

ForestOwner

JUL./AUG. 1987



HERBICIDES—
state of the art P. 4
Streamlined sugaring P. 20
Woodlot snapshots P. 12

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WOODLOT CALENDAR

July 17-18: Vermont Maple-rama, Addison County, VT. Call Larry Myott at 802/655-4452.

July 17-19: Deposit, NY, Lumberjack Festival. Competitions, parade, exhibits, woodswalk. Mary Faigle, evenings at 607/467-2673.

July 18: Bus tour to Grey Towers, estate developed long ago by forestry pioneer Gifford Pinchot. Call Jane Bresee at 717/358-3346.

August 11-13: Empire Farm Days. Biggest farm equipment show in the Northeast. Palladino Farm, Pompey, NY.

August 11-14: First International Christmas Tree Conference, Mount Saint Vincent University, Halifax, Nova Scotia. Exhibits, tours, seminars. Call 902/688-2778.

August 14-16: Woodsmen's Field Days, Boonville, NY. Exhibits, loggers' competitions, parade, seminars. Festive, informative. Call 315/942-4593.

August 18-20: Ag Progress Days, a big agricultural exposition sponsored by Penn State at its Rock Springs, PA, research farm.

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Forest Owner

OPEN LAND OPTIONS

What if you own open land that is not near an operating farm [and you want to keep it open]? In some towns there may be only a few, if any, operating farms left. If that is the case, more than likely the farmer already has more than enough land for crop production. He also has the opportunity to use the best land closest to him at a low price.

You do have some choices, though, if you want to keep it open. The easiest and cheapest is to hire someone to cut it for you. Another option is to use it as pasture, either for your own livestock or rented to farmers. However, this requires fences or time and money to put them up. A third option is to purchase a tractor and equipment to cut the hay yourself. You could be talking \$10,000 or more for new equipment.

—William Snow
Agricultural Agent
Orange County VT

CHEWED TUBING

Vermont's commercial maple syrup producers using tubing in their operations may collectively suffer as much as \$175,000 to \$225,000 worth of damage annually. Squirrels, chipmunks, and porcupines were most often identified as responsible for the damage. They seem to indiscriminately gnaw on spouts, tees, and laterals regardless of the color of the tubing. Damage was greater in sugarbushes where the owner had made timber stand improvement within the past five years.

—Lisa Halvorsen
University of Vermont

FIRST TUBING

A recent *Forest Owner* article referred to the use of galvanized pipe in the 1930s for collecting sap. I would like to call your attention to an article in the book *Talks of the Adirondack Foot-hills*. Garrett Boone came to the Barneveld area (Oneida County) in the late 1700s. He was sent here to produce maple sugar for a

Dutch company. He found as much sap ended up on the ground as got to the foot of the hill as the men tried to carry it down.

His next effort was to make troughs and tubes in wood in hopes he could run it down the hill. His employers decided he was crazy and relieved him of his duties. He was 200 years ahead of his time.

He went to the area of Boonville where he settled and for which the community is named.

—Neil Wright
Camden, NY



THANKS FOR IDEAS

I enjoy the magazine. Keep it up. Could you do an article on:

—the Pennsylvania State Marketing Newsletter on new ideas in marketing? For example, I understand there is a new veneer plant in Bradford County, Pennsylvania, that sells all the way down to the Carolinas,

—new ideas in value added products?

—Albert Masetti,
Ridgewood, NJ

Materials submitted for publication should be addressed to Editor, *Forest Owner*, 710 West Clinton Street, Ithaca, New York 14850. Unsolicited articles, artwork, and photos are invited, although no guarantees can be made about their use or return. Writers' guidelines are available. Deadline for submission is 60 days prior to publication. Published January, March, May, July, September, and November.

MARKET REPORTS

The PA Marketing Bulletin is published by the Division of Forest Advisory Services, Department of Environmental Resources, Post Office Box 1467, Harrisburg, PA 17120. It contains long lists of timber and equipment for sale from all over PA.

—Jane Bresee
Ulster, PA

SELLER LISTING

We are again releasing our "Choose and Cut and Roadside Markets" Christmas Tree Brochure. This has been an extremely successful marketing aid in the past and at absolutely no cost to participants. If you have a choose and cut or roadside market operation and wish to be listed, contact me.

—Robert E. Davis
Div. of Mktg.
NY Dept. of Ag. and Mkts.,
1 Winners Circle,
Albany, NY 12235

STORY IDEAS

Could you publish articles on these topics: sugar bush plantations, using low value land for trash wood-chip production, and using white oak for wine barrels?

—Emil Rau
Stewart Manor, NY
Editor's note: We're always glad to have readers make suggestions like this. Thanks for the ideas!

BACK ISSUES?

I just got my first issue of *Forest Owner*. I really enjoyed it. I am a dairy farmer in Steuben County and have always enjoyed working, hunting, and just being in the woods.

If there were issues before March/April, would you please send them to me?

—John Leonard, Jr.
Troupsburg, NY
Editor's note: We still have a limited number of some issues as far back as spring, 1986. I suggest you call for particulars and, if you like, we'll send some to you for a dollar apiece.

THE STATE OF THE ART HERBICIDES



HERBICIDES have proven to be indispensable tools to most growers of Christmas trees in the East. Without question, properly applied herbicides have shortened the time required to produce a marketable Christmas tree and have fostered the production of higher quality trees. Although many weeds continue to present serious problems for growers, the industry is fortunate to have a number of effective herbicides to assist in controlling competing weeds and brush.

Product labels should be consulted for rates to apply under specific conditions.

SITE PREPARATION

Many growers use herbicides to prepare a site for planting five to six months before actually planting. This is essential in fields to be planted to seedbeds or transplant beds, and is also important for plantations. Roundup controls a broad spectrum of perennial weeds and brush. Garlon controls many brush and broad-leaf species including legumes, but does not control grasses. Several other herbicides and combinations are used for brush control the season before planting. However, persistent soil-applied herbicides such as Hyvar (bromacil) and Spike (tebuthiuron) could seriously injure conifers planted the following spring. The newer non-selective herbicides such as Arsenal (imazapyr) and Oust (sulfometuron) have not been tested widely enough to establish safe uses for site preparation.

