarence," I say, my voice a little funny, "did you know they were going to do that in your truck?"

"No," he says dryly, "but it's been done before."

It is now very hot. Flies sing around the head and hide of the Angus but they have not found the bull yet. I stand there, with the men waiting for George to come back. He has taken the sides of the Angus to the cooler.

The farmer has left, with the solidly-raised-hand salute that is the local way. I think I should have worn a hat. I should have one of those billed things with Lady Farmer on it. I try to examine how I feel. I look at the bull, old Dumbull, and he isn't Dumbull anymore. He is potential meat. The change is as quick as that. The black and white hide with the gush of gore and the awfully severed head raises no emotion in me. I wait for a good jolt, like the one you get looking at Guernica, or the one when you see a

kitten run over on the road. I'm usually a softie. I cried secretly for weeks when our old horse died, and I weep over squashed box turtles on the road in spring. But now I feel nothing. The animal was raised for meat, and I know that, and I know that in his beginnings was his end. I am glad I am here, though. It makes it more right.

George comes back with the tractor and they hook the hind legs on the hooks and hoist him up. They pull him over to the shade and begin to strip off the hide.

Clarence drives over to the hose to mop out the truck. I go to help. He has already snagged the brown nylon golf shirt, and I am feeling guilty. After all, he is doing all this for friendship, and his shirts never have snags. I get a shovel and move the clotted straw out ahead of the water he is spraying on the truck bed. He manages to do the whole job and only wet his boots a little, but I am sprinkled with assorted filth from my waist down.

They have stripped the hide off the bull and are into butchering him, so I walk over to see. Clarence leaves -- he is headed for a farm sale -- but I stay and watch the process once more. I recall a passage in a Marjorie Kinnan Rawlings book where she described the killing of a deer. I can't remember it exactly, but I remember admiring her

nerve to go from the description of the free, lovely deer, through the thrill of killing it, to the detached cutting-out of the meat. I have no romantic notions about the bull. He started off meat. I wonder if I would kill a deer. I think not, for they are still works of art to me. But if we got hungry enough? Yes, I imagine I would.

Finally the beef is cut into sides and carried to the cooling house. I go along this time and watch it weighed: four great chunks of meat, all weighing approximately the same. It is carried in to hang. I say goodbye to George, asking him if he wants his money now or next week when we wrap the meat. He says, "I got your meat. Don't need your money yet!" and laughs. It's a good exit line.

I get in my truck, two hides and the liver wrapped in green garbage bags in the back, and drive through town. I feel like I have gone through some test and made it. I stop for gas. "What you got back there?" the attendant asks.

"Oh, I took my bull to be killed today. Liver and hides."

I pull out with a feeling of accomplishment and drive home. It occurs to me that I wouldn't have gotten myself into this whole process if I hadn't known for sure I could handle it. No fainting, no throwing up, no feminine screams. It is good to look at myself -- survivor -- and feel honest.



How to Get Your Livestock to Market

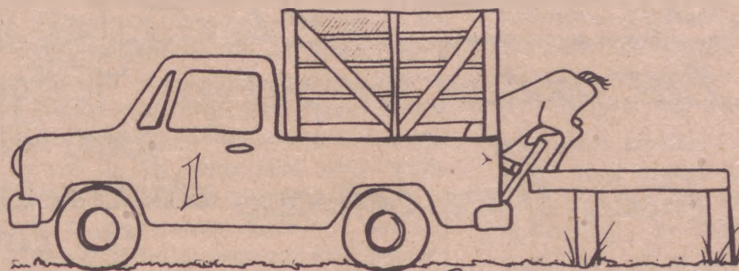
by Sherry A. Cook

For the greenhorn "back-to-the-lander," one of the most frustrating times can be the moment when your animals, so carefully nurtured to maturity, are ready for market or slaughter. It is then that the beasts have to be loaded into some sort of conveyance and hauled to town. This article should help to alleviate some of the headaches involved for both human and critter in such an undertaking.

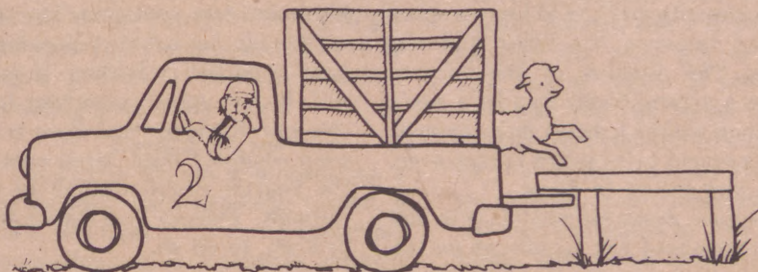
Rule number one, (and I can't stress its importance too much) is to be sure your truck is backed squarely up to the loading chute with no gap between the two. If some gap is unavoidable, find a post or board or something, to block it with. I was careless about this only once in my life, and I'll forever hear the sickening snap of the leg the sheep broke when she stepped into the hole. Cows have literally torn off their hooves because of a carelessly positioned truck.

One situation to avoid is parking the pickup as close to the chute as possible and leaning the tailgate back against the chute to close the gap. This can be dangerous, as an animal could easily kick the tailgate shut, and get a leg down into the resulting hole. If you **must** load this way, have a partner wedge a strong stick between the tailgate and the pickup box, to prop it open.

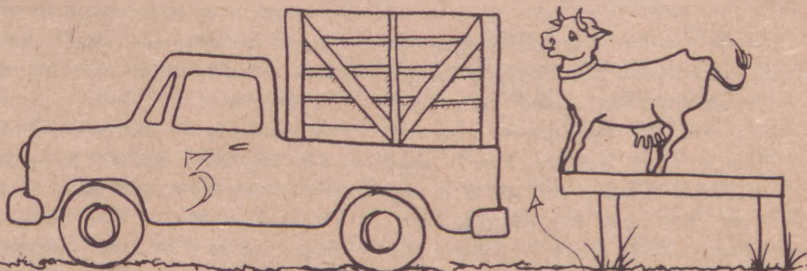
Another position that causes trouble is when the tailgate is fully extended and backed in under the lip of the chute. The problem here, is the obvious difficulty one will have in closing the gate after the creature is in the rig,



Tailgate could easily be kicked shut by animal. Wedge open with strong stick.

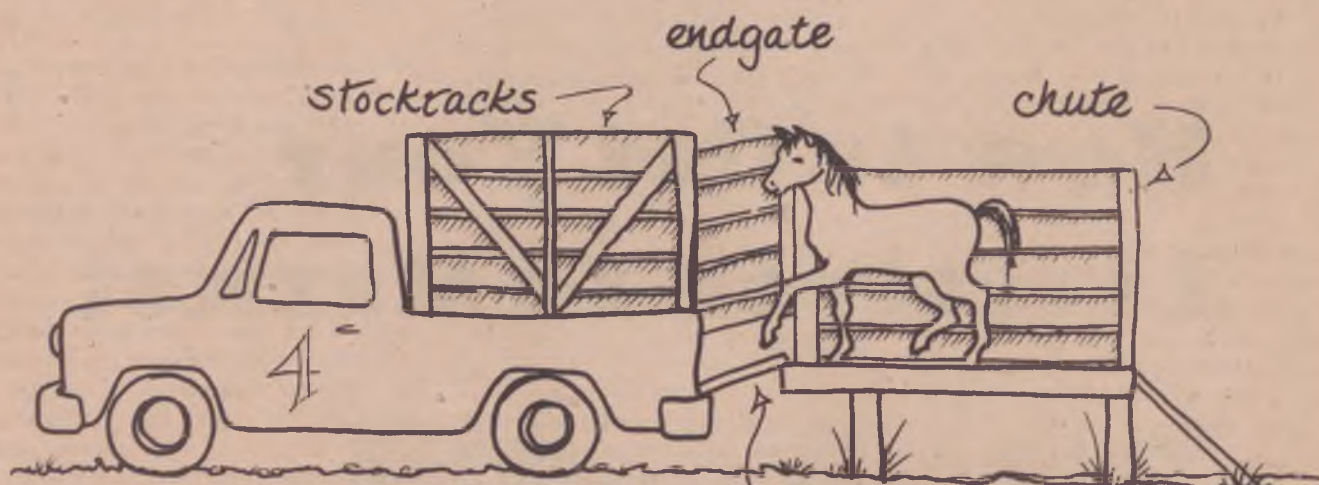


Pickup must be pulled ahead before tailgate can be closed. Animal has good chance of escaping.



Most animals won't cross a space like this, and if they do, they are likely to break a leg.

Sherry Cook takes care of her livestock in Asotin, Washington. Illustrations by Liz Buell.



*Best position for pickup: Tailgate acts as bridge and closes easily.
Block space between stockracks and chute on both sides.*

without pulling the truck ahead first. This can be hard to do if you're by yourself. A pig or sheep is apt to exit right out under the endgate while you're fooling around trying to shut the tailgate.

An absolute don't, is to leave a space or gap between the truck and the chute. The position of the tailgate makes a natural booby trap for a cow's foot, and makes a space most animals deeply resent being asked to step over. Most just refuse to do so.

The most desirable position is to pull the truck ahead just far enough for the tailgate to rest on the lip of the chute. There is no place for the animal to catch its foot. And, there's no space for the critter to get "spooked". (The pickup bed now looks like an extension of the chute itself.) The tailgate is easily closed once the creature is loaded.

The first order of business once the beast has entered the pickup, is to get all escape hatches closed fast. In a pickup, get the tailgate up and the endgate in place quickly, and in that order. Most animals will enter a rig, discover that they are caught, swap ends immediately and try to leave the same way they came in. Just "in the truck" is not necessarily "caught for sure".

The space left between the stockracks and the chute can be remedied by placing your endgate where the hole is. (This also puts your

endgate where it can be reached quickly and easily once the stock is loaded. Decide how to put it in place before loading your critters.) If you have a partner, station him on the remaining open side of the pickup to block that hole, cautioning him to stand very still to avoid "spooking" the quadruped you're loading. If by yourself, find or make something to close this gap. Remember, if there is a hole, even remotely near, large enough for the beastie you're loading to escape through, chances are excellent that he'll try to do so.

Keep Your Cool

Don't get your animals shook up or excited, and you'll probably have little trouble handling them. The moment you become angry, you've lost the battle. Man is supposedly the more intelligent species. Outsmart the creature, don't try to force it. It's probably bigger than you are. Don't chase your stock, herd them slowly and carefully and quietly.

It's not a good idea to haul cows and hogs together unless you partition them away from each other -- cattle to the front, hogs to the rear. Always keep most of your load's weight to the front of the truck. Cattle are afraid of pigs, usually, and panicked cows are no fun to try to haul.

Try not to haul baby animals with adults if they are at all crowded. You'll lose youngsters that way. Put newborn kids, lambs and piglets in boxes. If

possible, put them in front with the human passengers. A baby calf can be put into a gunnysack tailfirst with the head left sticking out. Tie the sack shut next to the baby's neck. He can be hauled in the cab very successfully this way. If you've several sheep-lamb or cow-calf pairs to haul, partition the adults to the front of the truck, and the babies to the rear.

Loading Pigs

Hogs, contrary to popular opinion, are very intelligent. Coupled with an innate stubbornness and hair trigger temper, this makes porkers the most difficult of all domestic animals to load, unless you know a few tricks of the trade.

Pigs, like most animals, load best in groups. Where one goes, the rest tend to follow. If you get sows stirred up and running, they will immediately turn their attention to escape. An angry porker trying to get away from his tormenters will go over or through anyone in his path and possibly take a bite out of a person's leg on the way past. Work slowly and quietly, and don't get your hogs riled up. If your grunter doesn't go into your rig on the first try, and maybe even refuses to go into the chute, try sprinkling some grain up the walkway and in the pickup. Stand well back out of the way. As a donkey follows a carrot, your pigs may go right in. If you're loading a mama sow with little ones, put the youngsters into the pickup, and the

sow should follow. (Be sure she sees the little ones as you load them.) Be very, very careful in this sort of endeavor, as mama sows can get very protective. If you make the wee ones squeal a lot, look out! Don't ever turn your back on a sow while you are catching her babies. I can't stress this enough. You could literally lose a leg or even your life. To avoid making the babies squeal, try to catch them with both hands around their middles. Weaners caught in this manner tend to grunt, while piglets caught by a back leg squeal to high heaven.

When you've tried shooin' and luring to no avail, there's one last-ditch method that works every time without exception. Find an empty three to five gallon bucket with a handle, and put it over the pig's head completely, being sure it covers the eyes. Now you change your tactics and get aggressive. Keeping a hand on the bucket to be sure it doesn't come off, have a helper (you can do it yourself if the hog isn't too large or if you have long arms) grasp the critter's tail and turn its rear end in the direction you want the hog to go. By maintaining pressure on the bucket, you can back that future porkchop anyplace you want him to go. Leave the bucket in place until you've secured your gates. Never use an electric prod on a pig. If often causes them to have heart attacks.

Loading Goats

Most goats are so tame and smart that loading them is extremely easy. One who is broke to lead needs only a slightly high rise of ground from which to hop into a pickup. If you don't have a pile of dirt, just place your nanny's front feet onto the back of the pickup then pinch firmly the base of her tail. She'll hop right in. This method also makes it easy to teach a new goat to jump onto a milking stand. 🐐

Loading Sheep

Sheep invented follow-the-leader. Where one woolly goes all others follow. And where one won't go, no one else will, either. They can be extremely easy or extremely hard to handle, depending upon how you go about it. Sheep are incredibly stupid until you try to get them to go through a gate. Suddenly they get overly intelligent. Sometimes some old ewe decides you want her to go through that gate and will make up her mind not to do it, no matter what. This can be terribly

frustrating if a person is trying to work the sheep alone. If one has a partner, simply put out a little grain, and when the baa-babies start to eat, grab one by a hind leg and take her to the entrance to the corral, and the others will follow her inside.

Sometimes the "donkey following the carrot" routine will work with sheep. Before chasing them even one step and in view of your lambs scatter some hay or grain just outside the gate you're trying to get them to enter. Also put some grain inside the pen. Then stand aside and wait a bit. When your critters are all bunched up around the gate and one or two are inside, crowd the rest and they'll probably go in. Though you've trapped your woollies, your problems aren't over yet. You still have to get them into your truck. Remember, if one goes in, they'll all go in. If you're alone, catch one ewe and tie her up inside your rig. Now go herd the rest into the chute. They'll see their companion and load with no further trouble. If you have help, crowd the lambs into the chute, and have your buddy hold them there while you throw the leader into the truck. Just step out of the way, and the others will practically run you down trying to get into your rig. You'll probably have to follow a similar procedure when unloading your balky band.

Loading Horses

No animal likes to step down into a rig for some undecipherable reason. A horse will fight to his dying breath not to step down. If at all possible, get your truck on a level with, or higher than the base you are loading from. Gentle coaxing will get you a lot further in loading a horse than fighting the beast. Few creatures can be as downright mule-stubborn as an equine who really doesn't want to enter a vehicle. Here, again, a lure can work wonders, and once more the ultimate solution for a horse that flatly refuses to enter a truck or trailer, is to simply back him in. I'm sure you're seen at least one horse trailer in your lifetime going down the road with a horse's head sticking out the rear. Ten to one that's a balky horse who doesn't like horse trailers.

Loading and Hauling Cattle

Few cattle are broken to lead. If your bovine is larger than 300 pounds, you're probably not going to be able to lead it into your pickup. Cows, however, are the easiest of all domestic

animals to drive. Generally, they won't attack you, as a hog is prone to do, and they aren't as silly as sheep. Now and again, you do come across a recalcitrant calf who puts his feet down and declines to go into your pickup. I dislike using electric prods on any animal, except as a last resort. When a steer balks, try twisting his tail. Just put a kink in the tail and apply a little pressure. For most cattle this is sufficient to change their minds about moving. Be careful not to apply too much pressure as it's fairly easy to break a cow's tail in this manner. Sometimes a bossy will completely go on strike and actually lie down in the chute. In a case like this, an electric prod is your only recourse.

When hauling a full load of cattle in a one or two ton truck or larger, you should stop after ascending or descending any significant hill or grade to check your load. Dairy animals, in particular, tend to lie down in your truck. This can be deadly. The other cattle will walk on the one that is down and cause injury or death, or on a hot day the down critter may simply suffocate. Here is where an electric prod is essential. Usually nothing else will get the beast up, and she must get up. If she is unwilling or unable to arise even for the prod, you had better stop at the nearest farm and convince the owner to let you unload and start over again. If the problem recurs more than twice in one trip, you would be wise to park the animal that keeps lying down with a friendly farmer and haul her at a later date. Or you may, (if the down cow is too weak to leave the truck) opt to leave a few of the other cattle till later, thus giving the down cow more room.

You'll sometimes come across a cow who thinks she's going to fall out of your rig. She'll climb the sides of the stockrack to avoid falling out. (Nobody ever said that cows were smart.) An animal like this should be restrained by tying her head, with only a couple feet of slack, to the front of your racks. If tying her is impossible, get your rig in motion quickly, and don't stop unless absolutely necessary till you reach your destination.

Always keep your cool, use a little animal psychology, and don't get your charges excited. Then, you'll get them to market with a minimum of loss or injury to everyone and everything involved.

Woodstove Safety



By Lynn Ann Ascrizzi

Before rushing off to a roaring start with your wood burning venture this fall -- stop a moment. How well have you considered safety? How protected is your home from the threat of a destructive fire?

The following information will provide you with a good over-view of several important areas in your home to examine before you light up your wood stove or fireplace: chimneys, correct wood stove set-up and clearances, stove pipes, stove cleaning and safety tips.

The Chimney

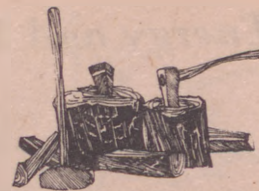
First, let's take a look at the chimney. No matter how proudly it juts past the roof line, if it's not clean and in good repair, it's just a big minus in the area of fire safety.

Chimney fires are no fun. They're caused by the over-heating of flammable, crusty creosote deposits which are the result of an accumulation of flue gas condensation. Chimneys with cracks and holes in the mortar can permit sparks or flames to escape and possibly catch on the burnable material in the inner structure of your home.



No matter how much you think you know about burning wood, you can never know enough about safety. Here's a special section to help you in the following areas: cleaning chimneys, stove pipes and stoves; what causes a chimney fire and how to prevent one; correct distances for radiant heaters from flammable objects; some suggestions for good stove set-ups and tips on safety.

Woodstove Safety



It's another bothersome step on the treadmill of maintenance, perhaps, but chimneys must be cleaned at least once a year. Twice -- for optimum safety. They must be repaired if necessary. Then, this winter as you toast your toes before the wood fire, you'll feel a lot more cheery knowing your chimney is in good working order.

What kind of a chimney do you have? Older homes will probably have a masonry chimney, and since flue liners are a relatively new safety precaution, your old farmhouse stack may be unlined. An unlined masonry chimney is a potential fire hazard. The only thing between your house and smoke, flames and sparks, is a thin wall of single brick construction which can transmit heat to nearby combustibles in the event of an over-heated fireplace or stove, or a chimney fire.

Unless you are very clever and handy, these chimneys should have professional attention and should be

lined by a mason. If you mortar and assemble a flue lining poorly, you'll create bumpy surfaces to collect creosote or hamper the draft. Round flues are best, but are difficult to install.

So, there should be a fire clay flue liner, or its safe equivalent, which will resist cracking from hot flue gases. This liner should be 5/8 of an inch thick and extend above the brickwork.

