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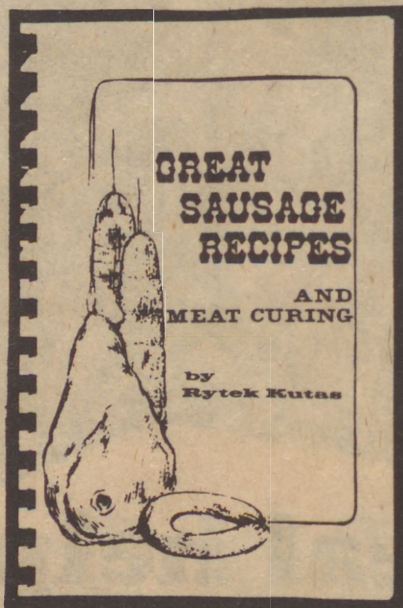
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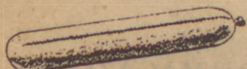


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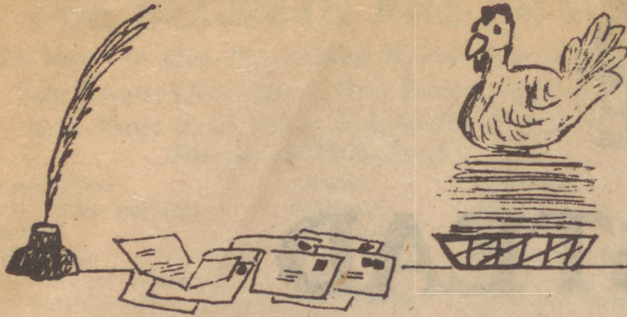
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Subscription rate is \$6.00 for one year (six bimonthly issues plus an Annual), \$10.00 for two years and \$14.00 for three years, in the United States, its possessions and Canada. Subscriptions surface mailed abroad \$8.00 per year; airmailed abroad \$10.00 per year.

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Letters

Dear FARMSTEAD:

Thomas Wolfe said "You can't go home again." Meaning, no doubt that you cannot bring back your childhood. We all are made of our impressions when young. I not only came home again but with research, found a town better than my childhood ones — it had to be a coastal village in Maine, near Port Clyde and our summer home on Monhegan. After 50 years in Massachusetts, we, in 1970 bought a small Cape Cod house in Thomaston, Maine, and there I established roots and feel like a part of town community — overcame arthritis and tried to be a useful citizen at age 76. I now enjoy many hobbies and content at last.

Eleanor Dexter
Thomaston, Maine

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THE MAINE DIFFERENCE.



Dear FARMSTEAD:

In your spring 1977 issue, I found the article "New England's First Farmers" by Howard S. Russell to be very interesting.

I would like to mention two matters. On page 77, the print does not depict a New England barn yard. This print is the work of Thomas Bewick, a British artist and naturalist who died in 1829. He was a master at wood engravings. The barnyard is either in England or Scotland Circa 1800.

On page 78 in the same article, Mr. Russell states that Sier de Monts, in 1604 tried a garden patch and sowed wheat on an island in the *St. John River*. This island, still in existence, is in the *St. Croix River*, the present boundary between the State of Maine and the Province of New Brunswick.

John M. Dudley
Alexander, Maine



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Dear FARMSTEAD:

One early day in the month of June, coming into the cabin with a swarm of blackflies left outside, I smile a hidden smile for I look forward to their coming. They don't bother me too much anymore, at least most of the time. I've found an answer to them, and it is so grotesque to most I tell, that in print I must remain anonymous.

I eat blackflies, perhaps 50 or a hundred a day! They are a culinary delight. They are as sweet as maple syrup and have a satisfying crunch. Sometimes, be it famine or binge, I will catch a quantity, crush and strain them to the point of a meal.

Parasitology is a forte of mine. It does worry me that some helminthes (fluke or tapeworm) is not hitching a ride ready to enter its final host. Random examinations have not shown any of these forms. I've noticed the blackfly does not attack small insectivorous mammals a possible co-host. Amphibians are too unlike us.

I'm still hanging in there getting bit less and enjoying them more.

Esoteric Parasitologist
Saint Francis, Maine



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Dear FARMSTEAD:

The homebirth articles in the early summer issue of Farmstead were very interesting.

Would you please let Farmstead readers know that more information on birth alternatives (including Maine resources) is available from:

Maine Access to Alternatives in Childbirth Care
RFD 1 Box 74

Dixmont, Maine 04932

A subscription to the MAACC newsletter is \$3.00; the homebirth issue (#2) is 25 ¢.

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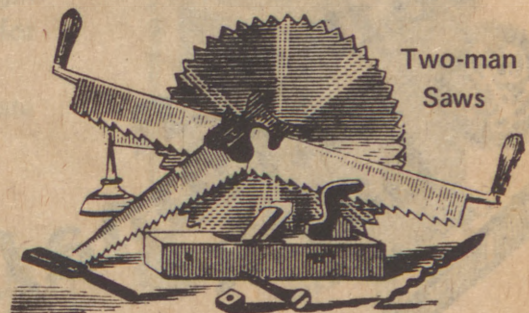


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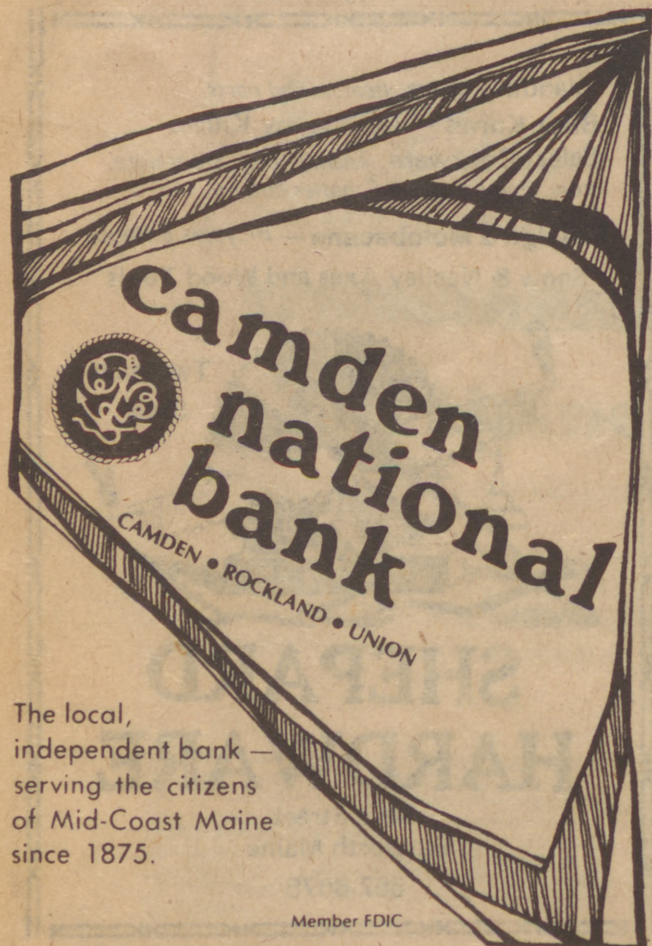
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Dear FARMSTEAD:

I've been reading your articles on having babies at home and thought I'd better write to add that it is extremely important to have a competent person (a doctor, a labor room nurse or a midwife) examine the woman *during* labor. My experiences will explain why.

I'm built for having babies. My pelvis is unfashionably broad and deep, my skin elastic, my muscles strong. Twelve years ago, before I became pregnant, I researched having babies and decided I wanted to use the Lamaze system. At that time it was brand new in our small Conn. city. I would be from the first "class" to have it. My obstetrician was quite hostile, and I was determined that things should go well so that the women coming along behind me would meet with less resistance.

I exercised regularly, ate lots of brewer's yeast and wheat germ, practiced my breathing, kept all my doctor's appointments, took my vitamins, and was a model patient.

Five days before my daughter was born (actually on the day she was due) the doctor examined me and pronounced everything perfect. The baby's head was engaged in the proper position for birth, and the baby and I were obviously in good health.

At eleven o'clock at night, five days later my membranes broke, and I went to the hospital.

It was there, five hours later, that I was delivered of a healthy baby girl. But she would not have been healthy had she been born at home, and I would have been in trouble too. In the intervening five days she had turned over. She was a frank breech (bottom first) and it was necessary as soon as the tiniest glimpse of her bottom half came into view to give me gas and do some quick work (including a deep episiotomy and some expert yanking).

For an expert delivery room team, danger to mother and child in what amounted to an emergency was negligible. Had she not been my first child I would have realized that the pain (yes, pain) and distress of my labor was greater than it should have been. but until we've had a few children we can't tell ourselves what is normal. The simple precaution of an examination during labor is insurance against emergencies.

Two years later, when my son was born, the hospital was experienced in Lamaze births, and I found a doctor who loved to deliver Lamaze babies. My son was born forty-five minutes after I reached the hospital, and my husband was with me in the delivery room.

With both children I had rooming-in. I in no way found the hospital environment hostile to familyhood, and it is easier to rest in a hospital, but I can see the advantages of home delivery. I simply recommend extra caution.

Susan Schnur
Islesboro, Me.

Dear FARMSTEAD:

I was sorry to find those "birth stories" in the current issue of your otherwise excellent little magazine.

That sort of articles seem very out of place in the family-type homesteading magazine that yours has been up to this point; and is certainly in poor taste.

There are other magazines that feature that type of material, to appeal to "hippies," and those of similar habits and tastes.

I feel that your readership would much prefer that you leave that type of material to the hippies and others who no longer respect the privacy of decent family-life. We all "use the bathroom," also a "fact of life," — but decent people don't consider it necessary, nor in good taste, to broadcast activities within its privacy!

You have a very helpful, informative, little magazine covering homesteading activities, and we hope you'll keep it that way — and leave human birth, sex and related topics to those magazines that feature that type of reading material.

I'm not "mad at you" about those articles, but rather, feel that you need a "friendly steer" toward more suitable reading material.

Billy Symes
Bryant Pond, Maine

Dear FARMSTEAD:

The collection of articles on Homebirth in the Early Summer issue made me more than happy as both of our kids were born at home, one in Colorado, and one here in Maine. Tho Bill Davis wasn't aware of it, there are published statistics about the mortality rates of homebirths, (by the Birth Center, Santa Cruz, Calif, the Frontier Nursing Service, Ky., the Chicago midwifery group, and many others) and the rates are very, very low. Maternal mortality is nil and the few infant mortalities would have occurred even in a hospital. I won't quote the figures here; any one interested can find them in books such as "Immaculate Deception" (Arms), "Childbirth at Home" (Sousa), "Birthbook", (Lang) and others.

The biggest drawback to homebirth is finding sources for information and help. We were lucky to have a doctor attend both of our births but we had to move in order to have one at our second birth. There are, fortunately, an increasing number of qualified lay birth students in the state, and groups such as Association for Childbirth at Home (a nationwide organization based in Cerritos, Calif.) can help interested parents get in touch with these folks. The ACAH conducts a series stressing responsible decision making throughout the childbearing process. It's the mother who delivers the child, the attendant

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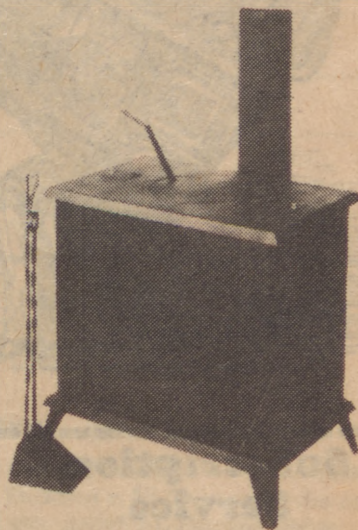
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catches it, and even if you choose a hospital birth, the choosing of the doctor remains a serious responsibility.

You can get in touch with ACAH thru Diane Brandon, Kittery, Maine. I'd be glad to hear from anyone in my neck of the woods who is interested in homebirth.

Janine M. Winn
Stratton, Maine

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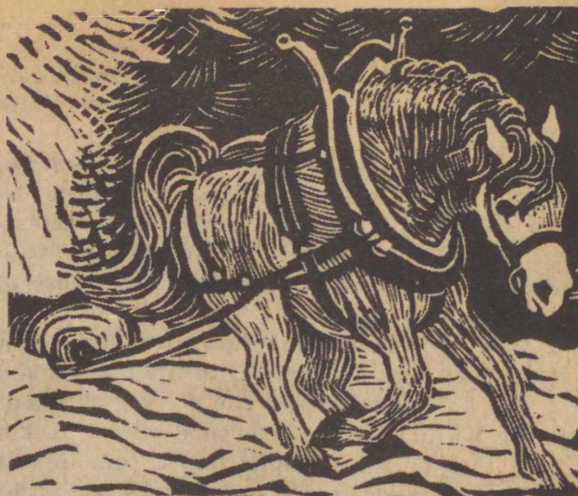
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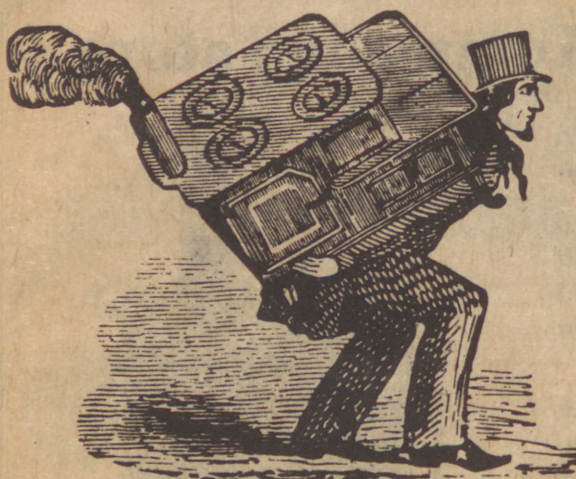
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Dear FARMSTEAD:

I noted with much interest the article on "Pony Power" in the spring issue. I have seen these little horses work a number of times at the Fryeburg Fair. I have been in love with them ever since. Seems to me that most of these teams were from Maine and N.H. My question is this — do you or any readers know the name of anyone who breeds these draught ponies for sale?

Thank you,
Gilbert R. Crawshaw
Sherborn, Mass.



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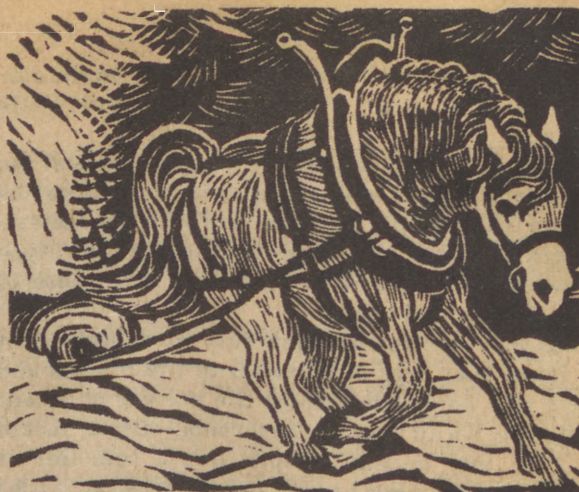
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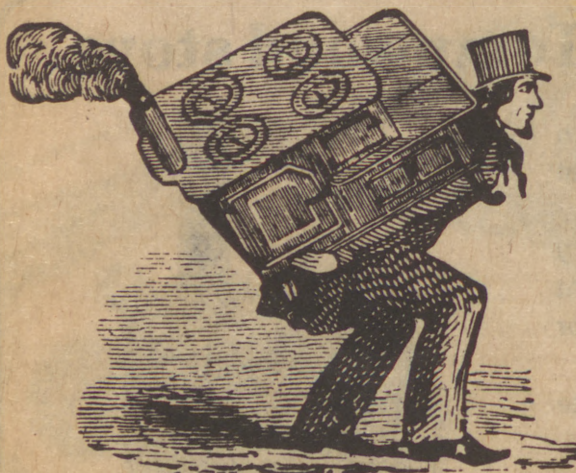
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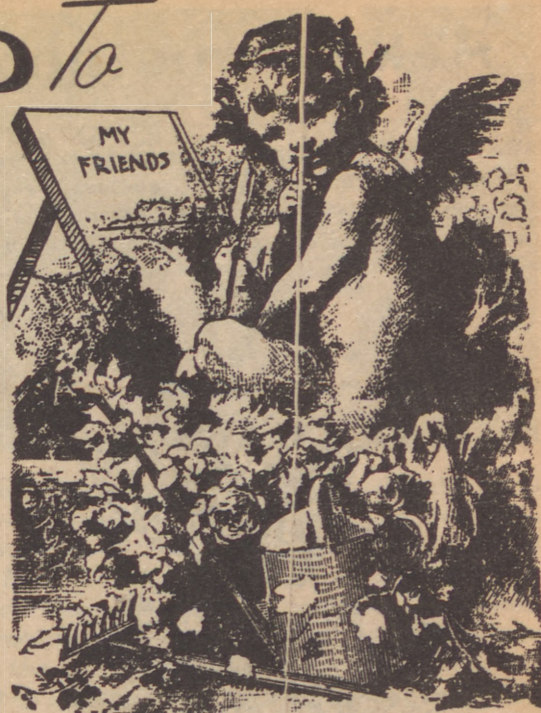
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Ask Farmstead

We encourage questions from readers. Also if you have a better or another response to a question already answered send it in! Many of the questions will be answered by experts from the University of Maine Extension Service.



"I have heard that spinach contains some amount of nitrites, a possible carcinogen. Is this true? Also, I've heard that beets and carrots stored incorrectly produce nitrites in themselves."

Wilfred H. Erhardt, Vegetable Crop Specialist for the Cooperative Extension Service, at the University of Maine, responds that excessive nitrite and nitrate concentrations in vegetable crops are due to excessive fertilization with nitrogen fertilizers. Gardeners and growers who follow University recommendations on the use of fertilizers will not encounter this problem.



"In the early summer issue of Farmstead there is an article on hoes by John Withee. I have a hand weeder as shown in Figure B "Shumways" that I have used for over twenty years. Could you tell me where some more of these could be purchased?"

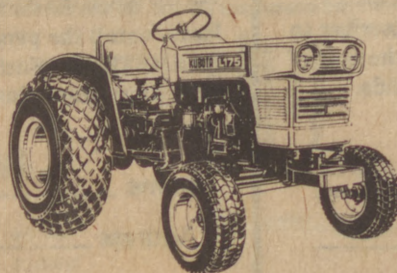
These hoes are sold by R.H. Shumway, Box 277, Rockford, Illinois 61101.

"How much honey should a beekeeper in the Maine region expect to get in a hive's first season?"

Hilda C. Swan of R.B. Swan & Son, honey producers and bee suppliers, answers that a beekeeper who is starting with a new hive and wants to winter it will be doing well if the bees produce enough honey to last the winter. If the beekeeper does not want to winter the hive, he can put a queen excluder on top of the brood chamber and a deep or shallow super on top of that. If the weather is favorable, the beekeeper might get about thirty pounds of honey.

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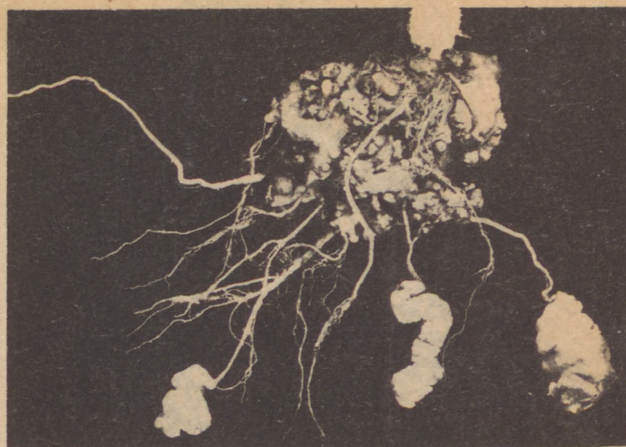
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"What is clubroot and what conditions predispose brassicas to this problem? Are there preventative measures to be taken and what can be done once plants have the disease?"

Cornell Extension Bulletin 1130, put out by New York State College of Agriculture, deals with clubroot of cabbage, cauliflower and broccoli. Clubroot is caused by a fungus, *Plasmodiophora brassicae*. Symptoms of the disease are yellowish and stunted plants which wilt on bright days. Lower leaves may drop prematurely and plants often die before making a head. Digging up the plant will disclose a root system distorted with a mass of club-shaped swellings on the secondary roots and the main taproot. The roots become incapable of absorbing water and nutrients from the soil. Clubroot is most severe on plants growing in acid or neutral soil (pH 5 to 7) and in wet, poorly-drained soils. Since the fungus spores can live in the soil for ten years or longer, it is extremely important that any transplants brought in should be disease-free. The use of resistant varieties is desirable. Weeds related to the cabbage family should not be allowed to grow in the area of the garden. Especially susceptible weeds are wormseed mustard and some species of



candytuft. Once the disease is established control measures are fungicides and hydrated lime. The alternative is establishing new cabbage beds removed from the infected area. Ground limestone or air-slaked lime alone will not control clubroot once the disease is established. The required alkalinity to control the disease is pH 7.2. Some other crops are injured by such heavy liming. Also, liming is ineffective in light, sandy soils. Wilfred H. Erhardt, Extension Vegetable Specialist, advises that *some* yield may be obtained from infected plants by generous feeding of nitrogen-rich fertilizer materials like manure and ample supplies of moisture. The aim of this approach is to develop new roots.

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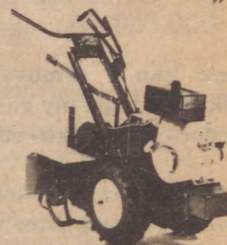
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"How can I remove horsetail fern, burdock and milkweed from my garden. I want to keep some of the burdock and milkweed since we enjoy eating them."

Herbalist Darrell Rolerson answers, "It's ironic to have a garden over-run with horsetail because you couldn't grow it if you wanted to. It's a valuable herb and a gardener can use all of it available to add to the compost, because of its unusually high content of silica, which aids in plant structure. So I would recommend simply pulling the horsetail up, though if

it returns again and again as a nuisance, simply change the contents of the soil. It is quite a finicky plant and the adding of a little ash or lime should make it go. Or else you can plant potatoes in that area for one season. The continual hoeing which is necessary to cultivate the potatoes anyway will end horsetail growth. As for getting rid of burdock, what the old folks do is pull the leaves away from the crown of the root and pour crankcase oil into the root system. I would rather call in a group of macrobiotics who know the burdock's incredible value — or even contact specialised markets in Boston or New York (through Erewhon, maybe) who will *buy* all your surplus. Wild burdock as a very young vegetable is much preferred to cultivated. Since burdock is a biennial, you could get rid of most of it by simply keeping it cut for two years in a row, not allowing any to seed. Of course, the very best *best* way to get rid of unwanted horsetail or burdock or milkweed (which I can't get enough of!) is to fence in a hog to root it up — or even range chickens on the spot. This will also enrich the soil."

"How and when should ever-bearing raspberries be pruned? What can be done to eliminate raspberry plant fungus? Is this contagious to anything else?"

Walter Thompson, Cooperative Extension Service agent, answers, "Everbearing raspberries should be pruned as follows for two crops a year. Remove the fruiting canes as soon as you harvest the early summer crop. Do not remove the fall bearing canes as they produce berries the next Spring. You might want to cut these canes back the next spring as the berries will be produced lower on the cane than the fall ones.

In my experience, and from readings, I think that the best management of everbearing raspberries is to cultivate them only for a fall crop. Usually the early summer crop is very meager and these bearing canes compete with the new canes that will produce

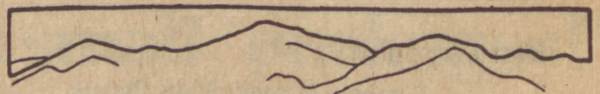
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the fall crop, resulting in a poor late crop in the fall. I think the best method is cutting everything to ground level before growth starts in the Spring and keeping the new canes thinned to six to eight inches. This method results in an earlier and larger crop in the fall.

Everbearing raspberries do not, in this area, produce anywhere near the amount of berries as the summer bearing ones, but the fall crop arrives when there are no other raspberries available.

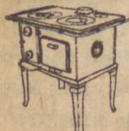
Probably the best method of reducing fungus diseases is to make certain the canes are well fed and spaced far enough apart to allow good air circulation. Spraying with Ferban or Captan will also help. These diseases affect only members of the raspberry family.



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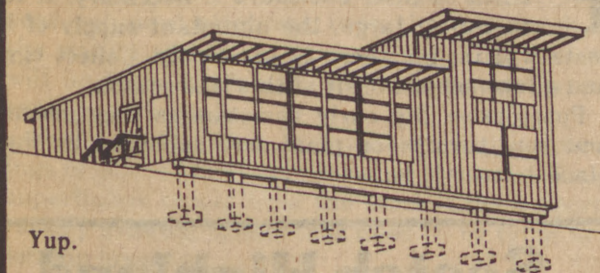
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The Wise and Useful Farm and Garden Guide

July



The husbandman may learn wisdom from the birds. They are astir with the earliest light, busy with work and with song, filling the fields with life. As the day advances, and the heat increases, they seek the shade, and remain quiet until the sun declines. Let the farmer imitate them. Lead the mowers to the field at break of day, and when the heat becomes oppressive, leave the sun to work for you, upon the mown grass. Then, when the afternoon breeze tempers the air, the work of securing will be performed with renewed vigor from the long midday rest.

Bees — Watch for second swarms, guard against bee moths.

Buckwheat — Sow a half bushel to three pecks per acre on well worked soil. A crop may be secured from fields where corn has failed. It may be sown also where clover or grass has run out, to be followed by rye or oats, and reseeding next Spring, if the land is in good heart.

Cabbages for a late crop may still be planted. Set them between rows of early potatoes, and other crops soon to come off, or on unoccupied ground.

Haying should commence with the proper maturity of the grass. By the use of the mower, horse-rake, and horse-power pitch fork, the greater

part of the yield may be secured while in the best condition. If left until the seed ripens, the stalk becomes woody and loses much of its sweet and nutritious properties. Immediately after the blooming when the seed is just forming, is considered the best condition for making superior hay. If possible, allow no dew to fall upon the hay in the swarth, except that cut late in the day. Hay cured in the heap is better than when left exposed to the sun until perfectly dry. Cock it up when sufficiently dry not to ferment. Secure from rain with hay caps. Salt sprinkled on the mow occasionally as the hay is stored, will assist in keeping it in good condition, and render it more palatable, especially if of inferior grass, or not in good order when stored. In stacking, Lay a good platform of rails and slabs to keep the bottom layer sweet.

Manures — Weeds, coarse wild grasses from swales, etc., should not be left to rot on the ground. Cart all such refuse to the barn yard, and keep the pig pen supplied for increasing the manure heap. Apply plaster, cholride of lime, or copperas, one lb. to three gallons of water, to privy sinks, around sink spouts or other places where rapid decomposition of waste matter now gives out noxious gases. This will convert them into valuable manure.

Sheep — Keep in thriving condition by good range of pasture. Secure against dogs, — visit and salt at least weekly.

Pastures, if fed too close, suffer greatly from the scorching sun upon the most unprotected roots. If too much stock is on hand, reduce the number, or make up deficiency of feed with cuttings from the soiling patch.

Poultry — Keep from grain fields, confining them to their enclosure if necessary. If left to run at large, the abundant supply of insects will incline them to lay freely. Collect eggs, and allow no hens to sit at this late season.

Potatoes — Dig early varieties as they mature, and sow turnips or plant out cabbages in their place.

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Timber cut during this and the following months is generally considered more durable than when felled in winter, particularly those kinds which abound in sap. If practicable, secure enough for next season's wants for fencing and building purposes.

Tools — Keep all cutting instruments well sharpened, and gearing of mowers, reapers, etc., well oiled. Repair implements needing it in the workshop, on rainy days.

Turnips — Sow for fall crop before the 20th if practicable, but later if necessary. Newly reclaimed land is most favorable for their culture. Make the soil rich, mellow and dry.

Success in fruit raising requires a vigorous growth of the trees, and then a regulation of growth to induce bearing. The work of previous months, enriching the soil, loosening and keeping it in proper mechanical condition, and subduing weeds or other growth interfering with that of the orchard, if properly performed, will secure the first requisite. Attention should now be given in directing the energies of the trees to forming fruit buds for next year's bearing. This can be done by judicious pruning. If left until late in Autumn or next Spring, the benefits of removing superfluous weed are but partial, as we then take away that upon which the strength of the tree has been wasted. The orchardist needs, in this and other operations, to work at least a year in advance; and he may do this with reasonable expectations of seeing and enjoying the fruits of his labors.

Birds are taking toil from the ripening fruit. Where they are troublesome, choice trees will need some kind of protection. Small windmills, with a rattle attached, placed near the trees, will be of some service.

Budding young stocks of the plum, cherry, and pear will need attending to in the nursery during the middle and latter part of July. This operation will be found preferable to grafting, and is more rapidly performed.

Grafts — Examine occasionally, and keep coatings of cement in place, renewing if needed. Rup off superfluous shoots from the stock. Give support to rapidly growing shoots that need it, by tying to adjoining branches.

Insects — Caterpillars, millers, slugs, aphides, and curculio tribe, and other depredators must be met with syringing with whale-oil soap, dustings with lime or ashes, hand picking and other appropriate means of destruction. The birds are busy paying for the fruit they take, by assisting in keeping them in check.

Manure trees bearing a heavy burden of fruit to prevent exhaustion and consequent barrenness in succeeding years. Improve dry weather by securing abundant supply of muck to be composted for future use. Plow between nursery rows whenever needed to loosen the soil and destroy weeds. Avoid disturbing the roots.

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August



With August the heaviest of the farm work of the year closes. The plow and the cultivator have been succeeded by the reaper and the mower, and these have completed their task, or are rapidly securing the ripened harvest. There is no time to be lost if the hay and grain are still in the fields. Grass left to pass out of bloom and to ripen seed, becomes hard and woody, more like "browse" than the sweet and tender stalks so well relished by stock, and so well fitted for their Winter nourishment. Grain cut when each stroke of the cutting blade shakes out the fully ripened and best kernels, is wasted in the gathering, and less valuable than if secured earlier. When the harvest is completed, the first work should be a general r- ing up and improvement of the fields for next year's cultivation. Draining, stump pulling, removing stones, rooting out hedge rows, reclaiming waste land, or fencing, will profitably employ many days on most farms. Now too, while the mucky deposits are comparatively dry, there is opportunity to secure material for manure to be worked over at leisure.

Cellars — Give free ventilation and allow nothing to decay there.

Corn if properly attended to during the season, will not be much troubled with weeds now. Plowing among the rows will be injurious by breaking the roots. If any cultivation is needed let it be near the surface, with the hand or horse-hoe.

Forests — Now is a good time to cut away the forests to increase the tillable land. After felling and trimming up the trees, draw out the heavy wood with oxen and spread and burn the brush, to prepare the ground for Winter wheat or rye.

Hay — Cut any remaining until now. Coarse wild grasses unfit for feeding are valuable for bedding and manure. Secure salt marsh hay sledge during the neap tides of this month, and draw to the sheds, or stack upon upland.

Horses are kept in better condition for work in well ventilated stables with regular feeding, than turned loose in unshaded pastures to be tormented by swarms of flies. They may be turned out at night and put up in the day time. Keep their legs free from the eggs of bott flies. Do not overheat breeding mares suckling foals. Accustom colts to be handled while young.

Manures will soon be needed for the fall plowed grounds. Turn every source for their manufacture to profitable account. Fork over the compost heaps under cover, to prepare them for carting out. Good and profitable soil culture commences in the manufacture of an abundant supply of plant food.

Oats— Complete harvesting as soon as sufficiently ripe. The straw well cured, but not burned up by sunshine, is worth more for feeding than poor hay.

Potatoes — Harvest early sorts, and prepare the ground for Fall sowing. A crop of strap leaved turnips, or late cabbage may be secured in favorable locations.

Root Crops — Run the cultivator between the rows sufficiently open to keep weeds down and the soil light. Thin the turnips sown last month. Dust with soot, plaster or ashes to drive away the turnip fly.

Sheep — Give good range of pasture, separate males from the ewes, and turn the lambs by themselves or with the yearlings, to give the ewes a chance to recruit. Examine the udders of the ewes when weaning their lambs, to prevent their becoming caked. Salt freely, and apply tar to their noses to repel the fly.

Swine— Those kept in the pens should have grain sufficient to keep them growing and to prepare for early fattening. Late pork usually brings less per

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lb., and requires more feed to make it. Allow them a liberal amount of green food. Pea vines with the fruit, are much relished by them.