FOR CHRISTMAS TREE PRODUCTION

by John Ahrens



PHOTO TOP: Applying Simazine and Surflan with backpack sprayers at Mil-lane Nurseries, Connecticut.

BOTTOM: Beautifully-maintained sod strips alternating with rows of herbicide-aided Christmas trees highlight Ralph Wetherell's plantation in north-central Connecticut. Wetherell also operates a custom spray business for the Connecticut Valley tobacco industry, as well as a commercial strawberry operation.

FIELD-GROWN TREES

Site conditions, conifer species, and the associated weed complexes largely dictate the types of herbicides used. The most effective programs may involve at least two applications a season: the first in early spring and the second in the fall to control perennials and brush. Special weed problems may also require spot or broadcast applications in mid-season.

Early season applications

On tilled sites and sites where Roundup was applied in the fall to control perennial weeds, it is best to apply pre-emergence herbicides in late winter after frost is out, in early spring before weed growth starts, or immediately after planting. Failure to apply a pre-emergence herbicide in the spring usually results in severe competition from germinating annual and perennial weeds. Combinations of a grass herbicide such as Surflan (oryzalin) at three to four pounds active ingredient per acre or Devrinol at four to five pounds active ingredient per acre plus a broad-leaf herbicide such as Princep or Goal are most common. In northern New England, where grasses are less of a problem than farther south, Princep alone at two or more pounds active ingredient per acre has been a satisfactory postplanting treatment. If seedling weeds are present at the time of application, it can be advantageous to add Goal at one quart per acre to the pre-emergence herbicides. Although early spring applications of Princep at two pounds active ingredient per

acre often control many emerged winter annuals before their growth starts, the addition of Goal improves control of other weeds such as common dandelion and field pansy that are resistant to Princep.

When planting into sodded sites (hay or pasture land), the options vary with the species grown and the locale. Scotch and Austrian pines tolerate Velpar, which can provide broad spectrum weed and brush control. In northern areas, especially on heavier soils, where balsam and Fraser fir are grown, combinations of AAtrex (atrazine) with Princep at two to two-and-a-half pounds active ingredient per acre of each are commonly used and effectively control many perennial grasses and broadleaf weeds when applied as early as possible in the spring. Other options include Princep plus Poast or Fusilade applied when perennial grasses are six to ten inches tall. For example, these treatments would find favor in newly planted white pine and white spruce, which are susceptible to AAtrex. Dosages of Poast or Fusilade required to control perennial grasses are at least double those required to control annual grasses. For example, at least one and a third quarts per acre of Poast are necessary for quackgrass suppression when combined with Princep at three pounds active ingredient per acre.

Mid-season applications

Regardless of which herbicides you use in the spring, some perennial weeds, brush species, and even some annual weeds may not be controlled. Heavy rainfall can leach herbicides and shorten their persistence. Grasses can be controlled at any time with Poast or Fusilade, applied over any conifer, provided adequate soil moisture and active grass growth occurs. If broadleaf weeds are also a problem, many can be controlled with Goal at one to two quarts per acre. While not always giving root kill, Goal sprays in mid-season burn back many troublesome perennials such as vetch and bindweed, as well as pigweed, groundsel, purslane, ragweed, and others. Woody weeds beyond the seedling stage are rarely controlled by Goal.

Roundup at one to one-and-a-half pints per acre (without added surfactant) can be useful in mid-season on spruces and true firs [which Douglas fir are not] for broad spectrum control of annuals and suppression of perennials. The dosages of Roundup tolerated by conifers in

Herbicides Used in Christmas Tree Production

with state-by-state restrictions on use

Chemical name	Manufacturer	Restricted NE states*
Amizine	Union Carbide/Rhone Poulenc	none
Asulox	Union Carbide/Rhone Poulenc	none
Atrazine	Ciba-Geigy	none
Devrinol	Stauffer Chemical	none
Enide	Upjohn/Tuco Div.	none
Garlon	Dow Chemical Co.	none
Goal	Rohm & Haas	none
Fusilade	ICI Americas, Inc.	none
Gramoxone Super	ICI Americas, Inc.	all
Kerb 50W	Rohm & Haas	all
Poast	BASF Wyandotte	none
Princep	Ciba-Geigy	none
Roundup	Monsanto	CT, NH
Surflan	Elanco	none
Velpar	DuPont	none
Velpar L	DuPont	CT
*Northeastern states in which use is restricted to certified applicators		

mid-season are about half the dosages tolerated by fully mature conifers in the fall. Directed (shielded) sprays of Roundup at one-and-one-third to two ounces per gallon of water are also effective on a broad range of weeds and can be safely used in any conifer plantings.

Most growers prefer band treatments of herbicide down the row and a mowed grass strip between rows. This system reduces herbicide costs and soil erosion.



John Ahrens of the Connecticut Agricultural Experiment Station is widely regarded as the nation's leading expert on the use of herbicides in Christmas tree plantations. His knowledge is gained not only as a publicly-funded research scientist, but also as a private Christmas tree farmer.

A word of caution: the label on the pesticide container is always the final authority on the use of the product.

Unfortunately, perennial weeds often grow in the grass strips and send their rhizomes into the treated bands, resulting in perennial weed problems in the rows by mid-season. Vetch and bindweed are two such examples and if left alone will deform trees. Goal or Roundup applications can provide some control for these and certain other weeds in the row, but not in the grass strip. In current research, Garlon 4E at one pint per acre also appears feasible as a semi-directed spray. Since Garlon is non-injurious to grasses, a low broadcast spray could be used to kill broadleafed weeds, including vetch and poison ivy, in the grass strip as well as in the row. Hardened growth of true firs and spruces appears to be tolerant of Garlon, but non-hardened or active growth is very susceptible to contact injury from it. Garlon sprays on lower foliage of white pine and Fraser fir caused very little injury in mid-August tests, but moderate to severe injury in June or mid-July. Damage to conifers can be minimized in larger trees where sprays with wide angle or off-center nozzles contact only the lower foot of conifer growth.

Late season applications

Roundup and Garlon are effective in conifers late in the season for brush and/or perennial weed control. Neither provides residual control of weeds emerging from seeds later in the fall or in the spring.

The proper use of Roundup can be credited with the great strides that

(Continued on page 6)

HERBICIDES . . .