The newer, prefabricated chimneys are easiest to clean. Most are round on the inside. Many of these can be cleaned from the ground level up.

Should You Clean The Chimney Yourself?

If you have a masonry chimney that needs cleaning, most likely you'll have to get up on the roof. If you're the type whose knees turn to jelly just looking down out of a second story window, then maybe you better back gracefully out of the whole project and hire a professional chimney sweep.

What tools will you need if you do want to do it yourself, brave wood-burner? Well, first of all you'll need a safe and sturdy ladder. If possible, prop the ladder against the gable of the house rather than against the side of the roof. Place the ladder at a safe slope. This method is good if the stack is near the peak. But if the chimney pokes up through the center of the roof on one side, you'll need to situate the ladder against the side of the house and use a second ladder with a ridge hook on the roof.

You'll need a flue brush made of strong, stiff steel wire bristle that fits the flue. Round brushes for round flues; square brushes for square flues. The flue size can be determined by looking up into the hearth, past the damper of the fireplace, or into the flue opening, if you have a wood stove. Reach in with a measuring tape. If the flue brush you buy is too large, you can carefully trim the ends with a wire clipper.

Some local fire departments own a set of flue brushes and are willing to loan them. You might want to check this out.

Don't Go Up Yet!

Hold it! I see you poised with one foot on a rung, all set to clamber up. Haven't you forgotten a few things?

You'll need a rope the length of the chimney, to tie to the brush -- and a weight. The purpose of the weight is to pull the brush down into the chimney. The tighter the brush fits the chimney, the heavier the weight must be.

A broom is another handy item, and you may want to bring one up with you. A flashlight will be useful to illumine the dark and awesome chimney hole (don't fall in) to check the mortar for cracks and holes, or to see how good a job you're doing.

That's about it for the roof. On ground level, you'll want a high-powered industrial or shop vacuum. (Rent one. Your household vacuum is not sufficient, and fine soot may wear out the bearings if it gets into the motor.) Get a drop cloth and strong tape to completely seal off the fireplace, if this is your situation. You'll want a metal bucket and an ash shovel.



Woodstove Safety



Now, close the damper. Seal the fireplace. You've picked a fair day, of course, with hardly a breeze and not a hurricane in sight. The roof is dry as a bone. (No snow or ice.) The stove or fireplace is out cold. Your ladder is secure, and you've got on your worst clothes. You've remembered to provide yourself with a dust mask or cloth -- but there's one more thing that suddenly occurs to you -- the chimney may have a "cap" or "bonnet" which is probably bolted. Naturally, this will have to be removed, so you run and get the proper tools.

Up On The Roof -- Or... Save The Goose For Christmas Dinner!

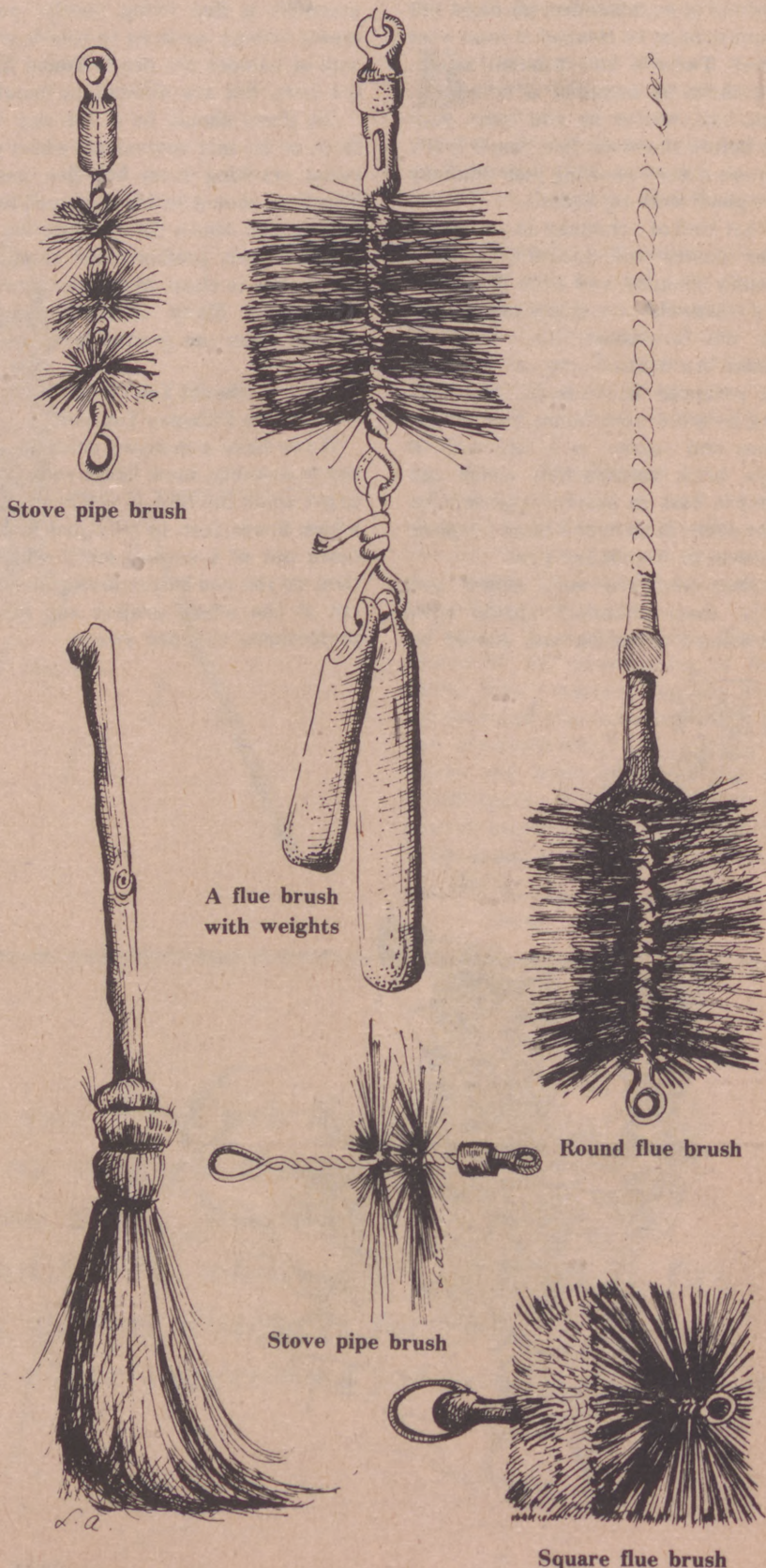
Now, you're up. If there was a chimney cap, you've already removed it. You lower the brush, weight first, down the chimney. Careful... don't smash the damper! Gently lower and raise the flue brush the full length of the chimney at least six times.

Here's where you'll respect a good flue brush. It's well worth the small amount you pay for it. In the name of resourcefulness, however, certain Medieval practices have been used but are not recommended: hoes, dungeon chains, round rocks in socks, last year's Christmas tree, a bucket filled with pounds of sand or a live goose tied by the feet and lowered head first with flapping wings. Wouldn't you have fun if any of that stuff got stuck in the chimney? Consider also, the chance of cracking mortar or the flue liner with such unlikely equipment.

Two Can Clean As Cheaply As One

The weight is not necessary if you have a spouse, lover or good friend (or a lucky combination of two or more,) stationed loyally at the hearthside opening. Then, you attach a rope to both ends of the brush. One of you on the roof and the other on the hearth end, take turns gently pulling the brush up and down the flue. You'll still want to cover a fireplace opening with a tarp, but an opening should be provided to facilitate working from the hearth.

You're done! On the roof, at least. You climb back down (easy does it), and you carefully remove the cloth from the fireplace, or remove the connecting pipes if you have a wood stove. You shut the doors and windows



Woodstove Safety



in the house. Then place a sturdy drop cloth on the floor. With a fireplace, open the damper **very slowly** and gently sweep or vacuum the debris from the hearth and smoke shelf. With a wood stove, you remove soot that's collected in the stove and place it into a metal bucket. Take the pipes outside and brush with a wire brush. There is usually an ash door at the chimney's foundation. Open it, and shovel out debris.

Cleaning a Chimney Without Going Up On The Roof

You can clean some chimneys without going up on the roof. Find the stack opening on the ground floor level and lay a drop cloth around it. Push the flue brush up into the flue. Keep adding extension handles until the brush has reached the chimney top. A few good strokes, and you'll knock loose the dangerous creosote deposits.

A toilet brush taped onto a plumber's snake will also suffice. Shovel out debris at the bottom of the chimney near the stack opening.

Performing The Smoke Test

After you've cleaned the chimney, you can further check for cracks and holes in the masonry by what is known as "the smoke test." Send a trusty friend up on the roof with a wet towel with which to cover the chimney top. Now, you go inside and light a small fire, adding a handful of green leaves or any other material that smokes when it burns. (Avoid rubber or plastic.) Your friend covers the chimney, and you both inspect the entire stack for smokey "leaks." If there are any, mark the spot with chalk, and fill the holes with cement. Or call a mason.

Incidentally, you may want to place a spark arrester (a rounded cone structure of wire mesh) to fit over the chimney top. They don't block the flow of gases, and they'll help prevent sparks from flying out. They'll also discourage squirrels and birds from setting up house in your chimney.

The Stove Set-Up

Most destructive fires that result from burning wood are caused by an unsafe location and installation of the stove.

First of all, the stove should sit so the shortest and most direct span of stovepipe is used to connect it to the chimney. This makes for a good draft, and for heating the chimney flue. In the long run, these two factors help to reduce creosote accumulation. The lower the stove is in the house, the better for heat distribution. If a stove is located in an insulated basement, it will warm the first floor. If a stove is located near a stair well, or if the house has floor registers, the heat will rise and heat the second floor.

If you're setting up the stove in or near a fireplace to use its flue, you must block off the fireplace opening with sheet metal or $\frac{1}{4}$ inch stove board in which the size of the stovepipe has been cut. The fireplace cover should be

The Greenwood Eagle
**Burns Unsplit
Green Logs**
without the usual
creosote build-up

The secret is the all refractory firebox* made of the same material used in ore melting industrial ovens. The refractory contains and concentrates intense heat to the center of the firebox so that a smaller fire using less fuel generates temperatures needed to burn off acids and gases that otherwise produce creosote.

The cost of split, dry cordwood is rising with the skyrocketing cost of fossil fuels. Now the Eagle, specifically designed to burn unsplit green logs, saves on the initial cost of fuel, eliminates the cost and effort of splitting and burns less wood to provide cleaner, safer heat to your entire home.

The Eagle takes a 13" by 32" log and the shelf assist front door makes loading easy for anyone.

Before you buy any heating unit, know more about the Eagle.

Greenwood Energy Corporation

41 Avon Street, Keene, NH 03431

* Enclosed is \$1.00 to help pay postage and handling of literature about Eagle heating units.

Name

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F9



* PATENTED

Eagle
28" deep x 28" wide x 37" high

Larger Eagle
28" deep x 36" wide x 37" high

Woodstove Safety



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BURNERS!**

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YOURSELF TO KNOW
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POSSIBLE ABOUT
CHIMNEY CLEANING
AND SAFETY.**

NEW MANUAL gives inside scoop on • how to know when to clean your chimney • creosote buildup • what to do about a chimney fire • cleaning fireplaces, stoves, stovepipes, and chimneys from inside or out.

Also includes advice on hiring a sweep, chimney sweeping as a lucrative home business, best woods to burn, insurance protection for woodburners, new safety standards, and personal anecdotes.

"An important manual that should be in every wood-burner's reference library."

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GARDEN WAY PUBLISHING CO.
Dept. 91179, Charlotte VT 05445

six inches wider than the fireplace opening, and three inches higher, to allow enough margin on three sides to bolt into the masonry. Run a bead of non-flammable caulking around the edge. You'll want the cover to be airtight!

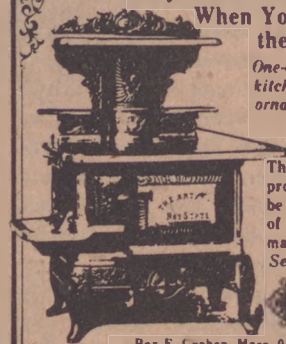
Another kind of fireplace installation for your wood stove, is to run the stovepipe up to -- but not into -- the chimney flue. Or, you may want to vent the stove into the fireplace chimney above the damper. This doesn't mean you use the wood stove and the fireplace at the same time! No. You cap the hole for the wood stove connector pipe, so you can use the fireplace for spring and fall. During the winter, connect the stove and block off the flue below the connector pipe entrance. You'll want a skilled mason to install this type since knocking out holes, and otherwise messing around with masonry, can be a complicated business.

CHIMNEY BRUSHES



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CREOSOTE. GET FULL CHIMNEY
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The top of the heater is conveniently equipped with two flat cooking surfaces.

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Heat Shield

Brick Retainer

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The patented collapsible door behind the viewing window may be closed for night or unattended burning, or for cleaning the glass while the heater is in operation.

Window Vent Screen

Glass Screen

FIRE-VIEW was introduced in 1969, bringing to the fireplace market a design which has proven to be a safe, sound and desirable wood heater.

Prior to **FIRE-VIEW** there were no attempts made to place glass in the front of a wood heater. **FIRE-VIEW's** patented glass cooling system permitted the success of this design. The effort to put **FIRE-VIEW** on the market was not stimulated by energy shortages. Rather, it was created at a time when there was no particular demand for wood heaters. **FIRE-VIEW** stands among the top line products on the fireplace market today, and we intend to keep it there by continuing our quality control, good service and competitive pricing.

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FIRE-VIEW's tubular firebox is constructed of 12 gauge hot rolled steel, the ends are made of 3/16" and 10 gauge hot rolled steel. The modern, patented design provides a large radiant heating surface for even transfer of heat into the room.

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WOOD HEATER**

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ROGUE RIVER, OREGON 97537
Telephone (503) 582-3351 or 582-0736

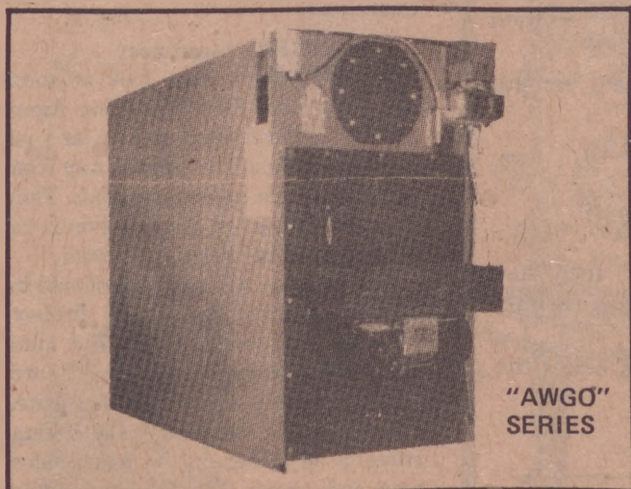
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Woodstove Safety



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OTHER EFFORTS CONFIRM THESE EARLY FINDINGS

Some Set-Up Suggestions

Venting a wood stove into an **unused** existing flue is the easiest. The following are some set-up suggestions to be closely heeded:

1. Never hook up more than one stove to a flue unless flue openings are at different elevations. Be sure flue is unused. Two or more heat devices may cause the stove to smoke or reduce the

draft. A poor draft favors creosote.

2. Make sure flue opening is large enough to accommodate a good draft. It should be the same size, or larger, as the in-coming pipe.

3. Never hook up a stove to a flue that also serves a fireplace, unless the fireplace is sealed. Otherwise, flue gas or sparks will enter the room.

4. Keep your stove away from passageways.

5. Keep your stove away from exits.

6. Don't place your stove in a small alcove or closet. There is too little ventilation in such niches.

7. Use an interior chimney, if possible. The heat loss from the chimney helps warm the house. Outside chimneys are much cooler and more likely to create condensation of flue gas, causing more ugly and dangerous creosote.

8. Place your stove so you have a good working room to remove ashes.

9. Check with a fire prevention official or your local stove dealer about clearances.

NFPA Clearances

Let's take a close look at some National Fire Protection Agency (NFPA) data on how far your wood stove should be placed away from walls, furniture, ceiling and floor. They may seem fussy but are based on facts. They should be strictly followed.

For example, a cook stove should be three feet away (back and firebox) from an unprotected wall. The minimum safe clearance from all unprotected surfaces for a radiant heater (i.e., the typical cast iron or sheet metal stove) is 36 inches on the front, sides, rear and above. What's combustible, you ask? Doors and window casings,

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1/4" Steel Plate

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HOME WARMER FIREPLACE

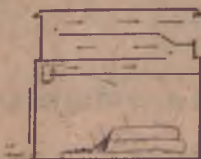
WHO MAKES IT

For several years now, New Hampshire Wood Stoves, Inc., has built a reputation for designing and producing High Quality, Highly Efficient, Thermostatically Controlled box stoves.

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AUTO HOE, INC., P.O. Box W121FM, DePere, WI 54115

WOOD STOVE CLEARANCES

↑
18" to ceiling [or install shield]

— 18" thimble

If you have
any questions
concerning proper CLEARANCES
write:

National Fire Protection Agency
[NFPA]
470 Atlantic Ave.
Boston, Mass. 02210

Ask for:
Heat Producing Appliance
Clearances - Send \$3.
with your order.

— 6" pipe-24 gauge black
or blue steel stovepipe.

*A heat shield is
needed if stove is
less than 36" from
wall. 18" minimum
clearance with shield.

— 36" —
Minimum distance
from combustibles
unprotected.