Timothy sown by itself this and the first of the following month will, under ordinary circumstances, give a good yield next season. Many successful cultivators prefer this to sowing with Winter grain. If the latter be done, the following month, or early Spring is preferable. Use from eight to twelve quarts of seed per acre, according to circumstance.

Water — The present is favorable time for digging wells. Water reached now will probably remain permanent. If possible, have the barn and sheds supplied with drinking troughs to which the animals can have free access to in winter. Where good drinking water can not be obtained from springs or wells, filtering cisterns will be found of great value. We prefer water from this source to that from any other.

Budding is now in season. This method affords a ready means of securing improved varieties. Commence the work as soon as the bark will peel readily, and the buds are fully matured. Pears, apples, cherries, peaches, and nectarines, are about the order in which the different trees are ready to be budded. Select in all cases strong healthy stocks and fully developed buds. By way of curiosity, a few specimens may be budded upon stocks differing from their own kind, as the apple, the pear, and quince, upon a trunk; the peach upon a plum stock, etc. For dwarfing the apple, choose the Doucain or Paradise stock; for the pear, the Angers quince stock. Label all budded trees plainly, and also keep a record of them. Round off stocks budded last year if not done previously.

Insects — Borers are busy in the apple and peach trees. Examine frequently for their marks, and destroy them. Late caterpillars abound in many sections, and the second crop of many insects infest the branches and leaves. Apply whale-oil soap and other suitable remedies.

Overloaded trees should have the fruit thinned, or the branches properly supported by tying to stakes. Peaches, especially, are liable to have the branches split down from the trunk during sudden gusts of wind occurring during

this season. Used forked sticks, with cloth, matting, or hay bands to prevent chafing.

Peaches, pears, and other fruit now ripening, if for market, should be picked before softening, to prevent bruising. They may be disposed of to better advantage if left to ripen in the care of the dealer. Have all baskets properly marked. There is nothing gained in the end by such deception as "topping" baskets of inferior fruit, with a better sort. "Honesty is the best policy."

Seedling trees of all kinds, should be kept free from weeds. Partial shading with screens made of slats, or with branches of trees is beneficial, particularly with evergreens.

As the season advances, the importance of this part of the homestead becomes more and more apparent, particularly if the labor of previous months has been well done. While enjoying a profusion of garden products, provision for the future, should not be neglected. Many vegetables, as peas, beans, corn, tomatoes, etc., can be successfully prepared for winter use, by cooking and sealing in airtight vessels. The market gardener will find full employment in disposing of the ripening crops and in preparing ground for future use.

Asparagus — Gather and clean any ripened seed, which may be sown at once, or kept until Spring. The beds now covered with thick bushy growth, need little attention except to pull out rank weeds by hand.

Peas — Plant a few quick growing varieties for late use of the pods for cooking or picking.

Beets — Pull from the thickest parts of the bed for use as wanted. Thin to six or eight inches apart. Weed those sown last month. Mark by stakes the earliest maturing, to be saved for seed.

Cabbages, Broccoli, and Cauliflower — Set out remaining plants for latest crop. Hoe often around former plantings for Fall greens.

Celery — Set remaining plants in the trenches. Water the bed thoroughly an hour or two before removing, and take up plenty of earth with the roots. Let the earth be slightly rounded up in the middle of the trenches, to prevent dirt washing from the sides into the crowns of the plants. Earth up former plantings when they have attained a vigorous growth of leaf and stalk.



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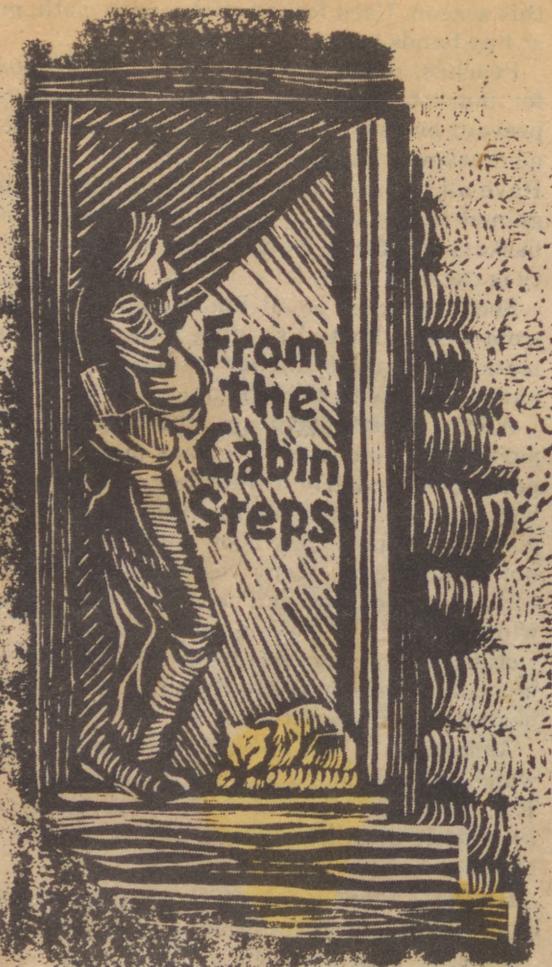


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Is Science Advanced Enough For Biological Agriculture?



by Dennis King

A few years ago Earl Butz is reputed to have made the statement that if we try to switch to biological (organic) agriculture, fifty million people will starve to death. I passed this off as another infamous Butz statement (of which there were many) but as I thought about it, it became obvious that agribusiness was only bad-mouthing biological agriculture because they had something to worry about. For years agribusiness seemed to take the stand that maybe organic methods will work in a small garden, where you can import large amounts of organic matter, but they can't work on a farm scale. Government research institutions went full-steam-ahead to determine how petrochemical technology and plant breeding could increase agricultural yields with almost no emphasis on alternatives. It was probably the environmental movement of the late 60s and early 70s and the subsequent realization by the public that fossil fuels were limited that first made us question the stability of the now conventional agriculture. The continued dominance of a petrochemical-based agriculture was being seriously questioned and with statements like that of former Secretary Butz, the agribusiness community was obviously disturbed. In the last few years, significant research has finally been started in biological agriculture.

One of the scientists involved in that research, and a prominent spokesman for research in biological agriculture is Dr. Hardy Vogtmann, director of the Institute of Biological Husbandry, in Switzerland, and recently elected secretary of the International Federation of Organic Agriculture Movements (IFOAM). Dr. Vogtmann recently toured North America, discussing his research at scientific meetings and meeting with organic producers' groups. In his research he compares conventional and biological agricultural techniques and develops methods to improve biological farming.

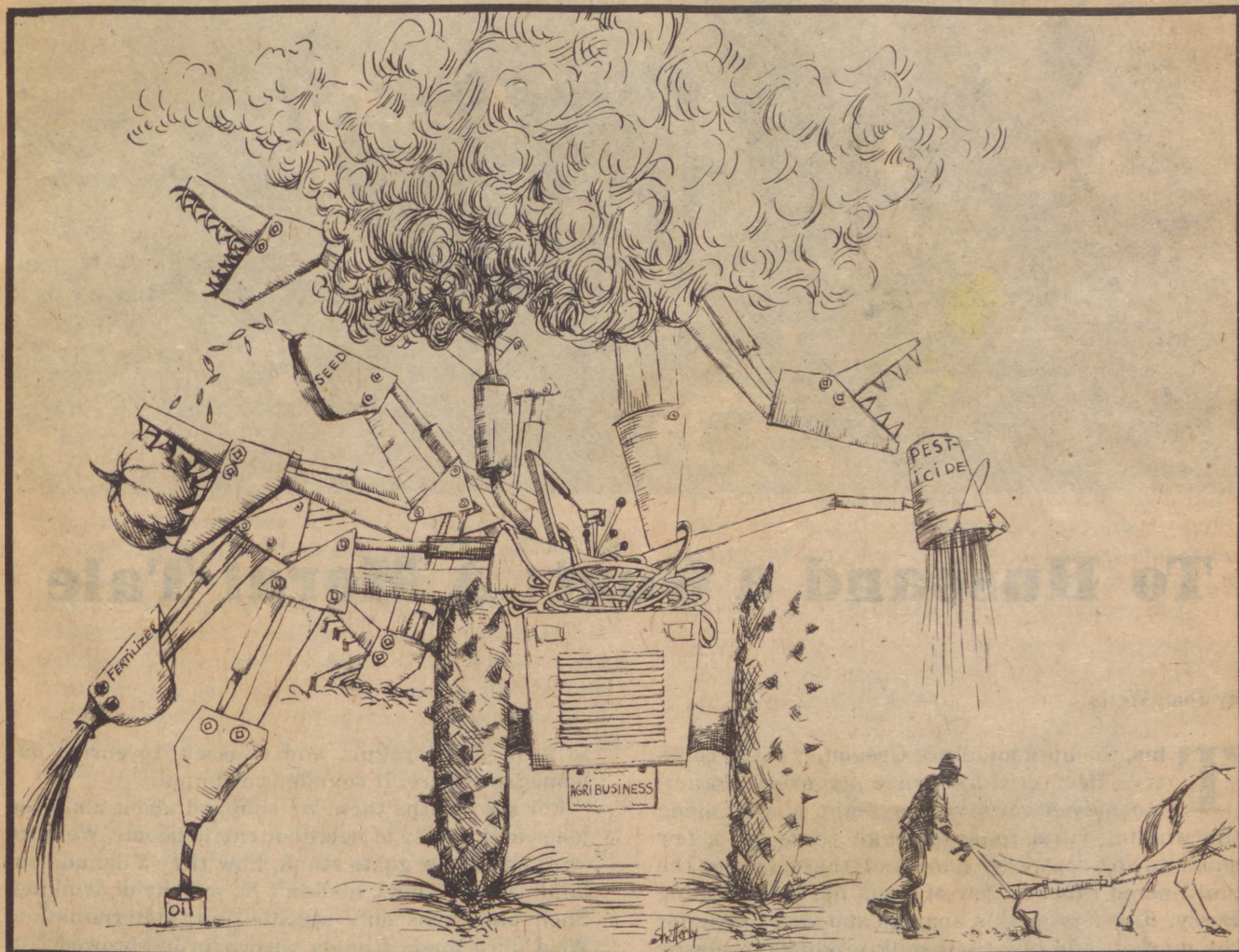
A primary question asked relates to yield. Can we achieve similar yields with biological methods as we do with the now conventional chemical methods? Research is being conducted in all parts of the world on this question. Dr. Vogtmann summarized some of these results. Generally, yields are quite comparable between the two methods. Dr. Vogtmann emphasized that we must look at dry matter yield and not just gross yield. He noted that excess nitrogen from chemical fertilization is often not all converted into protein and tends to build up in plants as free amino acids and nitrates. The plants remain in a young state and fail to mature. As a result, gross yields are often higher in chemically fertilized fields, but since the plants are not mature, they contain more water, thus dry matter yields are often lower. It is not always possible to separate yield and quality. Where organic produce is more mature and contains less water, it usually stores better and is of better quality. Dr. Vogtmann also stressed that biological methods often get lower maximum yields than conventional methods but that the yields from year to year tend to be more stable, thus in the long run, yields are comparable.

Dr. Vogtmann is an animal nutritionist by training and had some interesting comments on the nutritional quality of food grown by different methods. As you increase the nitrogen application rate in conventional methods, the gross yield increases, but quality, as measured by sugar content in grapes or acid content in apples, goes down. Studies of dairy cattle on organic and conventional farms showed that milk production was little different, but fertility was greater and animal health problems fewer on the organic farms.

We can't reach many valid conclusions considering only single factors. Ecology has taught us that everything is related to everything else (popularized — there is no free lunch). We must consider entire systems, the inputs and outputs and costs of entire systems. Direct monetary costs are not enough; we must also consider the social costs, the ones to be paid by future generations, or someone else. Some may say that this is where we begin to approach the philosophical, but this is also where biological

diminishing resources, fossil fuels to name just one. It has high social costs in waste disposal and pollution. Biological agriculture is more stable simply because it requires fewer inputs. We also need more human input in biological agriculture, both in terms of labor and knowledge.

Perhaps that's why we went so far on the road to an industrial chemical-based agriculture — it was easy. It didn't take much labor, nor did it take much knowledge. It is going to take a lot more knowledge to develop a sane, stable agriculture



methods look the best. Dr. Vogtmann pointed out that industrial agriculture (agribusiness) tends to take a linear approach. Certain things are put into the system and certain things are taken out. The outputs include food and waste. The more we put in, the more we can get out. Biological agriculture operates as a cycle; there are fewer inputs and no waste because all organic matter is recycled within the system. Industrial agriculture is unstable because it requires large continuous inputs of

than it did to develop our present conventional system, just as it took a lot longer to develop the science of ecology than it did mathematics or chemistry. Biological agriculture is not a backward, know-nothing approach, as agribusiness would have us believe. It is an attempt to develop a stable food production system. For if man fails to develop stable cultural systems on this planet, he'll have no system at all, and maybe no planet.



To Husband a Goat: A Moral Tale

by Joan Wells

This, the high middle of Oregon, is cattle country. Beef critters graze at every corner, moon-eyed cows vie for right of way along the winding rural roads. Though there are a few small towns scattered here and there among the multi-acred ranches, few of them harbor a milking Bossy. Farmers in this sparse land rear cattle for the market, and buy their milk products in plastic cartons just like their city cousins do.

Our first few seasons of subsistence farming, high above the bovined valleys, left us hungering for something better than chalky, powdered milk, cheaper than the diminished, fortified store stuff. We dismissed the thought of a cow; cows seem to court bloat and scours, call for boluses and bulls, and leave a messy wake in their lumpish meanders. Besides, we didn't need that much milk for just us two. So we set our sight on goats, just two or three

to keep us in yogurt and cheeses, to enrich our homegrown fare. It sounded so simple.

For six months then, we shopped about amid the jokes and banter of neighbor cattle people. We were warned of how goats stank, how they'd denude our land, that the milk wouldn't be worthy of drinking. Such bad press only sturried our determination. We'd once made friends with a proud-browed Nubian, and she was better company than most of the nay sayers. Finally, in the next county over, we found a lady who offered goats for sale. Sleek, healthy Nubians. We'd buy two, breed them yearly, and sell the kids back to the willing goat lady. It seemed a dream come true, that green once upon a time.

For starters, our farm sits a mile and a half up an unmaintained woods road. When it rains, snows or thaws, which it does most of the time from mid-fall until late spring, we become as isolated as Siberian exiles. Even our four-wheel drive truck

Joan Wells homesteads in Spray, Oregon.

can't negotiate beyond the driveway without bogging in the muck. And when we're thus landlocked, the creatures in our care share our enclosure. Which brings me to our first barren season.

When we purchased our goat sisterhood, we grilled the keeper on how we could determine when they came into heat. "You'll know," she snickered ominously. That was that. Well, there was no immediate concern. Matilda, the elder, had just freshened, and her younger sister Tylwyth was a mere pre-pubescent. When they seemed ready to be bred, we'd simply return them to the goat lady for confirmation, and, for a small dowry, beg her billy's services. Simple as pie.

The immediate Rubicon to cross was learning the mechanics of milking. On the first evening of goat adoption, I grasped my shiny new pail and whistled Dixie down the barnyard path. Mike and a visiting friend followed, a shadow play of moral support. Matilda, gimlet-eyed, watched our parade from her quarters, a crochety dragoness at her lair. We entered with peacemaking sounds and managed rather gracefully to coax her onto her stand. I settled beside her. Three tentative pull-squeezes and, lo, a puny spray issued forth. Right down my shirt sleeve. The audience hooted and stamped, Matilda snorted and kicked, the bucket went sailing. "Out!" I commanded the loungers. Alone together, Matilda and I settled to the quiet ceremony, took our first steps toward communication, without uttering a sound.

Before many days, we came to wonder how we had enjoyed our wood walks, farm chores, even eaten properly before the advent of our goats. They tagged us everywhere, curled beside the door among a company of dogs and cats when we worked indoors. A morning not wakened by their bells' clamour was a morning not righteously begun, a homecoming not greeted by their bounding, anticlimax. There were, I confess, times when I waxed wroth over a beheaded peony Matilda had favored, days I cursed the heavens at the clearcutting of my precious herb plots. But the defoliation of the old apple trees' lower branches seemed merely to increase their harvest, and the disbarking of junipers only encouraged rank growth. Besides, what forbidden fruits the goats didn't partake of outside the fenced gardens, the late summer deer families did. We long ago determined that to live in the wilds means to live with the wildlings, to prefer woods creatures over kempt landscapes. There is no tended plant to compare with the sight of a goat frisking down the hillside, or a deer mother introducing her fawn in the late summer twilight. Even the frayed clothesline, the nibbled wash hung out to dry are hardly worth mentioning — though I do mention it, crossly, to the goat culprits. They temper my scolds with an innocent stare, an affectionate nuzzle. I am putty to such acts of contrition.

Come autumn of that first goat-blessed year, I began watching my ladies for SIGNS. "They'll

switch their tails frequently," one book counselled. Fine. But our goats switched their tails at will, a sort of friendly doggish gesture. "The female in heat will try to mount other goats," another tome explained. Big help. Matilda and Tylwyth, directly at each evening's dusk, practiced ten minutes of such sex play with preprandial abandon. The book directions petered out in maddening delicacy, and autumn waned.

Then one chill December morning I let the ladies out to gambol in the snow. Matilda made a beeline for the porch post and tried to tear it from its moorings. Slavering, she then headed for her sister and bumped her smartly into a tree. The dog was her next target, and before his shocked yowl was stilled, Matilda aimed for me. Her tail a whirligig, she moaned to the skies. I dashed for the telephone.

A strange voice answered; where was my goat lady? Oh, she'd moved to California, the stranger said, goats and all. Did the stranger know of any other Nubian stud keepers? She suggested a farmer in another county. I dialed his number. Yup, he sure used to have billy, he confirmed. Poor thing died mysteriously just last week. Muttering sumpathies, I hung up in a funk. Mike came in and absorbed my tale of woe. "Oh well," he said, too philosophically, "we couldn't have gotten her out anyhow. The truck's stuck in the snow." I looked out the window just in time to catch Matilda ravishing my snowman.

A week later, when the road was briefly negotiable again, the general store proprietress told us of a woman, just a run upriver, who had a Nubian billy! We called in happy haste. True, she said, but the billy was only five months old, and puny. Could we bring our lady over anyhow, next time she came into heat, and give the relationship a try? She guessed so, half-heartedly. No visionary she.



Twenty-one days, like clockwork, after her original derangement, Matilda tore out of the barn with fire in her eye. Mike tested the driveway. Good, frozen solid. We might just slither out. On went the truck canopy, for shelter; into its hay-bedded quarters went rampaging Matilda, dragged every stiff-legged inch. In, too, went Tylwyth, for company. (Goats hate to be alone.) The journey was hair-raising. I glued my eyes to the cab window, minding that the lurching ride over the wastes didn't crash my goats to the floor. Matilda glared back, nonplussed at our adventure on her behalf.

At the designated farm, we spied a single goat in the barnyard: a very female, very pregnant doe. The proprietess hailed us from the gate. Introductions. Wasn't that the limit, she declared, her husband had slaughtered the billy just that week. "Ornery little cuss," she muttered, "but he et good." "The way of all flesh," I muttered back.

Back home that evening, it began to snow. Hard. Matilda snorted, fussed, shorted her milk. "It is not economically feasible to keep a billy unless you have six or more does," the goat book exhorted. I began now to wonder at their wisdom . . . and ours. Was it economically feasible to keep *any* goats on an isolated mountain at the end of an unmaintained road in pure cattle country?

The snow fell through March; our road foundered beneath it. Matilda showed no further indications of a mating urge, but diminished her offering to a paltry quart a day, deaf to my *mea culpas*. Tylwyth, the playful, the eternal kid, remained playful and kiddish, showing nary a sign of interest in her female assignment. (She was, I decided, a truly feminist goat.)

April, and the snows gullied to mud. One day at the postbox a neighbor remarked casually that her doctor in Mt. Vernon, two long ranges downriver, kept goats, had a stud Nubian, in fact. My heart leapt. Yes, the doctor's wife said on the phone, but he was going out of his rutting season now that the weather was warming. I pleaded for a chance, dramatized Matilda's long plight. The doctor's wife, a sudden saint, relented. "Bring both of them over," she offered, "and we'll board them for two weeks and see what happens." Canopy wrestled back onto truck, goats tugged aboard again.

The hillside farm crawled with goats. Surely our fate had turned a corner. "Just take your girls into the yard," the doc's wife said. "The billy's around somewhere." We coaxed our wary brides-to-be to the redolent harem. No sooner had I closed the gate behind me when a thunder of hooves filled the air. A behemoth of a Nubian billy charged downhill toward us, hackles high, tongue a flag, his wild eyes afire. We ducked just in time. In a flash, a virginally surprised Tylwyth was mounted and had. The maniac barrelled toward Matilda. Mike leaned on the fence, taking notes. "I think he'll do alright," the doctor's wife commented at our backs, in a pinnacle of understatement.



Two goat-lorn weeks later, we returned. Yes, they'd been lavishly bred, we were assured. They looked it. In fact, they looked positively flagellated and frayed. Tylwyth greeted us joyously, her bell aclamor; proud Matilda gave us one scornful glance and shied off uphill. A half-hour chase later, Mike, panting, led her back to the truck. She slumped to its floor, sullen and betrayed. We paid the stud fee, ten dollars a piece, and hurried the goats home to be fruitful and multiply.

Rehabilitated, Matilda and Tylwyth frisked in the summer sun, welcomed the meadow's new greens. I studied their bellies daily for changes. Tylwyth seemed to grow in every direction, but Matilda, amply framed to begin with, appeared not to alter a jot. If a nagging doubt pricked my soul, I had only to call up a vision of the priapal billy to know reassurance. Some weeks before kidding was due, a farmer neighbor came to call. "They're podding out nicely," she remarked, "and look, even Tylwyth's bag is swelling." I looked; she was right. Our youngest was definitely building a bosom. I began to dry up Matilda, and spent days canning her milk for the lean spell ahead. Making soundings of her belly for signs of life, I was sure I felt a fetal nudge now and again. We began talking up goats with our kindest neighbors, emphasizing the skyrocketing milk prices, and, behold, we unearthed three takers for the forthcoming kids. I marked off the calendar days with growing elation. It was almost like waiting for Christmas.

The two week span when the goat kids were due came mid-September. Grateful the weather was warm, I filled the barn shelf with birth preparations, scrubbed the walls to a faretheewell, made beds of fresh straw. We didn't let the goats out of our sight. "Look, Matilda's panting!" I'd crow to

Mike; "Hey, come watch, Tylwyth seems restless," Mike to me. After we'd locked them up at dusk, there were watchful trips to the barn by moon or flashlight. The sleeping loft window was kept ajar so we could listen for warning alerts. The wait seemed interminable. On my dog-eared calendar, I recounted the gestation days, thinking I might have mixed goats with elephants. Another farmer neighbor came calling, midwife to a lifetime of birthings. "I'm worried," I confided. "They should have kidded by now." She counselled calm, assured me they looked on the verge. "Come get me if you need help," she offered. I posted her number large over the phone, and bade my time, revived.

October slumbered into November. The harvest was gathered, the trees alchemized gold. One last jar of canned goat milk stood lorn on the shelf. Rain threatened, and soon we'd be isolated again for a season or more. The goats seemed fine, though a bit overweight. And kidless. And dry. I cleared the nursery shelf of its mockery, pondering nature's mysteries and the best laid plans of mice and first time farmers.

But the good spirits who watched over our spread must have reckoned we'd learned some kind of lesson, something to do with patience and counting unhatched-yet chickens. The following summer, one of the neighbors who had wanted a kid from us bought two does and a Nubian billy from a miles-away, goat-wiser county. Once the bumptious youth had done his billy business for their does, they loaned him to us for a season. The day of his arrival lives in infamy. What wreckage Matilda had strewn in her dudgeons paled in the wake of his pillage. The paintings we'd hung in our ladies' delectation were tatters in hours. In a week, the rail fence was splinters, the screen door in shreds. Not a backside was safe from his butting, and strange odors permeated our grounds. Yet we mended, patched, reconstructed, guarded our posteriors and held our noses with nary a qualm. For if there was one thing this adolescent was good at, it was proving his sybaritic bent. His energies were prodigious; not a seed went unspent. Matilda and Tylwyth tolerated his peskiness with a semblance of gentility, going about their business as though he were a mere fly on the flank. Weeks went by, months. Billy grew a beard and added some finesse to his talents. The farmyard shambles, even the smell came to be routine. Winter loomed, and Matilda showed no sign of her former testiness.

In Decemember, the neighbors claimed Billy back. Mike and I festooned the barn walls with pictures of mothers and mangers, rebuilt the rail fences, and renewed the familiar vigil. Matilda kept her counsel, hiding what secrets she cherished in her cavernous belly. By March, Tylwyth's bag showed sure signs of engorgement, and her mein took on a weighted dignity. The nursery paraphenalia went back onto the shelf, and Mike

and I spent our evenings poring over fetal illustrations until we knew each goat nook and cranny by heart. The goats watched our fussings with hauteur, napped in the spring sun as though the day of reckoning were a fairy tale.

On a morning in early April, Tylwyth refused her feed and chose to rest in the barn. Matilda watched her sister quietly, then nestled beside her, a *duenna* minding her charge. We hovered around the barnyard through the day, and that evening wore the path thin with our tip-toeing. Finally, exhausted, we slept, the window ajar for the first warning bellow. None came. Morning light woke me . . . or was it a new sound? Listen . . . a wavering bleat, then a series of peremptory Baaa's. My nightgown caught at my knees, my feet turned to clay, but I was at the barn door before I'd remembered to rub open my eyes. Tylwyth stood on the straw, nonchalant as sunlight; behind her, two wet kids wobbled on just-unfurled legs. Matilda stared at the wall, suddenly busy with cud. My whoop could be heard to the creek-shore.

It is six seasons now since the birthday, and the two doelings are full-grown beauties. Moonbeam makes her home with the goat neighbors; Sable chose to be ours. Mother Tylwyth is so mature she puts me to shame. Not a day goes by that we don't utter praise to her being, exalt the two fat quarts of milk she still offers. Childe Sable is her mother's youth reincarnate, the balletic, eternal kid.

I try not to think on Matilda. We gave her last year to the goat neighbors, hoping Billy's constant presence would mend her barren ways. But motherhood seemed no longer to her liking, and she sank into premature dotage. I haven't seen her at their farm for weeks now, and dare not ask her fate. They are practical people, good husbandmen. *They* know better than to love beyond reason.

Tranquil Tylwyth tore out of the barn one day recently with a gleam in her eye. In a trice, she mounted her daughter, then made for the much mended porch post. I ran to the phone. Gosh, he was sorry, the goat farmer said, but they'd slaughtered Billy just last week, fed his parts to the dogs. Ornerly cuss, that one . . .

For solace, I picture Billy and Matilda romping in some brushy elysium, rampaging the gate posts with abandon. The vision fades, and I ponder by rote the wisdom of keeping goats in cow country. But wisdom isn't in us. We couldn't countenance a morning not wakened by goat bells, a walk not jostled by play-urging bounds.

Begging further patience of our patient ladies, we vow there will be other billies, more vigils by goat quarters. Let the cow folk keep their placid, plodding creatures, their scape-goat goat jokes. There's more than one kind of wisdom to this husbandry. It has to do with love and joy and play, the prizes our rural lives thrive on, compensations no charts ever measure.



Strawberry

Fragaria virginiana
Family Rosaceae

Wild Harvest

A Guide to Edible Wild Fruits of the Northeast

by Norman S. Bailey

Standing on the weathered, lichen-mottled granite ledges of an island which rises from the cold waters of Penobscot Bay in the Gulf of Maine, I note familiar scenes, observe wildlife, and particularly plants that evoke a melange of nostalgic memories of summers long gone. Below me and to the west is a cluster of five houses on a point (City Point!) that juts into Burnt Coat Harbor. The oldest house stands on a knoll and rises above the four that surround it. The main house was built by my great grandfather in the early 1800's. As children we spent most of our summers there . . . or, more properly, the old house gave us shelter at night and on inclement days. Pleasant, sunny days were spent mostly in the open.

We scrambled over the ledges, wandered through the fields and the spruce forests, and searched for shells along the shores. When quite young, we sailed toy boats at low tide in a small, shallow granite basin still called the Minnow Ledge. Later, as we grew, our pursuits became somewhat more productive and we frequently dug clams on the exposed flats below the same ledge. Or, on a coming tide with our clams, hand lines, and other gear, we would row down harbor in the skiff to fish for then plentiful flounders, cunners, and even small cod beneath the Hockomock Head Light at the western harbor entrance.

Dr. Bailey, a biologist and entomologist, lives on Swan's Island in Maine. Illustrations are by Pamela Carroll.

In my early teens I would join my father cutting large alders in a swampy area on the point. Working only a few hours for a few days would give us excellent fuel for both the kitchen stove used for cooking and for the Franklin stove for evening warmth and enjoyment the following summer. The alders grew on three or four acres of wet land between the main road and the shore above the Minnow Ledge. It took us nine seasons to cut from the road to the shore, and by the time we had completed the first harvest, the vigorous alders, sprouting from roots and stumps in the rich moist soil where we cut the first summer, were large enough for a second harvest. We had a self-renewing source of excellent summer firewood to provide cheery warmth on days of fog or rain as well as fuel for cooking.

As we worked, we became familiar with a diversity of sights, and sounds characteristic of the alder swamp. Bruised alders had a noticeable odor and various asters, goldenrods, and other herbs . . . not to mention the common skunk cabbage . . . each, when crushed by our activities, filled the warm, moist air with a distinctive fragrance or pungency. To this day, such a blend of odors will vividly recall a warm summer day in an alder patch by the Maine shore.

Occasionally one of us would disturb a woodcock and be startled by the impetuous eruption of its flight. With luck we would catch a glimpse of the plump, mottled brown bird with its long bill before it vanished in the surrounding thicket. Against the

dead leaves, where they probe for worms, they are so nicely camouflaged that they are rarely seen on the ground.

Colorful butterflies, curious moths, interesting beetles, strange spiders . . . a multitude of living things caught our attention from time to time.

Less frequently such small mammals as moles or field mice would scuttle briefly into sight and as quickly disappear under a pile of brush or loose leaves. Indeed, the alder patch is a rather intricate ecosystem . . . a small world apart.

Scattered amongst the alders were patches of blackberries with well-armed, arching canes six to eight feet tall. Even the leaf veins and stems carry stout, needle-sharp, recurved prickles beneath, making passage through such tangles difficult and frequently painful. Nevertheless, in late August and early September the luscious fruits were more than ample reward for the scratches received while picking them.

From my vantage point on the ledges, I could also see patches of low-bush blueberries on all sides growing on the shallow gravelly soil, enriched by accumulated organic debris in the crevices and depressed areas beneath the granite outcrops. Annually we anticipated the rich harvest of native blueberries usually beginning in early July.

Recently cut-over forest lands within easy walking distance would yield delicious wild raspberries in July.

Such a variety of native fruits provided tasty desserts. They were eaten fresh, or cooked as jellies, jams, sauces or pie fillings . . . and used in other ways. In season there were also available on the Island such other fruits as bunchberries, huckleberries, gooseberries, highland and marsh crahberries, wild apples, and more. As they came along, each added its distinctive flavor to our summer menus. In some years, the abundance of one or more of the native fruits made it possible to preserve supplies for winter use. While the family carried on their assorted duties in Massachusetts, a taste of the wild harvest from time to time refreshed memories of summers past and maintained the promise of more island summers to come.

Scores of such pleasant memories lead me to call your attention to the assorted rewards of these wild harvests. Although my personal experiences are somewhat restricted, the same wild harvests await you not only in Maine settings but throughout the remaining natural areas of New England and most of eastern North America. Actually, similar wild fruits grow generally in temperate North America from the Atlantic to the Pacific and from Canada to the Gulf of Mexico.

Appropriately, usually the first to ripen are the delicious wild strawberries. Therefore, we begin with them and the others follow in approximate sequence. Bear in mind that local vagaries in exposure and climate may result in minor variations.

Watch for them in season wherever you may be!

No wild fruit in the northeast is more delectable than the strawberry. Though extremely tedious to gather, the effort may be amply rewarded. Only those who have eaten ripe wild strawberries will appreciate their subtle and distinctively richer flavor. Even the best cultivated berries barely approach the wild ones in quality.

Commonly they grow in old fields and along roadsides, where they do not have to compete with ranker herbs or dense grasses. The plants resemble miniature cultivated plants, with a cluster of leaves, each with three coarsely serrate leaflets, rising from the crown at the ground surface. Among the leaves, one or more stems bearing a cluster of white flowers develops in early summer. The delicious fruits ripen by June or July. Vigorous plants spread by sending runners out and these creeping stems root and produce new plants when conditions are favorable. They also, of course, spread by seed.