(Continued from page 5)

Christmas tree growers have made in recent years in controlling brush and perennial weeds. However, new information about Roundup selectivity in conifers continues to be developed. Timing, dosage, spray volumes, surfactants, and spray techniques all affect selectivity and results.

Roundup sprays applied before frost in early fall can kill brush species and leave conifers little affected. Perennial grasses and brambles are controlled by Roundup well after early frosts, but many woody plants shed leaves and are not controlled after frost. The most effective time, therefore, is when conifer growth is hardened but brush and weeds still have green leaves and soil moisture is adequate to allow translocation into root zones.

Hardening varies somewhat with the conifer species and locale. Douglas fir and white pine mature later in the season

than spruces, most true firs, and Scotch pine. Fraser fir and some varieties of concolor fir harden later than balsam fir. At an effective time for both weed and brush control in early fall, spruces, most true firs, and Scotch pine are tolerant of Roundup sprays, whereas white pine and Douglas fir, in particular, are very susceptible, especially when their terminal leaders are sprayed. Since heavy rainfall within two to six hours after Roundup application reduces its effectiveness, it is wise to spray on days when rain is not expected. The presence of heavy dew on weeds may also reduce the effectiveness of Roundup.

The recommended dosage for Roundup is one-and-one-third to one-and-one-half quarts per acre. Even the most tolerant conifers (spruce) may have their growth suppressed by rates higher than two quarts per acre. The addition of a surfactant, such as Frigate at 0.5% by volume (2 quarts per 100 gallons) can improve control with Roundup on some weeds, but our research shows that it also

increases the potential injury to conifers. A surfactant can improve control with minor hazard to trees where the target is primarily annual or winter annual weeds, the conifers are fully dormant spruces or true firs, and semi-directed sprays of Roundup are applied at dosages not exceeding one to two pints per acre.

SPRAY TECHNIQUES

Since white pine and Douglas fir are especially sensitive to Roundup, one- and two-year old trees of these species should be protected with a shielded spray. Older, taller trees can tolerate Roundup where only the base of the tree is hit. Evenly-applied over-the-top sprays of Roundup on dormant spruces, dormant true firs [not Douglas], and dormant Scotch pine have been successful. In the case of fan-type and even-spray nozzles, this means raising the boom so that it is held at least 20 inches above the tallest conifer. Nozzles held too close to terminal leaders can cause growth suppression even at proper

(Continued on page 8)

CALIBRATING YOUR BACKPACK SPRAYER

ADDISON County (VT) forester Tom Bahre and county agricultural agent Jeff Carter offer Christmas tree growers a simple method of calibrating backpack sprayers. Calibration is important to ensure that you are applying the exact recommended volume of chemical over a given area. Too much or too little is wasteful or inadequate, expensive, and potentially damaging.

Bahre and Carter suggest setting two stakes 100 feet apart. This is your spraying course. Fill your sprayer with clean water. Find a patch of dry soil, pavement, sidewalk, or gravel, and practice spraying a 24-inch wide strip, the customary width for spraying herbicides among young Christmas trees. Notice how the distance between the nozzle and the ground affects band width. You will be surprised to find that it is very difficult to maintain a uniform band width. The nozzle moves imperceptibly with each walking stride.

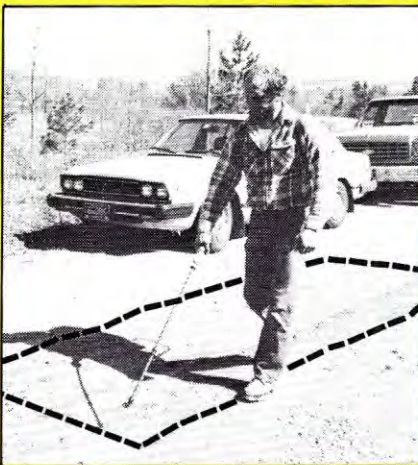
Nozzle height from the ground also affects spray coverage. If the nozzle is held high, the spray pattern will show individual droplets, not complete coverage. If held lower, the ground will be evenly wetted, important when using herbicides.

You are ready to walk the calibration course, spraying a 100 foot by two foot band or an *area* of 200 square feet after having practiced making a fairly uniform

by Katy Kruesi

two-foot wide band. You now need to figure out what consistent walking pace will be comfortable for walking through your plantations, up and down hills. This will be your speed.

Ask a helper to collect the spray water in a bucket as you both walk the course, maintaining a *constant speed* and a *constant tank pressure*. (Be sure your sprayer has a pressure gauge!) Your speed, tank pressure, and nozzle size are the three main variables that affect how much liq-



First, spray water on dirt or concrete to establish the width of your spray swath.

uid will be sprayed over the 200 square foot test area. Measure the collected water in ounces. This is your volume.

You can now calculate the spray application rate for your walking pace in gallons per acre. First, divide 43,560 (the number of square feet in an acre) by the number of square feet in your test, in this example 200 square feet. That yields the number 217.8, which you then multiply times the number of ounces you sprayed into your helper's test bucket, let's say 20 ounces. That gives us 4,356. Now divide that by 128 (ounces per gallon), and we end up with 34 gallons per acre.

This is your spray rate with the nozzle head you are using. You should repeat this test with each nozzle head that you plan to use, since each differs and affects how much liquid comes out of the sprayer.

If you want to apply a chemical at a rate of two pints to the acre and you have one acre to spray, you need to take your rate of 34 gallons per acre and substitute two pints of herbicide for two pints of the 34 gallons of water, or, in other words, mix two pints of herbicide with 33 $\frac{3}{4}$ gallons of water. As you spray at your rate of 34 gallons per acre that you have tested, based on your walking pace and 24 inch spray band width, you can be sure that you will be applying two pints of chemical per acre. ■

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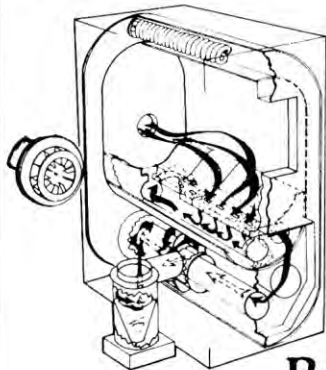
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▲ HERBICIDES . . .

(Continued from page 6)

per-acre rates.