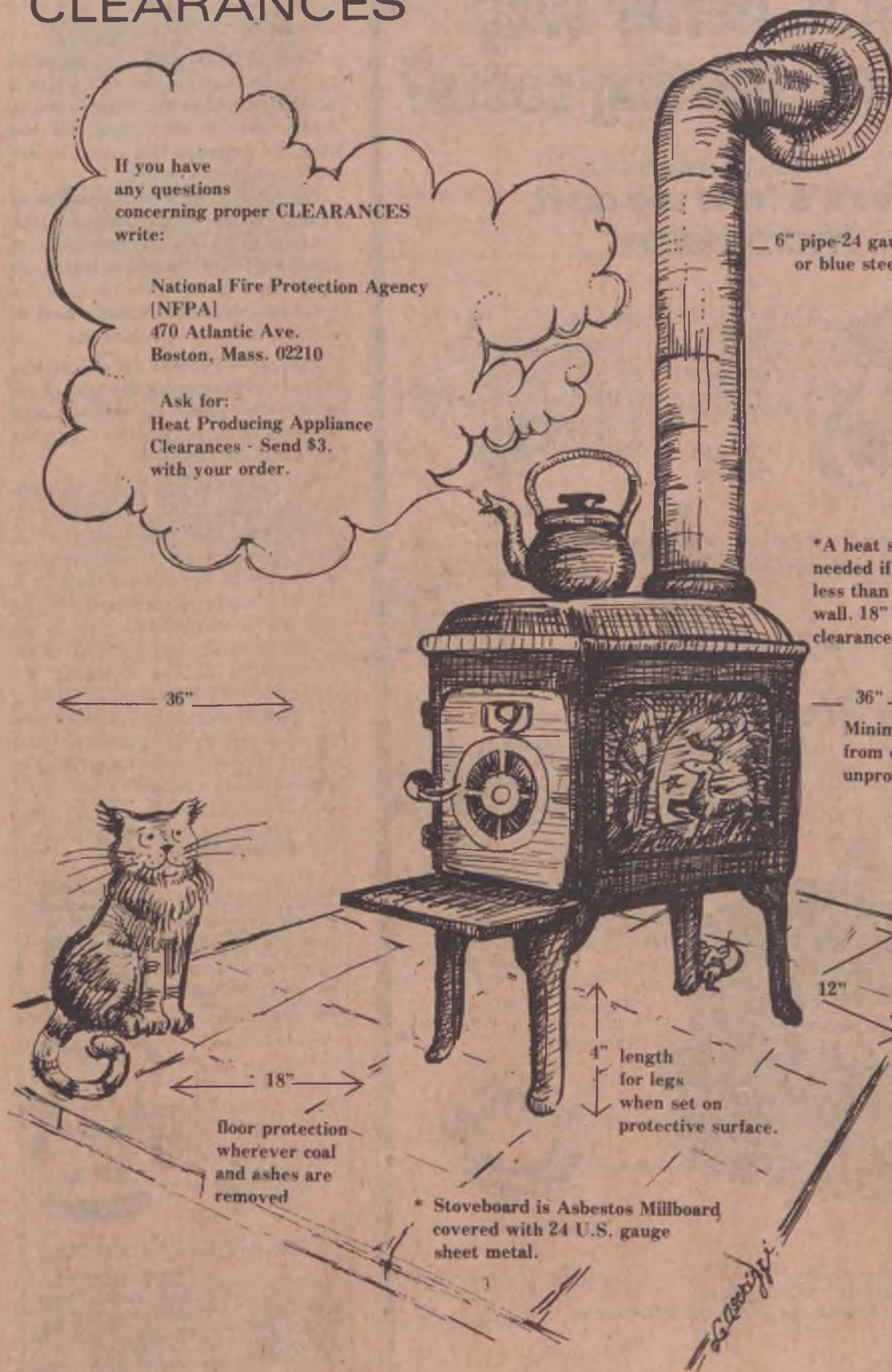
Stoveboard
should extend
12" beyond
base of stove
on 3 sides

4" length
for legs
when set on
protective surface.

floor protection
wherever coal
and ashes are
removed

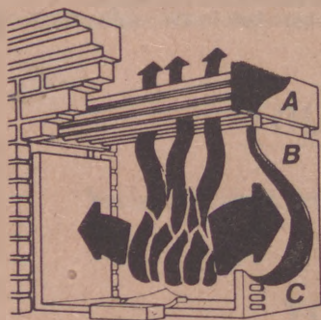
* Stoveboard is Asbestos Millboard
covered with 24 U.S. gauge
sheet metal.

Garrett



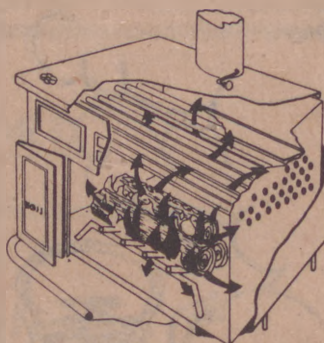
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B. The sides and bottom are 1 1/4" water jackets to absorb additional heat.

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mop boards, plastic walls or gypsum board dry walls if they are attached to wood -- and of course, your sofa and other furniture. The logs you wish to burn **inside** the stove, and likewise, all kindling or paper, must be kept at a safe distance.

The stove must have legs four inches to six inches long when it is set on a protective surface called stove board. Stove board is sheet metal not less than No. 24 gauge that cover 1/4 inch thick asbestos millboard.

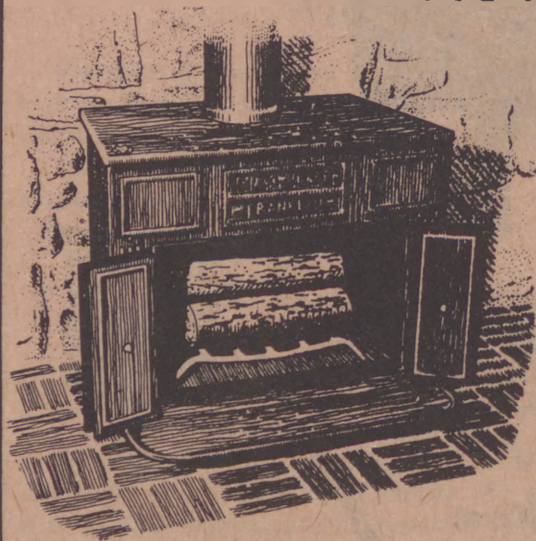
(Note: Do not confuse **asbestos cement board** with **millboard**. Millboard is a low density, fire resistant insulating board. Cement board, on the other hand, is high density. It is fire resistant but easily transmits heat to surfaces beneath or behind it.)

Stove board should not extend less than six inches beyond the base of the stove on three sides, and should extend 18 inches on the front or any side ashes and coals are removed.

Decorative and safe floor boards are available today with cheerful patterns in tile or color. You may want to build a masonry floor or wall to add beauty as well as safety to your hearthside.

The 36 inch requirement can be reduced to accommodate your wood stove into a tighter area. This is done by installing a heat shield on an exposed combustible wall. Porcelain (not plastic) electric fence insulators create a convenient spacer for the necessary one-inch air space needed between shield and wall.

Hot Air Stove Electric Heat . . . Heat Pump **Complete Wood Heat Pre-Heated Draft**



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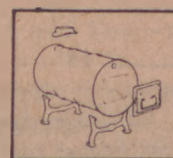
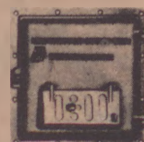


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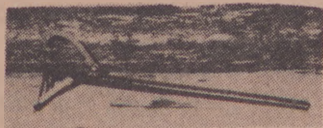


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Raises end of log upwards for adequate chain saw to ground clearance. Saves time, labor, and unnecessary lifting of logs. Eliminates possibility of personal injury due to hitting ground or dangerous kickbacks, wedging or jamming of saw blades. Easily lifts logs up to 20" diameter.

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Built of all steel construction, NO wooden handles to crack or break. Manufactured to the most demanding commercial quality standards. Designed to withstand rugged and harsh field abuse.

DELUXE, ECONOMY, and LOG ROLLERS all have a fully serrated grip tooth front face plate for extra additional grip. Overall length is 48" long. Finish is black with gloss red hook and rubber grip handle.

HANDY MATE will out lift and out last all other similar products. A high quality tool for the energy conscious homeowner and woodsman.

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() Economy Model — \$32.95
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NAME.....

ADDRESS.....

CITY.....STATE.....

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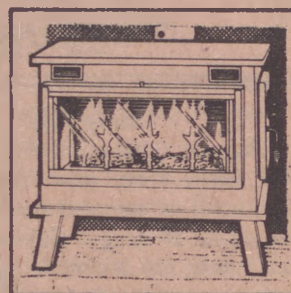
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Woodstove Safety



Stove Pipe

The next thing to consider is the best and safest stove pipe. Black pipe or blue steel is intended for interiors. It should be 24 gauge. Galvanized metal can give off harmful gases under extreme heat. Galvanized pipe is designed for oil or gas furnaces and is too thin for woodburning appliances.

Used pipe must be examined for rust corrosion. Beware of thin spots or pinholes. These are extremely danger-

ous, especially in the event of a chimney fire. Use a stove pipe the same diameter as the stove collar. If the chimney hole is too small, enlarge the opening, rather than reduce the pipe size and consequently reduce the draft. Six-inch stove pipe is a good size for a small stove.

How To Insure A Proper Draft

Check to see if the diameter of the flue is 25% greater than the stove pipe. Again, this provides for maximum draft. Avoid using too many "elbows" (bent sections of pipe). The shortest and most direct route of pipe from stove to the chimney is best. Non-adjustable types locked into a 90 degree turn are best. Adjustable elbows for angles 0 degrees to 90 degrees can be bought, but they tend to leak creosote.

If a long span of pipe is unavoidable, create a 1/4 inch upward slant to the chimney opening per running foot of pipe. However, the stove pipe must never be higher than the chimney

opening. It should enter the chimney hole horizontally and extend only to the inner surface of the flue, and not so far in that it blocks the draft.

How can you tell if your chimney has a good draft? Here's a simple test. Crumple a sheet of newspaper and set it into the chimney opening. Light it. If the paper is drawn up the chimney the draft is good. If not, your chimney may have air leaks.

CREOSOTE?

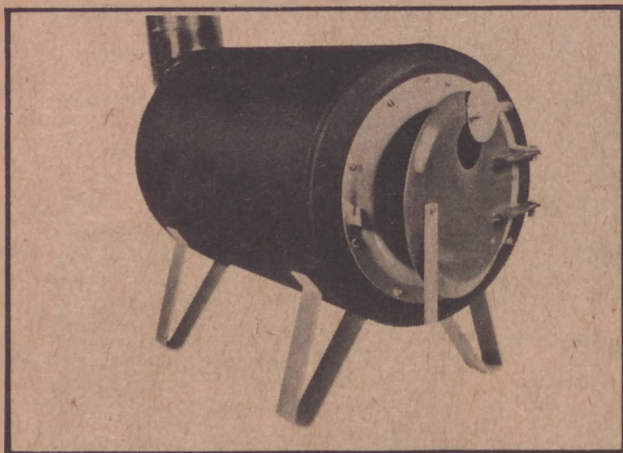
Safe-T-Flue has been in use in Canada for 25 years, is non-toxic, is easy to use, and really works!

Safe-T-Flue causes soot and creosote to soften and fall off chimney walls. Price \$14.75 2 lbs. postpaid. (1 yr. supply.) 100% money back guarantee. Vt. res. add 3% tax.

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Guaranteed not to crack, warp, or burn up for 10 years.

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A black and white photograph of a double barrelled stove with two burners on top.

DOUBLE BARRELLED EFFICIENCY!

A futuristic solution for today's heating problems. An Air Tight 64-72% Tested Energy Efficient wood stove made from recycled propane tanks. For brochure send to:

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SPRING MILL ROAD
DE VAULT, PA 19432
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Woodstove Safety



The Damper

Some stoves require a damper, although airtights usually don't. The damper is a special section of pipe with a steel pin handle and a disk that fits inside the pipe. It should be installed about six inches from the stove collar. Its function is to reduce the amount of draft and thus slow the fire. This section of pipe collects the most creosote and should be cleaned more often than other sections.



A damper

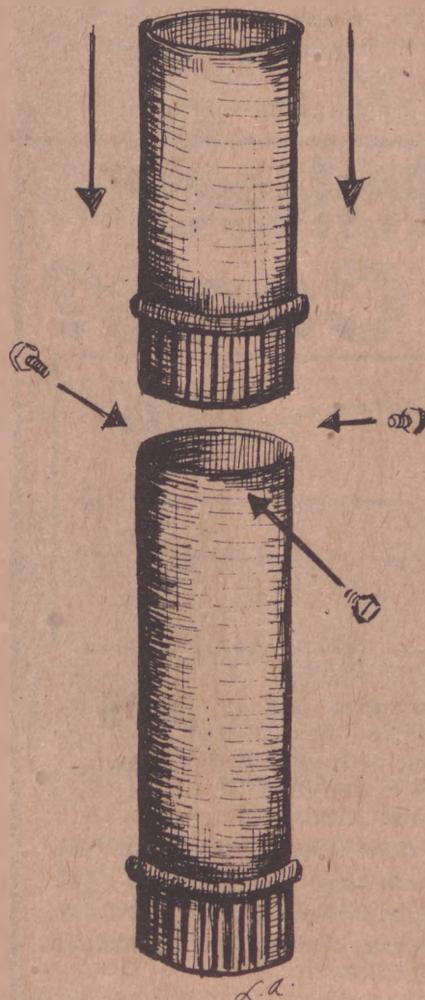
Connecting

Great care must be taken in connecting your pipe to the flue. According to the NFPA, a chimney connector should be made of corrosion resistant steel of a 24 gauge steel. It must be as straight and as short as possible. . . with not more than one -- or at the most -- two 90 degree elbows. This connector pipe must not be less than 18 inches from the nearest combustible material. This clearance may be reduced if combustible materials are protected with sheet metal or other protective fireproof material.

If the stovepipe enters a wall or other flammable surface, the surface should be cut 18 inches wider than the diameter of the stove pipe and lined with firebrick or asbestos or other non-combustible material.

When your stove is connected to a masonry chimney, a chimney connector is required to extend through the masonry wall to the inner face of the liner, but not beyond. It must be cemented to the masonry. A fire clay "thimble" may be connected with high temperature cement to the masonry wall of the chimney, and the metal connector installed without cement for easier cleaning and replacement. The thimble should be flush with the inner face of the flue liner. If it extends into the flue it will block the draft.

When the connector pipe is inserted in a thimble, but not cemented, the joint must be tight enough to prevent it from coming loose. Asbestos rope can be wedged into the space, with a screwdriver. Thimbles must be surrounded by not less than eight inches of



Assembling stove pipe sections

brickwork or some other equally good fireproofing material.

If you don't use a thimble, all combustible material must be cut out of the wall to provide at least 18 inches of clearance on all sides of the pipe. Use non-combustible and insulating materials to close the opening. The diameter of the hole you made with the 18 inch clearance will be 42 inches.

When installing the connector pipe, be sure the crimped end of it faces the room. Now you can assemble the rest of the pipe. These sections of stovepipe must be fit together so that the crimped ends slide into the smooth ends and face toward the stove. In case of a runny creosote problem, the mess will run into the stove instead of on your floor.

Stovepipe sections are most secure when fastened with short sheet metal screws. Stovepipe wire properly anchored with screw eyes can be used to hold up a long length of pipe.

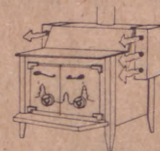
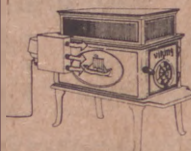
Viking XTRA - HEET



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Make Your Wood Stove Display Come Alive With the Viking Xtra Heet

The XTRA HEET converter forces the extreme heat from the surface of the wood stove out into the house. Heat where you want it, not just in one room. The VIKING XTRA HEET increases the efficiency of any imported or American box type stove. Convert your wood stove to efficient forced air heating. Five adjustable models, retails from \$79.95.



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Hanover, Mass. 02339

Telephone: (617) 871-3180

TELEX: 940706 • Attn. SPALT



Woodstove Safety



Clean Those Pipes

Stovepipe is something that must be cleaned regularly. Tap your pipe, gently. Does it make a "thud" sound? If it does, you can bet the pipe needs cleaning. A bright little "ping" noise usually indicates clear pipes. Stovepipes that carry cool flue gas from a high efficiency stove may need more cleaning out than stovepipes which carry high velocity, hot flue gas.

In order to clean stove pipes, you have to dismantle the whole affair. (Aren't you glad you hooked up the stove with the shortest possible span?) It's usually easiest to dismantle the pipe in small sections and take it all outdoors. Try numbering the pieces before you take it all apart. It'll be a lot easier to put it back together correctly. Just so you don't leave a trail of soot on the carpet, hold the pipe level or horizontally, as you head through the house and outside.

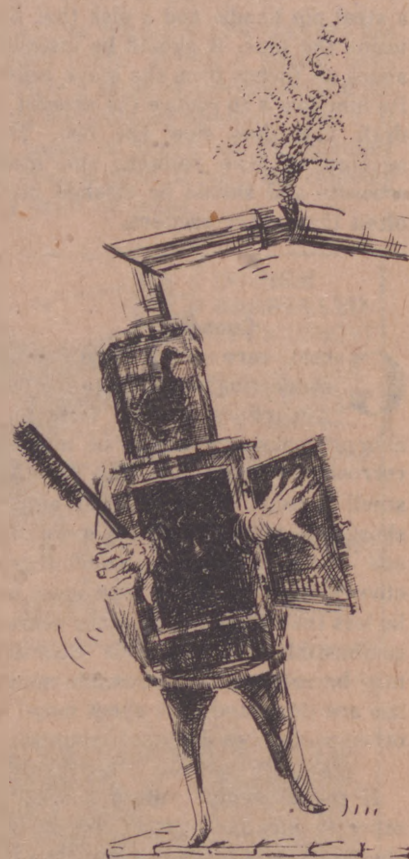
Use a round flue brush designed to fit the stove pipe, or again -- the

versatile toilet brush. It isn't necessary to get your pipe shiny clean. Just brush out the creosote and check for corrosion. If the rust is great -- replace the pipe.

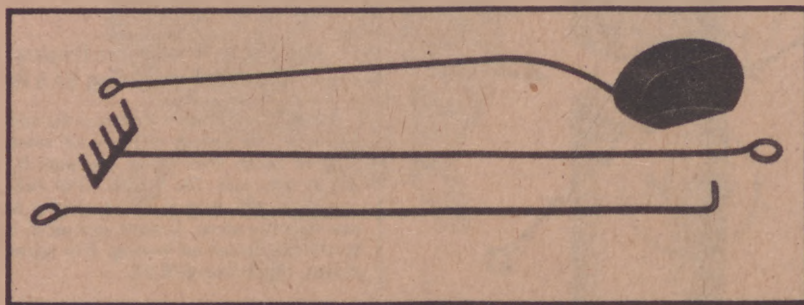
Cleaning Your Stove

Last, but not least, you're ready to clean and inspect the stove itself. By now, it must appear like an iron presence -- stonily waiting your attention. Indeed, make sure your stove is **stone cold** before you begin to clean it. Here are some tools you'll want to have by your side as you approach your friend and servant -- the wood stove.

- * a drop cloth or plastic sheet
- * a trouble light or flashlight
- * an ash shovel
- * a metal bucket
- * work gloves
- * a small hand wire brush
- * a scraper or putty knife
- * a hammer & screwdriver
- * a dust pan and broom
- * a can of furnace cement



Being Raked Over The Coals?



Sotz Woodstove Tools

- Safer
- Less Ash
- More Heat
- Long Handles 40" +
- Invented For Woodstoves
- Crafted From Solid Steel & Guaranteed 10 Years

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1. Empty excess ashes from heater front only, using ASH SHOVEL.
 2. Pull embers forward to air inlet with special CHARCOAL RAKE.
 3. Load wood to rear and arrange with WOODSTOVE POKER.
- Use these tools and burn up all charcoal, making your woodstove more efficient and greatly reducing ashes.

\$15.95 (Includes shipping)

Sotz Corp., 13613 Station Rd., Columbia Station, Ohio 44028



Wire brush

If your stove is the grateless type, there may be several inches of sand at the bottom. This should not be removed as it serves as a liner. If you don't have sand to line this kind of stove, leave at least two inches of ashes.

Woodstove Safety



There is no substitute for properly cleaning your chimney, but here are some helpful hints to--

Avoid Chimney Fires

1. Once a day (the morning is a good time), with the damper wide open, burn a hot fire **when someone is home**. This will clear out the creosote that may have built up the night before.

2. A chemical commercial cleaner may be used (calcium chloride -- rock salt) if applied according to directions. It

should help remove crusty deposits.

3. For every three cords of wood burned -- clean the chimney. Or clean it twice a year.

4. Use only well-seasoned wood.

5. Insure the best draft possible for your stove.

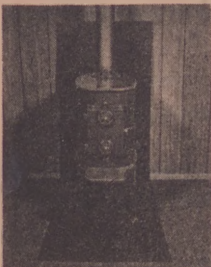
6. Don't use your stove to burn trash, newspapers, paper logs or old Christmas trees.

7. Don't push your stove or fireplace beyond its capacity.

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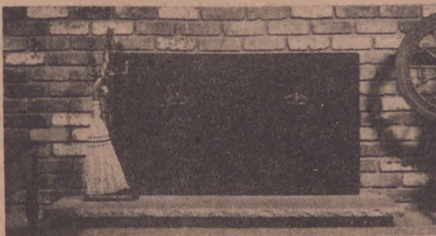
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Insulate floor and walls from heat and fire damage from your hearth. Made of textured steel laminated to fire resistant insulation board. Black coating will not crack, peel or chip.