If one can find them, and has the patience to pick enough, they make excellent jams and jellies and are incomparable fresh.

Our native *Fragaria virginiana* was apparently crossed with *F. chiloensis* to produce our cultivated strawberries (designated *F. ananassa* Duchesne). *F. chiloensis* is native along the Pacific slope of both North and South America and forms of *F. virginiana* occur throughout much of eastern North America.

Amelanchier species
Family Rosaceae



Shadbush
(Serviceberry, Juneberry, Sugarplum)

Among the earliest of our spring flowering plants in New England, various species of shadbush range from colonial shrubs spreading by subterranean offsets to small trees with one or a few stems. The bark is often rather smooth and light gray. Clusters of white, ephemeral flowers appear in April with the expanding leaves about half-folded and showing their silky whitish felted undersides. These unfolding leaves of some are often conspicuously reddish while others are a soft grey-green.

Early in summer the small pear-shaped fruits, borne on slender drooping pedicels, appear and change from soft green to rosy red and gradually ripen bluish-purple to almost black with a glaucous bloom. Those that develop unmarred grow up to three-eighths of an inch in diameter and become sweet and juicy to nibble. The cedar waxwings and other birds regularly seek them out and may return year after year for them in season. Unfortunately, in areas of high humidity the fruits are often destroyed by a fungus infection and few mature unspoiled.

The stoloniferous species often form low thickets around swamp margins and along stream banks, while arborescent types grow in drier situations in woodland openings, among rocks, and on gravelly soils.

The shadbushes have much to commend them since they develop distinctive patterns of growth, are attractive in flower and leaf early in the spring, and produce delectable fruits that have taste appeal for man and bird alike.



Raspberry

Rubus species
Family Rosaceae

Plants known as raspberries are widely distributed. As with many other common members of the rose family, they are quite variable and hybridize rather readily. Therefore, exact identification is complicated and, again, essentially academic for those interested in the tasty fruits.

The canes are slender, three to four feet tall, and usually covered closely with fine prickles. New growth has a waxy bloom, while older bark is light brown and shows a tendency to exfoliate. The coarse leaves are composed of five palmately arranged leaflets and are light green. The flowers, usually white, occur in axillary or terminal clusters in early summer. By June or July the sweet, juicy,

and flavorful fruits mature. Although they are usually rich red, occasional plants or varieties may have yellow or nearly white berries while others are purplish.

Raspberries grow along woodland borders and become especially abundant and productive where timber has been recently cut.

Once established, they spread by rhizomes (underground stems) and fairly rapidly cover wide areas. New plants, of course, develop from seed scattered by birds and other agents. Some varieties fruit on new canes that develop annually, while others bear chiefly on two-year-old canes. Certain types have arching canes that may bend over and touch the ground, and tips in contact with the soil will root to assist in the spread of the colony.

Everyone knows raspberries as excellent dessert fruits when fresh. They also make delicious jellies, jams, sauces and pies.

Closely related are Thimbleberries, with dull purple fruits that have a distinctive flavor and are common as far north as coastal New Hampshire.

Wild Cherries

Family Rosaceae



Bird, Pin or Fire Cherry

The wild cherries are significant elements of our flora. Each is distinctive and will require mention. The first, known as the Bird, Pin, or Fire Cherry in different localities is usually a small shrubby tree and frequently grows in clumps in woodland openings or recent burns. Unlike the other two, the small white flowers develop in clusters in early spring. The light red fruits with thin and very acid pulp mature from July into September, depending on the site and exposure. As one common name suggests, birds seek them out.

The Black Cherry is the largest of the three. The tree has almost black bark and the small flowers are borne in slender drooping racemes in May or



Black Cherry

P. serotina Ehrh.

June. By July or August the purplish-black cherries ripen and may be fleshy and sweet. Generally they are the most useful of our wild cherries. They are used for wine making, or mixed half and half with apples, make a very tasty jelly.

As the common name indicates, Choke Cherries are very astringent and very acid. However, a delicious jelly can be made by mixing them with either currants or apples. They are usually red-purple when ripe and the racemes are somewhat thicker than those of the Black Cherry. The bark of the Choke Cherry is often shiny, varnished looking, and reddish brown. They are smaller trees, though flowering and fruiting at about the same time. Both grow in well-drained soils. The Black Cherry prefers dry woods and fence rows, while the Choke Cherry may be found on lake shores and along woodland margins.

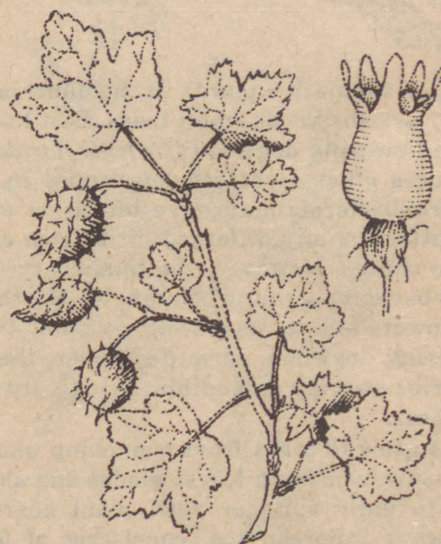


Choke Cherry

P. virginiana L.

Throughout the northeast, various species of Gooseberries occur with other shrubby plants on rocky slopes, along woodland margins and clearings, in swamp thickets, and swales. The branching canes are slender, more or less prickly, and with bark sometimes exfoliating to expose a smooth dark underbark on fruiting stems. Leaves of moderate size are lobed and have a rounded base. They are an attractive deep green and the veins are noticeably impressed on the upper surface. Yellowish to wine-colored flowers are rather inconspicuous from late spring into the early summer. Globular fruits of a translucent light green to pale translucent purple at maturity show a regular pattern of lighter encircling bands from stem to calyx end. The shriveled, brown calyx usually remains attached.

From late June into September the fruits may be gathered to prepare excellent preserves and jams.



Gooseberries

Ribes species
Family Saxifragaceae

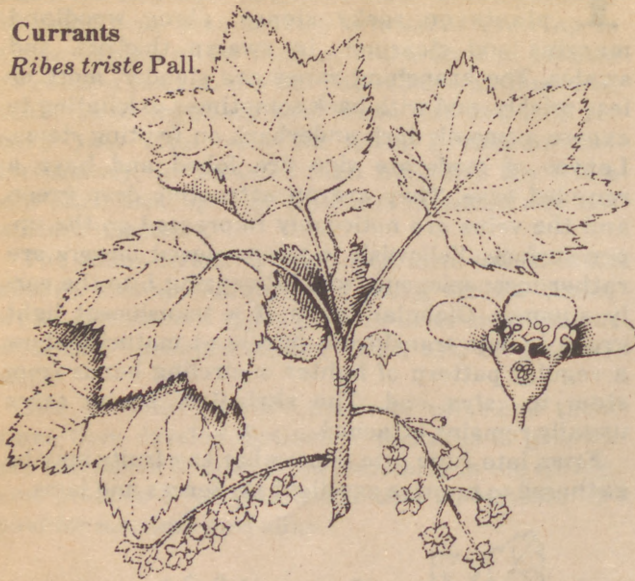
Like the closely related gooseberries, several species of currants may be found in eastern North America. In New England they may be found in wet, cool woods, swamps, clearings, sub-alpine ravines, rocky slopes, and rich thickets. The fruits ripen from June into September. Some have blackish fruits, while others are bright red. Among the native species, some have a musky, even skunk-like odor. However, they make good sauce when cooked and one may acquire a taste for the fresh berries.

The bushes are similar to the gooseberries in appearance, with slender, often bristly stems, and even the fruits may bear bristles. Some have yellow to whitish flowers that are large enough to notice, and one species is actually planted for the clove-scented fragrance of its small deep yellow flowers (the Fragrant Currant, *Ribes odoratum* Wendland). This, and other species, tend to spread by stolons or by reclining branches that root where they are in contact with the ground.

Currants and gooseberries make distinctive sauces and jellies and should be appreciatively utilized when discovered.

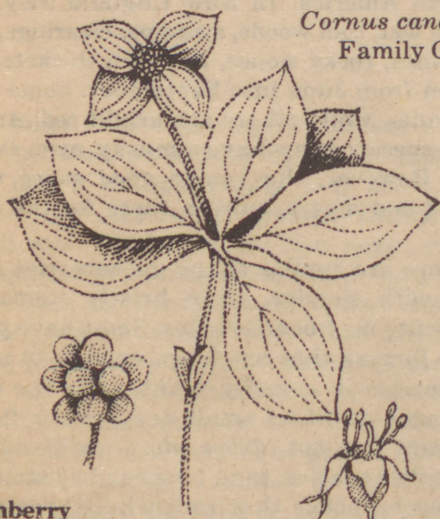
Currants

Ribes triste Pall.



Almost all the native plants in the bunchberry family are shrubs or small trees. Best known is the flowering dogwood (*Cornus florida* L.) which produces clusters of scarlet drupes in the fall. The shrubby forms may have bluish or white fruits that attract many different birds from early autumn into winter. However, the bunchberry is a modest herbaceous ground cover in Northern woods. Its flowers and fruits closely resemble those of the flowering dogwood. In mid-summer, the attractive berries are ripe and edible, though dry and rather tasteless.

The plants grow in mats from branching underground stems (rhizomes) in forest glades and along woodroads. In early summer each plant bears a typical dogwood inflorescence, consisting of four conspicuous white bracts surrounding a compact cluster of tiny flowers. The inflorescence is set off by the apparent whorl of light green leaves just beneath. The erect flowering stems are slender and only six to eight inches tall, but may carpet small



Cornus canadensis L.
Family Cornaceae

Bunchberry

areas and mix with certain mosses or club-mosses on the forest floor. Both in flower and in fruit, the bunchberry is a thing of beauty.

The low bush and high bush are the blueberry species that may occur in the northeast. Actually only low-bush blueberries grow naturally north of southern Maine. Some varieties of cultivated high-bush blueberries might grow in sheltered coastal areas further north and east. However, the native high-bush blueberries grow only from southern Maine through eastern New Hampshire and southward to Florida. Species from the southeastern states would probably not grow in New England. In most sections of the country some kinds of blueberries may be found.

Low-bush blueberries are best suited to the heaths of northern New England. On suitable peaty soils, they grow from the coastal areas in Maine to above tree line in the White Mountains of New Hampshire. Often the twiggy little bushes are no more than six inches high. The leaves are about the size and shape of huckleberry leaves but are clearer, richer green. Flowers in June develop in



Blueberries
Low-bush

Family Ericaceae
Vaccinium angustifolium Ait.

dense axillary clusters or small racemes. The bell-shaped corolla is milk-white and fairly showy. The berries ripen from July into August and vary from rich, bright blue to bluish-black with a heavy bloom. In size they range from 1/4"-1/2" in diameter. Sweetness and flavor are also quite variable. Generally the wild low-bush berries are tastier than the fruits of most wild high-bush plants in this region, although the selected cultivated high-bush varieties may be equally delectable. Commonly our low-bush blueberries grow in open, surprisingly dry situations. Since they are stoloniferous, the spreading mat may cover a large area in time.

From central New England southward, wild high-bush blueberries grow on moist soils. They prefer peaty soils with a water table only 18"-24" below the surface. In spring such places frequently are covered by shallow standing water at times. These shrubs may be three to six feet tall and normally many stems rise from the root crown. The stems branch freely to form a twiggy bush. If growing in the open, they are usually very symmetrical and will flower and fruit more heavily than shaded plants. These bushes will live and produce well for many years in favorable locations. Flowers and fruits of the high-bush blueberries are very similar to those of the low-bush types in most respects.

In the autumn, the dry heaths of Northern New England and open wetlands further south are frequently aflame, since the leaves of blueberries generally turn scarlet and crimson as the growing season ends.



High-bush Blueberries *Vaccinium corymbosum* L.

In the northeast, the huckleberry is common in the crevices of dry ledges and may form dense, low thickets in open woods, even where fairly moist seasonally. Several related species occur in North America and their individual ranges and habitat preferences may be more or less restricted. However, huckleberries are rather generally available summer fruits.

These deciduous shrubs have fairly small oval leaves, dotted with brownish resin glands. The stems and twigs are slender but tough, and the

tight, smooth bark is dull black. Short racemes bear crowded, small bell-shaped flowers of ivory with reddish tips. The rather inconspicuous flowers appear in early summer with blackish fruits ripening in July or August. Since they frequently grow in heathlands and often intermingle to some extent with blueberries, inexperienced pickers may occasionally mistake them for the latter. However, although sweet and pleasant in taste, they lack the rich flavor and juiciness of most low-bush blueberries. The rougher leaf texture and brownish cast of the huckleberry foliage, as well as berries lacking the characteristic bloom of blueberries, make it fairly easy to distinguish the two with a little experience.

While hiking around, we frequently nibble huckleberries as we push through the bushes. Nevertheless, if the more desirable blueberries happen to be less available, huckleberries could be easily substituted for them in many areas.



Huckleberry *Gaylussacia baecata* K. Koch
Family Ericaceae

This plant of northern bogs and barrens ranges from Hudson Bay and Labrador south to Newfoundland, northern New Hampshire, and Maine. This low, stout shrub prefers moist, peaty soils. Growth is often so naturally rounded and symmetrical the plant may appear to have been artificially shaped. The branches are usually strongly ascending and bear opposite, somewhat glaucous, leaves that are of moderate size, broadly oblong and smoothly rounded. Botanists recognize several distinct varieties. Yellowish-white flowers in the upper leaf axils open

from May into July and are followed by bluish berries from June to August, depending on the locality. The fruits look like small plums and are edible, although I have never known anyone to make use of them. Fernald and Kinsey state "although but little known as edible fruit, the Waterberries, as they are appropriately named in eastern Maine, are delicious, in flavor somewhat suggesting blueberries. On account of their early ripening, long before true blueberries are ripe, Waterberries should be better known. By some who have learned to prize the berries, it has even been suggested that the shrub should be cultivated and the fruit improved."¹

1. Fernald and Kinsey, *Edible Wild Plants of Eastern North America*, Idlewild Press, Cornwall-on-the-Hudson, NY, 1943. p. 345



Elderberry

American Red Elder

Family Caprifoliaceae

Sambucus pubens Michx.



Swamp or Mt. Fly Honeysuckle Family Caprifoliaceae
(Waterberry)

Lonicera villosa R & S

The American Elder is found generally in the northeast on damp rich soils along streams, lake shores, and marshland borders. These spreading shrubs have coarse pinnately compound leaves and the sparse stems and branches are barely woody. Outside the bark is tannish and rough and within the white pith is prominent. Small, fragrant white flowers occur in conspicuously large, flat cymes in early summer. The small purplish-black fruits are often abundant in late June or July.

Excellent jellies and wine, rich in color and flavor, can be made from these fruits. There are now selected stocks in cultivation and available from American nurseries.

The bright red fruits of *S. pubens* Michx. form very colorful clusters, set off by the soft green



leaves. Brown pith also distinguishes it from the other species. However, the Red or Stinking Elderberry fruits are small and are considered inedible. The range of this plant generally extends further north than that of the American Elder.

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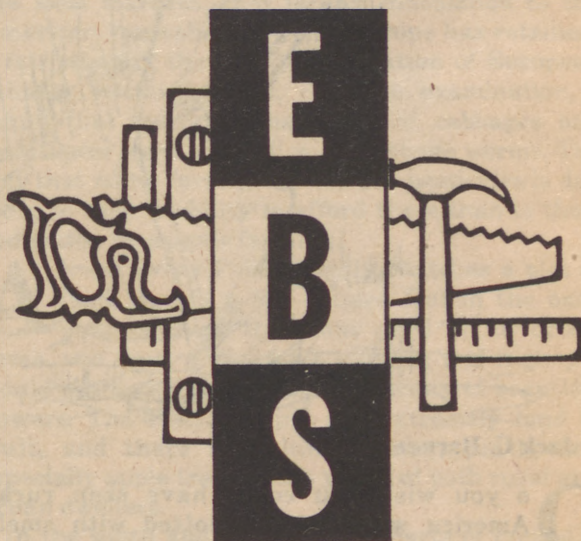
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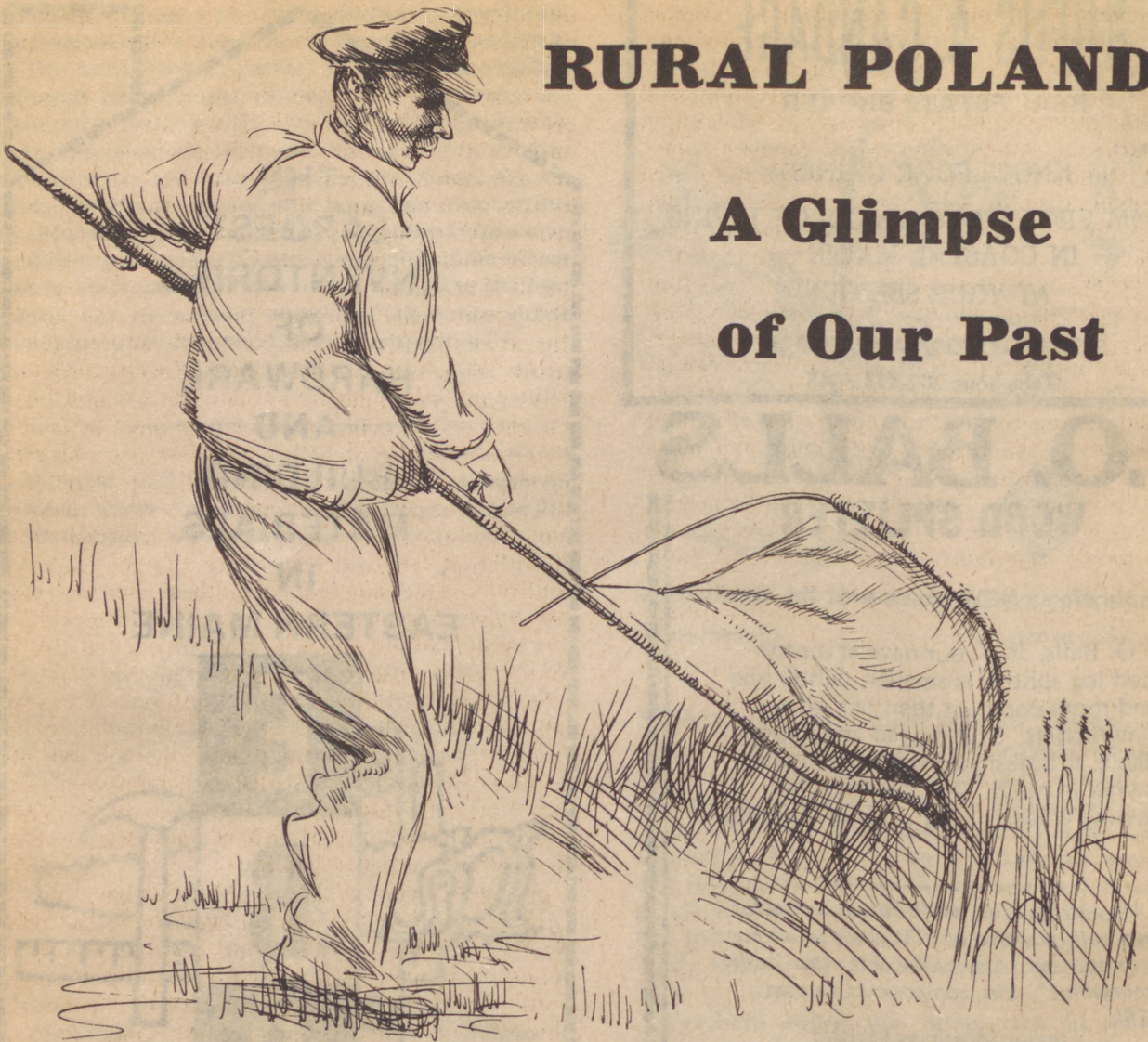
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RURAL POLAND -

A Glimpse of Our Past



by Jack C. Barnes

Do you wish you could have seen rural America when it was dotted with small general farms where almost every crop and domestic animal imaginable could be found? Would you like to have seen how life used to be on the American farm when families were closely knit and at least the elder son knew that the farm would someday be his, a place where he could rear a family in a tension-free society?

Last summer I was fortunate enough to enjoy a glimpse of our rural past when I spent a pleasant three weeks in Poland gathering material for the Geography of Europe course I teach in the University of Maine system.

Since I have a farm in Maine and have been a commercial farmer in the past, I always make it a point to spend much of my time roaming about the countryside of any nation which I am visiting. Poland was no exception. I spent many an enjoya-

ble hour hiking along rutted back roads, photographing as much of rural life as possible.

Ninety percent of the topography of Poland is either flat or ever so slightly elevated, and one might very easily infer that Poland is a land of monotonous landscape. To the contrary, I found rural Poland to be absolutely charming; I immediately fell in love with its verdant landscapes.

Poland is a land of small farms, covering about fifty million acres. Approximately eighty percent of the total land is under cultivation. Early post-war attempts to collectivize the land ended in almost complete failure. Between eighty and eighty-three percent of the land is privately owned. The average farm holding is about twelve acres. Prior to World War II much of the rural area of Poland was owned by wealthy landowners. Out of the ashes of the terrible war that swept over the land from 1939 to 1944, came land reform. Today the maximum acreage that an individual may own is 125 acres.

To travel through rural Poland is to travel through the rural America of seventy-five to one hundred years ago. The complete evolution of farm-

Jack Barnes lives in Hiram, Maine and teaches in the University of Maine system.

ing can be viewed from a bus window in the area of a few square miles. A modern combine (probably government-owned) could be seen in one field, with men reaping with scythes and sickles and kerchiefed women binding sheaves in the adjoining field. Although tractors are fairly common, since Poland manufactures and exports them, the horse and wagon, usually with rubber tires, are ubiquitous. Much of the plowing is still done with the handplow.

Farming in Poland is a family affair, and often the operation will involve the extended family. One sees the togetherness that so characterized our own small farms prior to World War II. Young and old toil together, especially at harvest time. Fifty-two percent of the population of Poland now resides in urban areas, and more and more young people are abandoning life in the rural areas for life in the many industrial cities. Nevertheless, thousands of students return each summer to work on the farms, especially to help in the grain and hay harvests.

Today there are far more cattle and sheep than prior to World War II. The Holstein is by far the most common of the bovines. It was really refreshing to see the close relationship that exists between farm families and their animals. Almost every farm has at least one cow, but seldom more than four or five cows. There are practically no fences, and cows and sheep are tethered. It is a common sight to see an old man or woman leading a fat black and white cow from one field to another.

Every farmer keeps a small flock of assorted poultry. Seldom is there a farm without a flock of geese. Early in the twentieth century when good feathers were in a much greater demand throughout the world, Poland was the world's leading exporter of both goose feathers and goose livers. Turkeys and ducks are also commonly seen, and seldom are they penned up. The Polish people are great lovers of sausage, and pigs are raised for market on all the farms that I visited in eastern and southern Poland. Polish farmers rely heavily

upon organic fertilizer, which is usually shoveled from a horse-drawn wagon onto the fields and plowed into the soil.

I gave close attention to the variety of crops grown in the areas that I visited. Rye is the most important cereal crop, but wheat, barley and oats are also commonly grown. Wheat is more prevalent in the piedmont and hills of the south where it grows well in the loess soil whereas rye and potatoes predominate in the north where the soil is less fertile and rather poorly drained. Despite the fact that grain fields were in evidence everywhere in the areas that I traveled, Poland is an importer of grain. The potato is a basic part of everyone's diet. I lived and ate in mostly student hotels, and I cannot remember having an afternoon meal without a generous helping of boiled potatoes covered with parsley or chopped dill. Unusually large fields of dill and parsley, perhaps half an acre or more in some instances, are grown for the local markets. Cauliflower, cabbage (especially the red variety), kohlrabi, beets, peppers, cucumbers, and tomatoes are among the most common vegetables grown for the local markets. If it is any consolation to the American vegetable growers, Europe has retained a fair share of the world's population of European cabbage butterflies, for, on close examination, I found that many of the fields of cabbages and cauliflower were infested with cabbage worms. The fact that many farmers do not use pesticides is due more to their inability to afford them than to their dedication to organic farming.

Almost every Polish family that has a plot of land, if only a few square feet in the back yard or even the front yard of an urban home, will have a vegetable garden; and it simply would not be Poland without a variety of beautiful flowers. The Polish people are extremely fond of fruit, and there are plum, cherry, peach, and especially apple trees in the yards of both rural and urban dwellers.

In the south and southeastern parts of Poland, I saw many tobacco and hop fields. Hops grow on



vines that often extend twenty-five to thirty feet into the air. Large poles, resembling telephone poles, are placed into the ground, slanted and crossed, and heavy wires are extended in rows and at graduated heights from pole to pole. The rows are very carefully cultivated so that they are kept free of weeds at all times.

The farmers rely heavily upon the local markets to sell their produce, but there are numerous cooperatives that assist them in marketing their produce and purchasing supplies and equipment. Contrary to the usual patterns throughout much of Europe where the farmers live in nucleated or clustered villages and travel to and from their fields, which are often some distance from the village, the majority of farms in the areas I visited were dispersed much as they are here in the United States.

There are very good main highways in Poland, but once one strays from the main thoroughfares into the countryside, the dirt roads become increasingly narrow. Eventually, the roads become little more than wagon trails, too narrow for two wagons



to pass in opposite directions without one driver having to pull aside. Most farmers rely upon horses and wagons to transport their produce to market, and it is necessary that they start early to arrive at the open market in time to sell their produce. Many who live some distance from the nearest central market must leave home the preceding day. The deeply rutted roads in some areas indicate that many farm families are as isolated in winter and early spring as our farm families were, especially in the north, fifty to a hundred years ago.

What really lends charm to the Polish landscape are the quaint little farm houses and barns with thatched roofs. Small houses, whitewashed or in shades of blue, yellow, or occasionally green, blend in with the verdure of the meadows, the ripening grain, and fields of red clover. As one approaches the lofty Tatra Mountains, there are an increasing number of log and wooden structures. A background of polychromatic, geometrical designs is created by contour and strip farming on the rolling hills. I marveled at the workmanship which almost every wooden structure in the Tatras, especially around the area of Zakopane, displays. The architecture of farm buildings is a vital part of rural culture in Poland as it reflects upon the creativity of the people. Every house and barn has a different design carved on the framework around the doors, gables, or even balconies, depending upon the affluence of the owner. It is obvious that the Polish people take great pride in the homes.

Hay is an important crop in the Tatras, a specific alpine mountainous area that makes up a segment of the Carpathians bordering Czechoslovakia. Everywhere in August young and

old are gathering hay. Saplings, slightly larger in circumference than bean poles, are cut; and a portion of the branches, perhaps two or three feet long, are left on the trunk. These poles are stuck into the ground and used as hay racks to dry the hay in the fields. I have seen this same method used in other alpine areas of Europe, such as in Switzerland and Liechtenstein. It is a striking scene to see a sloping field of haycocks, woodsmoke curling skyward from the chimney of a log farmhouse on the periphery of a grove of stately spruce and pine, and the high Tatras looming majestically in the background. A feeling of nostalgia swept over me, for in America I once drove a proud and noble pair of horses with many a mountainous load hay up the dirt road to the barn.

One of the high points of my travels in Poland was a visit with a Polish farm family. It was totally unplanned; it just happened. A fellow traveler and I spent much of one sunny August day hiking over the back roads outside of the lovely Gothic-Renaissance city of Lublin southeast of Warsaw. We saw a man reaping rye with a scythe and his wife raking it into piles with a wooden rake. It was the kind of scene I wanted to record on film, so I left the gravel road and went jogging through the fields until I reached the modest slope where the two were toiling. With my smattering of Polish, I was able to tell them who I was and my reason for being interested in their operation. After I had taken the pictures that I wanted, my colleague and I were invited to the couple's house for lunch. Actually, we were in a hurry at this point to return to our student hotel since we were scheduled to accompany a group of visiting Armenians from the Soviet Union on a tour of a modern textile plant. Nevertheless, an opportunity to visit with a farm family was too good to pass up.

Since there is considerable land fragmentation in parts of the country, their dwelling was at least a

quarter of a mile down the road from their field. Much to our joy, we found that their cottage had a thatched roof. The woman tethered her Holstein cow in the yard, and her husband gave hay to his team of horses before we entered the one room which the couple, their little son and his grandmother shared. It was classical; its beauty and charm lay in its utter simplicity. Around the fireplace and brick oven lay trays filled with slices of apple placed there to dry. The ceiling was low, similar to our early colonial homes, and cots or beds were placed against the walls around the room. The wooden floor showed signs of years of wear and dedicated scrubbing. In one corner was a large wooden table, and it was here that we talked, ate thick slices of homemade rye bread, and drank tall glasses of cool fresh milk. We talked about life in Poland and were eagerly asked questions about America. On the wall by the table hung family portraits. Our host sadly told us about his brother who was among the several million Poles who perished in one of the many notorious Nazi prison camps. For a fleeting moment there was an atmosphere of sadness, but this somber mood was quickly replaced with warm laughter and more convivial conversation.

We had to depart all too soon, but before we did, our host proudly showed us the pigs he was raising for market. This was a simple life and a life of arduous toil to eke out a living on a few scattered acres, but these people were obviously happy — a happiness that is well-deserved. We parted from a scene that I remember as a child but which few young Americans today will ever experience, or even see. It was a scene which I carried with me down the dusty road — a scene which I shall always cherish as a lovely portrait of rural Poland.



Getting A Line On Bees

by Diana L. Chapman

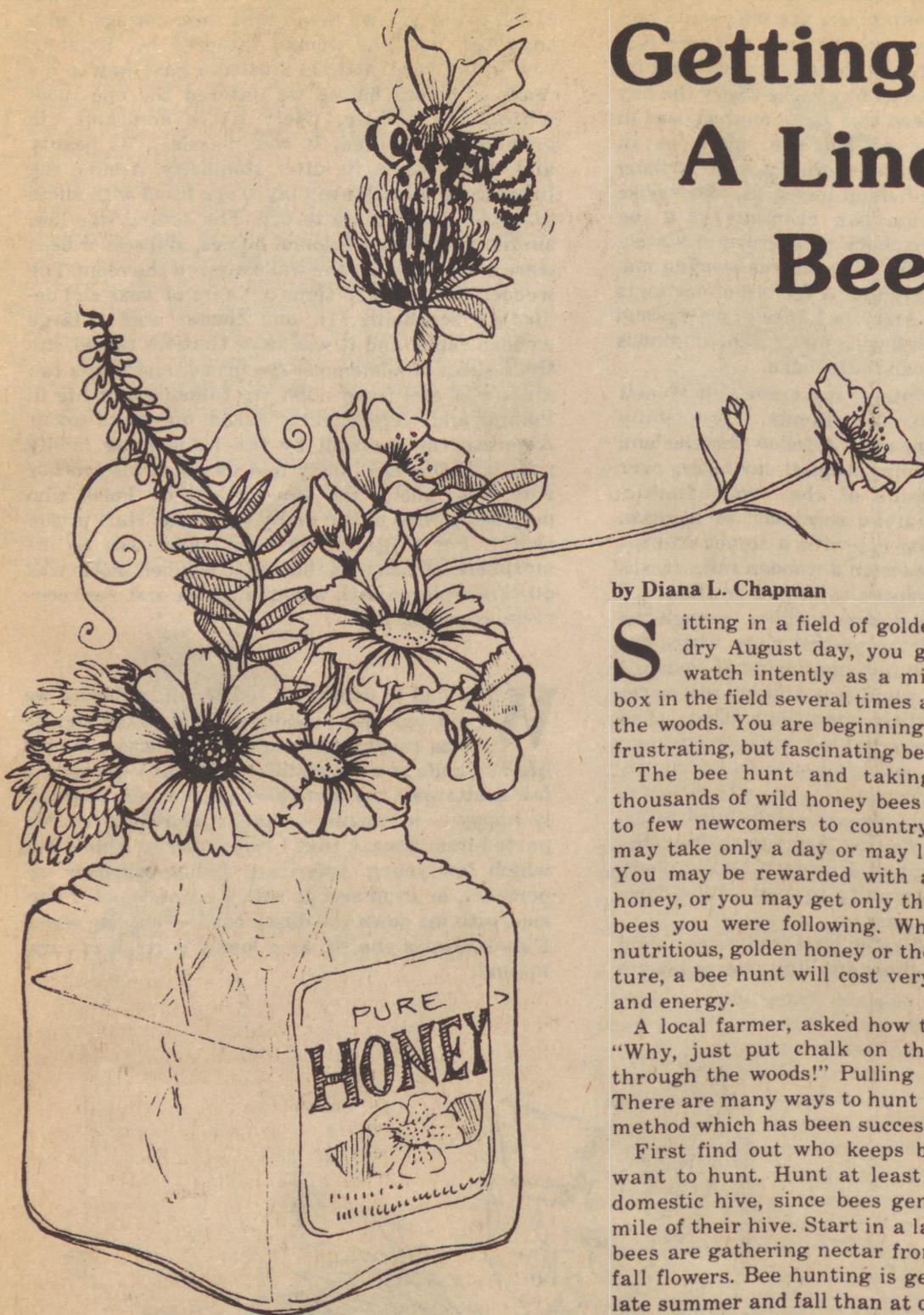
Sitting in a field of goldenrod early on a hot, dry August day, you gaze at the sky. You watch intently as a minute insect circles a box in the field several times and flies straight into the woods. You are beginning the time-consuming, frustrating, but fascinating bee hunt.