When spraying Roundup in the fall, some growers find it advantageous to add a low rate of Princep (one-and-one-half pounds active ingredient per acre) to control winter annual weeds until spring. However, in most cases pre-emergence herbicides applied with Roundup in the fall will not provide satisfactory control of annual weeds for all of the following season, and high rates of pre-emergence herbicides also can reduce activity of Roundup in tank mixes.

In many experiments over several years we have found that Garlon can be an effective late season herbicide for Christmas tree growers. Garlon 4E at one to two quarts per acre is effective primarily in controlling brush, brambles, and certain broadleaved perennials, but not grasses. Conifer tolerance to these dosages is similar to that of Roundup and the same timing and techniques of application apply. Semi-directed broadcast sprays of Garlon can be especially useful in banded tree culture where center grass strips are desirable. It is important to avoid mowing for two to three weeks before and at least one week after Garlon treatment so that broadleaved weeds have adequate foliage to absorb the herbicide and time to move it to the root zone. Tank mixes of Garlon and Roundup can injure Christmas trees more than either herbicide alone, but reduced rates (one pint of each per acre) can provide improved control of weeds such as vetch over Roundup alone.

Asulox (asulam) can be useful in late season primarily to control bracken fern. At two to four quarts per acre in August, Asulox has been safe on balsam fir and white pine in New England, but spruces at any stage and actively growing firs are injured.

Kerb 50W (pronamide) is a late season or very early season herbicide used in some areas primarily to control perennial grasses and annual mustards. At one to two pounds active ingredient per acre, applied from late fall to very early spring, preferably just before rain or snow, Kerb is especially useful in conifers that are susceptible to Roundup, such as Douglas fir and white pine. To provide season-long control of annual weeds, however, Kerb must be combined with or followed by spring applications of other pre-emergence herbicides such as Princep or Princep plus Surflan. ■

MARKET PRICES

Note: These prices, paid to forest owners in mid-May, 1987, should be viewed as general guidelines. Prices vary by region, from buyer to buyer and especially by quality and location. Information was gathered by editors and correspondents in a telephone and field survey.

TIMBER

Unless noted, prices are quoted for standing timber, board feet per thousand. Check with buyer to determine log rule before agreeing to sell.

Hardwoods—The big news in hardwood markets is the incredible demand for red oak. Bids received in mid-May for a western New York stand of oak appraised by the forester at \$72,000 ran all the way up to \$121,000. In fact, in value the appraisal was near the bottom of 11 bids.

"It's crazy!" lamented one western New York buyer, "but I don't see any change coming." He said the diving U.S. dollar, when coupled with a healthy housing and office construction industry, plus a new and reportedly gigantic veneer mill in Taiwan is fueling the bidding spree.

"One manufacturer of oak computer furniture simply can't buy enough oak," said one hardwood dealer. That \$121,000 bid was comprised of the following prices per thousand board feet, in Doyle rule: **red oak:** \$590; **white oak:** \$180; **ash:** \$260; **hard maple:** \$140; **good cherry:** \$400.

Softwoods—No significant change since January. **Hemlock:** \$40-50 for cabin beams, as high as \$145 delivered to mill elsewhere. **White pine:** \$160-\$175, **Spruce:** \$125.

MAPLE OUTPUT DOWN 17%

New York's 1987 maple syrup production is estimated at 225,000 gallons, equalling the record low set in 1973, according to the New York Agricultural Statistics Service.

Although the number of taps increased by 20,000 to 1,550,000, the yield per tap was the lowest in more than 20 years. The value of this year's production, at \$5.15 million, was up fractionally from

the \$5.14 million value for 1986.

The maple season in New York was 27 days long, two days longer than the 1986 season, but five days shorter than the average of 32 days for the last 10 years. The average opening date for the sugaring season was March 9. Sap was of medium sweetness, requiring an average of 40 gallons to make one gallon of syrup. Color was mostly medium to light.

Production for New York and New England combined totaled 580,000, down 17% from the 696,000 gallons

produced in 1986. The season average price for retail and wholesale sales combined for all grades is \$29.20 per gallon for the region, compared with the average of \$23.60 received a year ago. Value of production, at \$16.9 million, is up 3% from last year.

Production in each of the New England States was down from a year ago. Vermont produced 275,000 gallons, down 19%. New Hampshire production was down 22% and Massachusetts production fell by 7%. ■

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IF Dean Frost walks his woodlot today, he'll pay with pain tomorrow. That's the way it is, says Frost. Pain is the price for wandering through hardwoods talking veneer.

If you wander with him, recalling his active association with the New York Forest Owners Association (NYFOA) over the past five years, you won't know he's hurting. You'll see an energetic man who plants trees, raises bees, and watches over some 550 acres in northern Broome County. You'll chat with a six-year veteran of the state Forest Practice Board, a man whose efforts last year helped created NYFOA's second local chapter, the Southern Tier chapter. You'll get your ear talked off about forest owners' rights and how taking them away kills incentive.

You'll get all this from the outside Dean Frost; the one he wants you to know. The inside Frost is smashed up, the victim of accidents he's sure will shorten his days.

"Have a cookie. They're chocolate chip. My daughter-in-law made them." The outside Frost sits in his pickup, munching baked goods on a sunlit winter afternoon. He's about to ride through fields and walk through woods talking trees. It's just about his favorite thing.

Come with him. You'll learn how he feels about hemlocks and splinters, veneer logs and weed trees, red pines and the CCC. If you press him, you'll also learn about the inside Frost, about the milk tanker that changed his life.

Growing up as a Broome County farm kid, Frost, 52, was one of that dying breed of children who got up to milk at 4 a.m., hauled cans to the road, and then went to school. Farming in summer, working the woods in winter, he quit school at 16 to run his family's farm near Whitney Point. His father had rheumatism. Bills were larger than the milk check. "It was 'Do it or lose the farm,'" said Frost.

Since then, he's either been farming or been between farming. If times were good, the farm was enough. If they weren't, Dean would sell insurance, run a back hoe, or drive a milk tanker. In 1964, in a near-fatal accident at the age of 29, in one such tanker got him.

Frost was driving bulk tankers for a milk cooperative then. As he stood by a

THE FIGHT — OF — DEAN FROST

by Rick Marsi

loading dock, another driver's tanker backed into him, pinning him against a concrete wall.

"The back of my skull was crushed," says Frost. "I was smashed from one end to the other, more dead than alive."