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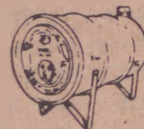
The safe, easy method of sealing off fireplace openings. Ideal for use before retiring for the evening. Can be removed and replaced quickly and easily. To convert fireplace to a wood burning stove installation, simply cut flu opening in cover and install pipe and stove.

**HEARTH
SHIELD**

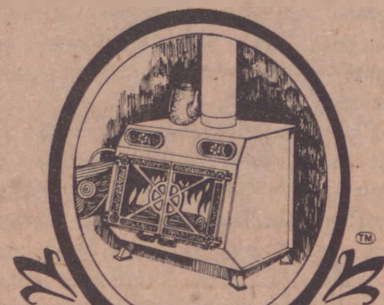
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Are built by YOU -- using our cast iron components and steel legs. Kit comes complete with all hardware and instructions.

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- Bi-metal thermostat
- 4 Heat Exchangers
- Tempered glass
- Firebrick lined



Yes, I'd like to learn about Aunt Sarah.

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Woodstove Safety



Outsmarting The Baffling System

Many stoves have a baffle system or a secondary combustion chamber, and it can be quite baffling to clean out this area unless you understand the nature of the beast. Look for a push-out panel on this secondary chamber. It's often sealed with furnace cement, so when you're trying to pry it open, be careful not to give it too direct a blow and make it crack. A wooden block to soften the blow will help. Some baffle systems are fastened with screws, so you may have to do some searching.

With the wire brush, scrape the inside of the chamber. A vacuum cleaner is a wonderful tool at this point. Old, loose furnace cement should be scraped carefully. Now is a good time to trouble-shoot with the trouble light and search for cracks and heat warpage. Using your furnace cement and a putty knife or fingers, apply enough to seal the joint, but you'll have to wait 12 to 24 hours for the cement to dry before you fire the stove. If metal plates on either side of the crack are unstable, you'll have to have the parts welded.

Sheet metal stoves should be inspected for thin spots. Test areas with your fingers and the palm of your hand for thickness. Discoloration, or "spots," are caused by high heat and may indicate a thin area. A thin spot means your stove is unsafe, and you should not use it.

Cracks in the firebox are dangerous and must be repaired. The doorseal must also be examined and should have a tight fit. If parts of the seal are missing or the stove cannot be tightly shut, order a new seal.

"THE SWEEP"™ Patent Pending

Will help to rid your chimney of soot and creosote deposits. Simply lower "The Sweep"™ down the chimney and raise up again, repeat until clean.

Rigid attachment of the weight helps eliminate swinging that could damage your chimney. Heavy duty, full 30 foot rope, ready to go.

Over 22 sizes available.

6" round, 8" round, 8" square, 8x12 etc.

Measure your flue size accurately

All sizes only \$49.95 fully postpaid each

Vermont residents add 3% sales tax

Send for free brochure

ENVIRONMENTAL MANUFACTURING CORP.
P.O. Box 126 Essex Jct., Vermont 05452



Fourteen Safety Tips

A. Do not use a flue being used by a furnace. In many areas this is illegal.

B. Don't store flammables near the stove (kerosene, paint, etc.).

C. Don't put wood chunks on the top of your stove to dry them out.

D. Don't use lighter fuels, such as kerosene, to start a fire or to build one up.

E. Put ashes in a metal bucket. Remove the ash container outdoors immediately.

F. Prevent small children from playing near stove. Keep them from opening the door to feed or watch the fire.

G. Don't overheat your stove. This puts a tremendous strain on it and increases the danger of combustion of objects near it.

H. Keep TWO dry chemical or CO 2 fire extinguishers handy. Get one that is rated for wood and paper fires.

Avoid soda-acid type for cool water can warp or crack a stove. Place fire extinguisher near doorway and away from stove.

I. Keep a pound or two of salt or baking soda near a stove. This can be helpful in the event of a chimney fire. (Store salt in a non-metallic container.)

J. Plan ahead. Practice escape from your house in the event of a fire, and agree with the rest of your family upon an outside meeting place. Does everyone know how to use a fire extinguisher or call the fire department?

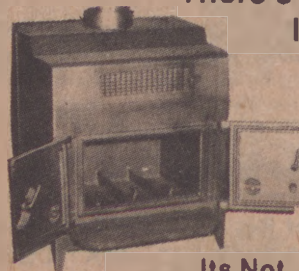
K. Use good quality wood to minimize creosote deposits.

L. Maintain a watch for sparks when drafts are open.

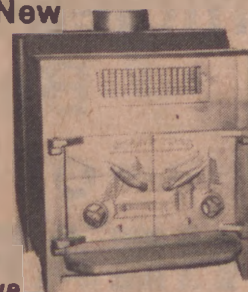
M. Avoid burning trash in your wood stove. Plastics give off corrosive acids, and such fast fires can burn out of control.

N. Watch the damper. It can accidentally close.

There's Finally Something New In Wood Stoves!



All circulating models have a 525 cfm blower and speed control.



It's Not Just Another Wood Stove

All circulating models of the **Country Flame** wood stove, makes all the other stoves obsolete. They utilize a heavily baffled heat chamber design that surrounds the fire on five sides, and a 525 CFM blower, that draws the cooler air along the floor, blows it around the heat chamber, and back into the home as "HOT AIR."

The heat grill is provided on the front of the stove for that purpose, or the stove can be ducted to provide clean, hot forced air to other parts of the home.

The attractive air tight cast doors, with the specially crafted air lock seal, allow you to get 12 to 15 hours on one filling, by using the finger touch damper controls. The chrome plated, safety spring handles not only add to the beauty of the doors, but allow you to open the doors without burning your hands. The powerful 525 CFM blower can be controlled from a central point in the home, by the optional room thermostat system. You can control the temperature as close as with your other furnace.

The carefully crafted firebox design, re-ignites the volatile gasses before they escape up the flue, to give you a more complete burn.

This stove heats so much better than stoves that do not use a blower, and will keep the floor much warmer. It's also safer for children. We know, because we manufacture both types.

If you are serious about heating with a wood stove, then the **Country Flame** is a must.

For dealer or distributor information, or a list of dealers or customers, contact:

Mt. Vernon Fireplaces, Inc.

314 East Center
Mt. Vernon, MO 65712
(417) 466-7161

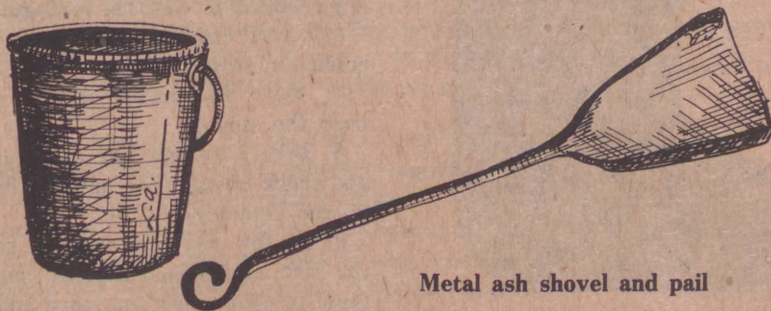
Woodstove Safety

Each home presents a unique wood-burning situation. When you are in doubt, written information on fire safety, no matter how thorough, cannot replace having your house checked by a fire prevention official or professional, and it's hoped such authorities are contacted whenever feasible or possible.

With proper care, a wood stove is an entirely satisfactory and satisfying source of heat for the energy-minded.

However, we must also be mindful... and be willing to learn correct operation of our stove and to carry out the necessary inspections and maintenance. With soaring oil prices, a stove can save you money or keep you from freezing in an emergency due to a power failure or a fuel shortage, but there can never be too much emphasis on the need for thorough knowledge of wood, wood stoves and safe practices.

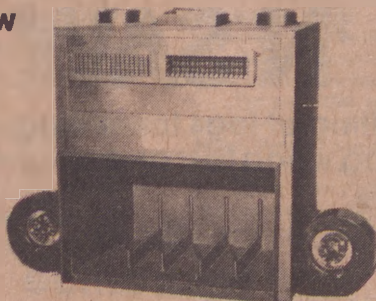
Happy woodburning!



Metal ash shovel and pail

There's Finally Something New In Fireplaces! Comfort-Flame the only Fireplace Furnace

This is the only self-contained unit on the market aproved to hook into your central duct work.



The **Comfort-Flame** is not only a masonry fireplace, but is also a wood furnace. It has its own central controlled, room thermostat system, and powerful 980 cubic feet per minute blower system, and can produce the heat of a wood burning, forced air furnace rated at 200,000 Btu's per hour.

Each unit is carefully crafted, and designed so it can be connected to the central duct system, if you prefer, or separate ducts can be connected to the unit. If you do not duct your unit, all of the hot air will be discharged through the front heat grills. It has a specially designed, heavily baffled heat chamber that surrounds the fire on 5 sides. When activated by the central thermostat system, the blowers pull the cooler air along the floor of the house, blow it around the heat chamber and back into the home as "HOT AIR."

This system works independent of your other heat system so that you don't burn 2 fuels at once, as it will totally heat up to 3,000 square feet of living space. Just think of the savings.

If you put in a fireplace, and don't use the **Comfort-Flame Fireplace Furnace**, we feel you wasted your money. The unit comes complete with (2) 490 cfm blowers; (2) fresh air return grills; ash dump and clean out door; heavy duty built-in grates; (2) 8" duct adapters*; front heat grill and central controlled thermostat system.

*These can be capped off, if unit is not ducted.

For dealer or distributor inquiries, or a list of dealers or customers, contact:

All Models

I.C.B.O. Approved

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Grandma



didn't worry
about

HOT AIR TRAPPED? Let it flow with this decorative

Cast Iron Floor Register

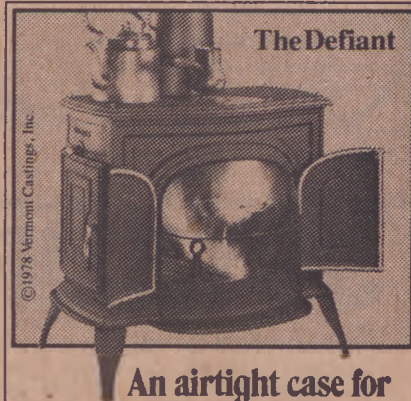
Allows heat to circulate between floors. Warms those hard to reach areas of your home or office. Makes wood-burning stoves even more efficient. Simple footwheel opens and shuts built-in louvers. Rugged construction. Easy to install. Made in U.S.A.



Complete details available. Send 25¢ for our illustrated brochure.

The Reggio Register Co. P.O. Box 511 Dept. F9
Ayer, Massachusetts 01432

The Defiant



An airtight case for America's finest woodburning stoves.

Now, any homeowner serious about heating with wood will find the airtight, all cast iron DEFiant and VIGILANT as good looking as they are functional. Both offer every requirement for safe, efficient, economical heat. Check these features.

Automatic thermostatic control. Allows slow burn for up to 14 hours of even heat on a single loading.

A unique baffling system. Preheater air passages for maximum heat output.

A true secondary combustion chamber. Keeps more heat in the house, less heat up the chimney.

Smokeless loading of large-size logs. Front and side-loading DEFiant accepts 24" logs. Front and top-loading VIGILANT takes 18" logs.

A longer flamepath. Increases fuel economy and heating efficiency.

Send today for full information.

Read it *before* you buy any woodstove. Compare, then decide.

☐ Please send your 16-page Operation Manual and color literature. I enclose \$1.00 to cover first class postage and handling. I heat my home by:

☐ Oil ☐ Gas ☐ Electricity



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BE A CHIMNEY SWEEP

Your Own Business: A chimney sweep can clean a chimney with the August West® System in one hour. Nationally, the average charge is \$40.00.

A Growing Need:

The energy crisis has resulted in a dramatic increase in wood burning. Wood smoke deposits flammable creosote in chimneys. Regular cleaning is necessary to prevent fire damage.

The August West® System:

More sweeps use it than any other method in the country.

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Westport, CT 06880

Ask for
operator 51



What To Do In The Event of a Chimney Fire

A chimney fire sounds like a train roaring through the room. The stovepipe can get red hot and will vibrate violently. Hopefully, your pipes are well-secured and the chimney is in good repair, preventing fire from advancing through your home.

Don't panic. Most likely, your house will escape danger, although flames shooting up the chimney will be frightening and spectacular.

What To Do:

1. Call the Fire Department immediately. (Even if you think the fire is under control.)

2. Close dampers and vents.

3. If the fire continues to burn, douse fire with **salt, sand, baking soda** or a **dry chemical** or **CO2 fire extinguisher**.

DO NOT USE WATER. You could crack the stove.

4. Move flammable objects away from the stove.

5. Take a second fire extinguisher and check upstairs for possible flames around chimney.

6. The fire may have died out before the Fire Department arrives, but ask them to check over the stove and the chimney.

SOTZ LIFT 'N SAW

Eliminates back-breaking lifting of logs for cutting and saves time. Makes sawing wood fast and easy.

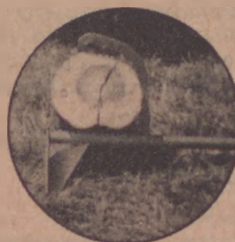
Low Price
\$24.88
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Best Guarantee

- Stop chain saw chains from hitting rocks and earth.
- No heavy lifting of logs.
- Works without sawing limbs off.
- If not satisfied within one year, return for full refund.
- Guaranteed against breakage for ten years.

Send for the SOTZ News

**SOTZ CORP., 13613 Station Rd.,
Columbia, Ohio 44028**



The following issues of Farmstead contain more good and useful reading on wood stoves and woodburning topics:

- *Care & Use of Your Chain Saw
 - Fall/Winter 1974-1975
- *Heating With Wood
 - Winter 1976
- *Chimneys
 - Fall 1976
- *Rediscovering Wood
 - Winter 1977
- *Woodstove Cookery
 - Winter 1977
- *Woodstove Safety
 - Winter 1977
- *How To Make a Barrel Stove
 - Winter 1977
- *Wood Sheds Are Beautiful
 - Early Summer 1977
- *From Stump to Stove
 - Fall 1977
- *Woodburning Basics - I
 - Fall 1977
- *Woodburning Basics - II
 - Holiday 1977
- *Saturday Night Bath
 - Holiday 1977
- *The Art of Splitting Wood
 - Fall 1978
- *Burning Junk Wood
 - Holiday 1978
- *A Room In My Heart
 - Holiday 1978
- *Now Is The Time To Buy Your Wood Stove
 - Summer 1979

Cooking With Wood

by Worden Robinson

Watch enough old Westerns and you'll see amidst the carnage of land grabbing, claim jumping, cattle drives and show-down situations the camera pan on young Widow Brown's kitchen. There, compliments of the prop department, she will be "fix'n some vittles" on a wood stove, while we all wait for the next Indian attack. This is nostalgia.

Today the marketing analysts, industrial designers and kitchen specialists combined with Madison Avenue, have taken it upon themselves to coddle and conjure us into believing cooking is a drudgery akin to being assigned to purgatory. The modern kitchen range is a testament to this attitude. The range must be self-cleaning, self-igniting and even self-thinking. It must also be able to be wiped sparkling clean with the simple caress of a sponge. In fact, the stove must look as if nothing was ever cooked on it!

The range is designed not only to fit into today's color coordinated kitchen, but it must almost disappear. The ideal televised kitchen of this modern era must give the appearance of a sanitary orderly operating room. All equipment is to be sterile and food hidden away. No one must guess that you might have just performed open heart surgery on a frozen prepackaged chicken dinner.

The latest entry into the culinary surgical scene is the micro-wave oven -- an appliance styled to look like a television set or a surgeon's autoclave. This device promises to cook your hand from the inside out if you aren't careful.

All such appliances are supposed to spirit you away from the drudgery of cooking to allow you more time. Such time can be spent creatively watching day time T.V., reading detergent labels to see which promises to make your wash whiter than white, or may be spent looking for a parking space.

What happened to young Widow Brown's homey kitchen with the wonderous wood stove -- the kitchen appliance that makes a simple and honest statement of what it is and what it does. Ah yes, it has to be fueled constantly. Ashes collect and spill on the floor. There is a slight gray hue from escaped smoke.

But this is cooking. Real cooking. The smells from the burning hard woods mingle with the aroma of all the pots and skillets simmering on the stove. No burners to turn up or down, or ones you forget to turn off. You just move pans from one area to another for simmer, boil or fry. You are never short a burner, for there is always room somewhere for an extra pan. You become totally involved conducting a culinary symphony of bubbling, searing, boiling and frying, as you adjust dampers, shake the grate and feed in the properly cut piece of wood.

Worden Robinson makes his home in Sperryville, Virginia.



Grandma
didn't worry
about the
energy crisis.
So . . . why
should you?

Forget about the energy crisis . . . and save money, too . . . by ordering this beautiful and historic "Pacific Princess" Wood Range. It cooks . . . it fries . . . it bakes . . . it broils. And, it even heats water and heats your home!

Cooking on the "Pacific Princess" Wood Range is fun and exciting . . . and gives you a great deal of personal fulfillment. It's easy, too . . . you can start the fire in only 30 seconds!

The "Pacific Princess" Wood Range was an outstanding engineering creation when it was originally created in 1911. This new model preserves the heritage of the past while it gives you all the features you want for modern cooking.

There's a large griddle so you can fry directly on the range with the usual heat . . . and a grease trough with a drain hole on the griddle. You can broil by inserting a rack of meat right over the fire through a special hatch.

A precision temperature gauge gives you tremendous accuracy by measuring true air temperature inside the oven in 5° increments. And, the range is specially designed so the fire surrounds the oven twice. This keeps the heat in the range far longer and heats the baking and cooking areas more thoroughly.

There are 2 convenient warming ovens at the top of the range . . . and 2 hand-some trivets at the back of the range which fold down for use as pot warmers.

You get FREE home heat and FREE hot water. Your "Pacific Princess" heats 1200 square feet with the oven door open. And, the 5 gallon stainless steel water reservoir keeps hot water handy or, with a special attachment, you can actually pipe hot water through your home!

The "Pacific Princess" Wood Range is constructed entirely of cast iron . . . the best material for producing optimum heat and for baking. It has a 1200° satin finish and gleaming nickel plated trim to keep it looking new and beautiful for years.

Other people may worry about cooking, heating water, or heating their homes during this winter's energy crisis . . . but you'll never have to worry about your own survival when you have a "Pacific Princess" Wood Range. What's more, you'll have a lot more fun cooking the "old fashioned" way while you save money on fuel!

The price of the "Pacific Princess" Wood Range is \$985.00 . . . and it has a 5 year parts guarantee. You pay the freight when your range arrives. If you want to know your freight cost in advance, just phone your local interstate trucking company and ask for the rate for 350 pounds from Seattle, Washington to your home.

Order your "Pacific Princess" Wood Range NOW. Mail this coupon to: Pioneer Lamps & Stoves, 105 South Washington, Seattle, Washington 98104 . . . or phone: (206) 624-8035.

Please ship me a "Pacific Princess" Wood Range.