The bee hunt and taking up of swarms of thousands of wild honey bees is an activity known to few newcomers to country living. A bee hunt may take only a day or may last a week or longer. You may be rewarded with a hundred pounds of honey, or you may get only the amount you fed the bees you were following. Whether you want the nutritious, golden honey or the exercise and adventure, a bee hunt will cost very little but your time and energy.

A local farmer, asked how to hunt bees, replied, "Why, just put chalk on them and track them through the woods!" Pulling your leg? Not really. There are many ways to hunt bees. I will describe a method which has been successful for me.

First find out who keeps bees in the area you want to hunt. Hunt at least two miles from any domestic hive, since bees generally feed within a mile of their hive. Start in a large open field where bees are gathering nectar from goldenrod or other fall flowers. Bee hunting is generally easier in the late summer and fall than at other seasons because bees are working very hard to add to their stores.

Basic equipment for the hunt is a compass, watch, powdered colored chalk, two four-inch square feeding boxes on three feet high poles sharpened on one end and a four-inch square catching box. The catching box has a glass top, an open bottom and a sliding panel in the middle; or you can just use a tumbler and piece of cardboard. If you are allergic to bee stings, wear protective clothing.



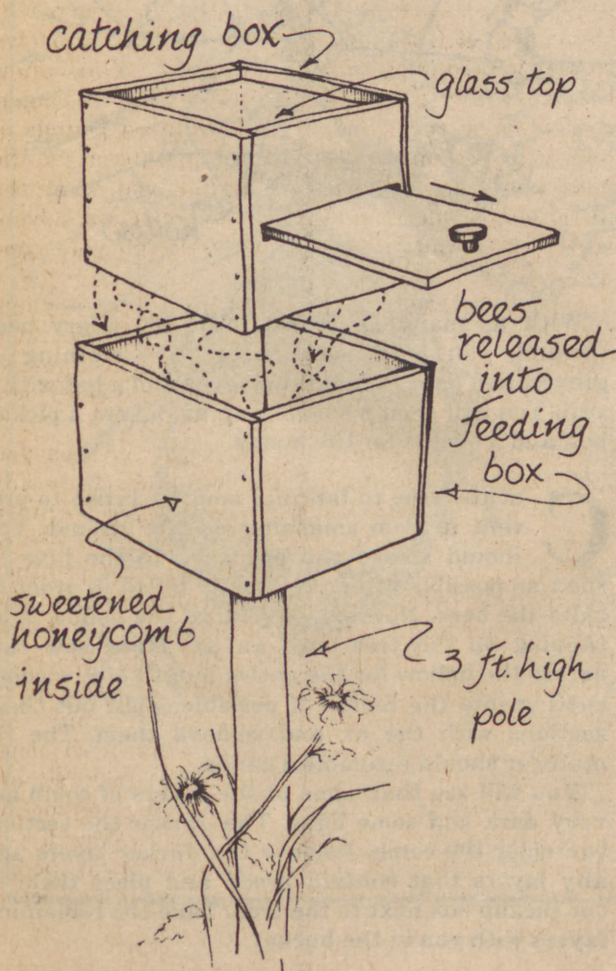
*Diana Chapman lives in Canaan, New Hampshire.
Illustrations are by Liz Buell.*



Inside the feeding boxes place a piece of honey comb and partially fill this with a sticky, runny mixture of sugar and water. A few drops of anisette can be added to create a stronger aroma. Honey may be used but must be diluted with hot water.

The nectar bees collect from flowers is very thin and they can carry about one-fourth of their own weight. If you use too thick and heavy a mixture, the bees will pick up too much weight and wobble in flight preventing you from getting a true line on them. Or they may need to stop for a rest on the way to their hive, and you will be unable to figure how far away the hive is.

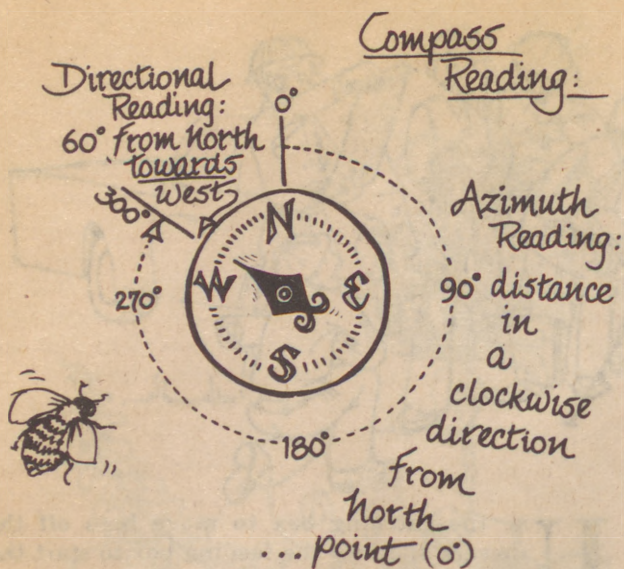
Use the catching box to move bees off the flowers and into the feeding box to start the hunt. Capture a bee while it is collecting nectar from the goldenrod. When it flies to the glass top, close the sliding panel. After getting eight to ten bees, release them into the feeding box. Use this same procedure to move the bees each time you move the feeding box.



When a bee has collected enough sugar water, it will spiral upward marking the location of the box and fly straight to the hive. After a number of bees have started working, mark three or four with different colors of powdered chalk. Simply dip a twig or piece of grass into the wet, pasty chalk and touch it to the rear of the bee. Don't worry about being stung as bees generally won't sting while they are working, only when something is taken from them.

Watch the bees as they spiral above the box; when they start a straight flight, take a line of them with your compass. If you are lucky during this hunt, the bees you have marked will not be eaten in flight by birds. If bees are going off in two different directions from your feeding box, it usually means they are from two different hives. You must select one of these directions to continue your bee hunt. You can try to find the other hive later.

The distance to the hive can be estimated using a formula given in the *ABC-XYZ's of Beekeeping*. A bee will average a mile in five minutes and spend about two minutes in the hive. Measure the time that some of the colored bees are gone from the feeding box in minutes. Subtract two minutes from this time and divide the remainder by ten. This will give you the approximate distance to the hive in



miles. Remember this is only an approximation because bees might travel faster than this in clearings or slower in thick woods. Wind speed also affects a bee's flight speed.

After you have determined the direction of the bees' flight, set the second feeding box on the line of flight in as large a clearing as possible. If this location is in the woods, move the box only a short distance, no more than 200 feet, in order to get a good line on the bees.

Hazards such as thick woods, swamps and fields of cows make this part of the hunt very time-consuming. It has taken me as long as a week to locate a hive of bees only twenty minutes away from the field of goldenrod. If you are caught in a thunderstorm, you will have to postpone the hunt until it clears. Continue jumping the bees this way

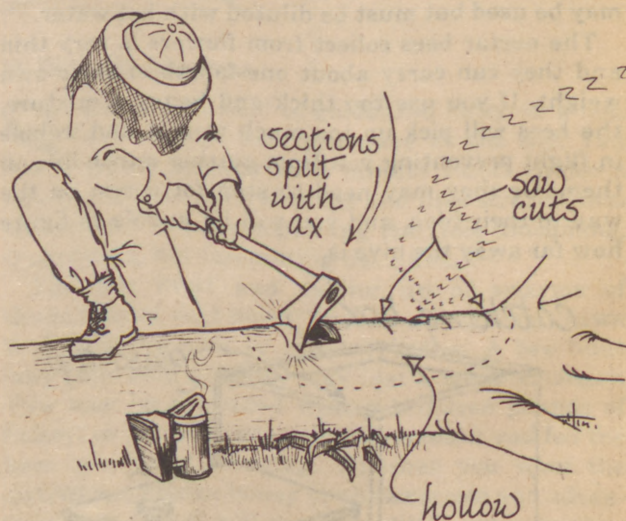


until they are only gone three minutes. By then you'll know the hive is within a couple of hundred yards.

In northern New England the hive is often located in a hardwood tree with the entrance on the southern side. The entrances range from large hollows to small knotholes. If you cannot locate the hive when you know you are close, start a line from another direction. The hive should be at the junction of the two lines.

When you locate the hive, check to see if there are any initials on the tree. Someone may already have claimed the hive; if not, claim it by marking your initials there.

Now, if you are into bee hunting for more than just the sport, it is time to collect the bees and honey. If you are not experienced, I would suggest that you seek the help of an experienced beekeeper. If the tree is not valuable and the landowner gives permission, it is easier to collect the hive after cutting the tree.



With as many as 25,000 to 75,000 angry bees around, you must wear protective clothing — gloves, tied pant legs, tight sleeves and a hat with a veil. You will need a smoker, an ax, a saw, a pickup box and a bucket for the honey.

Cut the tree to fall into smaller brush to prevent it from smashing on the ground. You should smoke the entrance to the hive as soon as possible after the tree is felled in order to calm the bees. Now see how large the hollow is by tapping on the tree with an ax. Make saw cuts across the hollow for the entire length of it without cutting into the hollow if possible. Split out these sections with the ax and remove them. The remainder should resemble a canoe.

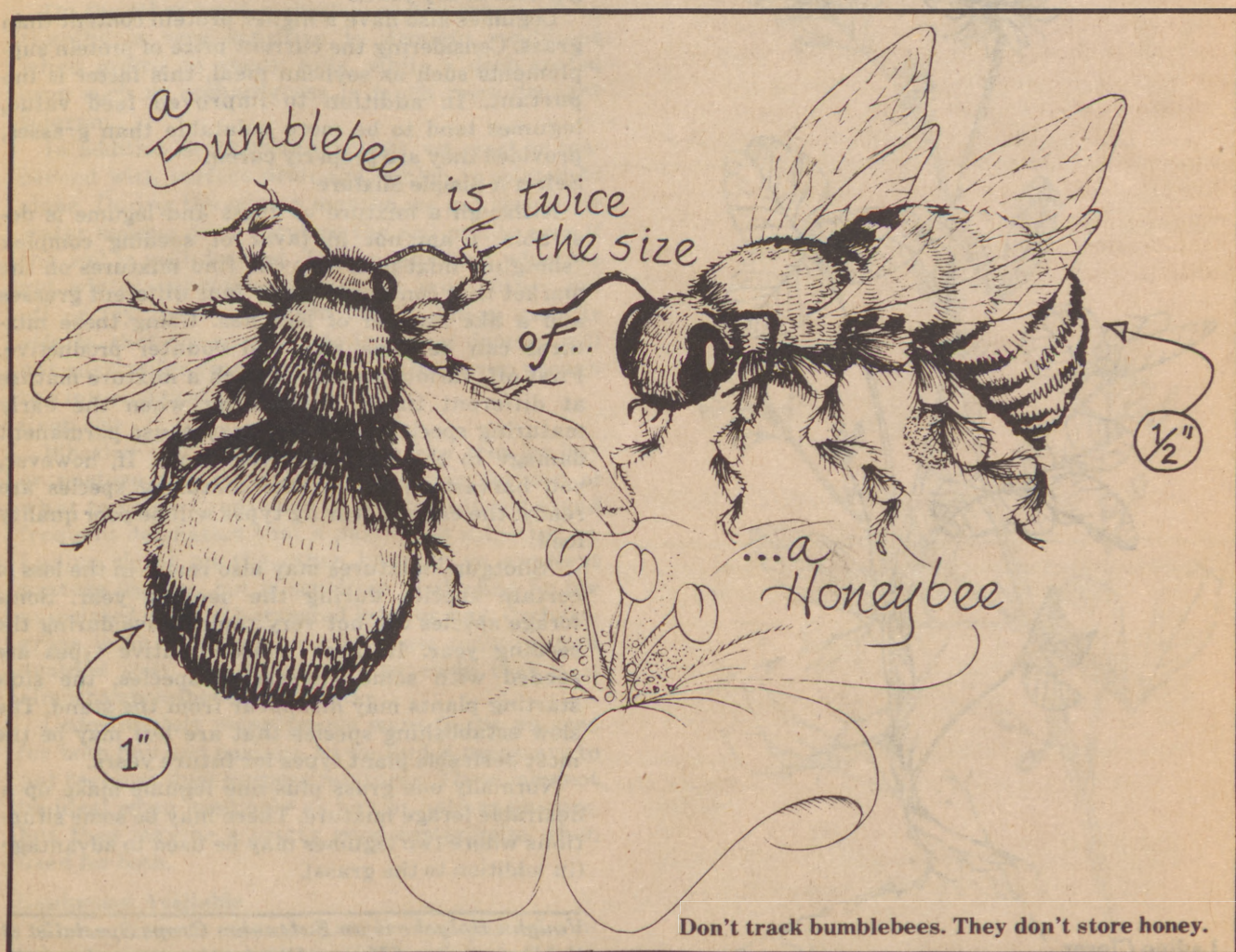
You will see that some of the layers of comb are very dark and some light. The darker the section, the older the comb. Remove the darker layers and any layers that contain brood and place them in the pickup box next to the tree. Take the remaining layers with you in the bucket.



Using the smoker you will be able to force the bees into a group which you can scoop up with your gloves and place into the box. It is essential to capture the queen bee which is larger and more brightly colored than the other bees. If you do not see the queen, which is the usual case, you can tell if she is in the box by the behavior of the bees. If they tend to stay in the box the queen is probably there. If they tend to dart out of the box and back into the hive, it means she is probably still in the hive. In that case, you must find her and get her in the box.

Bees are notorious robbers, and within a few days, the worker bees will transfer most of the honey from the hive to the box. They will also remove all of the dead bees from the box which were killed when you were working. After the bees have had time to transfer all the honey, you can return late in the evening when the bees are inactive, screen the opening and take the bees home.

You have now experienced a bee hunt, and if you were fortunate and persistent, you have been rewarded with an ample supply of honey and a source for years to come.



by Vaughn Holyoke

When one sets out on the task of working up an old run out field and establishing a new forage seeding, there are many decisions that must be made to insure success. However, one of the most vital questions that must be answered is — What is the best seed mixture to use on this specific field? Too often we pay close attention to such things as fertilizer, lime and weed control, but are willing to seed most anything the person behind the counter has available. In this article I would like to focus on some of the questions you should answer before you buy your forage seed.

Start With A Mixture

In most cases it makes good sense to seed both grasses and legumes. The grass portion of the mixture provides insurance for stand longevity. The grasses are very winter hardy and under good management practices, it is not uncommon for timothy to remain productive for 10 to 15 years. Because of the upright growth pattern of most grasses, they may act as a crutch in holding some



Ladino Clover

Legumes

Selecting Seed Mixtures

legumes off the ground. Grasses are not a sure fire method to prevent lodging of the hay crop, but they do help.

The grass also provides winter protection to the associated legume by serving as a mulch during the fall and winter months.

The legumes, although shorter lived than the grass, offer some advantages for as long as they last. First off, legumes (provided they are inoculated with the proper bacteria) have the ability to convert nitrogen from the air into a form available to plants. This fixed nitrogen is available to the grass as well as to the legumes.

Legumes have a higher yield potential than grasses. Since legumes tend to be more drought tolerant, the yield advantage of legumes is exaggerated in dry years.

Legumes also have a higher protein content than grass. Considering the current price of protein supplements such as soybean meal, this factor is important. In addition to improved feed value, legumes tend to be more palatable than grasses, provided they are properly cured.

Select A Simple Mixture

Although a mixture of grass and legume is desirable, I am not in favor of seeding complex "shotgun" mixtures. You can find mixtures on the market that contain three or four different grasses and a like number of legumes. Using these mixtures can be expensive and counter productive. First off, various species in such a mixture mature at different times. Harvesting when the early maturing species are ready may cause permanent damage to the late maturing types. If, however, you harvest when the late maturing species are ready, the early maturing types will be poor quality feed.

"Shotgun" mixtures may also result in the loss of certain species during the seeding year. Some forage species are not very competitive during the seeding year. If these noncompetitive types are seeded with some aggressive species, the slow starting plants may disappear from the stand. The slow establishing species that are lost may be the most desirable plant types for future years.

Normally one grass plus one legume make up a desirable forage mixture. There may be some situations where two legumes may be used to advantage (in addition to the grass).

Vaughn Holyoke is an Extension Crops Specialist at the University of Maine. Illustrations were drawn by L. Smith.

for the Small Farm

Soil Drainage Important

Soil drainage has a real impact on the survival and productivity of many forage plants. First we should consider internal drainage which refers to how fast water moves down through the soil. In this regard a very sandy soil would probably be excessively drained, while a fine textured soil with a lot of clay would likely be poorly drained.

While internal drainage has an influence on the productivity of some forage plants, it determines the survival of others. For example, alfalfa is very sensitive to soil heaving which is a problem on poorly drained soils. The heaving action will break the taproot and the plant dies. The branching root system of ladino, however, will move up and down with the frost action with no adverse effects.

On the other hand, a shallow rooted grass such as timothy is very sensitive to drought conditions when grown on sandy soils, while a deep rooted crop such as orchardgrass is much more drought tolerant.

In addition to internal drainage, we must be concerned with surface drainage, which is related to slope. During the winter months we get very little water moving down through the soil profile even if the soil is well drained. This means that when we get winter rainstorms, the water must either run off or lay there and form ice. Legumes such as alfalfa, that are sensitive to ice sheet damage will not survive for very long on flat areas even though the internal drainage is adequate.

Crop Use

Whether you plan to use the forage area for hay or pasture also must enter into your decision of what to plant. Crops such as alfalfa will not stand frequent defoliation that a pasture is subjected to. Ladino clover on the other hand is an excellent pasture legume, but is sensitive to shading by the associated grass if harvested late for hay. Orchardgrass is an excellent pasture grass (only on well drained soil), but it matures so early that it is almost impossible to cut for hay.

Unfortunately many people want to use an area for both hay and pasture, so we find it necessary to put together dual purpose mixtures. These may not be ideal when used only as hay or only as pasture, but they may be a pretty good compromise when used for both.

Equipment Available

The equipment situation is the one area of consideration that sets the small farmer apart from the large farmer. The best forage in the world is of

little use if it can not be properly cured and stored. It has been my experience that coarse stemmed legumes, such as alfalfa and red clover, are next to impossible to dry for hay unless they are run through a hay conditioner. The coarse stems dry very slowly and by the time they are raked and turned enough times to get the stems dry, there are very few leaves left. I realize that both alfalfa and red clover are very productive legumes, but I prefer the finer stemmed species such as trefoil and ladino clover even though they are less productive.

Early maturing grasses such as reed canarygrass and orchardgrass are also difficult for the small farmer to harvest for hay. These grasses are ready to cut the first week in June and the weather isn't always the best for making hay. The commercial farmer may beat the weather by chopping these into the silo, but few small farmers have silage making equipment.

Up to this point we have been looking at the things that we should consider when selecting a forage mixture. Using this information I have put



Alfalfa

together the following table which hopefully has the proper combination to fit your situation. This table is designed for the small farmer with limited equipment. Fact Sheet D-6 available from University of Maine Cooperative Extension Service, provides a more detailed table for commercial farmers.

You will note in the table that I have suggested

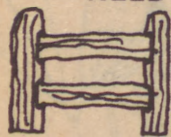
using alfalfa in pasture mixtures, although I have previously mentioned that alfalfa is not a good pasture plant. My logic is that alfalfa will provide enough extra feed during the seeding year to justify the seed cost. By the second year of pasturing the stand will be primarily ladino clover and grass with very little alfalfa.

FORAGE SEED MIXTURES FOR SMALL FARMERS			
Soil Drainage	Crop Use	Seeding Mixtures Number in () indicates lbs/acre	
Well Drained	Pasture Only	Ladino Clover (2) and Iroquois Alfalfa (4)	with Orchardgrass (6)
	Hay Only	Viking Trefoil (8)	with Climax Timothy (6)
	Hay first crop and Pasture 2nd crop	Ladino Clover (2) Empire Trefoil (8)	with Climax Timothy (6)
	Pasture first crop and hay 2nd crop	Ladino Clover (2) and Iroquois Alfalfa (4)	with Orchardgrass (6)
	Pasture Only	Ladino Clover (2) and Iroquois Alfalfa (4)	with Timothy (6)
	Pasture Only	Ladino Clover (2) and Iroquois Alfalfa (4) Empire Trefoil (8)	with Timothy (6)
Moderately Well Drained	Hay Only	Viking Trefoil (8)	with Climax Timothy (6)
	Hay first crop and Pasture 2nd crop	Ladino Clover (2) Empire Trefoil (8)	with Climax Timothy (6)
	Pasture first crop and hay 2nd crop	Ladino Clover (2) and Iroquois Alfalfa (4)	with Timothy (6)
	Pasture Only	Ladino Clover (2) and Iroquois Alfalfa (4) Empire Trefoil (8)	with Timothy (6)
	Pasture Only	Ladino Clover (2) and Iroquois Alfalfa (4)	with Reed Canarygrass (8)
	Pasture Only	Ladino Clover (2) and Iroquois Alfalfa (4) Empire Trefoil (8)	with Timothy (6)
Poorly Drained	Pasture Only	Ladino Clover (2)	with Timothy (6)
	Hay Only	Empire Trefoil (8)	with Timothy (6)
	Hay Only	Ladino Clover (2)	with Reed Canarygrass (8)
	Hay Only	Empire Trefoil (8)	with Climax Timothy (6)
	Hay first crop and pasture 2nd crop	Alsike Clover (4) Ladino Clover (2) Empire Trefoil (8)	with Climax Timothy (6)
	Pasture first crop and hay 2nd crop	Ladino Clover (2) Ladino Clover (2) Empire Trefoil (8)	with Reed Canarygrass (8) with Timothy (6) with Timothy (6)

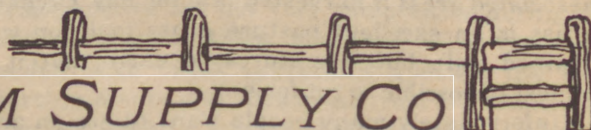


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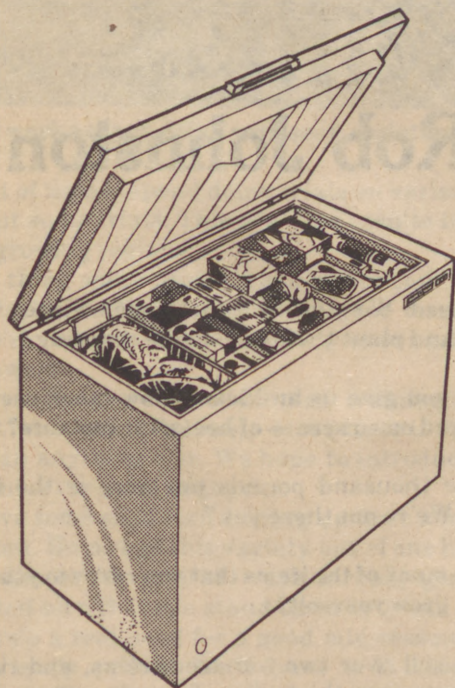
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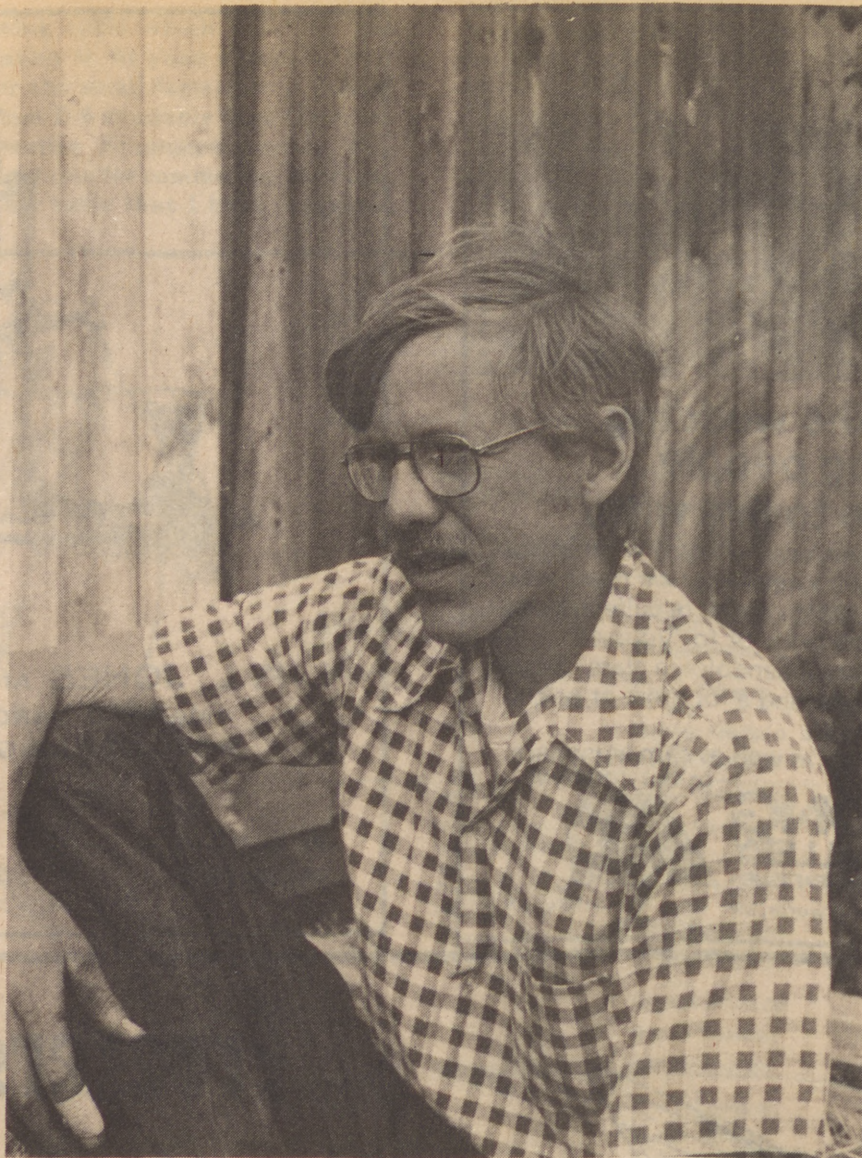
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An Interview With Rob Johnston

by Olga Willmann

Johnny's Selected Seeds in Albion, Maine is a young company specializing in organic seed and crop research. Already Johnny's has become well-known among organic gardeners in Maine and New England. Recently Farmstead staffers Olga Willmann and Dennis King went to Albion to meet Rob Johnston, owner and manager of Johnny's Selected Seeds.

How is raising plants for seed different from raising them for crops?

"Raising plants for seeds is just taking plants further. There are a few differences that are not obvious. Cucumbers, for instance, have to ripen longer for seed than for food. Some plants, such as carrots and beets, are biennials. It takes two seasons to pro-

duce seed. We store the roots over winter in a root cellar and plant them out the next spring."

Can you give us an idea of how much seed can be produced on an acre — of beets, for instance?

"One thousand pounds per acre is the ideal for beets. We're not there yet."

How many of the items that you carry in your catalog do you grow yourself?

"We sell over two hundred items, and right now we're growing thirty-five. There's some carry-over of seed from year to year. Some seed we don't have to grow every year. It will be a while before we can produce all the seeds we need."

"We have made arrangements with other growers to produce some of the seed we carry. Squash is being grown by Maine people. We also try to have beans and corn grown elsewhere because our amount of acreage here is limited."

Rob looks out to the fields in back. A four-foot wide stone wall with trees growing through it bisects them. "I guess the Soil Conservation Service would say to take out those rock walls. It would make more room and you could put straight rows through there. But those walls are huge — and I can't imagine cutting down oaks just to move a rock wall. It just sounds sacrilegious."

Where does the other seed which you don't raise come from?

"It comes from several places. A good deal of it comes from a company in Denmark. It's a fairly small company that's been operating for over one hundred years. They have some unusual, unique varieties — good seed."



What work are you doing with seed varieties?

"A lot of time is spend doing trials on varieties. We farm out some trials. This gives us results from different growing regions."

"One thing we're pretty weak in are cauliflowers. We're trying to find some really good ones. Right now we're running trials on twenty or so varieties of cauliflowers."

"Corn is the crop I have technical training in so we do a lot with corn. Probably more time is spent on that than anything else. We hope to introduce three or four new varieties next year."

"I have some seed corn coming up from a friend in New York. He picked this variety out of one hundred others. I'm pretty excited — it's a really good open pollinated corn that can stand up to hybrids."

"There's a real need for a good mid-season yellow and an early yellow. We'll have a bi-color open-pollinated. That's what everyone wants, in New England, anyway."

"Open-pollinated corn always did well in Maine where there's a cool season. These varieties are un-

even in ripening which is good for diversified farms. The sweet corn business really got its start in New England. A lot of little towns used to have corn canneries. The big hybrid farms in the mid-West put the Maine canners out of business. Hybrid corns have advantages, but the advantages wouldn't be as pronounced here.

"One variety we're working with is Canada flint from the U.S.D.A. collection. It's earlier than the Garland which we're now offering. It's five-and-a-half to six feet tall and has big ears on a short, heavy plant. If we can get a sweet corn with these characteristics, we'll really have something!"

What about dent corn?

"Dent corn doesn't really make sense for gardeners. The further north you get, the larger the plants get. Corn flowers by day length. Every thirteen or fourteen miles further south means the plant matures a day earlier. If you plant a midget corn in the south, you get nothing. The plant

matures before it really develops. That's why the northern corn belt gets a bigger yield than the southern belt — day length. This far north a large corn like most dent varieties may just keep getting taller and never produce before frost season. When we bring a fairly good-sized mid-West corn here, they get really big!

"If you want to save seed all corn varieties must be isolated because they cross pollinate. If a gardener wants to grow hard corn for corn meal alongside sweet corn, flint corn would be OK. Even if they cross the quality of both will be OK. You shouldn't grow dent corn next to sweet corn unless you arrange it so they flower at different times. Dent corn will make sweet corn real starch."

What else do you do a lot of work with?

"We also do a lot with squash and melons, but not so much as with corn. You don't get as sweet a melon around here as further south. In the south they irrigate and the melons mature when it's real hot. You won't grow melons up here as sweet as what you



can get in the supermarket, but they're still real good!

"The only disease problem with melons is 'sudden-wilt'. Plants look good one day and are all wilted the next. University researchers don't know what causes it. A woman from Massachusetts wrote me about it. Maybe it's a new strain of *Fusarium*. I hope we don't see the the problem. I don't know anyone who has had mosaic problems up here. It just doesn't survive."

What do you sell most of?

"Well, all the common things — peas, beans, carrots, corn, lettuce . . . A lot of customers just order specialties. We haven't tried to figure out the percentage of people who are ordering their whole garden from us."

You used to carry some pretty exotic items — ginseng, wild rice, etc. Why did you decide to stop carrying these things?

"Oh, these things had to be drop-shipped, and that's a problem. We might even stop carrying potatoes unless we can get a Maine grower. Also, when half the people that buy an item can't grow it, it's not such a good idea. The people that really want to try these things will find them."

Why can't you find a potato grower in Maine, of all places?

"There aren't any organic potato growers in Maine. There are a heck of a lot of organic gardeners

and border-line market gardeners in Maine, but not many organic *farmers*.

"This year we're selling three tons of seed potatoes. It doesn't take even an acre to raise them, but the grower would have to have good soil and be interested in potatoes. He would have to store and grade them."

Tell us something about your yearly schedule.

"Well, it's just a continuum of growing, not a whole lot different from a home garden except we've made a business of it. We have three people working inside and three working outside. The inside business is slow in spring and summer. We revise the mailing list then and that sort of thing. Just after harvest we write the catalog. Outside work continues until snow. Then there's packaging, mailing catalogs, and germination tests to do. Most of the commercial seed we buy comes in untested. We test it even if it has been tested. Seed orders are heavy from January on through spring."