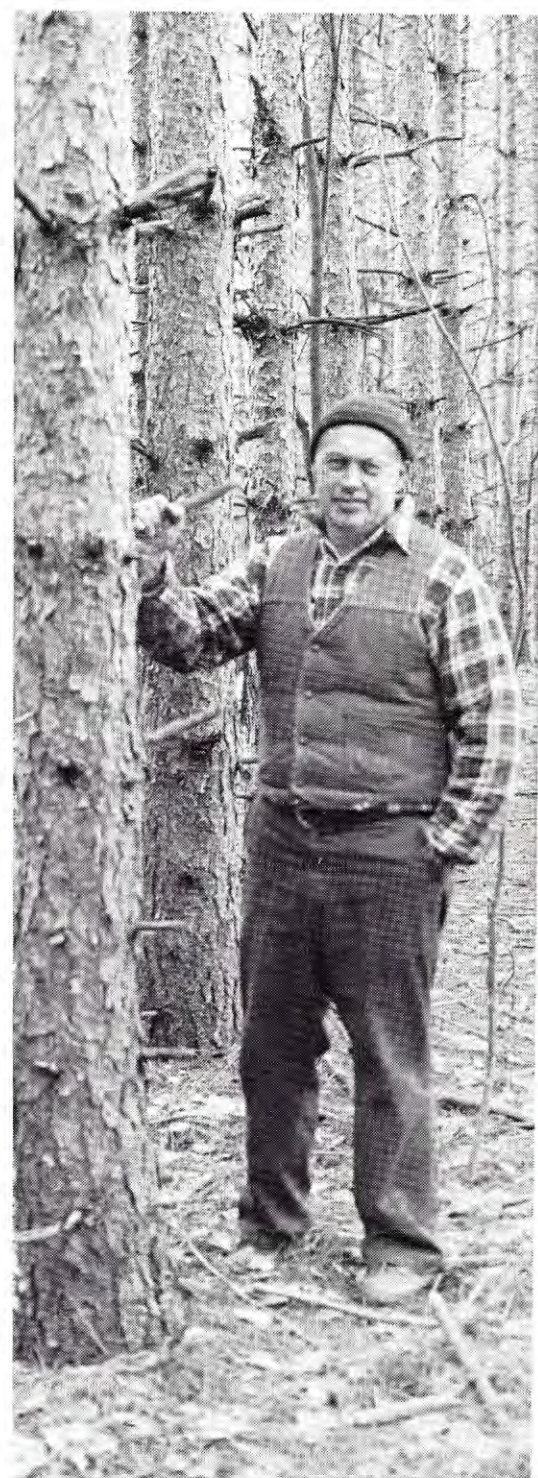
Doctors told Frost's family he might not survive. If he did, they said, he would have certain brain damage. After a period of unconsciousness—"ten weeks I don't remember," he says—came a one-year stay in the hospital.

Finally, Dean Frost went home. "I was told I would never make it to a wheelchair," he said. "They told me, 'Don't do anything; it will kill you.'"

If his injuries hadn't killed him, doing nothing certainly would. Frost stayed in bed about ten minutes, then set about recovering. Six months later, he was hunting woodchucks from a wheelchair. Then came an interest in real estate. He began renting and leasing properties in the nearby village of Greene.

He was back on track. He couldn't skid logs, but he was back.

In 1977, on a darkened Route 12 outside Binghamton, Dean Frost's car was hit head-on by a car traveling in the wrong lane. The driver of the other car



Dean Frost on his farm near Whitney Point, New York. The red pines he envisions as being harvested soon for Adirondack shelters. Photo: Rick Marsi

was killed instantly. Frost's son, Randy, was seriously injured. Frost, himself, suffered a shattered leg—"totally pulverized"—and a foot broken 150 times.

This same fellow now guides you through the woods, walking energeti-

"I just decided I was gonna tree farm and have a good time."

cally, urging you around just one more bend in a logging road. If you hadn't asked about the accidents, he wouldn't have told you.

"After two years in traction, and a million pins, screws, and tubes in my leg, I just decided I was gonna tree farm and have a good time," says Frost. The results are what you're looking at this cold, bright afternoon.

It's a hilltop farm, about 65% in hardwoods, hemlocks, and a red pine stand or two. The rest is in pastureland, which won't stay open for long. Evergreen seedlings sprout from every open field. Blue spruce, white spruce, balsam fir—name an evergreen, it's growing here. Frost's tree farm master plan calls for annual sales of 10-to 15,000 Christmas trees a year. He had his first "U-Cut" sale this year and sold 300 trees, an encouraging start.

Christmas trees are just part of a plan Frost sees as utilizing the farm's every forest resource. Firewood sales are contracted out, mostly "on shares," with Frost being given a percentage of the harvest—cut, split, and stacked, of course. Frost, himself, marks the trees to be cut, ones bent, crowded, injured and unfit for timber sales. By thinning poorer trees from his hardwood stands, he nurtures the timber-sale candidates that remain. Frost has had three timber sales on the farm since 1960. Another's about to take place. They've paid his taxes, he says.

His Depression-era red pine stands, planted by the Civilian Conservation Corps, are at near-harvest size. The plan calls for their conversion into logs for Adirondack shelters. Hemlocks on the land will be used for in-house projects, such as the construction of his son, Randy's new home on a nearby hillside.

"Randy is my back now," says Frost, whose hard labor is limited to tree pruning and an occasional burst with the chain saw. "We'd like to set up our own mill next year, maybe mill these hemlocks ourselves," he says. "Most folks think hemlocks are too slivery, but they make one fine floor joist."

And then there's veneer. Frost grows reverent when he talks of veneer. "It's the log of the future," he says, standing beside a two-foot thick limb. "There are two 16-foot veneer logs in this baby," says



Frost. "That's forestry; that's what happens when you care."

Which brings Dean Frost to the subject of giving a damn. To care about your woodlot, he insists, you must control it yourself. If you lose control—if others, through the passage of laws, dictate which trees you can cut and which you can't—you will lose incentive. It takes incentive to produce quality veneer. It takes someone willing to thin and prune, to nurture.

"Who's going to bother thinning out weed trees if he needs a special permit to sell them for firewood?" asks Frost. "That's what's happening in forestry today. It bothers me to see it."