Name

Address

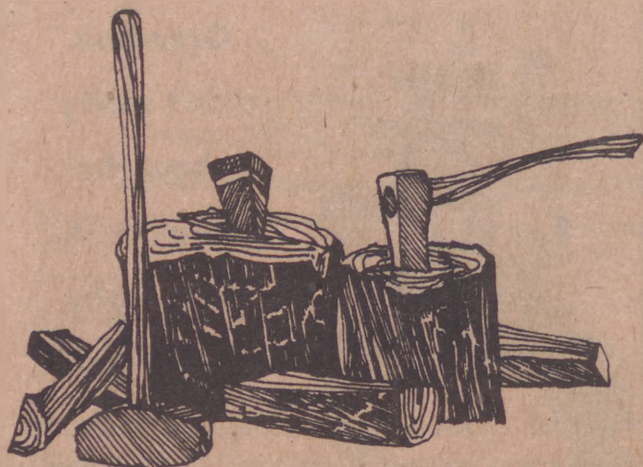
City State Zip

☐ I have enclosed my payment of \$985.00

Please charge to ☐ VISA ☐ MASTER CHARGE

Account Number Exp. date

Signature
(As shown on card)

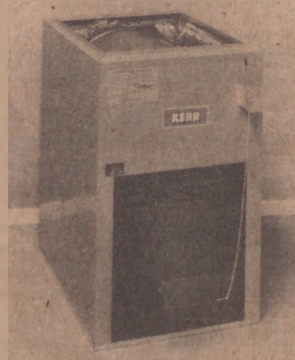


There are no spills to contend with, for you just remove an "eye" from the top, and scrape the spillage into the fire. It is a self-cleaning range! The compartment on top warms the rolls and the plates for the meal.

For baking fish, the oven does a wonderful job. Most of the wood stove's heat radiates from above, firming up the flesh and adding a golden brown top while the fish gently poaches in its own juices. A modern oven cooks from below boiling the juices making the flesh too mushy in texture.

The winter days are warmer as the family gathers around the evening kitchen doing homework, reading, chopping meats and vegetables or selecting spices. All enjoy the warmth of one another and of the stove itself. The wall thermostat has long turned the furnace off

THIS WINTER YOU COULD SAVE 1000 GALLONS OF FUEL OIL



Tested and listed by The Energy Testing Laboratory of Maine. Approved by the Atlantic Industrial Research Institute.

By installing a KERR Scotsman Wood Furnace in conjunction with your oil furnace, you will have a dependable, automatic heating system that is very easy and very economical to use. The KERR Scotsman has a large, air-tight combustion chamber that will hold your wood fire for hours. The automatic thermostat regulates the heat from anywhere in your home. Based on an average household consumption of 1,250 gallons of heating oil per year in the New England area, we know you could save up to 1,000 gallons of oil this winter with a KERR Scotsman Wood Furnace.

KERR

Scotsman WOOD FURNACE

For more information and the name of your nearest dealer write:
Kerr Controls Limited
9 Circus Time Road
South Portland, Maine 04106
207-773-8909

due to the wonderfully aromatic heat that is being generated by the cook stove. Finally, when the evening meal is finished the last lingering odors are drawn through the draft control up the chimney.

The morning alarm goes off and the first one down lights the stove, huddling near it to capture the first radiance of warmth. As the rest of the family descends, the fire is crackling and the stove is hot. There is to be no tired, dry, sugar coated, vitamin fortified, restructured starch breakfast cereal slopped in a bowl of milk in a promised attempt to fuel a child for a morning of school. No! On go the eggs, bacon, sausage or ham. It only takes a minute or two. And, there's always a plentiful supply of boiling water from the perpetual kettle. The constant low warmth on the top of the stove furthest from the firebox or on special warming shelves that swivel above the stove, are excellent spots for raising bread or making yogurt.

Such an appliance demands that you cook. You are not to be the bored mindless spectator as you wait for the automatic timer to go off, only to ring your glands awake to a precooked, prepackaged, metered serving of yet another advertised special from one of America's corporate kitchens. The wood stove demands active involvement -- the joy of really participating in a challenging and rewarding endeavor.

Summer comes and the stove becomes idle. It is just too warm out to fire up. The old cook stove now becomes a bread box, kitchen cabinet and counter. The last of the ashes are spread on the garden, the cobwebs swept away and the kitchen windows cleaned. Time to leave the warmth of winter memories and go outdoors.

The perfect log splitter

Woodbutcher has put safety and control back in woodsplitting by eliminating dangerous swinging tools, falling logs, and flying sledge and axe heads. A user comments, "I was doubtful, so I had to try it for myself. It really does work." J. Garvey, Manomet, MA.

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Woodbutcher features heavy duty welded construction and comes with 1 year guarantee. Trial Offer — Order today and if not satisfied, return for full refund within 30 days. Only \$95.00 postpaid. Base \$22.00 additional or make your own (plan included). Send check or money order today (Mastercharge or Visa accepted), or write for free brochure to Cohasset Iron Works, Inc., 47 Black Rock Road, Cohasset, MA. 02025. Mass. residents add 5% sales tax.

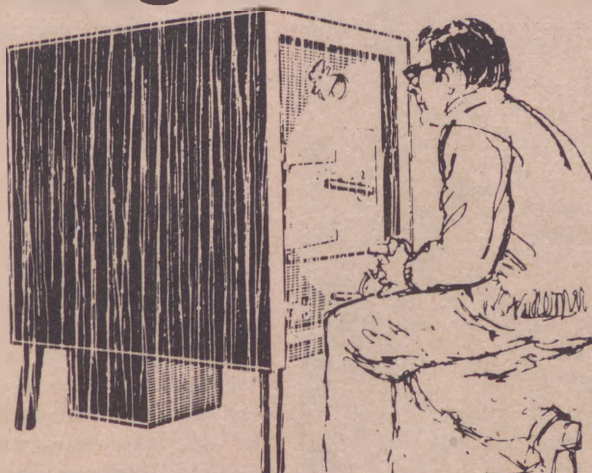


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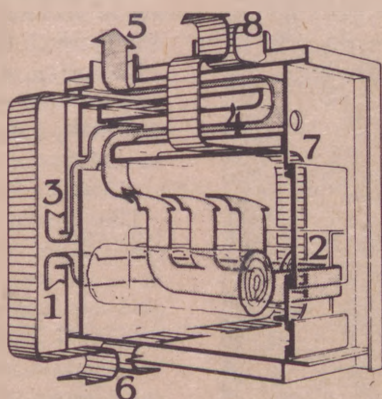
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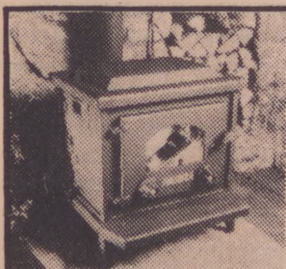
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In Search of the Perfect Yellow Apple

by Robert E. Gough

The first white settlers coming to the new land of North America found the native American crab apple [*Malus coronaria* (L.) Miller] growing wild and in abundance in the American forests. It grew from New York through southern Ontario to Missouri, south to Pennsylvania and northern Delaware, and through the Appalachians to North Carolina. Further west grew the Iowa Crabapple [*Malus ioensis* (Wood) Britton] and in the south the Southern Crab [*M. angustifolia* (Aiton) A. Michaux]. The small, highly acid fruit of these were not used to any extent by the North American Indian tribes.

On the other hand, the common apple [*M. domestica*], that is today so popular for processing and selling fresh on the market, was introduced into this country by early settlers of nearly every nationality. This apple had originated in the area around modern Afghanistan and had quickly been disseminated and cultivated throughout Europe during prehistoric times. Indeed lists of the best cultivars were available as early as 100 B.C.

Like trees of most fruit, those of the apple do not "come true to seed". That is, a seed from a 'McIntosh' apple will probably not produce a tree bearing 'McIntosh' fruit. The fruit from the tree so produced will perhaps bear little resemblance to the 'McIntosh' and will be, in actuality, a completely new cultivar. The true character of an apple cultivar can only be transferred through asexual propagation, usually by grafting. This phenomenon was early recognized in the old world. When early settlers came to the new land of North America, they brought with them grafted trees of their favorite cultivars. But, in addition, either for lack of money to purchase grafted trees or for conservation of space aboard ship, many settlers brought with them only apple seeds. These seeds, along with seeds from trees produced by them, were quickly disseminated until, by the middle of the eighteenth century, apple trees were maintained by nearly every settler and agrarian Indian tribe. The early apple

Robert Gough is Assistant Professor in the Department of Plant and Soil Science at the University of Rhode Island. Illustrations by Karen Southworth.

orchards were primarily composed of seedling cultivars, most having no names. Often, selections of the better cultivars were made on the basis of fruit size, color, flavor, cold hardiness, etc. and these selections propagated asexually. As early as 1647, William Fitzhugh mentions a large orchard of 2500 trees in Virginia which were "mostly grafted". Continuous selections of the better cultivars was unceasingly and discriminately carried out until, by the early eighteenth century, named cultivars began to be widely disseminated. This indicates that grafting was being done on a fairly large scale. From millions of seedlings, thousands of cultivars were selected and named, many on the basis of personal preference alone. A list of cultivars prepared in 1866 mentions 643 individually named apples, one from 1870 over 4000, and one from 1905 named over 7500 cultivars. Certainly hundreds more have been added since.

The common apple that we know today can be either red or yellow in color. Green apples are actually yellow apples that are not quite fully ripe, while russet apples are either red or yellow fruit that are more or less covered with a corky scar tissue that gives them a "rusty" or russet appearance.



ance. Lists of recommended apple cultivars published during the eighteenth, nineteenth, and twentieth centuries contain more red apples than those of any other color, indicating that most of the popular apples grown in this country have been, or are, red.

Yellow apples, however, have attracted much interest. Whether from the standpoint of attractiveness or of nostalgia, yellow apples have had a large impact on the American consumer.

Yellow Sweeting -- the first yellow apple

The first named yellow apple cultivar to originate in the United States first grew near Pawtucket, Rhode Island in an orchard planted around 1635. The apple, named 'Yellow Sweeting' was a very popular yellow apple. Between 1640 and the introduction of the 'Rhode Island Greening' (c. 1775), selected seedling trees were often

Table 1. Tree Characteristics^{1/}

Cultivar	Tree Shape	Tree Vigor	Ultimate Tree Size	Age to First Bearing	Bearing Tendency
Grimes Golden	Spreading	Medium	Medium to Large	Medium (6 - 8 years)	Intermediate
Yellow Newtown	Upright Spread.	Medium	Medium	Medium to Late (8 - 10 yrs.)	Biennial
Yellow Transparent	Upright	Medium	Medium to Small	Early (4 - 6 yrs.)	Biennial
Winter Banana	Spreading	Medium	Medium	Early (4 - 6 Yrs.)	Intermediate
Golden Delicious	Spreading	Medium	Medium	Early (4 - 6 yrs.)	Intermediate

^{1/} Standard rootstocks.

Table 2. Fruit Characteristics

Cultivar	Approx. Days After Full Bloom To Picking Maturity	Fruit Size	Flesh Texture	Degree of Acidity	Cold Storage	
					Normal	Maximum
Grimes Golden	140-145	Small-Medium	Med. Tender, crisp, juicy	Medium	60-90	120
Yellow Newtown	160-165	Medium	Hard, crisp, juicy	Medium to High	150-180	240
Yellow Transparent	70-75	Small-Medium	Tender, crisp, juicy	Very High	0	90
Winter Banana	120-125	Medium-Large	Firm, Tender, Coarse	Medium to Low	90-120	150
Golden Delicious	140-145	Medium-Large	Firm, Tender, Crisp	Medium	90-120	150

Table 3. Relative susceptibility to principal diseases and spray injury.

Cultivar	Scab	Bitter Rot	Fire Blight	Cedar Rust	Spray Injury
Grimes Golden	Very Rest. ^{1/}	Very Susc.	Susc.	Rest.	Susc.
Yellow Newtown	Susc. ^{2/}	Very Susc.	Susc.	Very Rest.	Susc.
Yellow Transparent	Rest.	Susc.	Very Susc.	Rest.	Rest.
Winter Banana	Rest.	Rest.	Rest.	Very Susc.	Rest.
Golden Delicious	Susc.	Very Susc.	-----	Susc.	Very Susc.

^{1/} Resistent ^{2/} Susceptible

Table 4. Susceptibility to physiological disorders.

Cultivar	Water Core	Scald	Soft Scald	Bitter Pit	Misc.
Grimes Golden	Medium	Severe	Severe	Medium	Shrivelling
Yellow Newtown	Slight	Medium	None	Slight	Internal Browning
Yellow Transparent	Medium	None	None	None	
Winter Banana	Slight	Slight	Severe	Slight	
Golden Delicious	Slight	Slight	Severe	None	Shrivelling

grafted onto 'Yellow Sweeting' rootstocks because of the latter's vigor and hardiness. The tree was grown commercially in Rhode Island for its sweet, blushed, early ripening, yellow-white fruit, at least until 1910.

This cultivar is reputed by some pomologists to have been the female parent of another famous yellow apple -- the 'Tolman Sweet'. The 'Tolman Sweet', also variously known as 'Tallman Sweeting' is also supposed by some to have originated in Rhode Island, about 1810. By 1849, this cultivar had been extensively cultivated throughout New England and was considered the leading sweet apple in North America (1922). The pale yellow, medium-sized fruit was considered by some to be superior for baking and was ranked with 'Rhode Island Greening' as the two best apples in Vermont (1883). The flesh of this fruit was white, firm, fine-grained, juicy and very sweet. In fact, some feel that it lost its popularity in this country because it was excessively sweet for American tastes. Like its reputed mother, the 'Tolman Sweet' was a favorite rootstock for topworking because of its hardiness.

A list of all yellow or greenish-yellow apples would be nearly impossible to produce. In addition, why bother? Yellow apples do not differ inherently or substantially from red apples. There is no difference between red apples and yellow apples that make one more suitable for cultivation than the other. There are, however, certain individual characteristics that may make one cultivar more easily grown than another. Tables 1-4 list some characteristics of certain yellow-fruited cultivars. These should be taken into account when selecting cultivars for planting.



The nutritional values for yellow apples

Furthermore, nutritional values for yellow apples are not substantially different than those for red apples. They will, however, vary from apple to apple and tree to tree and will differ with the seasons. Table five lists total sugars of fifteen apple cultivars. Yellow cultivars are so designated (y).

As with sugar content, there is also probably little correlation between the fruit color and its vitamin A content, although 'Yellow Newtown' has a relatively high vitamin A content and 'Rome Beauty', a red apple, a relatively low content.

Vitamin C is perhaps the most abundant vitamin in apples and is contained for the most part in the peel of the fruit. Although, it too perhaps is not related to the color of the fruit, it is

true that a yellow apple -- 'Calville Blanc' -- has been found to have as much of this vitamin as some citrus fruit. Unfortunately, it is not commonly grown in America.

Table six is a list of ten randomly selected apple cultivars and approximate amount of Vitamin C found in their fruit. It should be borne in mind that these values also vary among fruit of the same cultivar and among trees and locations wherein they are grown. Yellow apples are so designated (y).

In addition to the fact that yellow apples are inherently no better for you than red apples, they also tend to show injury such as bruises more readily, therefore, it is somewhat more difficult to get a "perfect" yellow apple. If one is to choose a yellow apple for planting, he should choose it on the basis of the quality of the individual cultivar and its suitability for his needs. Table seven is listing of the desirability of various

Table 5. Total sugar content of fifteen apple cultivars.

Cultivar	Total Sugar Approx. % Fresh Wt.	Cultivar	Total Sugar Approx. % Fresh Wt.
Yellow Transparent (y)	7.5	Jonathan	10.7
Red June	8.9	Grimes (y)	9.0
Williams	8.9	Golden	
		Delicious (y)	10.0
Lodi (y)	9.2	Delicious	10.0
Sweet Bough (y)	11.5	Staymen	9.2
Wealthy	8.2	Winesap	10.9
Starking	9.4	Willowtwig	10.0
Cortland	9.3		



Table 6. Vitamin C content of ten randomly selected apple cultivars.

Cultivar	Ascorbic Acid, mg. per 100 g	Approx. Rating as a source of ascorbic acid
Baldwin	15-20	good
Cortland	8-11	fair
McIntosh	5	poor
Opalescent	23	good
Twenty Ounce	15-20	good
Calville Blanc (y)	35-40	excellent
Golden Delicious (y)	5	poor
Grimes Golden (y)	10-15	fair
Winter Banana (y)	11-12	fair
Yellow Newtown (y)	16	good

yellow apple cultivars for different purposes.

Since no single yellow apple can be considered as easier to grow than other apples, nor more nutritional, it be-

hooves the grower to choose a cultivar to plant based upon his personal preference. It is true that certain new yellow apple introductions are reportedly resistant to apple scab, a fungus

disease. However, these have not yet been fully tested in all locations and therefore cannot yet be wholeheartedly recommended at this time. In addition, some are reportedly highly susceptible to other pathogens. This characteristic may tend to nullify the benefit of scab resistance.

To summarize, yellow apples are some of the oldest apples in the United States, and some of the best tasting. Some, such as 'Tolman Sweet' are especially high in sugar while others, such as 'Calville Blanc', are very high in Vitamin C. None, however, present any less cultural difficulties for the grower. Plant the yellow apple, but don't forsake the red.

Table 7. Best uses for some yellow apple cultivars.

Cultivar	Dessert	Sauce	Baking	Freezing	Juice	Drying	Canning
Golden Delicious	Excellent	Poor	Poor	Very Good	Poor-Fair	Fair	Fair
Grimes Golden	Excellent	Good	Poor	Very Good	Fair-Good	Good	Very Good
Winter Banana	Good	Fair	Poor	-----	Good	-----	-----
Yellow Newtown	Poor	Good	Fair	Good-Exc.	Good	Good	Good-V. Good
Yellow Transparent	Poor	Good	Poor	-----	Fair	-----	-----



USDA photo



Pears —

A Pleasing and Popular Fruit

By Beatrice H. Comas

The second most popular fruit in the whole world is the Pear, a statistic that would have surprised Pliny the Elder who claimed that all kinds of pears were indigestible although he conceded that when boiled, they were remarkably "agreeable and wholesome".

Pears are one of the "gifts of the gods" mentioned in Homer's "Odyssey", and by the end of the Middle Ages they had begun to rival the apple in favor.

Governor John Endicott of the Massachusetts Bay Colony planted the first pear tree in this country in 1630 and 350 years later there are a dozen types of pears still enjoying commercial success, with most varieties a century old.

America now ranks second in their production, with ninety per cent of U.S. crops grown on the Pacific Coast. Pear culture on a commercial scale in New England is not as widespread as it was in colonial times, and since pears cannot be shipped as well as apples they appeal less to commercial growers. But as a fruit for the home orchard, they are ideal. In Maine there are ten orchards that grow the older varieties of pears. From September through November, Bartletts, Seckels, Boscs, and Anjous will be ripening, and with very little embellishment fresh pears can become the basis for bread, salads, relish and elegant desserts.

PEAR-NUT BREAD

2 fresh Bartlett pears
2 large eggs, beaten
1 cup whole bran
1 1/2 cups sifted all-purpose flour
1/2 cup sugar
1 teaspoon baking powder
1/2 teaspoon salt
1/2 teaspoon soda
1/4 cup soft shortening
1/2 cup chopped walnuts

Core and finely chop unpeeled fully ripe pears to measure 1 1/4 cups. Combine with eggs and bran and let stand while preparing remaining ingredients. Resift flour with sugar, baking powder, salt and soda into mixing bowl. Add shortening and pear-bran mixture and mix until all of the flour is moistened. Stir in walnuts. Turn into a well-greased loaf pan (8 1/2 x 4 1/2 x 2 1/2 inches). Let stand 20 minutes. Bake below oven center in 350 degrees F. oven for one hour and 15 minutes or until pick inserted in center comes out clean and dry. Let stand ten minutes, then turn out onto wire rack to cool. Makes one loaf. For spiced variation, add 1/2 teaspoon ginger and 1/4 teaspoon nutmeg to flour mixture.