How much of your crop handling is done by hand and how much is done with machinery?

"Carrots and beets are cultivated by hand the first year with a Planet Junior cultivator, because yields are better. It's a waste of space putting carrots in eighteen inch rows. We mark rows with a corn planter.

"We harvest almost everything by hand. We run a thresher off the tractor.

"We've been cutting squash by hand to get the seed. It takes a couple of days of four or five people working to get the seed we need. There's a machine called a pulper that separates seed from fruit. I'd like to get one that run off PTO from the tractor and use that instead. We have to sophisticate the vine crop end of the operation.

"The last couple of days, I've been depressed about prices for machinery. A tractor part no bigger than a bolt cost \$20. That manure spreader you see over there would cost \$4800 new.

"We have a modest amount of machinery. There's a tendency to concentrate on machinery to the exclusion of everything else. There are few things I hate, and that attitude is one of them. The main thing to be concentrating on is soil and plants. You can end up a slave to machinery."

One new machine Rob would like to see is a hand-operated oil mill. "Gardeners can grow oil crops like rape seed and sunflowers, but right now there's no practical way to extract the oil. A fellow in Texas is working on one for us. My idea is something to be used as a kitchen utensil, like a grain mill. The ideal would be something small, hand-run, with easy-to-clean stainless steel inner parts for under \$100. It will probably run on hydraulics. Incorporating all these features makes it real hard to design, but we should be getting a prototype soon, and we'll be testing it."

How do you handle composting and fertilizing?

"Compost is our chief fertilizer. We use chicken manure mixed with sawdust and our crop residues. The compost is aerated by running it through a spreader. It's turned twice."

What's your rate of application?

"I'd like to put it on at one to two tons per acre. We've been spreading four tons because you can't get it any lighter with the spreader. I'd like to make enough for the whole farm every year, but I can't apply it light enough."

What else goes into your compost? What crop residues do you use?

"Oh, corn stalks we mow back down with a rotary mower. Bean straw, pea vines and things like that go into compost."

"Did you see those boxes of worms in the barn? I'm going to try them in the compost. I'll put them into a pit until the compost is turned once and cools off some. It gets real hot in those piles at first. You can't even stick your hand in — burns it!"

Do you use any other fertilizers?

"We do foliar feed with seaweed extract. For the long term we're building the soil with compost and cover crops, but until the soil gets good, the plants might need something extra, so we foliar feed."

"I don't really like the idea of foliar feeding, though. Plants are supposed to feed through their roots. If you by-pass that, you don't really know what it's doing."

"We also foliar fertilize with calcium nitrate which is controversial because it's soluble nitrogen. But with other forms of soluble nitrogen, you see a difference the day after you apply it. If you miss a spot, you can see the difference. With this stuff you can't see a difference — just in the harvest. It's actually the calcium we are after and not the nitrogen. During cold damp weather phosphorus uptake stops. Foliar feeding with calcium helps at this time."

Do you use soil amendments?

"Just the Sul-Po-Mag and foliar spray. We spend the most on chicken shit."

"We've been applying Sul-Po-Mag at 150 lbs./acre, which is one-third the recommended rate. We won't need this in a couple of years."

How far along are you towards accomplishing your goals? What's the future for your business?

"I don't really know. I have a feeling of what I hope it gets to. I think there's a need for plant research in this climate. Right now there are really no private companies involved in this. There are things to breed for besides marketability and yield."

"In terms of the size of the business, I want controlled growth. I don't want to spend too much time behind a desk, not this time of year especially. I don't intend to get to the point where I'm working too hard."

"It's a challenge. There are so many things to learn. There are more intricate things to learn about plants than just growing them for food."

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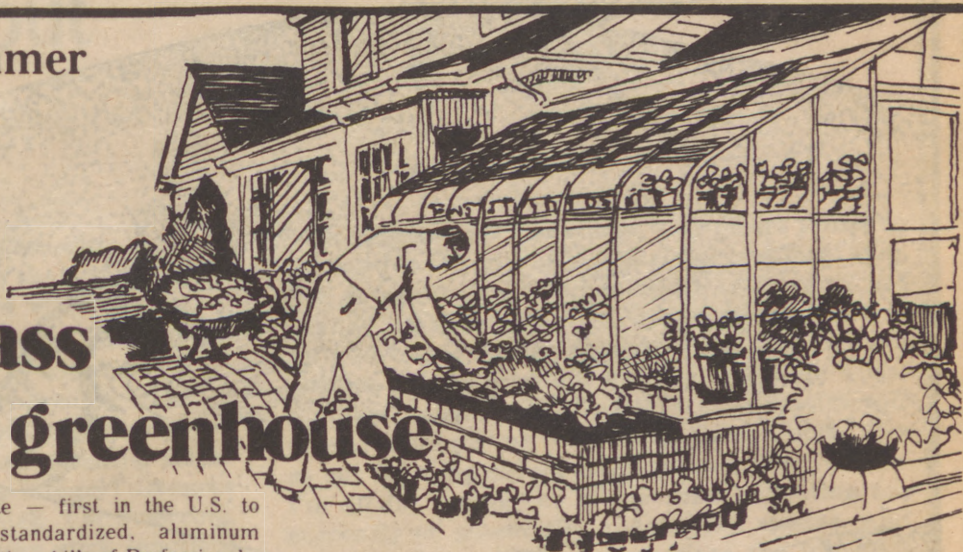
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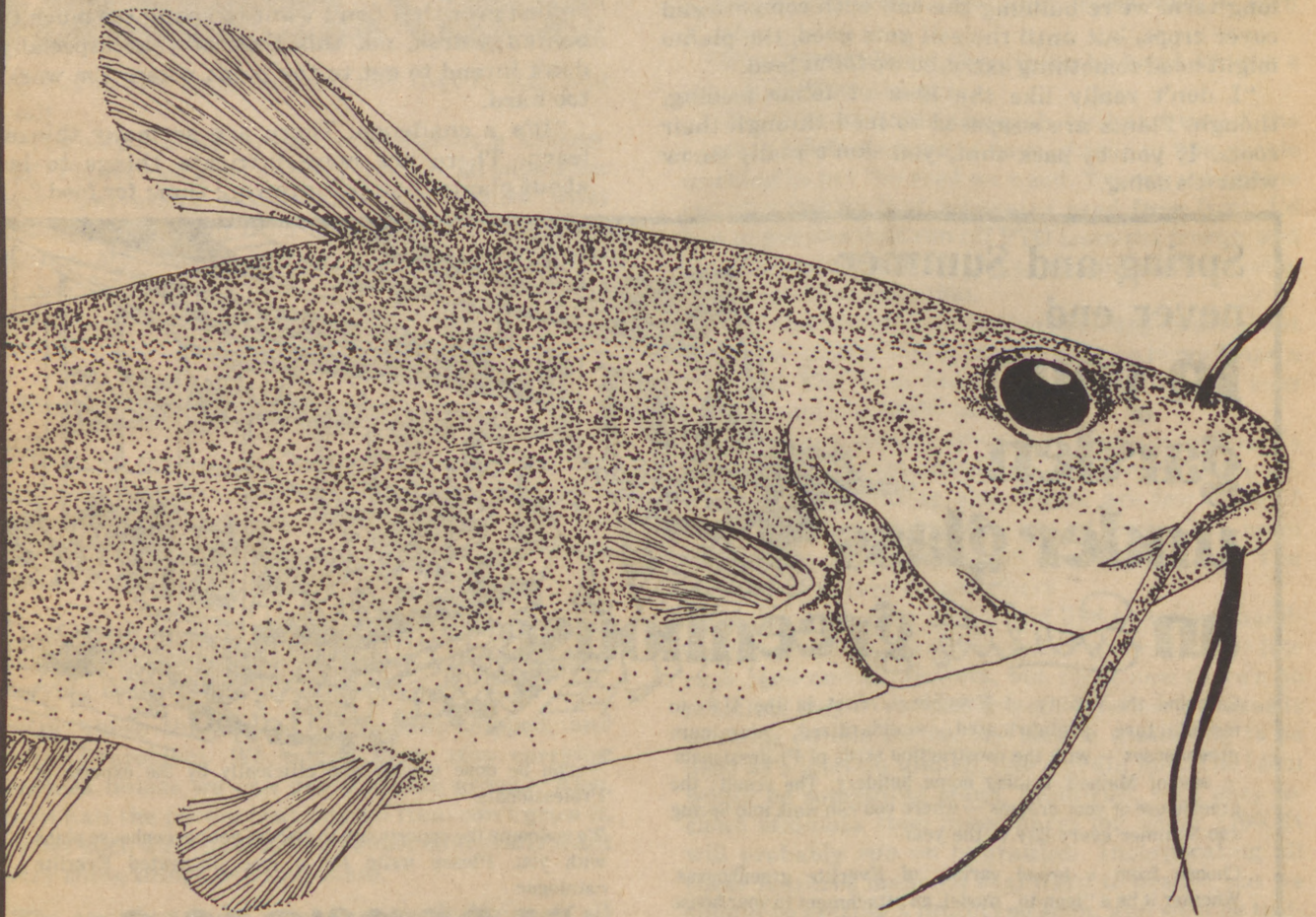


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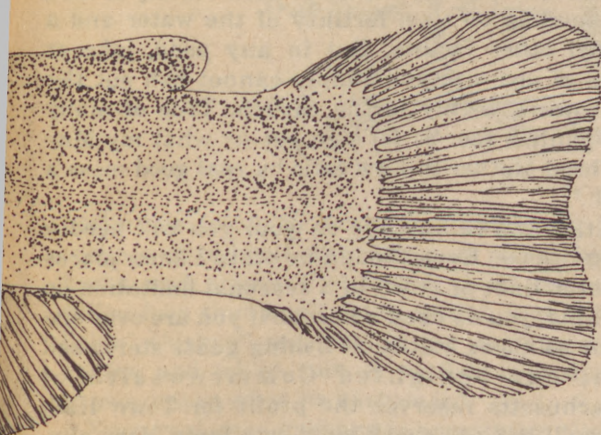
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Petalurus nebulosus



How to Hook a Hon'd Pout

by John Vivian

Throughout most of North America there is an abundant food protein that is produced from resources that would otherwise go to waste, is automatically self-renewing, virtually inexhaustible in supply, delicious to eat and free for the taking. It's also largely ignored in a lot of places. And what is this super food, this pocketbook saver, ecological wonder, perhaps potential salvation to a portion of the world's hungry? *Ictaurus nebulosa* is the species to which I'm referring, though to most kids with a hickory stick, length of twine and a bent pin, it's the plain old catfish. The common name varies from place to place — yellerbelly, brown bullhead, mudcat, and here in

John Vivian is the author of many books and articles on gardening and self-sufficiency. The illustration of Ictaurus nebulosa is by William Townsend. Other illustrations are by Liz Buell.

New England, hon'd pout. Horned pout, if you have to be literate.

There are several species of bullheads and catfish in North America, but in the Northeast the brown, black and yellow bullheads (*I. nebulosus*, *I. melas*, and *I. natalis*, respectively) are the most common. Further south, where warm water fish species really thrive, there are the channel catfish (*I. punctatus*), blue catfish (*I. furcatus*) and flathead catfish (*Pylodictis olivaris*). Even though their habits might vary somewhat, and my experience is in New England, catfishing is similar most anywhere you go.

Now, there are some folks who object to fishing, catfishing or any other for a variety of reasons.



With vegetarians and others who object to taking any kind of life on a sound spiritual or ethical base, I've no argument. We can agree to disagree and tend the vegetable garden together, OK? Not so with Cleveland Amory, Lauren Bacall and such city gadflies who form groups like the Friends of Fuzzy Bunnies, bemoan the "ruthless blood-lust of wild animal murders" on the Johnny Carson show, then go out for a big sirloin steak supper. Like yourself, I'm all for saving the whales and protecting any currently or potentially endangered species. And, no more than you do I appreciate the few klutz hunters and fishermen who shoot at the goats in deer season and leave their beer cans and garbage piles beside our stream each spring.

But to condemn all outdoor sportsmen and the taking of game on the grounds that it is "inhumane" is downright ignorant. But what more do you expect from someone who's idea of wilderness is Central Park in Fun City? (Louise tells the story

of the time just after we'd first traded city life for the homestead that, with binoculars and a new Petersen bird book, I tracked a bird call to its source — and was thrilled to find and positively identify my first Northern Blue Jay. We all got things to learn.)

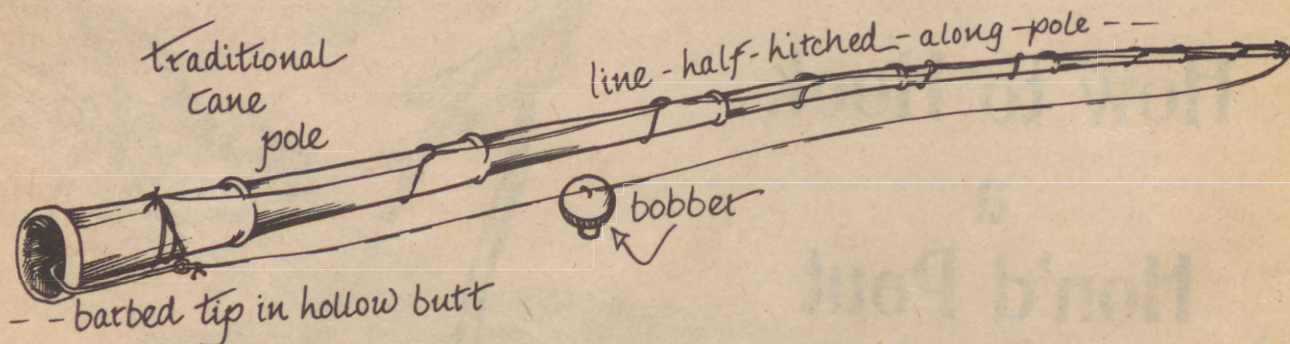
I've finally been convinced that if we don't harvest a certain portion of each suitable wildlife population within the constraints of good sportsmanship and the fish and game laws, Nature will do the job her way. If you've ever trekked out to a deeryard late in an especially long, cold and snowy winter, you know what I mean. A shotgun or rifle slug makes for a kinder end than slow starvation for any warm-blooded creature, yours truly included. So far as fishing being inhumane, the argument is even weaker; fish don't have a secondary nervous system to cause pain. Besides, you oughtta see how some fish treat their kids — they eat 'em!

This isn't true of our main course today, though. In late spring, the male catfish builds a nest in the mud, lures in his lady love, fertilizes the 2,000 one-eighth inch eggs she lays on him before she deserts the nest, and fans

some damned Liberian-registered tanker came in with an oil spill, the catfish supply would fall sharply.

However, if there are just a few fish remaining to produce those 2,000-egg nests, the population would be up to the water's carrying capacity in a couple of years. Each body of water has its individual capacity to sustain so many inches of each variety of fish, all depending on size, fertility of the water and a hundred other factors. But in any pond, lake or stream of any size you simply cannot fish out the fast-growing, highly fertile catfish. True of many other panfish too. So let's go get us what my Missouri-bred Mother-in-Law calls "a real good mess a catfish."

First, if you've any age on you, you will need a fishing license. Even though no state I know places any catch limit or much of a seasonal limitation on catfishing, you do need a license if you are over sixteen or so. Some states let fishing goods stores sell them; our benighted Commonwealth of Massachusetts reserves the profit for Town Hall, and you'll have to check your own laws. Normally, licenses are cheaper from residents than for out-of-



water over them for the five days they need to hatch. He then protects the brood until they are ready to fend for themselves in mid-summer. The fry are coal-black and stay in a close-packed, often wedge-shaped school. The attrition rate is high, of course, as predators nibble away at the flanks, but the larger schools are often conspicuous, particularly when, for some reason unknown to me, they all wiggle along with the tips of their noses out of the water.

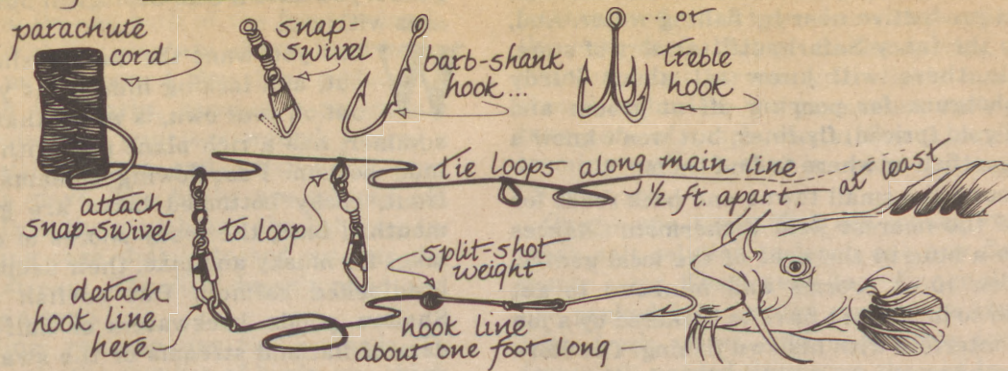
In two year's time what few fish remain from each hatch will be five to seven inches long. In large bodies of water with plentiful food, some old-timers will reach eighteen to twenty inches. However, most we've caught are adults from eight to ten inches in length, weighing in at under a pound each. Which brings me to the only anti-fishing argument that makes any sense at all, that over-fishing might deplete the population. However, what studies I've read all insist that this is simply impossible for most North American fresh water species. Not so with the cod and haddock out on George's Bank as we all know. Perhaps if the Russians got to your pond with a factory ship or

state vacationers, running around five dollars and up these days. With the license will come a copy of the year's fishing laws, size and catch limits, and you'd best bone up on them. If my friendly Fish - Game officer caught us with a nice fat salmon caught out of season on the catfishing rig, there'd be some pretty stiff penalties coming up, including confiscation of all our fishing gear. So, know and obey the rules.

Now, the catfish has a face loaded with barbels, long whiskers containing sensory organs. He doesn't need his eyes to find supper so he prefers to go hunting at night. He'll move slowly along the bottom working the mud and "tasting" everything he comes in contact with. He can sense a meal for some distance off too, one reason that most catfish baits include a real high perfume.

The diet is truly catholic. A catfish will eat anything alive or dead — bugs, crawdads, other kinds of fish, some plants, his baby sister and the blob of unmentionable at the end of your fishing line. In the catfish-loving South, every good catfisherperson has his or her own secret blend of

Making a Trot Line:



herbs and spices to mix with cornmeal or flour to make a doughbait. (Speaking of secret blends of herbs and spices, I've found about the only so-called food that won't catch catfish is that "finger-lickin' chicken" put out by the old guy with the goatee and white suit. A catfish isn't dumb. He knows poison when he barbels it.)

Now, real good garbage is something else again. Save up all the raw animal left-overs you can — meat trimmings, liver in particular, flesh, fat or innards of any kind of meat animal you serve for dinner. If you've a chicken flock and slaughter your own Sunday dinner, you are in particular luck. There's no better catfish bait than used chicken plumping let sit in the sun for a day or two to develop a good tang. But don't season your bait 'till just before you go fishing. If there's any delay, freeze or salt it 'til needed.

You can buy ready-made doughbaits, but if you do want to make your own, mix up a thick flour or cornmeal paste and stir in a can or two of fish or liver catfood. Some experts use well-ripened cheese, but that's getting expensive. Any other aromatic will work, I guess. One fellow I know, after he got home from bottom-side surgery in the hospital, worked the cod-liver-oil-containing Preparation "H" he no longer needed into a real effective bait.

You can't catch catfish on a Royal Coachman or a Hula Popper (dry fly and bass plug, respectively if you aren't a fish freak), but most any kind of rod and reel will work so long as you use a heavy line; a ten-pound test monofilament or stronger. It isn't that catfish are sporty fighters or very heavy, but they do have a way of getting tangled in the weeds and you often have to pull in a hatful of moss and pond bottom along with the fish.

Of course, the traditional cane pole isn't at all out of style and for lazy, bank-sitting fishing is probably the most effective tool there is. Get the longest pole you can find, enough monofilament to run the length of the pole twice and then some, a bobber and a fishing hook. Tie one end of the line to the butt of the pole, half-hitch it up to the pole every foot or so to the tip. The pole will acquire a slight bend in time, but you can store it so the hook is safe. And with the line tied on all the way along the pole, if the hook gets hung up on the bottom, you can pull it out without busting the pole; just back off until pole and line are straight out and pull directly on the line.

For more productive catfishing you will want a multiple-hook arrangement and will need more elaborate equipment as shown in the illustrations. If you are new to the area, use the trip to the sport-



ing goods store to buy gear to find out the location of the most productive near-by fishing water. And, don't go to the fancy Safari-outfitter sort of store. The people there will know all about Purdy matched shotguns for pooping off at grouse and Orvis solid-gold (priced) fly-lines, but won't know a whit about catfish or where to find them.

Scout around the small towns and back roads for the shop of the nearest Real Fisherman. Chances are he'll be a bum in the eyes of the local gentry, selling a few lures, worms and minnows to get enough cash so he doesn't have to be bothered by a job that might interfere with his own fishing. The store will usually be part of an old house, perhaps the least dusty section of a bedraggled hardware store. Look for a sign that reads SHINERS or CRAWLERS or LIVE BAIT. Maybe there will be a few sun-bleached cards of plastic worms or an old fish net in the window. But inside will be the Real Fisherman.

For the men in the party, wear old clothes. In the Northeast L.L. Bean boots are good if they are old. A beat-up hat is good too; in our state the licenses

good if you have a U.S. Geological Survey map of the area with you.

What you want the Real Fisherman to point out, and lacking him, what you must ferret out on your own, is water that warms well in summer, has a rich plant life, with a good mucky mud bottom. Fast-flowing streams are great for trout, rocky bottomed lakes are good for small-mouthed bass, the reedy shores of cold, spring-fed lakes for musky and pike, their deeps for togue and landlocked salmon. But catfish like it warm. Shallow ponds, backwaters or half-blocked meanders of flatland streams or the swampy fringes of silting up lakes, beaver ponds or whatever is all catfish water.

The more moss, lily pads and other weeds the better, and if the water gets milky with brown or green algae and you hear the snaps and pops of turtles and frogs in mid-summer, go catfishing.

You can pick up an occasional catfish any time of day, but you pretty much have to toss the bait on top of his head. Around dusk they begin moving around on their own, and early evening is the most



come in a red plastic holder and must be displayed on outer garments. The Real Fisherman wears his stuck into the back of his hat. And it's best to leave the fisherwomen in the car, sad to say. The Real Fisherman is also one of the last of the 100% pure male chauvinist pigs. If you chew tobacco, fishin' males, that's plus. So will the Real Fisherman, likely as not. But don't try it for the first time in his shop. The Real Fisherman can go for an hour without expectorating. I can't, you won't and there won't be a cuspidor out front of the counter where it might get kicked over.

Now, saunter in, admire the stuffed fish on the wall as though you wish you'd caught it and order parts of whichever of the rigs shown in the illustrations best suits your fancy. Don't pretend to know any more about fish and fishing than you do or you'll be spotted as a phoney immediately. But the thing the Real Fisherman likes more than fishing is handing out advice on fishing. Ask him to point out the best catfish water in the area; would be

productive and pleasant time of day. Late spring is probably the best time of year, though that varies with locale. Catfish really don't get moving til the water warms appreciably, so spend your early spring fishing time going after the faster paced trout, bass or whatever. Or stay home; here, early spring is black fly followed by mosquito time. The catfish cooperate best after the bugs are well gone.

To catch some, put doughbait or whatever on the hook, toss it in with bobber adjusted so the bait is just at bottom level (you can tell by pulling once the bait sinks — and you may have to put on a split shot or two to get and keep it down. If you feel the bait as the bobber moves, you're not on bottom. If the bobber moves laterally over the water before you feel the bait, you are on bottom and should adjust the bobber). Then wait. If you've chosen the water well, in time the bobber will begin to move away from you slowly, and just as you sense the line is nearly taught, jerk hard but not savagely on the pole and haul in a catfish.

Ugly thing, and dangerous. The front of the top dorsal fin and both of the front "wings", the pectoral fins, contain sharp, hard barbs that contain a mild poison. A thrashing catfish can spear you with the barbs, causing a potentially very painful, infectious puncture wound. I carry a pair of side-cutting pliers and a left-hand, very thick lineman's glove. The barbs are snipped off, hook removed from the mouth and the fish goes into a wire holding cage that is tossed out into the lake, pond or stream. The fish doesn't mind and cleaning will be a snap.

With a trotline, you can use two methods. To shore fish, put only the number of hooks you think you can haul, fully loaded, through the weeds. Tie a stone to one end, and holding the stone, let the line fall in loose coils as it will, but lay baited hooks out at the water's edge. Then, tie the loose end to your boat, a stick or something, whirl the weight around your head, let fly and the line and baited hooks will sail out. In an hour haul it in, remove fish, rebait and sling it out once more.

With a full trot line (that is traditionally laid from shore to shore in the slow, muddy, catfish streams of Dixie) you just patrol the line every hour in your rowboat, pulling up line as you go, removing caught fish, hook and all from the snap-swivels on the lines and putting a previously-baited hook in its place. If you leave a catfish on a line overnight it will most likely die from lack of oxygen and/or be eaten by a turtle. Where there's catfish, there's turtles.

The jugline-caught fish can move relatively well, and you can toss in the apparatus and wait till morning to pull in the catch. You'll lose a few, but not as many as on a trot line.

Once you start catching catfish, you also have a fine perpetual bait supply. As you clean them, wrap the innards, a chunk of head or tail on new hooks, let cure for a couple of sunny days.

Cleaning catfish takes some muscle, but is quicker than cleaning any other fish I know. A debarbed catfish is put on the cleaning board — a plastic thing like an elongated clipboard, though a regular clipboard will work too. Put the head in the clamp. If you want to put the fish out of its agony, even though it can't feel a thing, sever the backbone just behind the head with the blade of your knife. The fish will flap around more than if you just skin it out alive, to be frank.

I take a sharp knife, run it deep along both sides of the top, dorsal fin and pull the fin free with pliers. The belly is slit and the skin is cut all around the body just behind the head (that makes up a third of the fish's length). Then, with the pliers I shuck the skin off. Pectoral fins and the bony stuff around them are cut out, what innards that haven't come off with the skin are removed — you have to cut the vent free from the tail end of the body cavity — and the head and tail are chopped off.

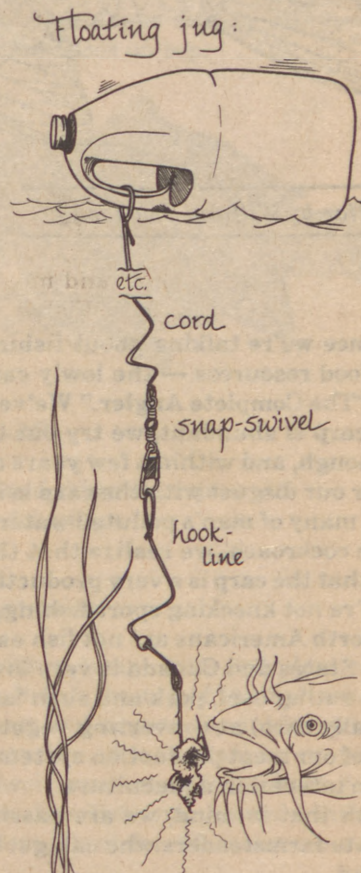
What remains is a drumstick of meat laid out in two perfect halves along with a simple spine. We

clean the fish on site, put the good stuff into an icechest and what byproducts that aren't saved for the next day's bait go to the turtles. In a clean-running trout stream your fish's head and guts should be buried; the eco-system isn't prepared to take care of much waste. But a catfish pond is teeming with life that is ready and eager to clean up after you.

Once home, the catfish are soaked overnight in a weak salt solution to leach out any fishy taste or pondy taint. Then, next day, dinner-sized portions are packed into freezer containers that are filled with fresh water, and each goes into the deep freeze till needed. In water, thawed in a cool place the night before serving, the fish retain all the wonderfully fresh-caught flavor.

And to cook them, use any recipe that calls for a heavy, rich-fleshed fish. An oily fish, they make grand fish stew, bouillabaise, Gefiltafish (though 'tain't Kosher I'm told). Best though, is the traditional East Missouri Swamp fish fry — presented here in Louise and her mother's somewhat updated version.

First, get out the catfish, dry them well and leave them to reach room temperature. Put a big cast iron skillet or deep fryer on the woodstove and fill it so the fish will be more than half submerged in cooking oil or hot fat. Fresh lard is best for flavor if you have it, though it isn't as healthy as Safflower or other vegetable oil which is what we use. Fix the salad, potatoes, sweetcorn and whatever and time the meal to start when the last batch of fish is fresh out of the hot grease.



Mix up a bowl of eggs, about one per big eater, with a bit of water added. Don't whip, but get them well broken up. In a flat dish make up a breading of half white flour and half yellow cornmeal (and you can change those proportions to suit yourself; as I may have said before, Louise's mother uses pure corn.) Add in salt and pepper to taste.

Once the fat is hot enough to brown a cube of bread, but not so hot it smokes or burns the bread, dip each fish piece in the egg, then in the breading mix and pop it into the fat. The first will erupt in a mess of bubbles, but as you go, it will calm down. Don't put in so many at one time that any two fish ever touch. Cook till the breading is a lovely golden brown, store the first few batches in a warming oven over toweling and they'll keep fine for up to half an hour.

Once the fish is all in, mix remaining egg and

breading, add in more corn meal if needed plus several pinches of baking soad and a chopped onion. Add milk if it's too stiff to form into silver dollar-sized, sausage shapes or flat patties. Serve the meal, then cook up the bread in the hot fat. Hushpuppies they're called reportedly because the old southern cooks used to prepare them up for the dogs. But, it's a grand addition to the meal half way through and our dogs will have to settle for leftovers, if any.

You'll find that the catfish meat almost pops off the bone and even if you don't feel so inclined, the kids will hand-eat them like chicken drumsticks. And the light, un-fishy flavor will surprise you if you are new to catfishing. So, as they say, you get a line, I'll get a pole and we'll put it together down at mud pond, going after hon'd pout, yellerebellies or what you will.

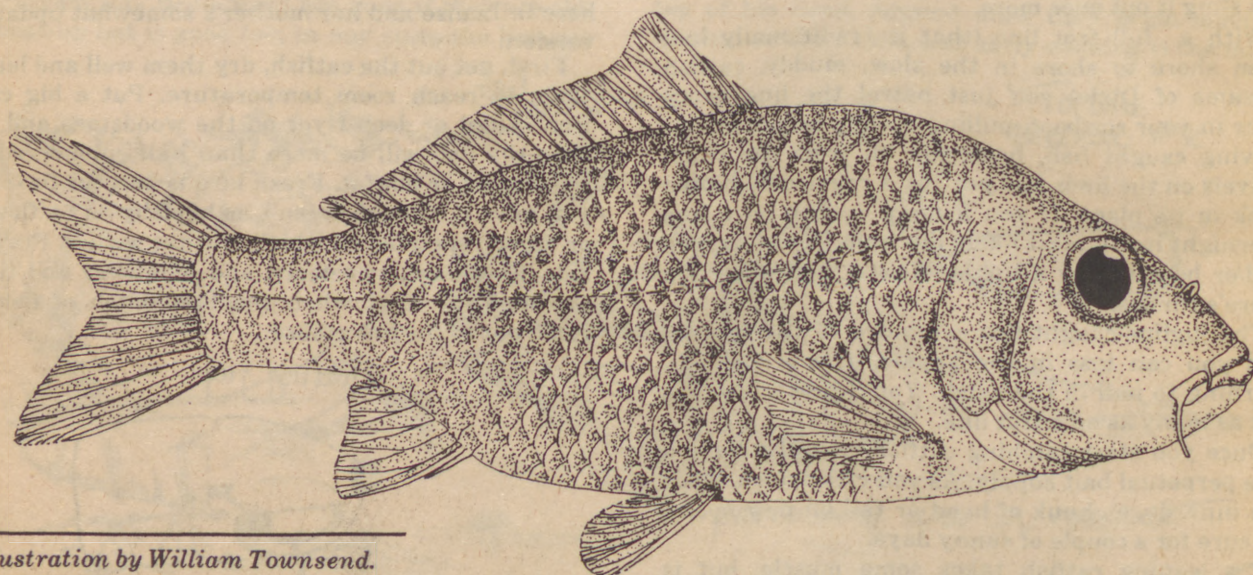


Illustration by William Townsend.