Zoning is Frost's biggest fear. It's what stirred him up to work toward forming NYFOA's Southern Tier chapter. He's watched as municipalities throughout the state have adopted new zoning laws requiring landowners to submit a professional forestry plan before selling their trees. Frost says he and the vast majority of other forest owners statewide don't need such restrictions to do a cutting job right.

"Supporters of mandatory forest plans defend them by saying landowners don't know junk wood from the good stuff,"

says Frost. "I say ninety percent of us know. Heck, even you would know."

Frost has other fears about mandatory forest plans. Most relate to timber sales. "If you open the door to these mandatory plans, you're going to have foresters saying you have to cut your trees at a certain size, whether they're fully mature or not. They're going to look at this oak and say, 'It's eighteen inches thick. That's ideal. You should cut it.' I say hogwash to that. This tree may be growing faster than ever. It could become a great veneer tree if I let it grow."

Frost has nothing against foresters, he says. In fact, he's worked extensively with Jim Roberts of Forecon, Inc. on an impending sale that will focus on oak, ash, and cherry veneer logs. What he doesn't like, he says, are zoning laws telling him he has to work with a forester, and then telling him which foresters are acceptable and which aren't.

Frost thinks local NYFOA chapters are a vital lobbying force against restrictive zoning. "The state NYFOA can represent our concerns in Albany," he says, "but local people should be knocking on doors in the towns and villages."

Local chapters also can offer hands-on forestry instruction for landowners—instruction that focuses on the topographical and economic problems of specific regions. "We have to educate within our own ranks," says Frost. "We have to insist our members follow established timber harvesting guidelines. If they don't know about skidding across a hill instead of going straight down, it's us who should be telling them."

"Us" to Dean Frost is NYFOA's Southern Tier chapter. "That's where NYFOA's future growth lies: in its local chapters," he says. "This organization has to grow from the grass roots up, from you and me to the top."

He's been standing by his beloved veneer tree during this entire address. Afternoon light is failing. His breath billows; it's getting downright cold. The man isn't finished quite yet.

"You look a little chilly," he says, "but I want you to see one more thing. You remember my saying I love just about every kind of tree? Well, I've got this black cherry. You'll drool when you see it. It's just down the road. If we move right along . . ."

If you lose control . . . you will lose incentive.



simpler subject, a stone wall. Unlike the whitetail buck, stone walls and sunrises don't vanish quickly.

A photographer has several hours of good light to shoot a stone wall. Sunrise and sunset shots are available, even though the sky is steadily changing then. There is ample time for the beginner to make a spectacular shot. Waiting for the ideal, picturesque sunset or an interesting snow pattern on the stone wall will require some good timing and patience. Always look for repeating patterns even in the simplest of subjects. An ash leaf stem with morning dew is a good example.

When starting with simple subjects like these, take the opportunity to learn the intricacies of your camera equipment. In the case of the stone wall, metering bare, dark stone and then the snow will show two different exposures in the same photo. The camera's manual will explain that this is normal in trying to capture what we see, by mechanical means, on film. If you split the difference of the two readings, and then expose for that setting, an acceptable photo will result. Experiment with different exposure settings and compare the final photos.

Always keep in mind the main subject of your photo. In a sunset photo, usually the sun is small. Proper exposure for the sun would make the remainder of the photo black. By taking an exposure read-

Getting great NATURE

JUST two more steps and that white-tail buck will be in the clear for a good shot. Suddenly he stops. His muscles tighten. His tail flicks twice, and before you can say "Where's my camera?" he bounds away.

What went wrong? How can you get a clear shot next time? Will an opportunity for a shot like that ever come again?

A good photo of a large whitetail buck has eluded many a photographer. More than one thing can go wrong, so, for the sake of instruction, let's concentrate on a

Getting great nature shots requires more than just a stroke of luck and a steady hand. Author and professional photographer Dick Allyn takes you into the woods for the basics.
photos by Dick Allyn

ing adjacent to the sun, in that area neutral to the brights and darks of the scene, better results will be achieved. Sometimes a sunset or sunrise shot is enhanced by including some object in the foreground. By doing so, two basic principles are displayed in one photo: composition and depth of field.

Composition must be considered in every photo taken. A simplified definition of composition is positioning the elements of a photo in a pleasing way. Browsing through any photography publication will show you that positioning for every subject has been carefully



planned. In the case of our sunset, if we were to locate an object in the foreground, the picture now might have a sense of balance which it could have lacked before. This type of photo also lends itself to experimentation with depth of field.

Depth of field is related to the aperture setting used. Any photographic manual will say that depth of field is "that part in focus." An aperture setting, or f-stop, of 2.8 gives a shallow distance in focus, in comparison to f-stop 32, which focuses almost everything.

All these techniques will come into use in every photo you take. By experimenting and learning them with less difficult subjects, the basics will come under control and other subjects can be taken on with confidence.

Bait for animals

Let's go back to the stone wall for a moment. Two days ago, you baited the wall with some liver. From your hidden position, you see a small animal approaching the bait. No time to experiment with basics now. In just two and a half minutes you will have five good shots of a weasel. That makes the homework on the basics worth it!

Waiting for a good subject can be seasonal, too. Take the case of wild flowers. The month of May produces many of the species we all know so well. Many fine photos of them would be done with flash. To achieve a photo of similar quality with natural light can be difficult. Macro lenses are well suited to flower subjects.

does all of this boil down to? Experience has shown that slow shutter speeds mandate the use of a tripod or some type of stabilizing set up. That's all well and good for camera movement, but what about the subject?

Flowers are generally fragile and susceptible to a breeze that can ruin any well-planned effort. It can be a long wait for a windless day. The solution is to be set up on that flower just after daybreak, before any wind begins. Shooting in the early morning can be very rewarding with a variety of subjects. Check the edge of a pond for dragonflies and other insects. They will have morning dew on them and be lethargic, making them easier to approach. Song birds may be found at a spring seep for their day's first drink. Chipmunks and squirrels feed heavily in these first hours of daybreak. Some nuts or seeds placed on a stump will put these critters where we want them.

If reptiles are your pleasure, check a log in the pond for a turtle basking in the sun. This may require setting up a blind, though, and waiting for the turtle to emerge and rest on the log. Stalking a turtle has a low rate of success. They are very shy and know that water is their only true friend.