ONE-CRUST PEAR PIE

5 fresh Bartlett pears
1/2 cup raisins
1 tablespoon lemon juice
2 eggs
3/4 cup light brown sugar
1 cup dairy sour cream
1 unbaked 9-inch pie shell
Melted butter

Reserve half a pear to slice for garnish. Core and dice remaining pears but do not peel. Combine diced pears and raisins. Sprinkle with lemon juice. Beat eggs. Blend in brown sugar and sour cream. Combine with fruit and turn into unbaked pastry shell. Garnish with reserved pear slices. Brush pear slices with melted butter. Bake at 375 degrees F. for one hour or until knife inserted in center comes out clean. Makes one, nine-inch pie.

HONEY-ORANGE BAKED PEARS

4 small pears, washed but not peeled
2 tablespoons honey
1 teaspoon grated lemon rind
1/4 teaspoon ground ginger
1 tablespoon butter or margarine
1/4 cup orange juice

Preheat oven to 375 degrees F. Place seeded pears cut side up in greased baking dish. Spread pears with honey. Dust with grated lemon rind and ginger and dot each pear with butter or margarine. Spoon orange juice over evenly. Arrange aluminum foil loosely across pan and bake for 50 minutes, or until pears are tender. Check pears two or three times during baking to make sure they are moist enough. Baste with more orange juice if needed. Serve warm. Serves four.

PINCH-HIT PEAR DESSERT

Allowing a pear for each serving, put pears in a shallow baking dish. Top each with a thin chocolate mint patty and slip under the broiler just until patties begin to melt. Transfer to individual serving dishes and eat at once.

PEAR CRUNCH

3 fresh pears
1 tablespoon lemon juice
1 tablespoon flour
1/2 teaspoon cloves
1/2 teaspoon cinnamon
1/2 teaspoon grated lemon rind
2 tablespoons honey
1/3 cup butter or margarine
1/3 cup brown sugar packed
2 tablespoons honey
3/4 cup sifted flour
1/4 teaspoon soda
1/4 teaspoon salt
3/4 cup rolled oats

Peel, core and slice pears. Put in an eight-inch square pan. Sprinkle with lemon juice. Combine one tablespoon flour with spices. Add rind and spread over pears. Drizzle with honey. Combine shortening, sugar and honey and beat until fluffy. Sift together flour, soda and salt. Add to creamed mixture. Add oats, mixing with hands if necessary. Spread over pears, pressing down slightly. Bake in a 350 degree F. oven for 25 minutes or until lightly browned. Serve warm with whipped cream, whipped topping or ice cream. Serves six.

BLUSHING PEARS

8 fresh pears
1 cup Port, Red Sangria or Concord Grape wine
1 cup cold water
5 whole cloves
1 tablespoon arrowroot
1/2 cup sugar

Cut pears in half lengthwise. Do not peel but remove cores. Place cut side up in a shallow frying pan and pour on the wine and half a cup water. Add clove and cinnamon. Cover and simmer gently just until tender, about eight to ten minutes. Remove pears from pan with a slotted spoon. Stir arrowroot and remaining cold water together and stir into liquid in the skillet. Cook and stir until thickened. Remove from heat and stir in sugar to taste. Pour over pears. Serve warm or chilled. Serves eight.

Pears are the basis for this classic dessert famous at the turn of the century but still served in restaurants featuring French or other continental cuisine:

PEARS HELENE

3 ripe Anjou pears (1 1/2 pounds)
2/3 cup sugar
1-inch piece vanilla bean (or 1 teaspoon vanilla)
Chocolate sauce
1 1/2 pints slightly soft vanilla ice cream

Halve pears, leaving stems on. Remove cores and pare. In a three and a half quart saucepan, combine sugar with one cup water and the vanilla bean, scraping out inside into water. Bring to a boil and stir occasionally. Add pears to syrup. Simmer, covered, 15 minutes or until tender. Refrigerate pears, covered, in syrup to chill well. When ready to serve, with slotted spoon remove pear halves to serving dishes. Top each pear half with a scoop of vanilla ice cream. Spoon warm chocolate sauce over each serving. Makes six servings.

SUPER-RICH CHOCOLATE SAUCE

1/4 cup sugar
1/2 cup light cream or evaporated milk
1 4-ounce package sweet cooking chocolate
1 1-ounce square unsweetened chocolate

In top of double boiler, combine sugar and two tablespoons cream or evaporated milk. Cook over boiling water until sugar is dissolved. Cut up both kinds of chocolate. Remove double boiler from heat but leave top over bottom part. Add chocolate to cream mixture, stirring until blended. With spoon, beat in remaining cream. Serve warm. Makes one cup.

FRESH PEAR TARTS

2/3 cup sugar
2 pounds ripe pears, pared and cored
2 teaspoons lemon peel
1 tablespoon lemon juice
1/8 teaspoon ground cloves
8 3-inch tart shells, baked
1/2 cup heavy cream whipped

In a three and a half quart saucepan, combine sugar and 1 cup water. Bring to a boil, stirring occasionally. Chop pears finely and add to syrup with lemon peel, lemon juice and cloves. Boil, uncovered, stirring occasionally, until consistency of marmalade, 15 to 20 minutes. Turn into bowl. Refrigerate, covered, until cold, or ready to use. Can be made ahead of time. Makes two cups. Fill each tart shell with 1/4 cup of pear mixture and top with a spoonful of whipped cream. Serves eight.

As if moved by some uncontrollable force, the herd of sheep slowly made their way to the opening in the pasture fence. They then veered slightly to the left, and it appeared they might miss the gate. Suddenly, a small black and white streak circled and dropped near their intended get-a-way path. Ever so slowly the sheep trotted in the opposite direction. Again the furry, four-legged streak circled and plopped down directly behind the sheep.

Clearly defeated, the animals entered the pasture, and the gate was closed. "That'll do, Bess," said the farmer. And the hitherto mysterious force ran to the shepherd's side. Together, sheep dog and man walked up the craggy hillside to home.

The Border Collie is a breed originating in the British Isles, primarily the border country in Scotland. This Collie has been known for some 350 years, and unlike many other breeds, has been unadulterated by cross breeding and inbreeding. Dogs like the standard Collie, inbred for nose length, and the Irish Setter, inbred for color, have basically lost their working ability in deference to A.K.C. show characteristics. Not so the Border Collie.

The North American Sheep Dog Society, the only internationally recognized sheep dog society in this country, helps maintain the genetic ability of the breed. In order to be eligible for registration, both parents must not only be registered but hold Certificates of Proven Working Ability.

There is no standard size or color stipulated by the society, for the dogs can range from small to large, be black and white or have brown tones, and be rough or smooth coated. There is, however, a standard conformity regarding ability to work.

The most striking characteristic of the Border Collie is what shepherds call "the eye," or ability to control sheep with an intense stare or gaze. No other breed has "the eye," making the Border Collie distinct from any other sheep dog breed. This gaze seems to quiet and control the sheep and is inherent in any well-bred Border Collie.

Their intelligence is truly unsurpassed. They can be taught to perform virtually any trick physically possible. However, their brains are best used in doing that for which they have been bred and trained. The Border Collie, however, for all its brains and brawn, is not a pet. It is definitely a one person dog, and some will never make the slightest sign of acknowledgement to anyone but the shepherd.

Our first major purchase after moving to Maine two years ago was an eight-month old female Border Collie pup, named Meg. She came from exceptional working parents and promised to be a fine working animal. All members of the family were excited about the prospect of having a dog, especially one who could do something useful. We tried to befriend Meg - to no avail.

Now two years later she herds my husband as he goes about his chores, "eyeing" out from behind the wagon, making a wide "outrun" around him as he heads toward the

Cynthia Thayer trains her Border Collie "Meg" in Ashville, Maine. Photo by Bill Cole.

Sheep Dogs on the Farmstead

barn. Only when he is in his chair in the kitchen will she stop her determined vigil. He is then under control. I have observed other Border Collies, however, who are not as high strung and who become acquaintances, if not friends, of visitor and family alike.

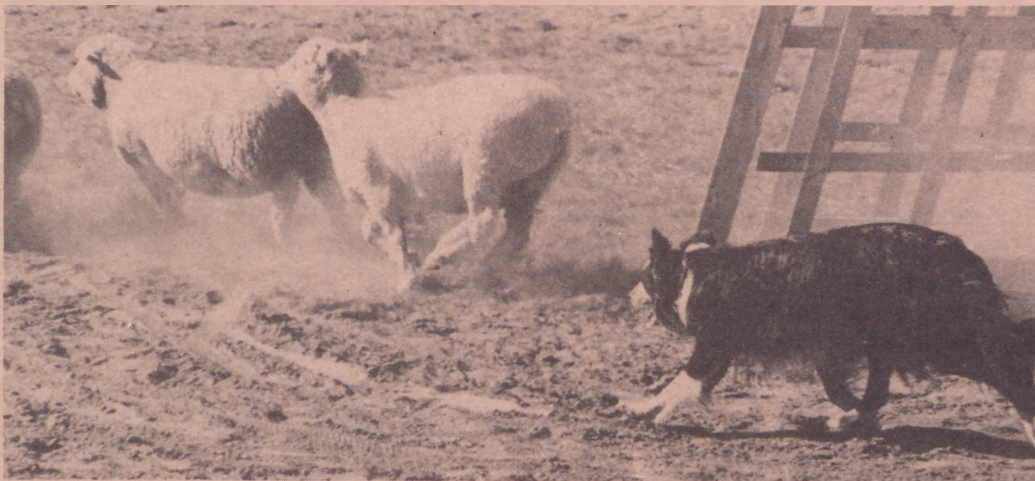
At first, in order to reclaim an antique homestead, I found myself mired in chores from every direction and was unable to find the time to adequately train Meg to realize her capabilities. Recently, however, I have been working with Meg since the winter, and her capacity for herding never ceases to amaze me. She has a very strong eye and is capable of moving the sheep easily around the field as long as no one else is distracting her. The speed with which she is able to drop, turn and make the outrun, shows that with patience and more extensive training, she will become invaluable to our farm.

Unless restrained, many Border Collies will circle and "eye" any moving target - cars, cats, people, chickens, bicycles, horses, even porcupines, so strong is the primitive urge. Border Collies need to be worked. Their instinct to herd can not be satisfied in a city block or a suburban neighborhood.

Yet, this instinct can be satisfied on even the small farm. Maurice MacGregor, a prominent shepherd and Border Collie breeder from Pittsfield, New Hampshire, demonstrated both his own and his dogs' skill at the Common Ground Country Fair in Litchfield, Maine in September, 1978. Three of his dogs, Rob Roy, Floss, and Tramp, easily and quickly maneuvered the exhibition sheep through gates and in and out of the corners, on whistle command. The fine breeding and training of the three, coupled with the confidence and knowledge of Mr. MacGregor, produced an exciting glimpse at a man and an animal working together, not one for the other.

Mr. MacGregor feels that no farm with sheep or cattle should be without a sheep dog. His dogs can easily handle up to 100 head of beef cattle and many more sheep. Several years ago, while visiting the MacGregor farm, I watched while Rob Roy worked about 15 head of beef cattle with ease and confidence. Mr. MacGregor remarked at the time that he would not enter a pasture where there were bulls without his dog.

What if you have only a few sheep? Perhaps it seems a little silly to invest the time and money to have a working Border Collie. However, those readers who have sheep will attest to the fact that moving two or three sheep from one



place to another, even if only 20 feet away, can be a major undertaking.

Although Mr. MacGregor stresses the usefulness of having a trained dog on the farm, he also cautions the would be owner and trainer regarding the personality of the breed. The herding instinct is essentially the hunting instinct that must be controlled. The Border Collie is capable of killing a sheep, and after that first fatal encounter - again and again. At the fair, I spoke with a woman whose trained Border Collie had to be shot because he was killing sheep. It is a rare occurrence, but it does happen.

Mr. MacGregor also cautions against expecting your dog to protect the flock. This breed will more often than not, stand by and watch a sheep have its throat torn out by a stray dog or coyote. The Border Collie is not a guard dog, but a facilitator in moving stock while under the control of the shepherd.

Mr. MacGregor starts working the dogs as pups, beginning with obedience training. Teaching the dog to obey and respect commands is absolutely essential before the dogs can be put with stock. On the command "down," the dog must drop instantly and consistently, if you are to trust your dog with other animals.

As soon as the dog is responding consistently to the commands "down," "stay," "come," and shows interest in the animals, Mr. MacGregor introduces the dog to stock. Most farm dogs by this time are familiar with the animals. However, now the relationship changes. Many trainers, who up to this time have allowed their pups to go free, now restrain them in pens.

Mr. MacGregor starts his dogs on ducks enclosed in a circular wire cage. The dog must be taught to circle in a direction dictated by the shepherd. The command "way t' me" will send the trained dog in a counter-clockwise circle around the stock, and the command "come by" in a clockwise circle. Because of the breed's intelligence, these lessons are learned quickly. Several short sessions later the dog is ready for the sheep.

Those who have not seen the Border Collie working sheep may picture a barking, chasing situation. However, that is not the nature of the breed, nor would it cause the sheep to move quietly, but would scatter them in all directions.

The dog runs almost as if on wheels. Quickly and quietly the dog "wears" or goes back and forth behind the sheep so they, as a group, head slowly toward their destination. The

sheep dog can be taught on command to pen sheep, drive them away from the shepherd or drive them toward the shepherd. They are trained to cut one or more out of the flock, hold them in a group and get them out of a stall. Although the dog is quiet and stealthy, occasionally he will bark sharply or nip in order to move a stubborn sheep. However, this is forbidden technique in a show trial.

Working cattle require harder tactics. Many dogs capable of working sheep, also make fine cattle dogs, and vice versa. However, there are dogs trained on sheep who are just not hard or forceful enough for cattle. A dog trained on cattle, therefore, might be too forward for sheep. Cattle often need a nip or a bark, and excessive nipping can be harmful to sheep and may cause them to scatter.

Methods of training vary, and there are several good books available. Perhaps the best and most recommended is **The Farmer's Dog**, by John Holmes, published by Popular Dogs, London, and available through Diamond Farm Book Publishers, Dept. S., Box 266, Alexandria Bay, N.Y. 13607.

Put out by the North American Sheep Dog Society, is **The Working Border Collie**, by J.H. and F.D. Clement, available by writing to the society at 210 E. Main St., McLeansboro, Ill., 62859.

A book dealing primarily with cattle called **The Perfect Stock Dog**, by Ben Means, is also available through the North American Sheep Dog Society.

The well-bred Border Collie is not cheap. Mr. MacGregor sells registered pups from proven working stock from \$150.00 to \$170.00, a trained dog is \$1000.00, and a champion trial dog will cost many thousand.

Do not believe that you can pick up a part Border Collie pup for \$25.00 and expect it to work for you. The herding instinct is very strong in the breed, but is the first thing to disappear with cross breeding.

If you are considering the purchase of a Border Collie, write to the North American Sheep Dog Society and request their list of breeders. If possible, see both parents working and insist on N.A.S.D.S. registration, for A.K.C. means nothing as far as working ability is concerned. Acceptance of the Border Collie breed into the American Kennel Club could prove disastrous to the dog as it is today.

If you do acquire a "black streak with an eye" be prepared to give time and love to your animal. Consequently, you will have a friend for life and hopefully a working asset for your farm.

The purpose of this article is practical, not philosophical. Basically, I agree with previous authors, that slaughtering, cutting and packaging your own meat is the way to go. Life and death are part of the same process, the life process. We confuse "live," or the state of being alive, with "life," or the entire life process. The state of being alive is only one part of the life process which includes birth and death of all living organisms on this planet. Live beings consume other live beings in order to remain in a live state and reproduce. We cannot change that no matter what we choose to eat, but I certainly believe in free choice of personal food habits. I did say, however, that this was not a philosophical article but a practical one. So on with the practical.

As a kid raised on a mid-western beef cattle farm, I was well accustomed to butchering. We never raised many pigs, but once in a while raised a couple for ourselves. The regular method of scalding and scraping pigs may be OK when you are doing several pigs and have a big crew for an old-time butchering day, but it is a real pain when you are doing one pig yourself. To solve our dilemma, a neighbor and good friend, John Lude, showed us his easy way to skin a pig. I've never seen this method published, nor have I ever talked to anyone familiar with it. John's father came from Germany, however, and maybe the method came from there. At any rate, I do my best to spread John Lude's pig butchering method to as many people as I can. Everyone who sees this method agrees it is a great improvement over other techniques.

The basic equipment is simple. I use a block and tackle, an old single tree and two double-ended hooks to hang the animals up and raise and lower it. Sharp knives, a meat saw and access to water are the other necessities. The special tool to this method is a corn cob. That's right! A corn cob!

Take a small blade or your jack knife and sharpen it razor sharp. Then cut a short piece of a corn cob, just long enough to stick the blade through the center lengthwise, and have about 3/8 inch of the tip of the blade sticking out. This is the essential tool. A piece of wood will work if you live outside the corn belt. The essential point is to be able to control the amount of the tip of your knife blade that sticks out. One half-inch is probably a bit too much blade, and 1/4 inch is too little.

The first step, of course, is to kill the pig. There's no easy, pleasant way to do this. It is just one of those jobs that has to be done. I equate this with cleaning out the outhouse. I feel better about cleaning out the outhouse though, than flushing sewage down a river. If I'm going to eat meat, I will kill my own animals rather than relegating the job to some person who has to do it all day, every day, in a slaughter house in order to afford the price of hamburger.

The best way to kill a pig is to fire a .22 slug in the brain. For all farm animals, draw an imaginary X from the right ear to the left eye and the left ear to the right eye and X marks the spot.

After killing and bleeding the pig, make a small cut under the point of the lower jaw and stick one end of the hook in this cut so it hooks on the lower jaw. Hang the animal up head first with the block and tackle. (A front end loader on a tractor is OK but a waste of gas.) Now get your water and a scrub brush and wash the hog.

How to Skin a Pig

Now comes the new, and the important part. Take your razor-sharp, small-bladed knife (stuck through the corn cob), and cut the skin into strips from top to bottom. Make the strips about two to two and a half inches wide. Three inches is too wide to pull off easily. Go around the entire pig with these strips. Even cut some strips up and down the legs.

You are ready to begin skinning. Start with a strip on the back at the head of the pig. Cut it loose at the tip, and begin skinning it down as you pull. Once you have it started a few inches and are right on the fat-skin interface, take hold of the strip with both hands and try to pull it down. If it is going right, you will pull off only skin and no fat. If you start to pull and your loosening cut is too deep, you take a lot of fat. If your cut is too shallow, the skin will tear off. After the first couple of strips, you will know when you are doing it right.

After the first strip, do the rest. It is convenient for two people to work on a hog starting from one side and meeting on the other side when you are finished. If the strips are coming off right, you take very little fat with the skin. In fact, if you are doing a good job, a few of the hairs will pull right through the skin and stay on the fat. I count this a good sign because we always run out of lard before next fall, and I never throw away pig fat. Again, if the strips tend to tear off before you pull them clear down, it is usually a sign that your knife didn't go deep enough when you cut the skin into strips. You need to cut completely through the skin, but not too deeply into the fat. Again, 3/8 inch is about right, but 1/2 inch isn't too deep on a fat hog. As mentioned, if your cut goes too deeply into the fat, though, the fat will want to

Dennis King lives in Penobscot, Maine. Photos by Kent Thurston.