Since we're talking about fishing, we thought we'd mention one of the United States' most neglected food resources — the lowly carp. Isaac Walton called the carp "the queen of the river" in his classic "The Complete Angler." We've relegated the "queen" to a much lower position. In fact, in many waters where carp is abundant, we try our best to poison her because we don't consider her sporting. She's persistent, though, and within a few years of our eradication efforts, she's usually back in abundance. A possible reason for our disgust with the carp is its ability to thrive in areas of poor water quality. She does very well indeed in many of man's polluted waters. We don't like animals that thrive in our pollution. Maybe it's because, like the cockroach, we realize that the carp will be around long after we've poisoned ourselves. The fact remains that the carp is a very productive fish in warm water, often more so than some of her sporting cousins.

We're not knocking sport fishing, but our culture's emphasis on sport fishing overrides our use of fish as food. North Americans are not fish eaters. Compared to most regions the per capita consumption of fish in the United States and Canada is very low, and half of what is consumed in the United States is imported. We're used to eating beef, pork and such land-based meat animals which are actually much less efficient than fish (especially carp) at converting vegetable matter to animal protein. It has been the realization of the inefficiency of our meat production systems and their dependence on fossil fuels that has resulted in the recent upsurge in interest in aquaculture.

With that in mind, we are passing on some recipes for preparing carp and other rough fish, for those fortunate farmsteaders who can get these fish in abundance, or for those who may be setting up a backyard fish pond.

Cooking Carp & Other Rough Fish

by Clarice L. Moon

DRESSING CARP

1. Grasp fish by the tail fin and insert a knife under the scales at the tail. Then by moving the knife with a sawing motion toward the head, slice off the scales in strips. There will be about three strips on each side.
2. Cut the flesh to the bone around the head and twist the head off.
3. Cut off the tail and other fins.
4. Split the abdomen full length, remove the viscera and wash inside of fish.

SMOKED CARP

Cut the dressed fish into chunks of one-half to one pound each. The chunks should be of uniform size. Prepare a brine by adding salt to cold water until it is of sufficient strength to float a medium-sized chicken egg. Only the tip of the egg should be seen above the surface of the brine. Place the pieces in the brine for twenty-four hours. Use enough brine to cover the fish. Remove and wash the fish in clear water. Dry the pieces and place on a wire mesh at the bottom tray of a smoker. The tray should be previously oiled with lard to prevent the fish from sticking.

The fish is then cooked over a hot fire with little smoke for a period of two and one-half hours at 210° F. Dry hickory wood is recommended but other dry wood such as maple, apple or white oak may be used.

After cooking, the hot fire is broken down and green apple wood or soft maple wood is used to build up a dense smoke. Smoke the fish an additional hour at a temperature of 85° to 100° F. After smoking, do not pack fish until they are cooled. Keep the smoked fish under refrigeration.

PICKLED CARP

Cut the cleaned fish into one-quarter pound pieces and place in salt brine. (Same brine as for smoked fish.) Use only enough brine to cover the fish. After the fish has been in the brine for ten hours, remove and freshen in cold water for ten minutes. Now place fish in a cold solution of 60% water and 40% vinegar. Season with whole pepper, bay leaves and cloves. Bring to a boil and simmer for fifteen minutes. Now remove fish and place in a crock or jar. Strain liquid and pour over the fish until covered. Place fish in a cool place until mixture jells.

BOILED CARP

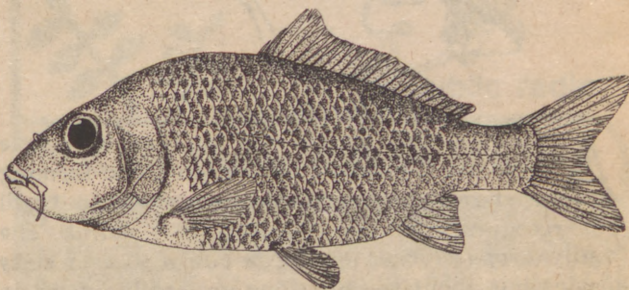
- 2 lbs. filleted and skinned carp
- 2 tsp. salt
- 1/4 tsp. pepper
- 1 medium onion

Wash fillets in clear, cold water and wipe with a damp cloth. Cut into desired size pieces. Season water with salt and pepper and one sliced onion and bring to a boil. Place fish in French fryer wire basket and immerse in boiling water. Allow fish to boil until done. Then remove and serve with melted butter.

FRIED CARP

- 2 lbs. filleted and skinned carp
- 1 cup flour
- 1/4 tsp. pepper
- 2 tsp. salt
- 3 tbsp. bacon drippings or vegetable shortening
- 1 large onion

Cut fillets in serving sized portions and roll in mixture of flour, salt and pepper. Place fish in melted fat in a frying pan with slices of onion on top. Fry fillets on both sides about twenty minutes or until done. Keep onion slices on top.



BROILED CARP

- 2 lbs. filleted and skinned carp
- 3 tbsp. bacon drippings
- 1/2 tsp. salt
- 1/4 tsp. pepper
- 1 medium sized onion
- paprika

Wipe fillets with a damp cloth and place on rack of a broiler pan. Brush the top of the fish with fat and season with salt and pepper. Sprinkle with chopped onion and paprika. Place fish in a pre-heated broiler and broil two inches from heat for fifteen minutes. Turn the fish over, brush with fat and season as before. Broil for fifteen more minutes or until done.



Nasturtiums



by Roy Barrette

Although this article will be read by people who are interested in the land, and farming and gardening, I would guess that half will not recognize the name *Tropaeolum majus*. The family *Tropaeolaceae* is a large one with over sixty species but about the only one generally known in this country is *T. Majus*, a common, well-loved old fashioned flower that has graced our gardens since the middle of the 17th century. It requires no coddling, no rich soil, no particular attention, and has seeds that are large and germinate readily and promptly. It is what we commonly call the Nasturtium or, occasionally, Indian Cress.

I was a little boy, just beginning gardening, when I first made the acquaintance of nasturtiums. One of my elders gave me seeds to plant and, sure enough, though I dug up a few now and again to see what was happening, most germinated and soon covered the ground with their long vines. I have since tried a few of the others, *T. peregrinum* (the canary bird flower) and *T. speciosum* (flame flower; with more or less success but the old Indian Cress remains my favorite.

One of the reasons it is so much easier to teach a person to be a vegetable gardener than a flower grower is because, generally, seeds of vegetables are larger than those of flowers and thus easier to handle. There are, of course, other reasons, such as the fact that vegetables are grown in rows whereas flowers seldom are except for edging and cutting. Nasturtiums, though, are ideal for children to start their gardening adventures. The seeds look like a third or a quarter of a tiny cantaloupe and they don't jump out of grubby little fingers the way smaller seeds do. Then, after they are grown, the leaves make the most delightful filler for thin bread-and-butter sandwiches, and all kids enjoy eating the produce of their own garden. So, for that matter, do adults. I grew up on nasturtium bread-and-butter sandwiches and have never lost my taste for them. The green seeds also make a pickle

Roy Barrette, writer and gardener, lives in Brooklin, Maine.

that looks and tastes rather like capers and is a tasty addition to a white lamb, or veal, stew.

The nasturtium has the not inconsiderable distinction of being the twenty-third flower to be pictured and described in the first volume of the old Curtis Botanical Magazine published in 1790. It is described there as being a native of Peru and said, by Linnaeus, to have been brought to Europe in 1684. Curtis says "... it is certainly one of the greatest ornaments the Flower Garden can boast: it varies in color, and is also found in Nurseries with double flowers. The former, as is well known, is propagated by seed; the latter by cuttings.

Curtis goes on to remark that "Elizabeth Christina, one of the daughters of Linnaeus, is said to have perceived the flowers to emit spontaneously, at certain intervals, sparks like those of electricity, visible only in the dusk of evening, and which ceased when total darkness came on." I can't say I have ever seen a nasturtium spark but it has enough other virtues to recommend it without doubling as a lightning bug. Sparks or no sparks it has one other attraction to kids which is that if you nip off the end of the nectary with your teeth and suck, you will be rewarded with a tiny drop of "honey" with a delightful taste.

Whether or not you want to grow what we call the old fashioned variety — the single with long trailing vines — or what most people think of as the modern double (although you will have noted that Curtis knew about it in 1790) you should plant the seeds where they are to grow, as nasturtiums do not transplant easily. The double varieties now come true from seed so you do not have to make cuttings. One of the most popular doubles in recent years (not so recent at that, as they have been around since the twenties; is Golden Gleam, a non-vining type with many very double flowers. You may plant the bush types about six or eight inches apart and the trailing varieties at least a foot. They do very well (the trailers) where they can wander over an old rock wall, or anything else you want to cover for the summer. One thing you must *not* do is treat them kindly. If they are planted in rich soil or fed they will develop quantities of leaves at the expense of flowers. The ideal soil is one that is a poor, sandy, or gravelly loam of which we are cursed with an abundance in Maine.

Nasturtiums make lovely cut flowers to place in a container where they can hang over the sides. I have seen them pendant from a brown bowl, held by macrame, looking better than they did growing. Don't cut just the flowers, use some of the vine and foliage — they will soon make new. And don't forget those nasturtium sandwiches.



a closer look at gardening

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Blackberries . . .



by Beatrice H. Comas

If you have ever picked Blackberries you must have been puzzled by what was so "wondrous wise" about that fellow in the nursery rhyme who "jumped into a bramble bush and scratched out both his eyes." It is hard to picture anyone leaping from choice, although in reaching for the plumpest and ripest fruit, one is bound to get scratches for the Blackberry is one of a number of related brambles of the rose family, which also includes the Raspberry, the Loganberry and the Dewberry. Strange to say, anyone who can fill a basket or pail with the glossy, purple-black fruit, seldom complains about the brambles.

Brambleberries were eaten by the Indians who introduced the settlers to so many foods, and pie being one of our early American traditions, no doubt Colonial wives made wild berry pies.

While Blackberries are native to and cultivated in the Northeast, numerous species and varieties are grown in other regions, particularly in south and central states. If you are buying fresh Blackberries, select those with a bright, fresh, plump appearance and solid full color. Overripe berries are dull, soft and leaky and caps that adhere to berries indicate unripe fruit.

Now for the best of Blackberry desserts!

OLD FASHIONED BLACKBERRY PIE

4 cups fresh blackberries (or 1 16-ounce package frozen, thawed)

1 cup sugar

2 tablespoons flour

4 tablespoons sugar

2 tablespoons lemon juice

$\frac{1}{8}$ teaspoon salt

1 tablespoon butter or margarine

Pastry for double-crust 9-inch pie.

Combine berries, sugar, flour, lemon juice and salt. Line pie pan with pastry. Add filling and dot with butter. Cover with top crust. Bake in 450 degree F. oven for 10 minutes. Reduce oven temperature to 350 degrees F. and bake 25 to 30 minutes longer.

STEAMED BLACKBERRY PUDDING

1 cup sifted flour

1 $\frac{1}{2}$ teaspoons baking powder

$\frac{1}{2}$ teaspoon salt

$\frac{1}{2}$ cup shortening

$\frac{1}{2}$ cup dry bread crumbs

$\frac{1}{2}$ cup sugar

1 egg, beaten

cup milk

1 $\frac{1}{2}$ cups blackberries

Sift flour, baking powder and salt together. Cut in shortening and add bread crumbs and sugar. Add eggs and milk. Mix thoroughly and carefully fold in blackberries. Pour into greased mold. Cover and steam 2 hours. Serve with any sweet pudding sauce. Serves 6.

QUICK-TO-FIX BLACKBERRY COBBLER

1 no. 303 can blackberries

$\frac{1}{2}$ cup sugar

2 tablespoons flour

Dash of cinnamon

1 tablespoon butter or margarine

1 stick pastry mix

Turn blackberries into a buttered 8-inch pie plate. Blend next 3 ingredients and sift over berries. Dot with butter. Prepare pastry by directions. Roll to about 9 inches in diameter. Cut steam vents in center; lay over berries. Turn edge under enough to meet rim of pan and press against rim. Bake 20 minutes until brown and juice bubbles through vents. Serve lukewarm. Makes 4 servings.

BLACKBERRY SLUMP

1 quart fresh blackberries (or 1 16-ounce package frozen, thawed)

1 $\frac{1}{2}$ cups sugar

$\frac{1}{2}$ cup water

1 rose-geranium leaf†

Salt

1 cup flour

1 teaspoon baking powder

1 egg, slightly beaten

3 tablespoons milk
2 tablespoons butter or margarine, melted
Whipped cream or ice cream

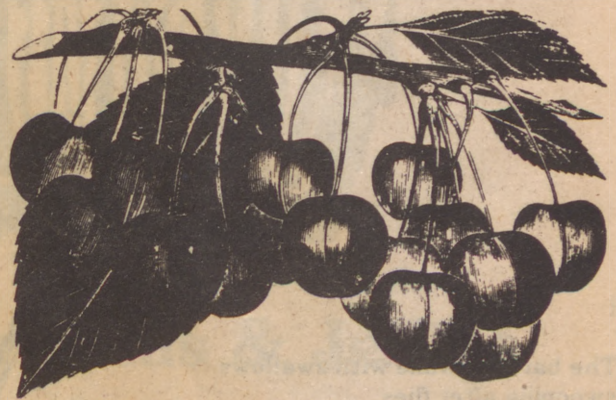
In medium saucepan bring to boil blackberries, 1 to 1 1/2 cups sugar, water, rose-geranium leaf and pinch of salt, stirring to dissolve sugar. Simmer 10 to 15 minutes, removing any scum that rises to the top.

Meanwhile, make batter by mixing flour with 1 tablespoon of sugar, the baking powder and 1/2 teaspoon salt. Mix egg, milk and butter and add to flour mixture and drop batter by tablespoonfuls on top. Cover and simmer 10 minutes or until dumplings are fluffy and pick inserted in center comes out clean. Place dumplings in serving dish and spoon berry mixture over them. Serve warm with heavy cream, whipped cream or ice cream.

BLACKBERRY SOUR CREAM PIE

1 cup sugar
1 cup dairy sour cream
3 tablespoons all-purpose flour
1/4 teaspoon salt
4 cups fresh blackberries (or 1 16-ounce package frozen, thawed)
1 unbaked 9-inch pastry shell
1/4 cup fine bread crumbs
2 tablespoons sugar
1 tablespoon butter or margarine

Combine the 1 cup of sugar, sour cream, flour and salt. Place blackberries in pastry shell. Spread sour cream mixture on top. Combine bread crumbs, the remaining sugar, and butter. Sprinkle on top. Bake at 375 degrees F. 40 to 45 minutes or until done.



And Cherries

by Mary E. Allen

Mid-summer meant cherry picking time in my childhood. One summer day we'd go to Grandma's farm and pick and pick and pick cherries, as well as eat as many as we could.

Then next day, we pitted cherries in preparation for canning. Mother stirred up cherry pies and cherry dumplings. Cherry season was a high spot of the summer even though it meant work as well.

This tasty fruit was first grown in Asia Minor and got its name from Cerasus, a Turkish town on the Black Sea, now called Giresun.

In 300 B.C. Theophrastus, the Greek "Father of Botany" described the cherry trees and fruit grown then. Later this fruit was brought to Rome and then was grown throughout Europe.

Cherries were brought to this country by the early settlers. As early as 1629, Massachusetts settlers were growing the Red Kentish cherry.

It was common for colonial homes to have a cherry tree or two in the back yard. And many old homesites, though the homes are long gone, are discovered by the cherry and apple trees still standing.

Cherry cultivation started on our West Coast in 1847, when horticulturist Henderson Luelling carried cherries by covered wagon to Oregon.

Cherry dishes range from a simple dish of canned rosy cherries, eaten with cookies or pound cake after a meal, to fancy cakes and puddings. On cereal or in salads, too, they have appetite appeal. And cherry sauces for ice cream, vanilla or tapioca puddings are delightful.

According to a 19th century French dictionary of cookery, **Cherry Soup** was a fashionable dessert, made by frying white bread cubes in butter. Ripe red cherries were added and one continued to saute bread and berries. Then water, sugar, and kirsch were added before serving.

To make a refreshing **Cherry Shake** combine 1/2 cup halved, pitted fresh sweet cherries, 1 cup cold milk, and 2 scoops vanilla ice cream and beat well. Pour into tall chilled glass and top with a fresh cherry.

Cherry Crisp is tasty. Combine 3 cups pitted tart or sweet cherries with 1/2 tsp. almond extract. (The extract can be left out if you do not care for almond flavoring.) Place in a greased 8-inch square baking pan. Combine 1/2 cup sifted flour, 1 cup quick cooking oats, 1/2 cup firmly packed brown sugar, 1/2 tsp. salt. Add 1/2 cup melted butter or oleo, mixing until crumbly. Sprinkle crumb mixture over the cherries and bake at 375F. for 20 to 25 minutes. Serve warm or cold with cream or ice cream. Makes 6 servings.

A medieval version of **Cherry Tart** called for ground, pitted sour cherries to which were added finely chopped red roses, ground cheese — both fresh and old — a little pepper, ginger, and sugar, with 4 beaten eggs. Poured into a well-greased pastry-lined pan, it was cooked over a slow fire. Before serving, sugar and rosewater were poured over.

Solstice

by Linda Tattlebaum

i

The barn is awake with swallows
swooping after flies
this earliest dawn
with summer's lush grasses
whispering to be cut down,
for justification.

I am curtained from the day
asleep
while I seek habitual rest
till, hours of birdsong passed,
the dew begins to shine
on flowering peas.

ii

Old elm
like a bowed lilac bush
spilling great gloves
green and gold
to the ground,
oaks in a row
like broccoli to a tiny ant

as I crawl through a heat
of wild strawberries
picking.

I am cool.
My heart gushes forth with water
like a spring
under a willow.

iii

I am cutting hay
with a sickle
revealing contours of the land,
from spring, when grass was yet to be:
imbedded rock
soft moss
a patch of yarrow.
I cut around the beehives
thinking to clear their passage, my view.
I cut back spreading raspberries
where woodchucks love to nap.
I cut along the garden path.

All space seems eased
and cool amid the humid smell
of fallen grass.

iv

Scarecrow looks like an old crone
bending to her work
as the stake that holds her up begins to lean.

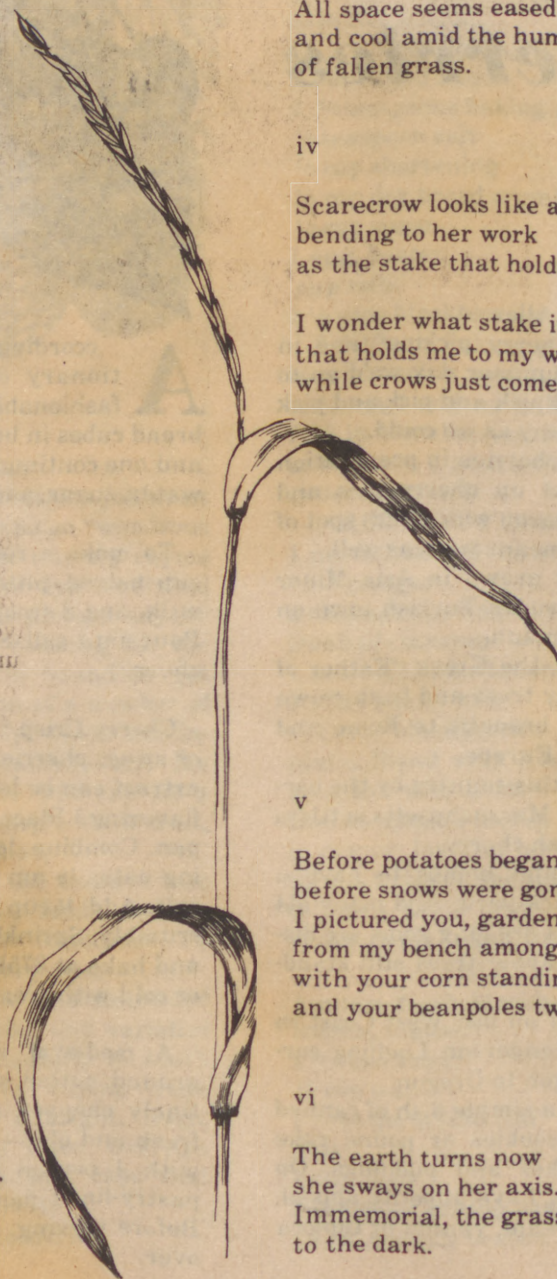
I wonder what stake it is
that holds me to my work
while crows just come and glean.

v

Before potatoes began their swelling in the dark,
before snows were gone from over the parsnip bed,
I pictured you, garden,
from my bench among the beehives,
with your corn standing high
and your beanpoles twirled with green.

vi

The earth turns now
she sways on her axis.
Immemorial, the grasses bow down
to the dark.





Making Low Sugar Jams & Jellies

by Adam and Bonnie Tomash

You've all seen those pictures of the well stocked root cellars with row after row of glass jars all filled with the summer's bounty, including little jam pots with pretty labels and paraffin lids. But how to eat that jam with a clear conscience knowing all the sugar it contains? How many times have you tried to make the jam with less sugar only to find that the Certo or Sure-Jell won't "set" the jam without all that sugar?

So then it's either the open kettle method with hours of boiling the fruit-sugar mix which can result in a tasteless mush (especially with some fruits, like blueberries) or it's thin, watery jam that tastes good when first made but quickly ferments on storage because there isn't enough sugar to keep it from spoiling with only a wax seal.

After trying all these methods over the course of several growing seasons and being unhappy with them all we spotted a new item in the Walnut Acres (a retail natural foods mail order store) catalog called L-M (low-methoxyl) pectin. This pectin turned out to be the answer to our searchings.

Adam and Bonnie Tomash and children live on a homestead in the unorganized territory of Concord, Maine. Woodcuts are by Siri Chandler.

It would make very low-sugar jams or jellies, still set properly using a source of calcium ions instead of sugar and with care in processing would keep in a cool place for a lengthy storage time once sterilized with standard canning techniques. We sent for it and waited impatiently.

When it arrived we began experimenting with this relatively untested pectin. We found it a very easy material to work with once you were attuned to its basic properties and knew a few ground rules. The following are some of the things we've learned and after four years of working with it we're still learning.

Shelf Life: Walnut Acres says the pectin is good for up to a year when stored in the original waxed paper bag. Stored in an airtight glass jar and kept in a cool, dark place it has worked for us after as long as 24 months after receipt.

Solubility: L-M pectin is not particularly soluble in cold or hot water. One can make up a solution in advance of actual use by putting 4 tablespoons of pectin into a blender containing one quart of very hot water (be careful with hot water in a blender — it can be messy and dangerous) on low speed. This solution should be refrigerated and will jell when cold. It can be measured as a solid or remelted and measured as a liquid just before using.



Another method is to mix the dry pectin with the dry sugar thoroughly and then mix this with the simmering fruit mix. This method works very well, but pectin just dumped in alone will lump up in the hot fruit and give poor results.

If you opt to use honey or maple syrup for sweetener instead of sugar, you will find that the dry pectin will dissolve very nicely in warmed liquid honey or a warmed 1/4/2 mix of honey and fruit even though it stubbornly refuses to go into solution with just water. Your taste will probably tell you to use less honey as it tends to have more sweetness volume for volume when compared with sugar. Honey, having a flavor of its own, can overpower some of the milder fruits like blueberries and raspberries. When the pectin is dissolved completely in the warm honey/fruit mix, the mixture is added to the simmering fruit as in the above method.

The Calcium Phosphate: Regular pectins like Certo and Sure-Jell (called high-methoxyl pectins) are made from apples and require large amounts of sugar to thicken. L-M pectin is made from citrus rinds and needs primarily calcium ions to jell and a very small amount of sweetener to give the product an acceptable taste and texture. You may order from Walnut Acres a small jar of dry food-grade dicalcium phosphate along with the pectin. This is the source of calcium ions and has to be liquified before adding to the hot fruit. A "saturated" solution is made by adding 1/8 teaspoon of the dry calcium phosphate powder to 1/4 cup of water. There will be a white sediment on the bottom of the container. This is simply excess dicalcium phosphate that will never dissolve. As long as there is sediment on the bottom you can be assured that the liquid above it contains all the calcium ions that it can hold. You use 1 teaspoon of this solution, more or less, per cup of fruit mixture. It is added to the hot fruit just after the pectin is and then all is brought to a boil again. Both the amount of pectin and the amount of calcium solution affect the thickness of the jelly or jam. An increase in calcium solution seems to make a bigger difference than an

increase in pectin. That's nice to know because the pectin is more expensive. If your water is "hard" it probably contains some calcium ions so you may need less of the calcium solution to make your jam set.

Storage: Normal jams and jellies inherit good keeping qualities from the large quantities of sugar used. Bacteria and mold don't find it easy to grow in such an environment. This means that "high sugar" cooks can get away with open kettle canning and wax seals. Not so with this process. We need fairly sterile conditions and a good seal. Follow the steps listed under "Procedure" and you should have no problem.

Once the seal is broken the jam should be kept cold or at least cool. It should last two weeks if cold, one week if cool. If it goes bad it simply ferments. If the seal is intact the jam will keep at least twelve months. We have sometimes found small spots of mold on the surface of the jam but they did not spread and all was well underneath. This mold spotting happens more frequently if you don't process the jam with enough water to bring the level two inches above the jar tops. At any rate, the fear of botulin food poisoning is unwarranted because fruits are sufficiently acid to prevent the growth of the bacteria responsible.

If you have a freezer you can make this jam up as you need it from frozen fruit and skip the whole canning business. It would take fifteen to thirty minutes to make one to two quarts of jam from thawed fruit. With experience you might make two quarts of jam to last two weeks in ten minutes and dirty one pot! Not bad. No thermometers. No hours of boiling.

Availability and Cost: Both the pectin and the dicalcium phosphate are sold by Walnut Acres of Penns Creek, Pa., 17862. The L-M pectin is \$3.71 for 8 oz. and the dicalcium phosphate is .46 for 2 oz. The shipping is .76 *via* U.P.S. to Maine. 8 oz. of pectin is enough for a family of four to can all the jams and jellies they could eat in a year. The 2 oz. of dicalcium phosphate will last three to four seasons



and will keep indefinitely. The pectin should be purchased new every season, although as previously stated, if stored properly it will keep longer.

Other Literature: Euell Gibbons started this whole business back in 1969 with an article in the January OGF. He later published a cookbook for diabetics called *Feast on a Diabetic Diet*, Euell and Joe Gibbons, David McKay Co., N.Y., 1969. The book contains recipes for all sorts of low sugar things using L-M pectin, including puddings, pies, fruit soups, other desserts and of course, jams and jellies. This book is available through Walnut Acres.

Advantages: Other than the obvious advantage that your jam has much less sugar and thus costs less and is more healthful, there are other pluses for this L-M method.

1. The jam is brought to a boil only very briefly thereby using much less fuel than the traditional "boil until thickened" method.

2. There is less time spent over a stove during the hot summer days.

3. More of the vitamins and flavor are retained during this brief cooking time. Jam made this way tastes as close to fresh fruit as you can get in any canned product. Jams made from frozen fruits and juices taste even better.

The Procedure:

1. Start a water bath canner heating with water sufficient to cover with 2 inches of boiling water the number of jars you intend to use.

2. Sort and clean the fruit, if necessary.

3. Wash jars and lids with very hot, soapy water and rinse in hot water.

4. Measure 4 cups of fruit (or multiples of 4 cups — start out small) into a heavy pan (stainless steel if you have it) using just straight fruit or up to 1 cup of water or juice per 4 cups of fruit, as an extender. Apple cider would make a nice extender and flavor enhancer as well.

5. Mix 2 teaspoons of dry pectin with 1 cup dry sugar or $\frac{1}{2}$ warmed honey or syrup. *You may use more or less of both of these ingredients depending*



on the thickness and sweetness you desire. If you use the predissolved pectin as mentioned in the SOLUBILITY section, cup of the jellied pectin/water is equivalent to the 2 teaspoons of dry pectin used above. You may add the predissolved pectin to the fruit mix without first mixing it with the sweetener as we must do with the dry pectin.

6. Have ready the jar of dicalcium phosphate solution and some simmering water to warm jars and sterilize lids. When the fruit starts to boil, add the pectin-sweetener mix and stir until all is well dissolved. Bring back to a boil and add 2 teaspoons (for a 4 cup batch) of the dicalcium phosphate solution. Your results will be more consistent if you just use the clear liquid above the sediment. Stir and the jam is DONE. You may cool a sample on a spoon or in a small dish to check for thickness and taste. If it is too thin add more pectin or calcium. If it is too thick add more water, juice or fruit and bring back to a boil. Retest until you get it the way you want it. Keep track of what and how much you add for future reference on the proportions suited to your taste. If you want to eat it now put it in a warm jar, cap it and when cool, place it in a cool or cold place. If you wish to have it for long term storage go on to step 7.

7. Pour near-boiling completed jam into warm, clean jars. Leave $\frac{1}{2}$ to $\frac{1}{4}$ inch of airspace and seal with sterile lids.

8. Process filled jars in boiling water for 10 minutes (start timing when water first comes to a boil) for pints or quarts. This step just sterilizes the surface of the jam and completes the seal on the jar by driving air out. Check the seal when cool.

9. Store in cool, dark place.

If it seems like a lot of work now it won't seem so when those jars of fruit are all ready anytime for yogurt topping, pies, cakes, fruit for the baby and with peanut butter and toast. Nice to know that you can eat as much as you want! Happy eating, all.



Coffee, Tea, or Chicory

by Paul Fleisher

Those of us who have developed the overpowering need to begin each day with a cup of coffee have been hit hard by the recent increases in coffee prices. Like many others, I don't begin functioning on most mornings until that first cupful begins coursing through my veins. This has become a very expensive habit. For those of you who share this dilemma, I have a suggestion which can cut coffee bills by as much as one fourth, and give you some good outdoor exercise at the same time.

Some of the best coffee I've ever tasted is brewed in the New Orleans area. It's strong, hearty, and fragrant. Allowing plenty of recognition for the skills of New Orleans' cooks, at least part of the credit for their excellent coffee must go to a common weed, chicory.

Chicory roots, and those of its first cousin, the dandelion, both make effective coffee extenders. Both plants are easy to recognize and can be found throughout most of the United States. The leaves of these perennials grow in a ground-hugging rosette above a long sturdy taproot. The name "dandelion" apparently comes from the French "*dents de lion*", meaning "lion's teeth." It's an apt name to describe the jagged tooth-like edges of the plant's leaves.

Chicory also has these toothed leaves. The two plants are very similar in appearance until they begin to put out their bloomstalks. The dan-



delion, of course, has its familiar bright yellow flowers, which are followed by fluffy balls of seeds. Chicory blooms later in the summer, putting out a tall, branched bloomstalk, often several feet high, festooned with ragged-looking blue flowers. Anyone who spends any time outdoors should be familiar with these ubiquitous plants.

To prepare chicory or dandelion for use with coffee, gather a quantity of the long taproots, preferably from damp or loose soil that will release the roots easily. Make sure each root you gather is chicory or dandelion by examining the foliage before removing it from the root crown. This should be standard procedure in gathering wild foods, to guard against accidentally gathering a toxic species (none of which remotely resemble dandelion or chicory). If it is early spring, before the dandelions have begun to produce blooms, you can save the leaves and cook them as a green vegetable. Once they have begun sending out bloomstalks, just discard the leaves. They will be much too tough and bitter to eat.

After gathering the roots, wash them thoroughly. Place them in a warm location to dry for several days. Once they are dry, roast them in a shallow pan in the oven at a low temperature (250-300 degrees). The roots can be roasted immediately without drying, but since the roasting will take much longer, this would be wasteful of energy.

Paul Fleisher lives in Chesterfield, Virginia.

Expect the roasting to take several hours. The roots should be roasted until they show dark brown on the inside when snapped in half. After they cool, grind them coarsely in a coffee grinder, grist mill, or mortar. They are then ready for brewing.

I have heard chicory and dandelion roots referred to as "coffee substitutes", so I suppose it would be worthwhile to experiment by brewing a 100 percent chicory or dandelion drink. Brew it just as you would coffee. My taste buds are not nearly imaginative enough to think this brew tastes anything like coffee, but anyone who finds it to his liking may have solved the coffee problem altogether.

I prefer to call these roasted roots "coffee extenders," because they can make a pound of coffee go quite a bit further. Use your own taste in determining the mix of coffee and ground roasted roots that you find most flavorful. I suggest a proportion of one part root-roast to three to five parts coffee. This could mean stretching the coffee supply by as much as one fourth, a considerable savings at today's prices.

One final hint about coffee. I have found that coffee, both ground and instant, keeps its flavor and potency much longer when kept in an airtight container in my freezer. This will minimize the shock of remembering what "real" coffee is supposed to taste like each time you open a fresh jar or can.