Snakes will bask in early morning trying to raise their body temperature. If it's too hot, they lay in shade. Before they warm up, their usual quickness is slowed. Reptiles are usually shot between a 45° angle and eye level. A tightly-framed **Camouflage works for wildlife, too, not just wildlife photographers.**

head shot of any reptile at eye level can be dynamic.

Many people concentrate on birds' nests. They do provide some excellent photographic possibilities. I must caution that you have certain responsibilities when working with this particular subject. The safety of the young birds must always come first. If you want shots of the adult feeding the young, a blind will be needed. Any attempt at bird construction must be done after the birds hatch, otherwise the adults may abandon the site. Many bird species will only tolerate a blind built in stages. Probably the best method is to set up a blind some distance away. Then, each day, move the blind closer until you reach the desired range. Once again, early morning will provide some of the best photography possibilities.

Ground-nesting birds are particularly vulnerable to predation. Predation in this case is usually carried out by raccoons, opossums, and domestic cats. The real culprit for this action is man. These predators follow our scent, and by doing so, almost always find something to eat. Unlike birds that nest in trees, ground nesters can only rely on their camouflage for protection.

Moth balls scattered around a blind will help decoy, or negate, human scent. Once this is done, there should be no more approaches to the nest site.

One of my specialties is photographing predatory birds at their nest sites. The same rule of bird safety applies, but in *(Continued on page 14)*

SHOTS

Their ability to focus at close range, coupled with the small aperture settings available, offer the opportunity for frame-filling and wide depth-of-field photos.

Inherent with any lens is the simple "give and take rule." Any lens, when at its minimum focus distance, is also going to have a narrow depth of field. By using small apertures, 22 or 32, maximum depth of field is obtained. This setting is directly proportional to the shutter speed setting. Through experimenting, you will have learned more depth of field (small aperture), means less shutter speed. What





NATURE SHOTS . . .

(Continued from page 13)

addition, consideration for your own safety must be considered. Hawks and owls nest quite high in a tree. By positioning yourself anywhere from 20 to 60 feet in a tree, on a 1½ by 2½ foot plywood portable tree stand, you are taking a deadly risk. But it also makes for some very rewarding photographs. I recommend this type of photography only for those who know the species well and who feel comfortable high off the ground.



Photographers willing to perch 20 to 60 feet above the ground have a chance to capture a Broadwing Hawk family on film.

By now you're ready to go after that big whitetail buck again. Deer have an unfortunate habit of moving only when light conditions are poor for photographers. Set your camera at the largest aperture and fastest shutter speed for available light conditions. Use a blind dug in the ground or a portable tree stand to decrease human scent. You can also use a product called Scent Shield to reduce human odor when you are at ground level. A deer's sense of smell is highly underestimated and accounts for many missed photo encounters. Several good deer lures are on the market. A small portion of such liquids on a cotton ball may help draw the deer where you desire.

Just because a deer's active hours aren't usually the best for photography work, don't give up. Many outstanding photos of deer are done in silhouette, or maybe with a beautiful sunset in the background.

The call of the out-of-doors appeals to practically all forest owners. To be able to bring a part of the woodlot home with us is truly a prize of the time we spend there. ■

ASK A

FORESTER

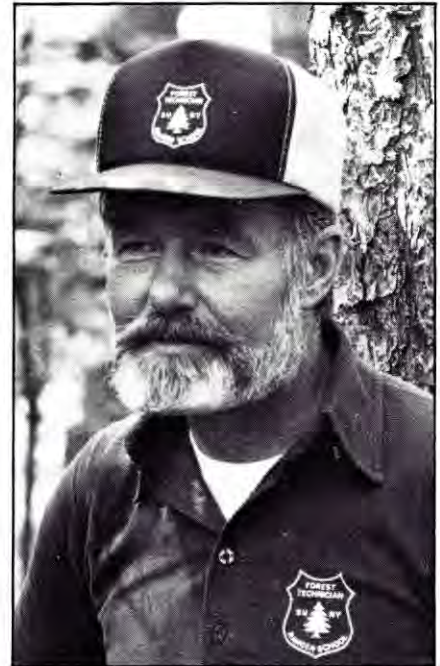
HARD AND SOFT OF IT

After reading "Firewood—Hards vs. Softs" (Jan/Feb issue), I take exception to your very first sentence. According to your definition of hard and soft woods being either deciduous or conifers, then that makes basswood a "hardwood" and southern yellow pine a "softwood" [author's note: the former is much softer than the latter]. I have never seen a balsa tree, but if it is deciduous then the softest wood in the world is a "hardwood." Take it from one who has been working with all kinds of woods for more than 60 years, there is only one way to classify hard and soft wood, and that is by its density. You can forget everything else. I can agree with everything else you had to say about the burning characteristics of various woods, but there is one you didn't mention and that is willow. In my opinion for both firewood and lumber the willow tree deserves a lot more attention and credit than it gets. What is your opinion of willow as firewood?

—John Moody
Tully, NY

Since I have not used willow for firewood, I can only answer your question based on information in the *Wood Handbook*, U.S. Forest Service Agricultural Handbook No. 72. I suppose you are talking about black willow (*Salix nigra*), which can grow to sawtimber size and is the most important commercial willow in the United States. As you probably know, it commonly grows on very moist sites such as along stream banks throughout New York, but is most heavily pronounced in the Mississippi River Valley States. There are many people who do not know that it is cut mainly for lumber and used primarily for boxes, pallets, crates, caskets, and interior furniture parts. Smaller amounts have been used for structural lumber (framing), veneer (subflooring), pulpwood, and fenceposts.

So, you're right, it deserves more credit than it usually gets. But let's look at some other properties of this wood which may make it unsuitable for other uses. It has very low strength and should not be used as a bearing beam or post. It also has a



by Wes Suhr

rather high shrinkage value, and must be carefully dried for eventual use as structural lumber. Although it has been manufactured as charcoal, it has a low specific gravity (.39) and therefore its heat value or yield is comparatively low. You probably know, too, that black willow has moderately soft wood, that it's a deciduous tree—and that makes it a **hardwood**.

Now, Don, don't get excited. I don't like this situation any more than you. Please understand that this very loose grouping of hardwoods and softwoods (deciduous or "broadleaves" and conifers) did not originate with me. It got started a long time ago, probably in some regional market where most commercial conifers had soft wood as compared to the harder wood that was sold from broadleaf trees. This grouping was extended and has been retained, at least in the U.S., in commerce as well as in professional forestry.