Cutting the skin of the pig into strips.



Pulling the first strip of skin down.

come off with the skin.

The back is the easiest, and usually skins best by this method. That is probably because the fat is thicker there. The belly skins easily, but the fat tends to come off more. The legs skin easily by whatever method, but you have to do a little more knife work on them.

When you are done with all the strips, the hog looks like it's wearing a grass skirt pulled revealingly low. Simply pull them all as far as they will go. Cut them off at the bottom, and skin out the hind legs. Your pig is skinned except for the head, which has to be skinned by regular methods.

The next step is to gut the pig, and it is easier to let it down and hang it back up feet first. The reason for this is that it's easier to gut an animal in the reverse order the food goes through. Also, the strips of skin seem to come off simpler from head to tail, probably because you're pulling with the hair and not against it.

It is really no problem to put down a piece of plastic (or anything handy), lay the pig down and lift it up with the single tree with two hooks behind the achilles tendon of each leg. While the pig is on the ground, take the saw and cut through its brisket or breast bone. It's much easier done now than later. When you pull the animal back up, do not pull it too high, because you need to see to cut around its anus and genitals. Try to cut around and pull the rectum up high enough to tie it off with a string. This avoids any further mess.

Now, from the front of the pig, cut through its pubic bone and begin to cut down the center of the belly. The best way is to stick the two fingers of your left hand inside the cut, and while holding the knife with your right hand, put the



If you are getting only skin and no fat, the inside of the skin is bumpy and a few hairs will pull through the skin and stick to the fat.



A half-skinned pig with its skin-strip skirt.



Sawing through the brisket.

blade between those two fingers pointing out and down. Now you can cut down with no danger (or little danger) of cutting into the guts. Once you have cut down to where the brisket cut begins, the entire intestines are ready to fall out. Start at the lower gastro-intestinal tract and pull and cut it out. The stomach and intestines pretty much just fall out until you reach the diaphragm. Cut all the way around the diaphragm close to the ribs, and the heart and lungs come out.

Now cut off the head. You could have done this when you laid the pig down to turn it around. All that is left is to cut the pig in half, straight down the back bone. I now use a \$10.00 meat saw, but a regular hand crosscut saw will work. I got along with one for years. Some people use an axe or heavy hatchet, but I have never done a neat job with one. I've heard of chain saws, but that sounds terribly messy and wasteful.

I won't go into the details of cutting and wrapping because there are many good publications you can follow. USDA Extension Bulletins on the subject can be obtained from most extension offices.

The only new information I had to contribute was the skinning method. If you only do one or two hogs a year and want an easier method, or if you have someone else butcher your hogs because you have heard of all the muss and fuss of scalding and scraping, try this method of skinning. Two people can do a hog in half an hour if they are good, and an hour if they're not. The only piece of pig meat that I miss having is the skin on the hocks. I really like all that fat juicy skin!



Cut down the belly with one hand inside the pig, and with the other hand guide the knife blade with your two fingers.

Favorite Pumpkin Recipes



USDA photo

by Barb Mraz

Pumpkins were called pompions by the Indians and were used for religious masks. Delaware Indians dried pumpkins. They cut the pumpkin into rings, about one inch thick, then strung them on a pole or string in the hot sun. When the pumpkin rings are dry and wrinkled, they rattle when hit together. They can be stored all winter in this condition. When needed, boil and sweeten to taste, or bake and moisten with sugar water.

The Jack O' Lantern made from pumpkins is an American innovation. European children made them from large turnips carved out and a candle was placed inside. Legend tells of a very stingy man named Jack who was barred from heaven and also denied entrance to hell, because of his practical jokes on the devil. He was condemned to walk the earth with his lantern until Judgement Day.

The following are some recipes we can make from the wonderful pumpkin to help us enjoy the here-and-now:

BOURBON PUMPKIN PIE

2 cups whole kernel corn
4 eggs, separated
1 cup sugar
1 tbl cornstarch

$\frac{1}{2}$ tsp ground cinnamon
 $\frac{1}{3}$ cup cream
 $\frac{1}{4}$ cup oleo, melted
1 tbl bourbon

Combine pumpkin, egg yolks (slightly beaten), and a mixture of sugar, cornstarch and cinnamon. Beat for five minutes. Mix in cream, butter, and whiskey. Beat the egg whites until rounded peaks are formed. Fold into pumpkin mixture. Pour into pastry-lined nine-inch pie pan. Bake at 375 degrees F. about 45 minutes, or until a knife comes out clean when inserted half-way between center and edge of filling. Cool before serving.

PUMPKIN-CHEESE PIE

1 cup gingersnap crumbs
2 tbls sugar
 $\frac{1}{4}$ cup soft oleo
1 envelope unflavored gelatin
 $\frac{1}{2}$ cup granulated sugar
 $\frac{1}{4}$ tsp salt
 $\frac{1}{4}$ tsp ginger
 $\frac{1}{4}$ tsp allspice
 $\frac{1}{4}$ tsp ground cloves
 $\frac{1}{2}$ tsp nutmeg
 $\frac{1}{2}$ tsp cinnamon
1 egg, separated
 $\frac{1}{4}$ cup milk
 $\frac{3}{4}$ cup cooked pumpkin
 $1\frac{1}{2}$ cups creamed cottage cheese, mashed
1 cup heavy cream

Mix crumbs, two tablespoons sugar, oleo -- until crumbly. Press to bottom and sides of nine-inch pie plate. Refrigerate. In double-boiler top, mix gelatin, six tablespoons of sugar, salt and spices. Beat egg yolk with milk and pumpkin. Add to gelatin mixture. Cook over boiling water, stirring six minutes, or until gelatin dissolves and mixture thickens. Cook. Stir in cheese. Beat egg white until stiff but not dry. Gradually add two tablespoons of sugar, beating until stiff. Fold in gelatin mixture. Whip half a cup of cream. Fold into the gelatin. Turn mixture into crust. Refrigerate until firm. Whip rest of cream. Spoon onto top of pie.

PUMPKIN CHIP PRESERVE

(Clear and golden and
delightfully flavored)

1 lb peeled pumpkin rind cut
into small chips
1 and two-thirds cups sugar,
sprinkled over chips. Let
stand overnight.
Grated rind of $\frac{1}{2}$ lemon
1 oz finely chopped candied
ginger.

Add lemon, ginger and
rind to pumpkin-sugar mix-
ture. Cook slowly until rind
has cleared and syrup coats
spoon. Spoon into clean hot
jars and seal.

Recipe may be increased
in proportion, but too large a
quantity tends to darken in
cooking.

KESUNDHAKW (Pumpkin & Corn)

2 cups cooked pumpkin
1 can whole kernel corn
 $\frac{3}{4}$ cup sugar

Mix the three ingredients
together, using amount of
sugar to taste. Boil slowly
for about five minutes.



Several years ago my husband and I realized a mutual dream by purchasing a home in rural Wisconsin. Quickly, we left behind us the frenzy of the city and settled comfortably into the slower paced routine of country living. Rather than rushing from one form of entertainment to the next as we had done in the city, we began to pursue a few favorite activities regularly. One of the most rewarding of these activities is scavenging the countryside.

At least once a day we collect our scavenging paraphernalia and set off on an adventure. The equipment we need is simple...usually a pocketful of plastic bags and a knife will do, but depending on our goal, boxes, trowels and even fishing rods are necessary.

Our transportation is equally simple: we either walk or ride our bikes. We feel that driving our car would destroy the appeal of our scavenging trips. Our trips, therefore, are limited to a radius

A Day of Scavenging

by Kathleen S. Abrams

Kathleen S. Abrams makes her home in Wausau, Wisconsin. Woodcuts by Siri Chandler.

of 12 miles from home. I suppose one might wonder if repeated scavenging in the same area would lose its appeal, but each day we make new discoveries and cannot anticipate a time when our scavenging in familiar territory will bore us.

Our serious scavenging begins in late May when golden dandelions wave in every yard, ditch and pasture. We set off in mid-afternoon when the blossoms are most dry and fill a basket with the sunny globes. As the plentiful pollen stains our fingers, we anticipate the pale amber brew we will concoct from the blossoms of the dandelion. Considered by many to be a noxious weed, dandelions make a delicious folk wine.

Returning to our kitchen, we pour boiling water over the blossoms. As the delicate aroma of the steeping flowers permeates the kitchen, we smile a bit forlornly because we know the wine will not be ready until Christmas time.

With the dandelion wine securely

bottled, we turn our attention to the wild strawberries ripening in the abandoned field across the road. In late June we spend hours carefully parting the tall grasses to find the flavorful, red berries. We call to each other across the open field exclaiming over the size or quantity of the berries each has discovered; then we come together occasionally to compare collections. We always have to taste a few of the sun-warmed berries, soft and juicy in their ripeness; but most of them, unbelievably, are saved for later use. We especially savor wild strawberry jam which re-creates for us those clear, balmy June days even in grayest February. I am always positive that I can taste the clear, blue sky, the warm, gentle breezes and the peace that we experienced as we picked the strawberries.

Scavenging for wild strawberries has multiple rewards. Not only do we gather the delicious fruit, but we also closely observe some minute aspects of our natural world. Searching for quarter-inch berries sharpens awareness, and we notice all kinds of insect, plant and animal life of which we would not normally be aware. Last summer the highlight of our strawberry gathering was the discovery of a ground sparrow's nest. Four eggs were tightly packed in a perfectly woven nest and concealed from all but the keenest and most fortunate observer.

As the wild strawberry season wanes, we turn our attention to the cray fish which populate, in startling abundance, the freshwater streams in our area. With a pail and a pronged stick, we walk up the middle of a stream searching the bottom for the shrimp-like creatures. Granted, there are more efficient means of capturing crayfish, but our method has the appeal of improvisation and the excitement of challenge. We must be fast enough to pin the creature before he darts backward beneath a rock, then skilled enough to pick him up and deposit him in the pail. An afternoon of such fishing always provided us with a large enough catch for hors d'oeuvres before a special dinner. For those inclined to fish for freshwater crayfish, Euell Gibbons provides a helpful guide to the cleaning and cooking of the fish in his book, *Stalking the Wild Asparagus*.



In early July we find time to "scout the territory" for late summer and early fall fruit crops. We note the location and ripening rate of the best crops and wait impatiently to gather them. Soon, however, we are rewarded with the first ripe raspberries of the season. It always seems to us that nothing could taste as delicious as wild strawberries until we treat ourselves to the first wild raspberries over ice cream. With this first taste we feel ourselves settling into the lazy days and long warm nights that make summer worth the wait.

Most people recognize raspberry bushes and feel confident in picking the berries, so our competition for the wild raspberry crop is often heavy. Although the field across from our house offers excellent picking, we usually seek less heavily picked areas farther away. With our berry pails swinging from the handlebars of our bikes, we explore the country roads in our township and stop to pick the wild



raspberries wherever they appear in the ditches beside the road. At the end of an afternoon we always have enough berries for supper, with some left over to can, freeze or make into jam. I know also, that we enjoy our heaping dishes of raspberries and ice cream more because we feel as though we have earned them.

Just as the raspberry season closes, the blackberry season begins. We are fortunate to have excellent blackberry picking about ten feet from our front door. I suppose we don't earn our blackberries and ice cream as completely as we do our raspberries, but we enjoy them just as heartily. Actually, our front yard blackberry patch is an accident. When we put in our lawn, we very carefully cut the old bushes down and covered them with several inches of black dirt, fertilizer and lime. Before the grass seed sprouted, however, blackberry sprouts shot their way through the dirt. The stems were as thick as my thumb and looked so healthy and persistent that we decided not to disturb them. With their delicate and odorous blossoms, the bushes are beautiful in spring, and we enjoy speculating on the abundance of the crop as the hard green nubbens turn to glowing red berries. Finally, as we gather the juicy, black fruit, we congratulate ourselves on having the wisdom to allow nature to provide the shrubbery for our yard.

After the blackberry season our scavenging becomes more hectic as many fruits begin to ripen at once. Although we have been gathering the fall harvest for several years, each year we are amazed anew by the abundance which flourishes and is usually wasted along the roadsides. The wild cherries are usually the first sign of fall, and although I am reluctant to give up the summer, the delight of gathering the clusters of black fruit from the low branching trees tends to lighten my sadness. Again, we swing berry pails from our handlebars and set off for our favorite haunts. The cherry trees grow in ditches everywhere in our area, and each year most of the fruit is left drying on the trees. I suppose the reason the fruit is not gathered is because it is rather bitter if eaten plain. We find, however, that the juice makes the very best wine and jelly imaginable.

Elderberries are another abundant, roadside crop which are easy to gather. Usually we snip the heads and slip them into plastic bags on our walks. In a few days we have enough berries for elderberry jelly, a taste which is most unique.



Wild apples and plums conclude our summer harvesting. We are fortunate to live in an area of abandoned farms and orchards gone wild. Most years the fruit is surprisingly worm-free. Again we ride our bikes to specific scavenging places and collect the fruit in plastic garbage bags. Then we take it home for sauce, jellies and wines.

Soon the fall rains arrive and as one might expect, the end of our scavenging. But for people with scavenging in their blood, not even the weather is a deterrent. In fact, there is a special appeal to walking through a dense woods during a quiet fall rain. The leaves are soggy underfoot and the water droplets bead on the tree's bare

branches. During this time we gather mushrooms; rather, Larry gathers mushrooms and I carry the bags. Although I delight in all the interesting shapes and colors of the little plants, I leave the gathering exclusively to him because he is trained to recognize certain edible varieties. Even when we find an abundant patch of an edible species, I leave the picking to Larry because, as he points out, too often an inedible maverick could be sprouted among the edibles and picked by mistake. **Scavenging for mushrooms should be left to the expert.**

When I tire of holding mushroom bags, I wander off in search of wild leeks. They are easy to spot in autumn, as the bulbs often are exposed and glisten white against the rich, black loam of the forest. I enjoy digging for them in the moist earth, catching their pungent aroma on my fingers. They make delicious onion soup or can be dried for later use as seasoning.

As the cold, fall rains change to snow, we pack away our berry pails and plastic bags, and lock our bikes in the shed until the next spring. We have a pantry filled with pints of jellies and quarts of sauce, several crocks of wine bubbling merrily and in the freezer are berries frozen for winter use. By supermarket prices the produce on our pantry shelves totals over \$250.00 in an average year. Although none of these items is a staple part of our diet, they add the pleasure of good taste and variety so necessary to good living.

But I suppose more importantly than the money saved is the satisfaction which comes from using, rather than wasting, some of the abundance nature

provided. I like taking a portion of my sustenance directly from the land. As I gather the produce, I have time to ponder my relationship with the earth. I watch growth cycles change depending on weather conditions; I have seen gentle rains bring a crop to ripening and violent storms destroy an entire summer's growth. Because of my scavenging I have learned to respect that Universal Spirit which provides for all living things, and I am thankful for the food I gather in a way I never was for the packaged commodities which line supermarket shelves.

I suppose, however, if I were asked why my husband and I are such dedicated scavengers, I would have to answer simply that we love the wind and rain and sun on our faces, or that we are merely following a pattern of treasure hunting which has excited people for countless generations.



Scavenging provides us with so many things—exercise, special tastes, adventure and a time for quiet in a world of haste. Whatever our reasons, I've just noticed that our maple trees should be large enough to tap this spring, so our scavenging will begin earlier next year. We can hardly wait to begin cooking down that maple sap!

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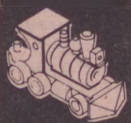
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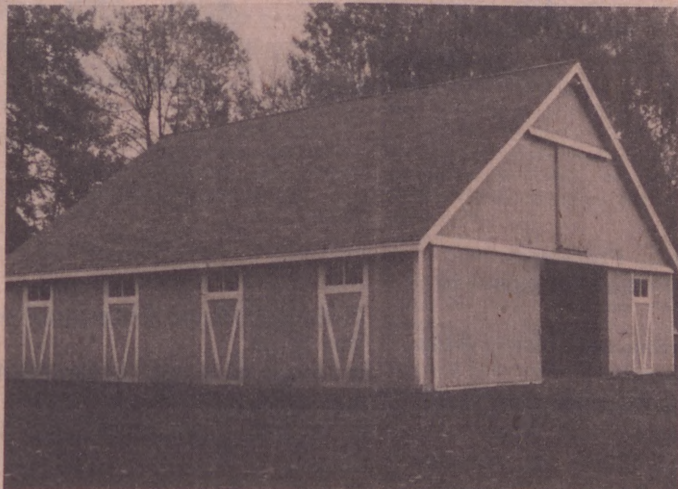
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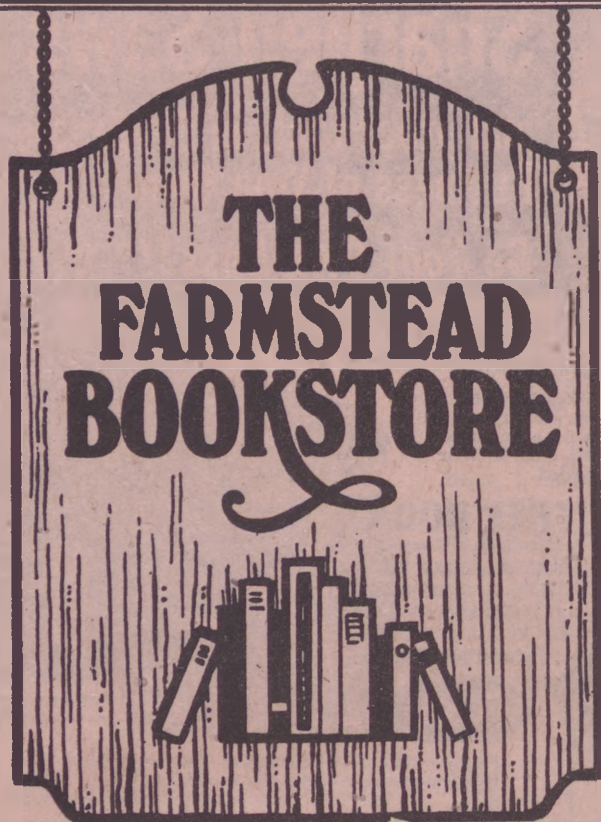
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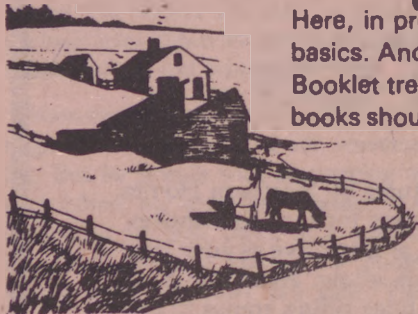
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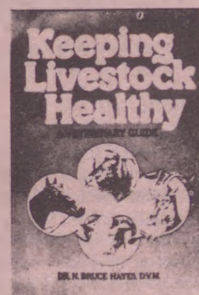
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by Robert Bennet- - For home and semi-commercial producers. Includes choosing proper breeds, housing, feeders, waterers, feeding and diets, rabbit management, disease prevention, marketing. Excellent "how-to" with diagrams, photographs and plans. 145pp. Quality paperback \$4.95

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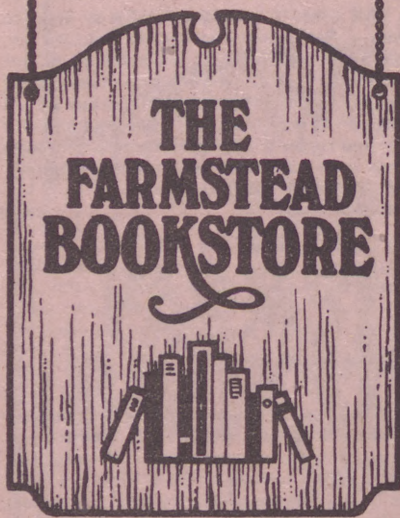
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R-48 THE SOLAR GREENHOUSE BOOK edited by James C. McCullagh - This is the first comprehensive book dealing with design, construction and crop production in a variety of solar greenhouses. It provides detailed technical and design information, with emphasis on low-cost, low-energy structures. 344 pp., 136 photos, 135 illustrations.