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Tea Thyme

by Beverly S. Narkiewicz

What is it about herbs? There persists about these plants an aura of mystery and danger completely out of character with the history of their pleasant association with mankind. Somehow, the mention of pennyroyal, rue, costmary, or the like, conjures up images of lecherous little old ladies cackling through broken teeth as they hover over a steaming vat of brew. It's ironic that herbs — many of which are prized for their calmativ properties — should inspire such nervous reactions. Such bias against things herbal is unwarranted, and perhaps tea time is as good a time as any to begin overcoming this fear of herbs.

Herb teas are good stuff. They are relaxing or stimulating, depending (one suspects) as much on the mood of the moment as on the properties of the herbs used in the brewing. They bring pleasure and variety to your tea break, whether your day has revolved around the revising of fiscal forecasts or shearing sheep. And, with the spectre of the coffee crunch and resultant high prices ever before us, the fact that the ingredients for these teas can be gathered free from your own herb garden can only be considered an added bonus.

Are they dangerous? No, or at least they don't have to be. It's the easiest thing in the world to check on the medicinal values and proper handling of the unfamiliar herbs — they are all spelled out in numerous herbals available at the library or your local bookstore. Or stick with the everyday culinary herbs with which you are already comfortable. Forget such scary things as the fact that

the dying words of Hamlet's Ophelia were of rosemary; that fragrant little shrub never did anybody in. And, would Peter Rabbit's mother have offered him a cup of soothing chamomile tea after his run in with Mr. MacGreagor had there been any chance of its poisoning him? No, of course not.

Perhaps you could ease your way into the herb tea habit by starting out slowly, using them to add a little lift to a cup of oriental tea. You've probably already tried *Mentha spicata*, the old fashioned mint that is so often used as a garnish for iced tea, and it is just a small step from there to the rest of the large mint family. Apple, pineapple, and orange are tasty mint varieties, and for special pungency, there is peppermint. Any of the lemon scented herbs — lemon balm, lemon verbena, lemon thyme, and lemon geranium, just to name a few — make nice additions to oriental tea, as do bee balm and



costmary. As you brew your cup of tea in the usual way, crumple up a fresh leaf, or throw in a pinch of the dried herb, letting it steep for a few minutes. You'll be in for a pleasant surprise.

A greater appreciation for herb teas comes with letting the herbs stand on their own merit, without the crutch of oriental tea. Catnip and chamomile have long been known as comforting beverages; sage and dill were also once invaluable members of our forebears' tea repertoire. Rosemary tea, perhaps served with a lavender blossom garnish, is very aromatic, giving off a fresh piney hint of the outdoors as it steeps. A very nourishing drink is made from comfrey, still a favorite healing herb with country folk. Or try a brew of basil, parsley (this is rich in vitamin C), or any of the numerous thymes.

For refreshment and fragrance, there are always the mints, but borage and salad burnet — both used in salads to impart a cucumber flavor — can be brewed into savory pick-me-ups. *Monarda didyma* — also called bee balm, bergamot, oswego tea, and squaw tea — makes what Craig Claiborne



Beverly Narkiewicz lives in Norwell, Massachusetts.

calls "a whimsical cup of tea"; this native herbal drink was popular with the Indians and with tax-conscious patriots during the American Revolution.

Sassafras, another native American plant, was one of the first exports from this country. Tea made from its roots was for many years all the rage in England as a spring tonic, and so widely accepted was the theory that it would cure social diseases that it got to the point where a gentleman would be embarrassed to be seen drinking sassafras tea in public. It still is reputed to have a restorative effect, and, since its shady connections have long been forgotten, one may now imbibe it without raising any eyebrows. To make the tea, simmer clean young roots in water to cover, until the liquid has turned red.

Red is the color of rose hip tea, too, a drink that is as rich in vitamin C and minerals as it is beautiful. Pick the hips — the plum-like seed pods that remain when the blossom petals have fallen off — when they are bright crimson, and carefully peel away the fleshy pulp that surrounds the rather hairy-looking cluster of seeds. Pour boiling water over a couple of teaspoons of the pulp, and let it sit until it attains a rosy hue.

When concocting any of the herbal teas, you'll have to do a little experimenting until you hit upon just the right strength for your taste. With the exception of sassafras and rose hips, whose brewing methods were mentioned above, and chamomile, which is made with flower heads, start with a teaspoon of dried leaf (or two teaspoons of chopped fresh leaf) for each cup. Do not boil the herb, but let it steep for seven or eight minutes in freshly boiled water, using a tea ball or cheesecloth bag if bits of leaves floating in your cup offend you. The tea should have good color — a rich, clear golden brown, usually — and, if it appears weak, add more of the herb instead of trying to steep it longer. Honey seems to lend itself as a sweetener for herb teas, rather than granulated sugar. And, while a squeeze of lemon can be nice, milk is somehow incompatible with most herb teas. To make an iced refreshment, dilute the tea somewhat, sweeten to taste, pour over ice, and top with a sprig of one of the herbal ingredients.



Apple mint & angelica

For variety, try different combinations of herbs. Mint, angelica, and lemon balm are fine flavor companions to most other herbs, and costmary adds a haunting aroma to tea blends. Sage, a good base tea with which to experiment in your search for a favorite mix, is often combined with marjoram. Add a little zing with bits of dried orange or lemon peel, and maybe a touch of some of the more exotic culinary seasonings, such as cinnamon, nutmeg, and cloves. Anything goes, really; you've only your own taste buds to please.

Editor's note: Don't think coffee is going to be the only high-priced drink on the grocer's shelf. The price of tea in Calcutta, which for years has been between 50 ¢ and 75 ¢ per pound, jumped to \$2.12 at an April auction. India also ended its 6 ¢ per pound export subsidy and added a 26 ¢ per pound export tax. Home-made coffee and tea substitutes are looking better all the time.

*Information from May 13, 1977
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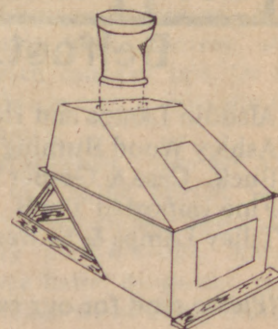
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What to do with those

EVERLASTING EGGS

by
Heather How

Like me, you probably find that the hens overdo it with their egg production in the spring and summer, and sometimes you are flooded with eggs. These surpluses usually get passed on to Aunt Jane or anyone else who happens along at the right time. When winter comes, we are back to buying eggs. This is a ridiculous situation when you think of it. We should be putting down next winter's eggs right now. There are so many ways to do it and also many ways to use preserved eggs.

The first method preserves the eggs in the shell. These eggs can be used for almost anything. You need a can of waterglass (sodium silicate) from a grocer or the drugstore. It used to be on nearly every grocer's shelf, but it seems to have almost disappeared. Dissolve the waterglass according to directions. Put your fresh eggs into a container and pour the solution over the eggs to cover. Stand them in a cool place. Eggs will keep indefinitely preserved this way.

Another method of saving eggs — a great favorite at our house — is by pickling them. Simply hard boil the eggs and let them cool. Shell them and pack into glass containers with lids. Bring enough vinegar to cover the eggs to a boil. (You may want to add a little pickling spice.) Pour the boiling vinegar over the eggs, put the lids on the containers and stand them in a cool place. The eggs will be ready to use in two weeks.

If you have a deep freezer, you may want to freeze your extra eggs. This is very simple. The only draw back is that the eggs are all broken up and this limits what they may be used for. To freeze eggs put them in a bowl and beat them lightly with a hand mixer. Add a half teaspoon of salt for each six eggs. Put the beaten eggs into containers and freeze. Eggs do look a bit "gucky" when frozen, but you will find that they taste great and are certainly a help in winter when eggs are short.

Something different and delicious is lemon curd. This is a spread made out of egg yolks,

lemons and sugar. Children love it on bread, and it is excellent for a filling in tarts. To make it take three egg yolks, the juice of three lemons, three ounces of margarine and nine ounces of sugar. Melt the margarine in a heavy saucepan and add the other ingredients, stirring all the while until thick and



cooked. Use a double boiler. Lemon curd will keep for months in the refrigerator and is a real change from the usual jars of jams and jellies on our cellar shelves.

Try one or two of these ideas, and they will help you to keep your food bill down next winter when money gets scarce. Join me in making good use of those everlasting eggs.

by Beatrice H. Comas

Pickling is one of the oldest methods of food preservation. Many famous people have expressed a fondness for pickles. Cleopatra believed they contributed to health and beauty, and Napoleon regarded them as a health-giving food. Other widely known fanciers were Elizabeth I, George Washington, John Adams and Dolly Madison. We all know of the craving for pickles attributed to expectant mothers.

Actually, pickles have little food value, but before the days of refrigeration they furnished a sort of winter substitute for salad. They were a good method of preserving the produce and pleasing the palate as well. In Colonial days homemakers "put down" pickles in stone crocks and "put up" pickles and relishes in glass jars. Pickling ability was looked upon as an index of housewifely skill. It is no longer necessary to put "up" or "down" our favorites as each year millions of bushels of cucumbers are pickled commercially, but when tomatoes, cucumbers and other suitable fruits and vegetables are abundant, there is still satisfaction in practicing one's pickle prowess.

TWO-POUND PICKLES

2 pounds ripe tomatoes, unpeeled
2 pounds apples, unpared
2 pounds onions, peeled
2 pounds brown sugar
1 pint vinegar
2 teaspoons salt
2 tablespoons whole pickling spices (put in muslin bag)

Wash tomatoes and quarter them. Quarter and core apples. Quarter onions. Put onions through food grinder. Do the same with tomatoes and apples, or chop them in a wooden bowl. Mix all together, making sure that all are well chopped. Turn into kettle, mix well with brown sugar, vinegar and salt. Place bag of whole mixed spice in mixture. Bring slowly to the boiling point. Cook about 1 hour being careful not to burn mixture. Put into sterilized jars while mixture is hot. Seal.

BREAD AND BUTTER PICKLES

1 quart sliced cucumbers, unpeeled
1 large onion, sliced
1 tablespoon salt
1 tablespoon whole pickling spice
1 cup sugar
Vinegar to cover

Mix cucumbers, onion and salt and let stand 3 hours. Drain and add the mixed spice, sugar, and vinegar to almost cover. Bring to boiling point but do not cook. Can at once. They need not be air tight. Make only this quantity at one time to insure crispness.

Palate - Pleasing Pickles

GREEN TOMATO PICKLES

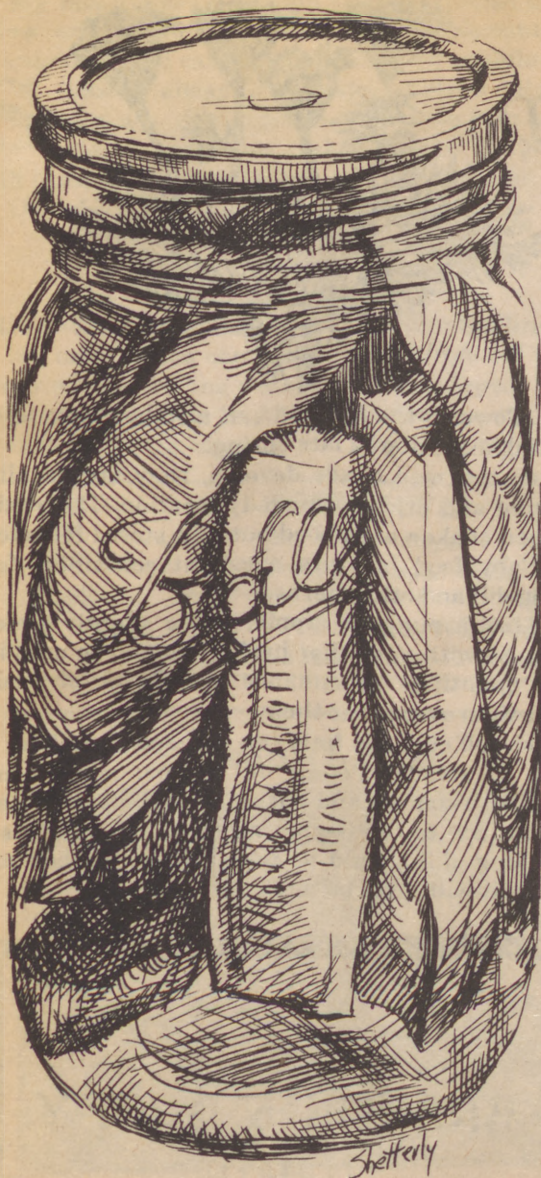
6 quarts green tomatoes, sliced
6 medium sized onions, sliced
1 1/2 cups vinegar
2 1/2 cups granulated sugar
3 tablespoons whole pickling spice

Soak green tomatoes and onions overnight in water to cover to which 1 cup of salt has been added. In the morning drain, add vinegar, sugar and whole spice. Stew slowly for 1/2 hour. Makes 6 pints.

DILL PICKLES

3 quarts water
1 quart vinegar
1 heaping cup salt

Bring to a boil and pour over washed and dried cucumbers packed in a quart jar. Place a stalk of dill in bottom of jar and another stalk on top.



PICKLED WATERMELON RIND

Watermelon rind
 1/2 salt
 2 1/2 quarts water
 2 cups vinegar
 1 lemon, sliced thin
 4 cups sugar
 1 teaspoon whole allspice
 1 stick cinnamon
 1 teaspoon whole cloves

Pare outside green skin from rind and remove any pink portions. Use 2 pounds of prepared rind. Cut rind into small pieces, soak overnight in mixture of salt and 2 quarts water. Drain rind, wash with fresh water and drain again. Boil rind in fresh water until tender. Combine remaining 2 cups water with remaining ingredients; boil 5 minutes, add rind and boil rapidly until rind is clear. Pack in sterile jars, cover with boiling vinegar syrup and seal. Makes 4 pints.

UNCOOKED TOMATO RELISH

2 quarts ripe tomatoes
 3 large onions, chopped fine
 1 cup sugar
 4 tablespoons salt
 1 green pepper, chopped fine
 1 cup diced celery
 1 ounce mustard seed
 1 pint white vinegar

Peel tomatoes and chop fine; drain, using only the pulp. Add remaining ingredients. Do not cook. Pour into sterile jars and seal. Let stand at least 5 days before using. Makes 3 quarts.

RIPE CUCUMBER PICKLES

12 large ripe cucumbers
 1/2 cup salt
 4 1/2 cups water
 6 cups sugar
 1 quart vinegar
 2 tablespoons mustard seed
 1 tablespoon whole cloves
 1 stick cinnamon

Wash cucumbers. Pare, quarter and remove seeds. Cut into strips 1 x 2 1/2 inches. Combine salt and water and stir until salt is dissolved. Add cucumber strips and let stand 12 hours or overnight. Drain cucumbers. Combine sugar, vinegar and spices (tied in a muslin bag). Heat to boiling and add cucumbers. Boil until cucumbers begin to look transparent but are still crisp. Pack in sterile jars and fill to the top with vinegar syrup. Seal. Makes 3 quarts.

CORN RELISH

2 cups cooked corn
 1 cup chopped celery
 1 small onion, minced
 1 teaspoon prepared mustard
 1 teaspoon Worcestershire sauce
 2 tablespoons vinegar

Combine all ingredients in a mixing bowl. Cover bowl. Refrigerate for 6 hours. Serve with fish.

PICKLED BEETS

3 pounds beets
 1 stick cinnamon
 1 teaspoon whole allspice
 6 whole cloves
 1 pint vinegar
 1/2 cup water
 1/2 cup sugar

Cook beets in boiling water until tender and remove skin, roots and tops. Tie spices in cheesecloth bag. Heat vinegar, water, sugar and spices to boiling. Add beets whole or sliced and boil 5 minutes. Remove spice bag. Pack beets in sterile jars and fill jars with hot liquid. Seal. Makes 3 pints.

What a Touch of Dill Can Do



by Brenda Seagraves

Everyone knows that cucumbers and dill are inseparable at pickling time. Dill pickles, Kosher dills, and hamburger dills are favorites of most Americans. But many people don't realize that dill seed and minced dill can be used to perk up dozens of other foods besides cucumbers.

Dill is a versatile herb that can be grown in any vegetable garden. The tall-growing stalks with their tiny yellow blossoms can even be used as background plantings in flower gardens.

As an annual dill is planted in early spring and matures in mid-summer. Plant it between cabbages as a companion plant and to save garden

space. Sown in the fall, dill can also be grown as a biennial, maturing in late spring.

When the seed heads develop, they are usually gathered and dried in a shady location. The seeds are then shaken or rubbed out and stored for later use. Baby food jars are excellent containers for storing dill and other herbs.

Dill has a pungent aroma, but a slightly sweet flavor. As with any other herb, it should be used in small quantities to enhance the flavor of foods rather than overpower them.

Fresh dill chopped fine, can be used in cooking or added to salads. Young dill stems, minced and mixed with tomato and cucumber salads, provide a bright touch to the beginning of any meal. If used in cooking, dill should be tossed in at the last moment or it will taste bitter.

Brenda Seagraves lives in Conyers, Georgia.

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My family likes a few dill seeds sprinkled in cole slaw and potato salad. Dill also complements the flavor of cooked cabbage, broccoli, and cauliflower.

Since we always grow twice as much dill as we can use, I've experimented with it in soups, stews, and other dishes. We've found that dill is especially good in fish and meat sauces.

One of our favorite meat sauces is made of:

1/2 teaspoon dill seed

1 teaspoon lemon juice

2 tablespoons melted butter

Mix and spread on fish or meats before broiling.

An unusual tea can also be made from dill seeds. Pour a cup of boiling water over one teaspoon of dill seeds and let steep for 3 to 6 minutes. Sweeten with a little honey or sugar if you like. This tea is sup-

posed to help calm queasy stomachs and promote sleep. It may accomplish both these purposes, but it also makes for an unusual and interesting conversational drink when company comes. Most of our visitors are a little hesitant to take the first sip, but after they've tasted it they usually ask for more.

If you've tried all these uses for dill and still have dill seeds left over, take a few along with you to church next Sunday. Our ancestors often took dill seeds along to chew while sitting through sermons. Dill seeds came to be known as "meeting house seeds" because chewing them offered just enough diversion to keep children quiet during meetings. No doubt, chewing dill seeds also kept a few deacons from falling asleep during long sermons.



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BROWNVILLE

120 acres of woodland fronting on a good gravel town road for almost 3000 feet. Nice stream bisects and abuts property for 2300 feet. Property is located in an excellent hunting and fishing area and is just 2 miles from lovely Scoodic Lake — an exceptional buy at \$154/acre.

MADAGASCAL POND

17 acres in Burlington, Maine with 850 feet of mixed sand, rock, and gravel frontage on the Pond. Property fronts on private access road for 850' and there is an old driveway thru this property down to the Pond. There is also a good spring for drinking water. \$15,000.

NEZINSCOT RIVER

87 acres in E. Sumner, Maine with over 4,000 feet of very attractive river frontage and good views from several nice locations. Property fronts on town gravel road for 2500' and includes an additional 2000' of internal roads. Located 12 miles from Norway and 20 from Lewiston. \$34,000.

PARKMAN

Located in an unspoiled rural farming area, 22 acres with attractive 2-acre field. Very attractive views of countryside and priced to sell at \$7,980.

OXFORD

71-acre woodlot with roughly 5 acres in field. Property is bisected by rocky brook and includes small marsh area. Some merchantable timber, but basically good growing stock. Many attractive cabin sites. Access road off good town road needs work and parcel is priced accordingly at \$13,600.

For information on these and other Land/Vest properties, contact:

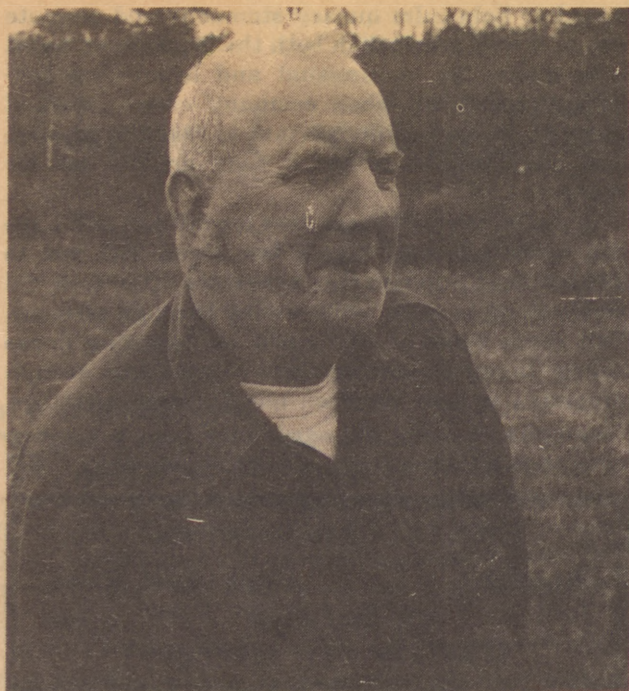


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MAINE ALBUM

Delbert Cutting, "Albert" to 'most everybody, reminisced about his experiences as a wood cutter and farmhand recently with Farmstead staffer Dennis King. Karen Frangoulis wrote the following transcription of their conversation.

Albert Cutting was born in Halifax, Vermont in "nineteen hundred nine". He lived on a farm with his parents until the age of eighteen when he went to Westfield, Massachusetts to work. "I drove horses there two, three years, all over the city. I hauled everythin' — loam, sand, gravel. We had eighteen horses — worked 'em every day with carts, over the whole city. Most I ever had. Then all the 'mobiles, they came in. All the faster, you know. They got rid 'o those horses, so I was out of a job. Then I went to the big woods up to York state. I worked up there three years drivin' horses. I yarded and fielded for pulp wood. Worked for the Great Northern Company and we

logged the whole year out, summer and winter." After a number of accidents in the woods, an owner got sued, working conditions improved so that "a man had to be insured". Albert's boss finally unloaded his horses and brought his mill operation home, setting it up by the side of a building. "I was over there four years. Then it burned flat, so I was out of a job again."

The next job took Albert to a mill in the woods complete with all the "wood chopper" machinery to make usable things. "He made a box that you have with sink cabinet, all hard wood. He made all them things you have on windshields in the wintertime, on one side you have a brush and the other

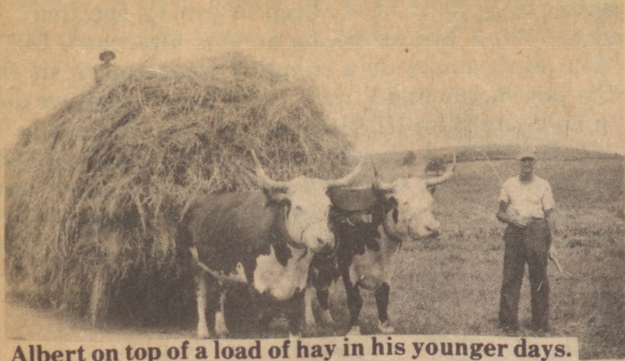
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Albert on top of a load of hay in his younger days.

side a scraper thing, to clean off the ice. He made I don't know how many of them! I worked on half inch dowels for bow and arrows out o' ash, and oxen yokes out o' hickory. Best if you have an open shed (to age the wood); leave it there about six months through the summer and fall. Then you'd mark your holes — eight inches for a year old oxen, nine inches, twelve inches, that's about as large as they have 'em."

Albert Cutting has many memories of training and working calves, oxen, horses and mules. Oxen and horses live to about eighteen years old but mules "live to be a lot longer, about thirty years. A mule is great," says Albert. "He's slow, but he can work all day if it's hot with a quart (of grain) in the

morning and a quart at night 'n that's all he'll eat; even if there's a bag in front of him, he will not eat any more. If he's awful hot, he will not have water, not a drink, no sir. A horse, if it's hot, will quit 'fore noon. Oxen have a tougher hide than a horse. If you work 'em easy, they'll work all day long. Keeps the same gait all the time and can haul almost as much as horses. If you ever have a sore on a horse or an ox, I know how to fix 'em so it'll be hard as a rock. Just wash the sore with ice water, let it dry off a bit, then have a bottle o' urine an' rub that on. That's all."

Reminiscing about huge trees years ago, Albert tells about a "big log down in Massachusetts, a white pine, about 125 years old. We pulled out o' the woods. Got 3,000 board feet out o' that one." Then up in St. Albans, Vermont, a man had an open grown tree in a pasture, sixty inches 'round he collected sap from. "Twas maple, swamp maple. Eighteen buckets, large ones too, on that one tree. They'd fill up couple times a day — morning, afternoon and night!"

Albert lives now in Blue Hill, Maine where he found work years ago as a farm hand. One job, at the Wescott Dairy farm, involved every kind of work. "I did harvesting, had eighteen cows, we'd hand milk 'em." One Spring they were planting a field of corn. "We'd worked 'fore noon and up 'til

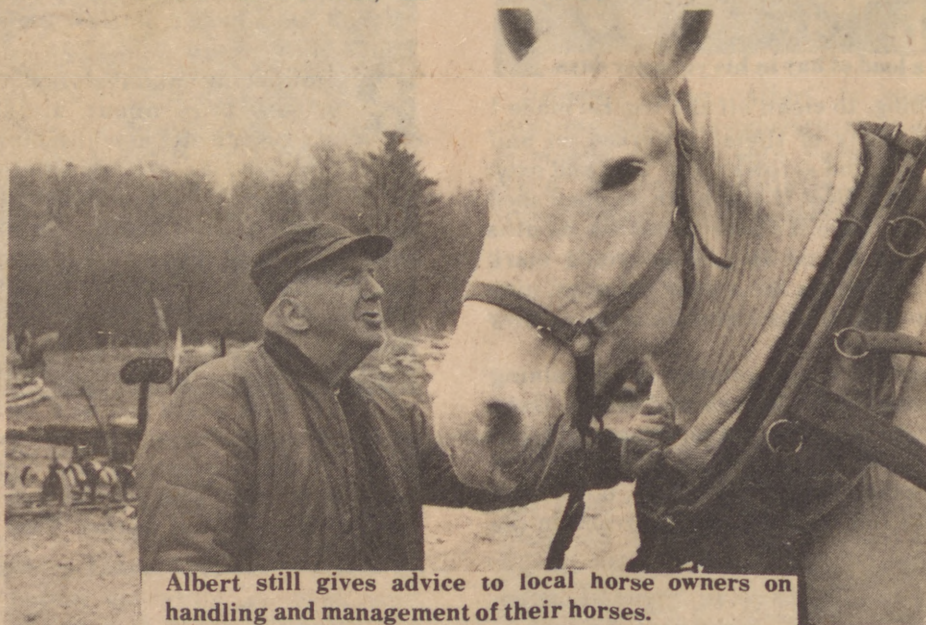


As a farmhand on the Wescott Dairy farm Albert did most of the horse work.

three. Long about middle of the afternoon, Bill (the owner) said, 'How 'bout if we go home?' I could see that he didn't have no life in his legs 'tall. 'Well, Bill,' I says, 'If you work another half hour, it'll be all in, if it rains, it'll be even.' I kept him out in the field 'til half past six at night. He went home, slept all night, all day. Well, I worked around the barn, did the milkin', washed up in the house. Finally Bill came out, all bent over. 'My gosh, boy, I had a hundred men work here all winter for me. But,' he

says, 'by golly, I kept ahead of 'em all the time.' I says, 'What are we gonna do this afternoon, Bill?' 'You ain't gonna do a thing!' I want you to sit on the porch, you and I, we'll rest!' That's what we did 'n he paid me for it! Nicest man I ever worked for.

I can work, I always have. I'm to blame, if I do anythin' wrong, O.K., I done it. But if I know how to fix anythin' and someone says, 'You damn fool, this 'n that, you don't know how.' Out I go! I quit workin'."



Albert still gives advice to local horse owners on handling and management of their horses.



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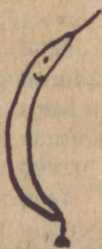
THE CHILDREN'S PAGE

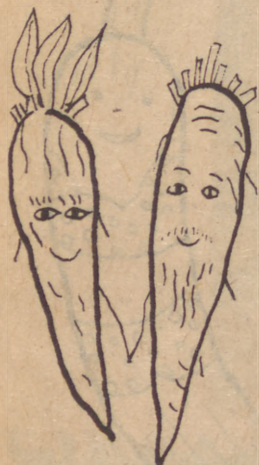
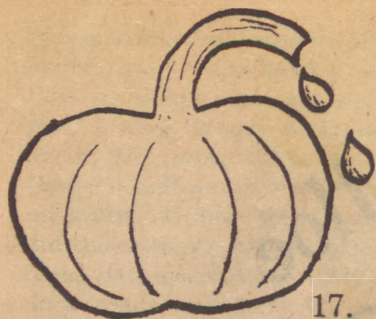
Hoe, Ho, Hoe

By Marnie Legg & Dan Reeve

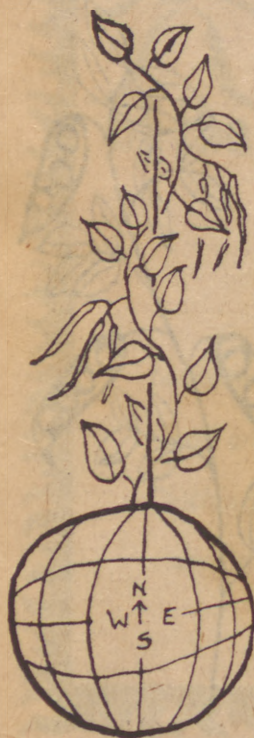
1. Which vegetable asks permission?
2. What vegetable always wins?
3. What vegetable is burnt before you cook it?
4. What vegetable is like a rotating irritation?
5. What is the wisest plant in the garden?
6. What vegetable is like a relative to a water-moving device?
7. What vegetable comes between "O"s and "Q"s?
8. What vegetable is like holes in the roof?
9. What vegetable is like martians?
10. What kind of bathing suit do you wear when you go to the zoo?
11. What vegetable is like a big chicken house?
12. What vegetable is like a callous on your father's toe?
13. What vegetable is like a telephoning florist?
14. What vegetable is ma Snip's husband?
15. What vegetable is like a frigid Jewish minister?
16. Why are muskmelons attached to the vine?

more...





17. What vegetable is like a decaying automobile?
18. What vegetable is like a chamber full of oatmeal?
19. What is the most currently popular religious order in the garden?
20. What do you wish the gardening trowel you left out last year would do?
21. What vegetable is like the middle of January?
22. What vegetable is like a defeated matador?
23. What vegetable is like people from Antartica?
24. What plant in the garden makes the most money?
25. What vegetable is like driving over an oak-tree-lined road in October?
26. What vegetable is like the trees in a child's coloring book?
27. What fruit is always straight up and down?
28. What fruit is there always two of?
29. What vegetable is like your weekly pay check?
30. Why is a funny joke good for your garden?



Turn Page Upside Down For Answers

1. lettuce
2. beet
3. chard
4. spinach
5. sage
6. pumpkin
7. peas
8. leeks
9. garden beans
10. zucchini
11. eggplant
12. popcorn
13. cauliflower
14. parsnip
15. kohlrabi
16. so they cantaloupe
17. carrot
18. mushroom
19. insect
20. turnip
21. chili
22. gourd
23. pole bean
24. mint
25. acorn squash
26. collard greens
27. plum
28. pear
29. celery
30. makes you go hoe, hoe, hoe!



A Tax Break for Tree Growers

by Judith G. Rock

"It is declared to be the public policy of this State that the public interest would be best served by encouraging forest landowners to retain and improve their holdings of forest lands upon the tax rolls of the State and to promote better forest management by appropriate tax measures in order to protect this unique economic and recreational resource." Sec. 572, par. 2, Tree Growth Tax Law:

Title 36, M.R.S.A., Sections 571-584.

The Maine State Tree Growth Tax Law came into being to tax forest lands of ten or more acres "suitable for the planting, culture and continuous growth of forest products on the basis of their potential for annual wood production. . .", instead of on the basis of their potential for house lots, commercial or industrial sites. As property taxes rise, more people may decide to keep their woodlands in trees *via* this law. If you're the owner of a woodlot of ten or more acres and want to keep on using that land for firewood, recreation, general aesthetics, environmental equilibrium, or income from cutting for pulp or saw logs, read on.

Although the law is administered by the towns, the State Tax Assessor biennially determines by county the highest average productivity and market price for hardwood, softwood and mixed

Judith Rock lives in Troy, Maine. Illustrations were done by Faith Rainbolt.

stands, thus setting a 100% valuation figure per acre. The town assessors then adjust that figure by the same ratio applied to other property in their municipality. For example, in Waldo County, for tax years 1977 and '78, 100% valuation for an acre of softwood is \$29. Since markets, forest quality and growth potential vary from region to region, the valuations vary. That same acre of softwood in Androscoggin county is valued at \$59. A schedule of valuations can be obtained from the Bureau of Taxation in Augusta. Your own selectmen/assessors can give you your local valuation. Valuations may be reduced if forest land has less than three cords of marketable wood per acre due to fire, disease or other natural disasters.

Parcels of 500 or more acres of woodland were automatically classified under the Tree Growth Tax Law as of May 7, 1973, and owners are required to file a schedule with their municipal assessors, or if in an unorganized territory, with the State Tax Assessor. A schedule identifying the land, listing the number of acres of each forest type, showing the location of each type, and representing that the land is used primarily for growth of forest products must be filed with the local tax assessor by April first of the year in which reevaluation under the law is requested. The three forest types are defined as Hardwood: 75% maple, beech, birch, oak, elm, basswood, poplar and ash; Softwood: 75% pine, spruce and fir, hemlock, cedar, larch; and Mixed: a combination of the two types (an older hardwood stand with a younger understory of spruce and fir, for example). Bogs, large ledge areas, open swamp, streams and ponds may not be included in the acreage to be reevaluated, and such features must be delineated on the map accompanying the application.

Now, if you've just figured out how to halve your taxes, hold on. Once you file, that land is considered to be forest, and growing trees is what's supposed to be going on. If you decide to put a little cabin retreat up on that pine area, sell off a piece of less than 10 acres to Aunt Milly for a retirement trailer site, or convert some to pasture, you pay a penalty of all the taxes for the previous five years which would have been assessed under standard property valuation, plus interest, less the taxes you did pay. (If you sell more than 10 acres of the classified land, the forest classification goes along with the deed unless you or the new owner apply for other classification.)

Another consideration for the woodland owner before he goes toddling over to his selectman, is the map required for application. This map is commonly derived from an aerial photograph and must show the various timber types and boundaries of the property. For most folks, that means hiring a consulting forester at \$10 an hour or more. (State foresters do not provide timber cruising or appraising services.) Also, if the acreage figures on your map and schedule fail to match those carried in the town valuation book, you may need the services of a surveyor to settle the matter.

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The third and perhaps most serious problem in filing under this law is that your town may not accept your application. Although the law leaves the administration up to the towns, it may not be in the towns' best interest to accept such applications, for they stand to lose present and future property tax dollars. Some towns, although they know their decision can be appealed, have refused all applications, hoping that the law will be changed or there will be more relief from the state. (There is provision for reimbursement of some lost tax revenues.) It is hard for small towns to give up any tax income when newcomers are clamoring to have old oxcart roads reopened and refurbished for modern vehicles, and the state is leaning hard on them to dump their dumps and make sanitary landfills, etc.

Still the law has been on the books since May 7, 1973, and the purpose of the law as stated is generally good. It's not the best educational tool for helping towns to think differently about land, but for the landowner who wants to cut his taxes, the logger who wants trees to cut 20 years from now, the conservationist who wants forest habitat preserved, the people who want development kept slow and reasonable, the farmer, homesteaders and other rural folk who don't want to be forced off their land by burdensome real estate values, The Maine Tree Growth Tax Law is an answer.



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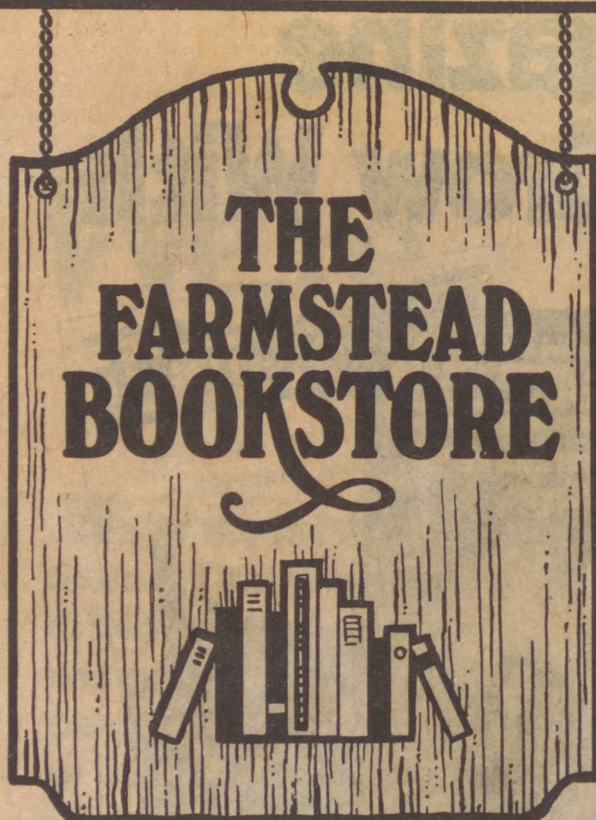
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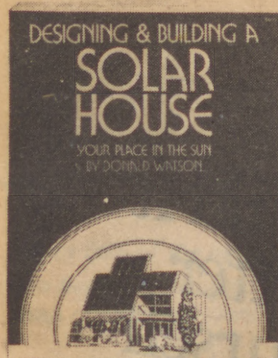
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- how solar heating works • passive systems: greenhouses, Drummwalls, roof ponds, reflectors, diode panels, Beadwall and other insulation methods • active systems: flat-plate collectors and focusing collectors • water, rock, and phase-changing storage 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 solar house costs. 288 pp.

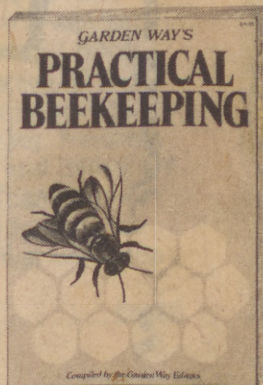
Paperback\$8.95
Hardcover\$12.95

G-94 TAN YOUR HIDE: Home-Tanning Furs & Leathers by Phyllis Hobson — With a fair amount of time and effort, but almost no expense, you can make furs and leathers unequalled commercially, often using skins that would be wasted. And what tremendous satisfaction in your luxurious finished products. Phyllis Hobson discusses in a fully-illustrated step-by-step format working with skins and tanning furs and skins by nine different methods. She includes producing washable furs such as sheepskins along with methods for butter tanning, shortcut tanning, de-hairing for leathers, making sole leather, curing sheepskins, making buckskins by the Indian and modern methods, and even how to tan snakeskins. 112 pages with 25 illustrations.

Paperback\$4.95

GF-06 HOMEMADE: 101 Things to Make Around the Home, Farm and Garden by Roger Griffith & Ken Braren — This book provides useful information for the person interested in small scale functional building projects for the home, garden or farm. Nearly anyone can make any of the hundreds of items described and illustrated in **HOMEMADE** with the simple home tools they already have. Even if they are an unhandy person! This is a "how-to" book with all of the pitfalls eliminated — no half-finished projects due to lack of tools, materials or clear instructions. And none of these projects involve high costs — actually recycled easy-to-find materials are suggested to keep costs at a minimum. And these aren't projects limited to the "back-to-the-landers." Each project was chosen because of its wide-spread applicability — highly useful items that are easy to make yet unjustifiably expensive when storebought. 160 plus pages with over 150 illustrations.

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Hardcover\$8.95



G-96 GARDEN WAY'S PRACTICAL BEEKEEPING by the Garden Way Staff — Here is the book we have been asked for, the practical, easy-to-understand approach to beekeeping, equally valuable for the beginner and the more experienced beekeeper.

FOR THE BEGINNER
Answers to These Questions
Can I keep bees at home?
How much honey can I expect?
How do I start?
What should I buy?
Are bees dangerous?
What's inside that hive?

FOR THE VETERAN
Good Explanations About
Dangers of Pesticides
Nectar and pollen plants
Genetics of bees
Rearing Queen bees
Processing honey
Getting high honey yields

This is a book that we know from experience will work in the field, a book that we know from experience is necessary to fill the need for easily grasped, practical know-how in the ever-growing field of beekeeping. 224 pp with 100 illustrations.

Paperback\$5.95



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 • chatch 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, where 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.

Paperback\$4.95

GF-08 MAKING YOUR OWN ICE CREAM, ICES AND SHERBETS by Phyllis Hobson — What could be more naturally delicious than country-style homemade ice cream topped with garden fresh strawberries? And that is just the beginning, for Phyllis Hobson has included over 100 unbeatable frozen desserts that are sure to brighten many a summer's day. With the recent promotion of electric ice cream freezers, homemade ice cream can be everyone's "country" treat. Included here is a complete discussion (along with manufacturer's directory) of electric ice cream freezers, crank type freezers, home-improvised freezers, freezer trays, and motorized refrigerator freezers. 64 pp with 35 illustrations.

Paperback\$2.95



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. Plus:

- site and cost considerations • log structure designs • hand tools required • heating/utility systems • power tools needed • general chain saw use • home-built saw mill • log home maintenance • landscaping/log furnishings • kit manufacturer directory. Here is a remarkably complete home construction book to fill a void in a field that is booming! 220 pp with 135 illustrations.

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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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Hardback\$7.95

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.

Hardback\$13.95



R-27 THE HOMESTEADER'S HANDBOOK TO RAISING SMALL LIVESTOCK by Jermon D. Belanger —

A most complete and informative book on raising goats, chickens, sheep, geese, rabbits, hogs, turkeys, and other small stock. The chapters cover diet, feeding, breeding, butchering, bedding, tanning hides, using manure, building housing and feeding equipment. 256 pp. 50 illustrations.

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R-28 THE HERBAL HANDBOOK FOR FARM AND STABLE by Juliette de Bairacli Levy —

This book brings information to farmers and owners of domesticated animals in treating their livestock without chemicals. Separate chapters on each animal include herbal care for diseases, delivering young, and keeping animals healthy. 320 pp.

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Build It Better Yourself



Build It Better Yourself

By the editors of
*Organic Gardening
and Farming*



From garden tools to livestock housing, from planters to lawn furniture, practical projects for the homestead, yard and garden.

R-17 BUILD IT BETTER YOURSELF —

Here's a building projects book especially for homesteaders and gardeners; self-sufficient cusses who do things for themselves. It's a big book with page after page on making practical items, from planting flats to greenhouses, from chicken feeders to small barns. Each project is carefully explained in text, photographs and illustrations. A detailed materials list shows what's necessary for

the project, and step-by-step instructions tell how to fabricate and assemble the item. Projects include: Plant Stands; Potting Benches; Window Greenhouses; Hand and Wheeled Garden Cultivators; Garden Carts; Bird Feeders; Cold Cellars; Smokehouses; Walls; Fences; Bridges; Barns; Beehives and many, many more! 640 pp. over 600 photographs and illustrations.

Hardback\$16.95

R-14 THE SHEPHERD'S GUIDBOOK: Raising Sheep for Meat, Wool and Hides by Margaret Bradbury — For anyone contemplating raising sheep. The author discusses what to look for in buying a flock with emphasis on marketable production. She talks about breeds and even gives instructions for preparing wool for spinning, directions for tanning sheepskins, recipes for lamb, and some tips on butchering. 200 pp. with photographs.

Hardback\$7.95

R-26 A VETERINARY GUIDE FOR ANIMAL OWNERS by C.E. Spaulding, D.V.M. —

Here's a book that's long been needed on the farmstead — a handbook for specific preventive measures and cures for all common pet and livestock ailments. It's organized by animal, and each chapter gives health-care information for that particular animal. A book that animal owners will use time and time again. 432 pp. 60 illustrations.

Hardback\$9.95



R-29 GARDENING INDOORS WITH HOUSE PLANTS by Raymond Poincelot — Despite the recent wave of house plant books, this one proves to be unique. Included are how-to details for growing fruits, vegetables and herbs indoors as well as ornamental house plants, 280 pp. 100 illustrations.

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About 50% of the nation is involved in gardening. Here is a new book that brings practical home food storage into the grasp of each and every gardener.

GF-01 KEEPING THE HARVEST: Home Storage of Vegetables and Fruits by Nancy Thurber and Gretchen Mead -- Taking the mystery and awe out of home food processing is exactly what this book does. Practical information about storage of fruits and vegetables makes this a truly valuable source. Over 100 step-by-step photos for canning, freezing, brining, drying, pickling, making jams and jellies! It tells you how to avoid serious kitchen canning problems, as well as planning your garden for useable quantities, when you want them. A must book for today's farmstead! 224 pp.
Oversized paperback. \$5.95

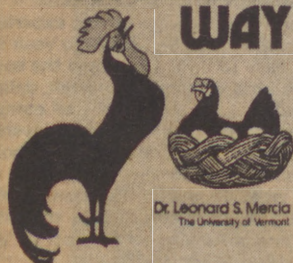
Keeping the Harvest

HOME STORAGE OF
VEGETABLES & FRUITS



Nancy Thurber &
Gretchen Mead

RAISING POULTRY THE MODERN WAY



Dr. Leonard S. Mercia
The University of Vermont

**G-80 RAISING POULTRY
THE MODERN WAY**
by Leonard Mercia--

Covers stock selection, feeding, brooding, rearing, management, current disease prevention, treatment for LAYING FLOCK, MEAT CHICKENS, TURKEYS, DUCKS, GEESE. Also housing plants, processing, preservation and more. 240 pp.
Quality paperback \$5.95

R-34 PEDAL POWER: Edited by James C. McCullagh — **PEDAL POWER** examines the past, present, and future of the bicycle and other pedal and treadle machines. In clear, revealing prose, this unique new book explores the potential for pedal-driven devices in the workshop, kitchen, on the farm, and for transportation. **PEDAL POWER** is a new look at the future of the bicycle in appropriate technology. Around the workshop and homestead, pedal power can be applied to these machines: Wheel grinder, Stone polisher, Buffer drill, Jeweler's lathe, Wood carver, Potter's wheel, Battery charger, Hydraulic log splitter, Cider press, Air pump. 144 pp with 72 photographs, 65 illustrations.

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ROADSIDE
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David W. Lynch

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by David W. Lynch--

Now serious gardeners can turn large gardens surpluses into cash. This book helps you plan your crops for quantity and seasonal appeal placement and building of your roadside stand, sales and promotion techniques that appeal to the public. This information is directed at the growing number of family-run medium-sized garden markets. 115 pp.

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G-44 MAKING BREAD WITH HOME GROWN YEAST & HOME GROWN GRAINS by Phyllis Hobson — Includes growing, grinding grains, growing variety of everlasting yeasts, sponges and other "risings". Plus 30 special bread recipes. Hard-to-find information. 46pp.
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G-3 COMPLETE BOOK OF HEATING WITH WOOD by Larry Gay — Types of wood, stoves and fireplaces, conversion capabilities, economics of wood heat, environmental benefits and virtually every other aspect of using wood for heat. A must for every homeowner! 128pp.
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RAISING MILK GOATS THE MODERN WAY

by Jerry Belanger



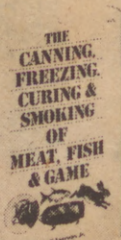
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by Wilbur F. Eastman, Jr.

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GF-04 RAISING SHEEP THE MODERN WAY by Paula Simmons — Modern sheepraising has shown a trend toward the small holder, with emphasis on profitable, self-sufficiency. This book provides the small flock owner with information on the fundamentals of sheep management. It stresses sheep health and preventive care, and of the latest in medical treatment, should that become necessary. 234 pp. with illustrations. Quality paperback\$5.95

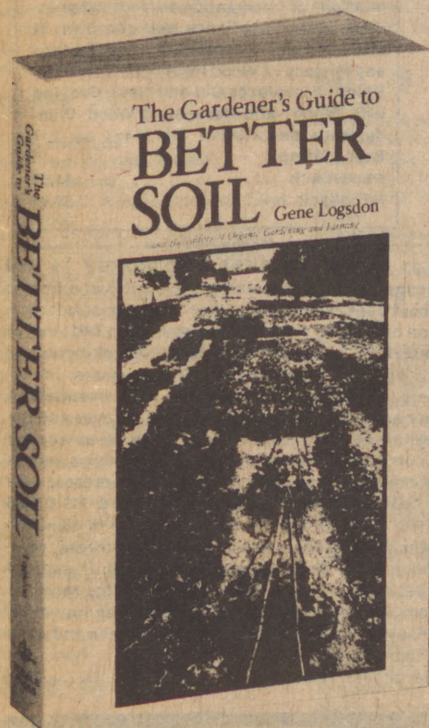
R-16 THE DRAFT HORSE PRIMER by Maurice Telleen — For people who want to learn the fundamentals of using work horses on the farm. This book clearly illustrates the economy of using draft horses and explains the basics: how to buy a draft horse; how to feed and care for the animals; how to find and repair horsedrawn machinery; how to harness and hitch a team; and how to breed them. 272 pp. with illustrations and photos. Hardback\$10.95



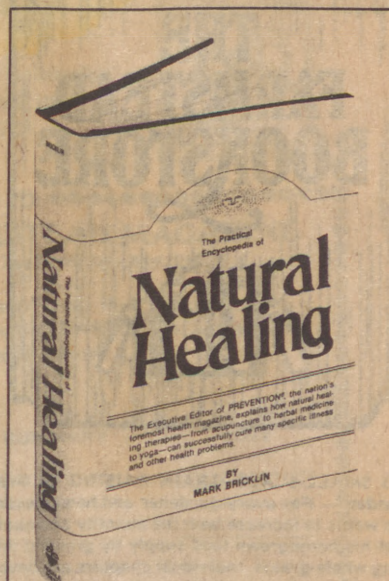
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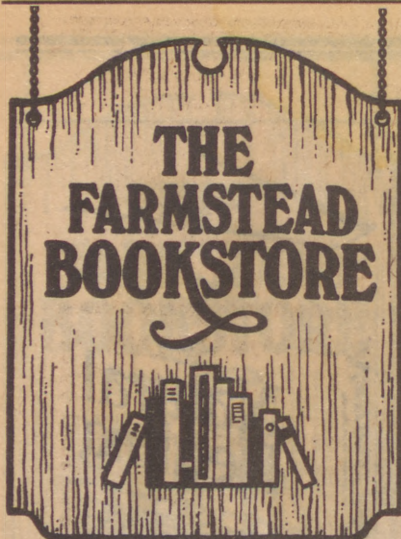
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R-24 TREES FOR THE YARD, ORCHARD AND WOODLOT, Edited by Roger B. Yepsen, Jr. — Both the homeowner and homesteader will find this guide helpful in the many areas of tree care and harvest. Chapters cover: Propagation; Pruning; Landscaping; Orchard; Sugaring; Woodlot Management. The final chapter is an encyclopedic guide to 120 trees with illustrations of leaves, range maps and an account of the special uses for each. Illustrated with 320 pp.

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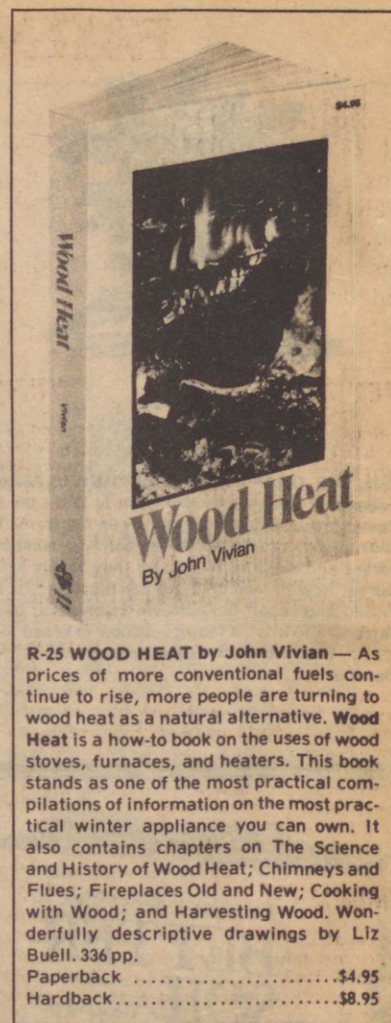
R-19 LOW-COST ENERGY-EFFICIENT SHELTER by Eugene Eccil — For the owner and builder, this book tells how to cut energy bills for heating, cooking, appliance use, lights and water. In addition to money-saving advice, it includes plans and specifications for 14 low-cost, energy-efficient homes with 150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

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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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R-25 WOOD HEAT by John Vivian — As prices of more conventional fuels continue to rise, more people are turning to wood heat as a natural alternative. **Wood Heat** is a how-to book on the uses of wood stoves, furnaces, and heaters. This book stands as one of the most practical compilations of information on the most practical winter appliance you can own. It also contains chapters on The Science and History of Wood Heat; Chimneys and Flues; Fireplaces Old and New; Cooking with Wood; and Harvesting Wood. Wonderfully descriptive drawings by Liz Buell. 336 pp.

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R-33 GUIDE TO BEES AND HONEY by Ted Hooper — This invaluable aid is not just a how-to about beekeeping, but a vital collection of information on how to work with bees. Author Ted Hooper describes important situations that take place in the hive and offers reasons and responses. It's all here — beekeeping tactics with recommendations on necessary tools, different styles of hives and different races of bees, advice on siting the apiary and a complete outline of the work involved in a year of beekeeping, including maintenance necessary for a healthy harvest. In addition, **GUIDE TO BEES AND HONEY** details the fine points of handling bees, controlling swarms, making increase, rearing queens, and coping with pests and diseases. A final section treats honey plants and the removal, composition, handling, and preparation for sale of honeybee products. 260 pp. with 120 black and white illustrations.

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GF-05 PROFITABLE HERB GROWING AT HOME by Betty E.M. Jacobs — The author of this book writes from experience, having run an herb farm in Canada for eight years. Here she shares knowledge on growing, harvesting and marketing herbs. The text is well-organized and the illustrations are delightful. 225 pp.

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Check contents sampler below for some of the topics covered in previous issues of FARMSTEAD.

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Food Storage on the Maine Farmstead
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Sprouting
Making Cider Wine
The Early Settlers of Matinicus Island
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Lovely, Lowly Lambs Quarters
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On Growing Red Tomatoes
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A Grove of Walnuts
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Storing Fruits and Vegetables
Jerusalem Artichokes, Horse-radish and Squid

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Workhorses on Your Farmstead
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Woodsheds Are Beautiful
Beefalo

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The Feedbag

cities influence

A study of summer weather around St. Louis from 1971 to 1975 indicated that several weather factors were affected by the urban environment. There was an increase in cloudiness (up 10 percent), summer rainfall (up 30 percent) and frequency of severe thunderstorms (up 10 to 100 percent) in a 4,000 square kilometer area just east (down wind) of the city. As a result corn and soybean yields have increased 2 to 5 percent. All this extra rain may not be a blessing however, because as a result of urban air pollution, it is much more acid than normal rain.

Science News, March 5, 1977

carter energy plan

Barry Commoner, the noted ecologist from Washington University in St. Louis, said, "President Carter's energy plan is a nuclear energy plan in disguise." He made this statement in a speech at the Toward Tomorrow Fair, June 26, in Amherst, Mass. Even though the administration claims that conservation is the cornerstone of the plan, of the increase in energy consumption predicted between now and 1985 only 16 percent will be met by means of conservation while 23 percent will be met by nuclear energy. Carter also claims he is against the breeder reactor but it is the plutonium breeder he is against, and tucked away in the plan is a statement that he is in favor of "other" breeders. Commoner suspects this refers to the thorium breeder reactor. Development of a breeder reactor is the only way to tie our energy future to nuclear energy since uranium supplies will only last about 25 years and the breeder reactor is necessary to extend these supplies. Commoner also stated that the plan would divert more energy to the production of electricity (a very inefficient use) and less to direct space heating (a relatively efficient use). By using more electricity for space heating the plan would effectively block the development of solar space heating, an area where solar energy is technologically and economically competitive at present. By diverting energy consumption from residential and personal use to industrial use, Commoner said, "The plan gives the energy hogs a bigger trough out of which to feed."

compost toilet

A new News letter "The Compost Toilet News" is being put out by Steve Tibbetts and Zandy Clark who started the Alternative Waste Treatment Association. In the newsletter they will discuss various aspects of compost toilets and other waste treatment systems. If interested, contact the authors at Star Route 3, Bath, Maine 04530.

valuable sewage

High concentrations of gold and silver have been found in the sewage of Palo Alto, California. The U.S. Geological Survey reported that there is about \$200.00 worth of these metals per ton of fresh sludge.

Environment, May 1977

directions

"Directions," which is an organization of professional craftspeople of Maine, is holding its second summer retail fair August 27 and 28, at the Mount Desert Island High School gym, on route 223. It is a juried show limited to Maine's most outstanding craftspeople and all works will be their original designs.



solar energy

Worldwatch Institute has recently published a paper "Energy, The Solar Prospect" by Denis Hayes. Hayes says that it is only the subsidization of other forms of energy that has made solar devices appear relatively expensive. If these subsidies were removed, solar resources could provide 40 percent of the world's energy needs by the year 2000. This is considerably higher than most conventional predictions.



bee pollen

Charles W. Turner, 82 year old trainer for Long Island University, uses bee pollen poultices along with several other natural cures. He has kept records for the last two years and pollen compresses have reduced swellings of knees and ankles in 187 of 189 cases.

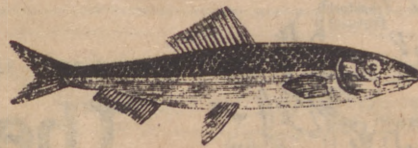
public supports planning

A recent survey of the Buffalo area by the Environmental Studies Center of the State University of New York at Buffalo indicated that the public is more concerned about and willing to do more about our degraded environment than politicians are. The study also showed that politicians greatly underestimate the degree of public concern. Twenty-five percent of the public supported a 30 percent tax hike to improve water quality and 29 percent supported a 15 percent tax hike. Only 14 percent of the politicians supported a 30 percent tax hike and most of the politicians predicted that the public would not support any tax hike. Fifty-seven percent of the public supported protecting the environment instead of continuing economic growth while only 30 percent of the politicians agreed. The next time you hear a politician say "I'm all for environmental protection but the public isn't ready for it yet," tell him it's most likely that the politicians are the ones that aren't ready for it yet.

saccharin and the delaney amendment

There is a widely held suspicion that the FDA (Food and Drug Administration) and the food industry set up the recent ban on saccharin (Federal Register, March 10, 1977) in order to provoke an attack on the Delaney Amendment by the public and Congress. The Delaney Amendment is a 1958 amendment to the Federal Food, Drug and Cosmetic Act which prohibits any amount of cancer causing substances to be used in food or as food additives. The amendment is supposed to be enforced by the FDA but the FDA's record is not good. It often takes years after the tests are done before products are banned. The amendment has been a prime target of the food additive industry almost since its enactment.

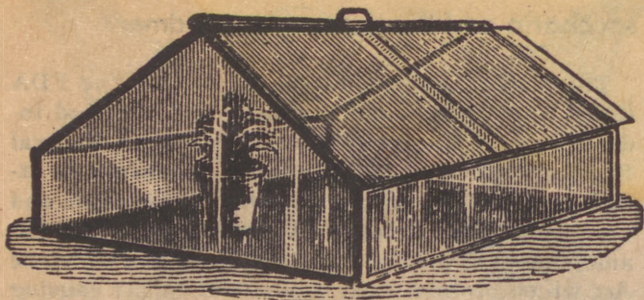
The press release by the FDA announcing the ban implied that only one Canadian study had showed that saccharin caused cancer in test animals, and then only at high doses. Dr. Samuel Epstein of the University of Illinois School of Public Health has pointed out that there are at least a dozen studies with test animals that show saccharin causes cancer (OGF, June 1977). The food industry is obviously not just defending saccharin in this case, it is believed to be out to get the Delaney Amendment by playing on the tastes of a sweets addicted public.



snail darter

A U.S. Circuit Court of Appeals in Cincinnati has ruled in favor of the snail darter, halting construction of the \$116 million Tellico Dam project on the Little Tennessee River in Tennessee. The Snail darter, a tiny, three-inch member of the perch family, was added to the endangered species list in 1975. Under Section 7 of the Endangered Species Act, no federal agency can fund or carry out a project which threatens the "critical habitat" of an endangered species. The snail darter has been found only along a 17-mile segment of the river which would be made into a reservoir under the dam project. The TVA project is already nearly 90 percent complete and TVA officials reportedly have said they will appeal the case to the Supreme Court. Unless the high court overrules the appellate court decision or Congress acts to exempt the project from compliance with the act or removes the darter from the list, the injunction will remain in effect.

Conservation News, March 1, 1977



association promotes

Man has used over 3000 species of plants for food in the past but now most of man's food comes from but 20 species. The history of agriculture has been a continuing attempt to simplify nature, thus reducing the number of species. This trend is dangerous, since we know that complexity is a primary ingredient for ecological stability. *The International Association for Education, Development and Distribution of Lesser Known Food Plants and Trees* has been formed to help deal with this problem. Some of their objectives are to acquaint the public with edible wild and rarely cultivated plants, inform the public of the value of permanent tree farming on land not usable for plow farming, promote the use of food plants in landscaping, and establish nurseries and seedbanks for lesser known food plants. For information contact Paul W. Jackson, Exec. Director, P.O. Box 599, Lynwood, Calif. 90262.

grapes and wine

Grapes and wine have been considered health promoters by various cultures for thousands of years. Some scientific evidence for this was just reported by some Canadian government researchers. The bactericidal properties of wine have been known for a few years but now it is known that they are also anti-viral (at least in the test tube). The researchers found that grapes, raisins, grape juice, and wine all showed anti-viral activity against poliovirus and herpes simplex virus (both of which cause disease in humans). The anti-viral agent is present in grape skins, and thus red wines are more anti-viral than white wines.

Science News, Feb. 26, 1977





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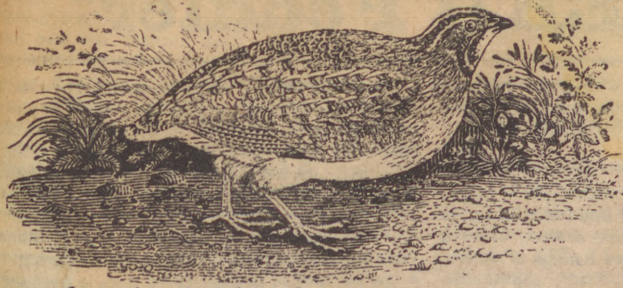
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more females per hatch

Dr. N.W. Walker of Phoenix, Arizona found that by feeding Zebra Finches sorghum seed he was able to change the sex ratio of hatched young from 50 percent females to up to 75 percent females. He is now planning to try the experiments with corturnix quail and Leghorn chickens. He would be interested in hearing from other poultry breeders interested in trying the experiment on their flocks. His address is 1640 East Earll Drive, Phoenix, Az. 85016.

pesticides for cosmetic

Cornell researchers reported in the March issue of *BioScience* that farmers use 10 to 20 percent more pesticides than would otherwise be needed in order to meet FDA standards to enhance the esthetic qualities of crops. FDA regulations which limit the presence of insect parts, limit entirely harmless and even nutritionally beneficial insects. They also limit blemishes that cannot even be detected by consumers.

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throwaway burgers

It takes the sustained yield (that is the yearly production which can be sustained over a long period of time) of 630 square miles of forest land to produce enough paper to wrap a year's output of McDonald's burger products. *Arkansas Ecology Center Newsletter, February, 1977.* That is an area of forest land more than four times as large as that which would be flooded by the Dickey-Lincoln Dam and about 1/3 the size of the state of Connecticut. Of course, now that fast food chains are switching from paper wrapping to oil based plastics, we won't have to worry about it any more. We all know that oil is unlimited.

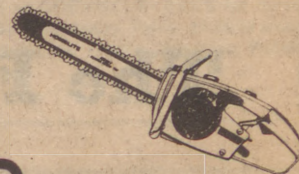


Indian mounds

There are peculiar areas of long rows of ridges and furrows built by Native Americans in southern Wisconsin and Michigan. Up to now no one has been able to explain why the ridges were so wide (three feet) and the furrows so deep (three feet). Anthropologists at the University of Illinois believe that planting on the ridges the Indians were able to achieve a few more frost-free days. They found that on cool clear nights the mounding dissipates the colder temperatures on the ridges and drains the cold air into the furrows.

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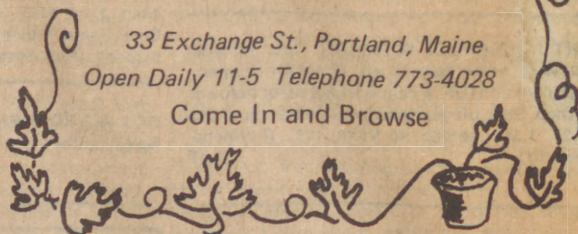
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