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R-49 30 ENERGY-EFFICIENT HOUSES YOU CAN BUILD by Alex Wade and Neal Ewenstein - Shows how to plan and build an energy-efficient home and use every inch of space as well. The authors explore efficient room layouts, insulation, heating and ventilation, plumbing and natural lighting. They emphasize use of low-cost, recycled and easy-maintenance materials, post and beam framing, and ingenious shortcuts for construction. 336 pp., 202 photos, 30 floor plans.

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R-19 LOW-COST ENERGY-EFFICIENT SHELTER by Eugene Eccli - For the owner and builder, this book tells how to cut energy bills for heating, cooking, appliance use, lights and water. In addition to money-saving advice, it includes plans and specifications for 14 low-cost, energy-efficient homes with 150 detailed illustrations, understandable to the novice designers, builder and handyman. 416 pp.

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G-93 BUILD YOUR OWN LOW-COST HOME by Roger Hard - This book offers a viable alternative to expensive home construction; by describing in text and illustrations, the techniques used to build log homes either from "scratch" or using pre-cut log house kits. Over 100 detailed drawings, plus illustrative photographs take you step-by-step through the planning, site selection and preparation stages, the text always carrying parallel directions for kit construction or "from-the-tree" construction. 220 pp with 125 illustrations.

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G-95 DESIGNING & BUILDING A SOLAR HOUSE by Donald Watson, AIA - Here is the complete and practical book everyone

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- how solar heating works • passive systems: greenhouses, Drumwalls, roof ponds, reflectors, diode panels, Beadwall and other insulation methods • active systems: flat-plate collectors and focusing collectors • water, rock, and phase-changing storage systems • prototype solar houses with air systems, water-trickling systems, and liquid systems • solar-assisted heat pumps, solar-powered air conditioning • solar photovoltaic cells for direct electric conversion • ecodesign principles for different U.S. climates • designing for northern climates • how to choose the best solar system for cost payback • site planning, with a special planning checklist • four ways to reduce solarhouse costs. 288pp.

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by Karl & Sue Schwenke-- Using the new slipform method, you can complete your own low-cost stone house in just six months - - - with no previous masonry experience! The authors will guide you every step of the way from selecting land to building the chimney. Easy-to-follow charts, photos and diagrams provide the kind of accurate, reliable information you'll need to complete your own handsome, durable stone home. 156pp

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R-20 PRODUCING YOUR OWN POWER: How To Make Nature's Energy Sources Work For You, Edited by Carol Stone - This book includes the advice and information from many experts on how to harness energy from the sun, wind, water, wood and organic wastes. Over 165 charts, tables, building plans and detailed instructions are included. 332 pp.

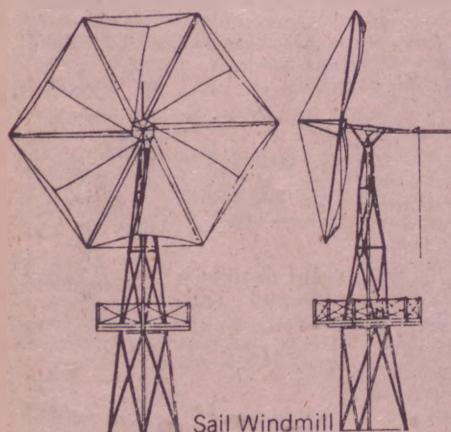
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G-5 WOOD ENERGY: A PRACTICAL GUIDE FOR HEATING WITH WOOD by Mary Twitchell - This book brings together the strengths of the old and new technology of wood heat, honestly evaluates the latest developments and equipment, and gives exacting how-to guidelines for realistic, practical and safe wood heating. Some of the areas covered: wood-burning and combination furnaces, chimney and stove cleaning, review of available wood stoves, installation, firewood, woodlot management, and a look at the future of wood energy including the use of wood chips. 144 pp. over 100 illustrations.

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GF-22 HARNESSING THE WIND FOR HOME ENERGY by Dermot McGuigan Measuring potential electrical power from the wind at your home. Selecting a system that fits your needs. What those systems cost. Wind power, harnessed centuries ago by man, is fast gaining new popularity. Is it for you? This book lets you decide. It presents a survey of numerous working windplants, telling the many purposes which wind power is best suited to serve. 128 pages, 6x9, heavily illustrated.

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G-11 NEW LOW-COST SOURCES OF ENERGY FOR THE HOME by Peter Clegg - An exciting overview of today's alternate energy systems including solar heating, wind power, wood heating, water power and methane digestion. Shows how solar collectors, wind generators, water turbines and other systems work in new and old homes; how to plan, design and install typical systems, and what they cost. 256 pp. 150 illustrations.

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R-46 WOOD HEAT by John Vivian - This revised and enlarged edition is the most complete and practical of wood-heating books. Included are a photo series showing how a masonry chimney is laid up, line drawings showing the safe and proper way to install an insulated stovepipe chimney, a new chapter on annual cleanup and maintenance, tips on evaluating the design and construction of any stove, regardless of brand, ancestry or vintage, and a visual guide of 22 of the most common North American fuelwood trees. **Wood Heat** covers every aspect of its subject: flues, fireplaces, stoves, cooking ranges, central-heat furnaces and fuel and its by-products. Wonderfully illustrated by Liz Buell. 416 pp., 320 illustrations, 45 photos.

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R-47 HOW TO BUY SOLAR HEATING... WITHOUT GETTING BURNED! by Malcolm Wells and Irwin Spetgang - A lively consumer's guide that takes much of the mystery out of choosing, financing and installing solar heating equipment. Based on the experience of two solar experts and 88 solar homeowners, this book discusses types of solar systems, finding a knowledgeable contractor, insulation, and ways to research possible legal restrictions and zoning codes. 272 pp. 94 illustrations.

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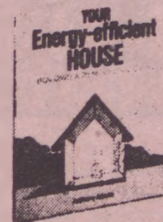
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G-79 Here is the homeowner's manual to drastically reducing fuel bills by not wasting "bought" energy, and by using FREE energy around you. Learn here the many small inexpensive steps to lock in the warmth, and to take advantage of nature's own heating and cooling systems. Why pay when you can cut fuel costs naturally and permanently?

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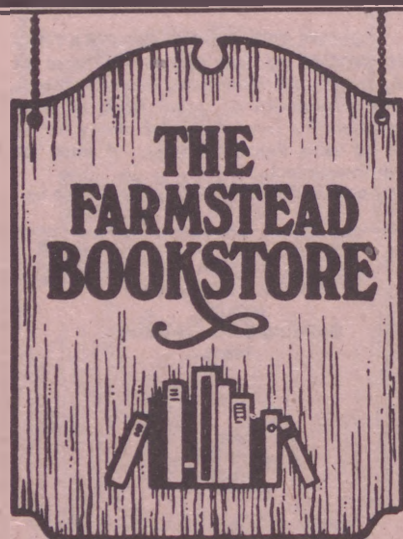
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R-44 PLANTS-A-PLENTY by Catharine Osgood Foster - This is the complete how-to-propagate book which describes the biological processes that play a part in plant multiplication. Included are instructions on how to multiply outdoor and indoor plants through cuttings, crown and root divisions, grafting, layering and seeds. The second part of the book, which is arranged alphabetically under plant categories, discusses each plant individually, highlighting special considerations. 344 pp., illustrations and photos.

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R-61 THE EARTHWORM BOOK by Jerry Minnich - The most complete up-to-date book on earthworms and their use. Information is included on raising worms indoors and out, care and feeding, bedding, temperature and pH considerations. 384 pp., photos and illustrations.

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R-62 GARDENING WITH KIDS by Sharon MacLachlan - Gardening with children is not as simple as it might first appear, so this book has been prepared to alert the adult gardener to what children expect, how they approach things and the best methods for successful organic gardening. With the child in mind, this book covers planning, choosing foolproof vegetables, and recipes for young gardeners. 224 pp., photos.

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R-22 STEP-BY-STEP TO ORGANIC VEGETABLE GROWING by Samuel Ogden - This well-known guide to raising vegetables without chemical fertilizers and insecticides is based on the author's 40 years of personal experience. Mr. Ogden's book represents a solid reference source for beginners who need the basic information on caring for the soil, organizing the garden plot, collecting the necessary tools, controlling pests, and growing two dozen of the more popular vegetables. 192 pp., 95 illustrations.

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R-23 HOW TO GROW VEGETABLES AND FRUITS BY THE ORGANIC METHOD by J.I. Rodale - This hefty volume is actually seven books in one, covering general organic gardening techniques, vegetable growing, the home fruit garden and orchard, organic fruit culture, organic nut culture, herb gardening and growing unusual fruits. This remarkable book is the organic vegetable and fruit grower's bible. More than 600 charts, tables, how-to-illustrations and photos. 926 pp.

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G-41 DOWN-TO-EARTH VEGETABLE GARDENING KNOW-HOW by Dick Raymond - We honestly believe if you have a vegetable garden you ought to have this book! Absolutely unique, otherwise unavailable practical advice from a gardener of 40 years. Extending vegetable productivity, "wide-row" planting for triple yields, picking at peak flavor, saving and storing seeds. Heavily illustrated. Succession planting, in-depth information, excellent regional advice. Many gems of garden wisdom. 160pp. Large. Quality paperback \$5.95



G-21 WHAT EVERY GARDENER SHOULD KNOW ABOUT EARTHWORMS by Dr. Henry Hopp - encourage your earthworms to multiply and thrive, as there is no better fertilizer in the world than earthworm casting. 44 pp., illustrations.

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R-60 BEST IDEAS FOR ORGANIC VEGETABLE GROWING by the editors of Organic Farming and Gardening - More than 100 experienced organic gardeners contribute their tips on growing 50 vegetables, from the popular tomato to the uncommon fennel. 216 pp., 93 photos.

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GF-07 SUCCESS WITH SMALL FOOD GARDENS: Using Special Intensive Methods by Louise Riotte - This unique vegetable gardening book has been developed for everyone who has little land but would like to grow an abundance of vegetables. This book details the many techniques developed to insure bountiful crops in small spaces. Some techniques discussed: • interplanting • growing fences • tier plots • catch cropping • hanging gardens • terrace gardens • succession plantings • raised beds • kitchen and herb beds • vertical gardening • pyramids • French intensive beds. Unique to this book is the concept of landscaping, wherein the entire home landscape is planned to accommodate food production attractively and effectively. Fence-row growing, border plantings, multiple-use trees and shrubs, and small decorative vegetable plots can be combined for a stunning landscape, while providing a luscious fresh fruit, vegetable and berry supply. 192 pp., with 70 illustrations.

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The Farmstead Reviewer

by Chris Winn

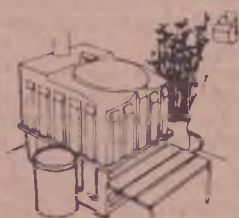
Ah, the wonders of technology. Just a turn of the faucet and out pours unlimited hot water. Nothing could be so simple you say? Well, the power to heat that water came from a massive centralized infrastructure that strips valuable farmland for coal, poisons the soil with nuclear waste, and sends U.S. dollars overseas for oil.

Handmade Hot Water Systems, by Art Sussman and Richard Frazier, Garcia River Press, California, \$4.95 -- is a primer on how we can take responsibility for the use of our energy by making our own hot water, thereby helping the earth become a more habitable place for ourselves and future generations. It rivals Steve Baer's **Sun Spots** by its simplicity and conscious effort to demystify the expert's technology. All necessary aspects of handmade hot water systems are explained in enough detail to encourage even the novice user/builder to begin construction at once. The text is aided by clear, well-made drawings.

In northern climates, the authors recommend complementing the summer use of a solar collector with the winter use of wood heat for hot water. This is ideal for the self-reliant New Englander, as it avoids complicated technology and makes the best use of available energy sources. To this end, the book has excellent "recipes" on wood stove heat exchangers, plumbing, and solar collectors. For those who wish to confront the danger of freezing pipes, wintertime use of the collector is explained. Several ultra low-technology heating systems as simple as a fire under a cast iron bath are illustrated for those without running water.

The authors convey their vast experience with the company, Blazing Showers (which manufactures heat exchangers for wood stoves) in a non-technical manner to their readers. They avoid specific information on BTU output or efficiency expectations, and generalize on their experience to suggest suitable sizes for "family sized" units.

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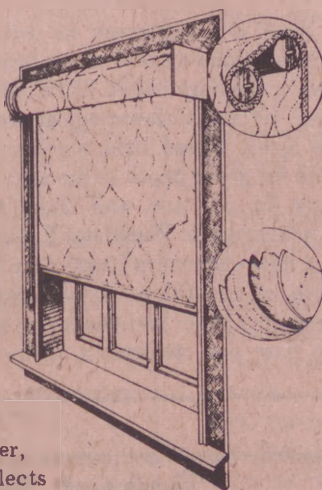
Handmade Hot Water Systems makes one wonder why so many electric water heaters are still in use. The widespread distribution and application of the content of the book would help change wasteful systems and aid in the growth of a solar-based culture.

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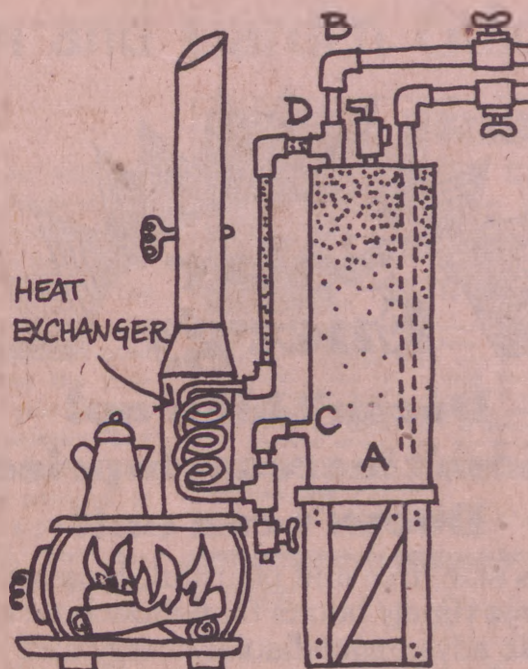
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**WOOD STOVE
WATER HEATER**

by Chris Winn

Forests are important for far more than their timber. They are a pleasure to be in and provide valuable wildlife habitat. It is these and other concerns that motivate many forest owners. Even those who have unmanaged forests are not usually against the harvest of trees if the forester takes other values into account.

Environmental forestry is an integrated management system that begins with a study of forest ecology. It considers -- beyond timber production -- the value of esthetics and recreation, wildlife, watershed protection and more. Leon Minckler, author of **Woodland Ecology: Environmental Forestry for the Small Owner**, Syracuse University Press, 1975, discusses the framework of this science and lays out the basic technique. He does not expect to make every reader into a topnotch environmental forester (though those with some ambition might manage fine on their back forty), but he does convey a good basic understanding of the subject. The forest owner will find this book invaluable in formulating forest management goals and in working with professional foresters to carry them out.

Private, non-industrial owners hold about three-quarters of all Eastern forest land. This has had a great effect upon the form and development of the timber industry. Compare the economy of northern Maine, which is mostly owned by a few large companies with the rest of New England, where small holdings prevail. In northern Maine the industry concentrates on softwoods for their value as pulpwood. They are strictly in the paper business, so hardwoods, valuable on many markets, are systematically eliminated with herbicides and other management techniques. Forest agriculture is treated as an industrial process through a vast simplification of the woodland ecology. Large areas are often clearcut to the detriment of the soil, the wildlife and the purity of many lakes and streams. Labor is increasingly replaced by expensive machinery. Small holdings, on the

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other hand, have encouraged a much more diverse industry due to the many different management techniques that prevail and the demands of the people who live and work nearby.

Still, it must be noted that there is room for improvement in many of these forests. Many are only unsystematically managed, if at all. One out of every three trees standing is a cull tree, according to the U.S. Forest Service, and is almost useless for any purpose besides firewood. The American Forest Institute, a timber industry organization, has worked in cooperation with state and federal forest services in promoting the "Tree Farm System." The landowner who participates is eligible for a certain amount of tax breaks and technical assistance. Unfortunately, (and perhaps a major reason the program has not had as much success as it might have,) the "Tree Farm System" is unduly oriented towards production. And it happens that most small forest owners do not have their forest land primarily for its economic return.

The forest is a microcosm: its use mirrors the structure of the timber economy and more broadly, humankind's total relation with environment. Environmental forestry works in a holistic fashion with ecological processes and so creates a diverse forest whose yield is self-sustaining. In so doing, it provides for great depth in the timber industry, more wood products for our use, and much more employment. The vision presented in *Woodland Ecology* is the very practical one of a new economics based on a healthy ecology and the wise use of natural resources. New England was made strong by its timber and the forest still remains. Once again we can base our civilization on its use.

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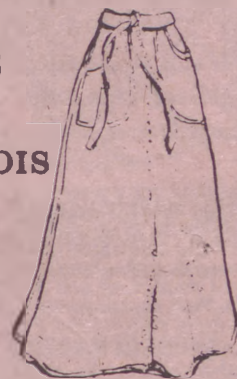
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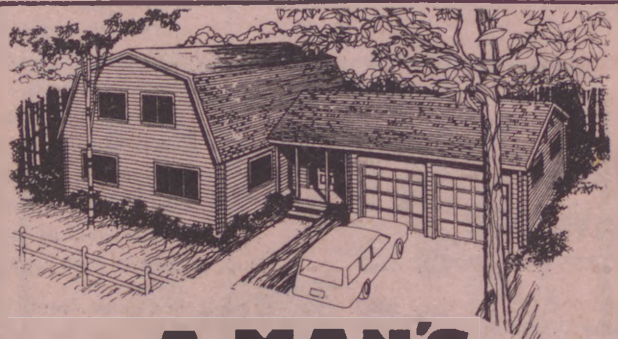
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The causes of failure, especially with the dwarfs, are easily pointed out. More of them are from improper planting and from neglect, than from all other causes. They are often set out upon land too poor to nourish them. They live, but make no new wood. They are thrown prematurely into bearing by transplanting, and the cultivator, pleased with the early fruitfulness, lets them bear all they will. The whole form of the tree is thrown into fruit, and after a few years it is exhausted and dies. Sometimes the tree is planted too high, the quince stock being three or four inches above ground, instead of beneath, as it should be. The borer attacks the quince, and if neglected, soon destroys it. We have frequently seen them planted in green sward, the grass taking all the strength of the soil, and the trees looking much like walking canes, years after planting. Sometimes they are not manured at all. The demand is for abundant compost manuring every fall. Again, they are trimmed up as high as one's head, before they are allowed to make limbs. With the comparatively weak roots of the quince, this makes the winds a threat to the tops of the

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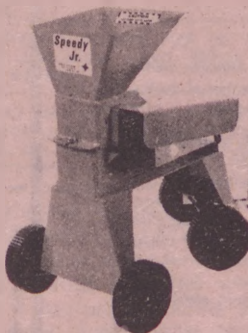
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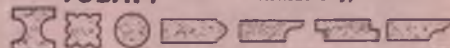
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