Yes, it can be very disconcerting when there are many softwoods that apparently have much harder wood than many so-called hardwoods. For example, commonly used wood such as longleaf pine

(your example of southern yellow pine) and Douglas-fir produce much harder wood than basswood and aspen which are generally grouped as "hardwoods." And, yes, it is true that your example of balsa, which produces the lightest lumber in the world, is a "hardwood" by this loose grouping. It belongs to the family *Bombacaceae*, a family of deciduous trees found chiefly in the American tropics.

Regardless of what you and I think about this classification scheme, we have to live with it. Most foresters think about it as a general species separation, rather than any characteristic of wood. A softwood is a conifer. A hardwood is a broadleaf tree, and nothing more. Why, even the *Wood Handbook* breaks all U.S. species down into two broad groups, softwoods (conifers) and hardwoods (broadleaves)!

MESOSKIDDERS REVISITED

In your recent article on mesoskidders (Mar/Apr), I'm surprised you didn't mention the Holder. It's a 56hp, 4wd (4 equal-sized tires), diesel powered, articulated German farm tractor that's been modified to work in the woods with a belly pan, stacking blade, and double-drum Iglan winch. I run one for the Catskill Forest Association.

—Goline Doremus
Doremus Forestry
Arkville NY

You and several other people were surprised that I had not mentioned the Holder, including Alfred Sive (Executive Director, Catskill Forest Association), and several managers/administrators for Forest Properties of the College of Environmental Science and Forestry. I do remember reading about the Holder some time ago, but apparently I forgot the material because I thought it was classified as a "miniskidder," but it is not. In fact, it closely fits the description of the woodlot skidding tractor that I said is needed! I hope you're reading this, Al Johnson.

Al Sive tells me that you have been happy with the tractor's performance. Richard Sage, Program Coordinator at the Hunting-Forest (Adirondack Ecological Center), has a similar message. On level ground, he reports tremendous pulling power for the size of this unit, pulling 15 to 20 16-foot logs (10 inch tops). Let's look at the specs for the Holder: width

59" (4.9'), height 81" (6 3/4'), length without loader 11'2" and 13'3" with loader, clearance 14" (12" with belly pan). Richard reports that it is very versatile, using it for mowing, splitting, and log-loading as well as skidding. It does not tear up the woods and yet has good pulling power. Maintenance is reportedly difficult, especially greasing the articulated parts, and the belly pan must be pulled to change the oil filter. On steep hillsides, it is a little unstable.

John Irwin, a consulting forester (Irwin Forestry) of Lyndon Center, Vermont, used to sell the Holder. John says there was demand for the skidder with the price around \$32,000, but most potential users lost interest when it hit \$40,000. John reports that on fairly level terrain it will skid about a cord of softwood or 1/4 to 1/2 cord of hardwood (high-density hardwoods!), but recommends a solid-mounted winch system, rather than a 3-point hitch, if you just want to skid. The solid-mounted winch holds the load closer to the ground, and therefore is more stable on irregular or steep terrain. The 56hp Holder is often seen operating the Iglan double-drum winch; if this capacity is not required, the A-40 Holder (2 cylinder, 30hp) with single-drum may be a better machine for you.

John Irwin has all the details on Holders. And if you are looking for a used 56hp Holder with double-drum Iglan winch, completely equipped with fully-enclosed cab, all reportedly in excellent condition for \$27,000, it may still be available (call John at 802/626-415).

**Questions should be addressed to:
Wes Suhr, Ranger School, Wana-
kena, New York 13695.** ■

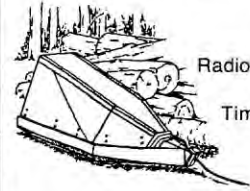
GOOD STRESS?

A little stress isn't always a bad thing for plants. Studies show that a plant will overcome or succumb to a stress depending on its living conditions before that stress. For example, two days of moderately severe drought prepared coleus and poinsettia plants to survive in air heavily polluted with sulfur dioxide; however, severe drought increased chilling injury when coleus plants were later exposed to 5°C temperatures. This research is expected to yield general principles that will help growers cut their losses and aid breeders in developing varieties with broad tolerance to stresses. ■

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REGIONAL REPORTS

SUSQUEHANNA, PA GROUP GROWING

More than 100 forest owners are now enrolled as members of the Susquehanna County (PA) Forestland Owners' Association. Bill Chell, a founding member of the group, says about 50 members came to his horse logging demonstration and 45 attended a meeting that featured a video tape of the fascinating Radio Horse remote-controlled logging winch.

Chell also reports that the group visited a veneer mill near Williamsport, PA, and is planning a bus excursion to the Woodsmen's Field Days at Boonville, New York in mid-August.

A Christmas tree-growing seminar and a class on field dressing of deer are planned for late 1987.

The Susquehanna group has voted to begin receiving *Forest Owner* as a benefit of membership.

Tom Curley of Lawton, PA, is president of the Association.

To contact the Susquehanna County Forestland Owners Association, circle number 81 on the reader service coupon.

SWOAM LEADERS PONDER ACCESS IDEAS

If SAM (Sportsmen's Alliance of Maine) had its way, some Maine forest owners wouldn't be able to hunt on their own property. According to Elinor Vassey, executive secretary of SWOAM (Small Woodland Owners of Maine), a bill had been introduced to the Maine state legislature that would have changed the rules governing the posting of private land. The proposed law would have prohibited anyone from hunting even on his own parcel of land if these three conditions were met: 40 acres or more in size, not resided upon by the owner, and posted against hunting by others.

Vassey says this was an attempt by sportsmen's groups to fight back at timber companies, which own vast tracts of Maine forestland, that are increasing their posting as a means of preventing vandalism, fires, and littering. The companies typically are posting land and then requiring the sportsman to purchase a permit in order to gain access.

Such a law, if enacted, would clearly

annoy owners of smaller woodlots, say, 50 to 250 acres, too. Vassey says officers of SWOAM were busy this past spring developing a SWOAM position on the controversy and testifying before legislative committees.

Another proposal would deny eligibility for the Maine "tree growth law" (a special tax rate for forest land) to those landowners who post their land.

"SWOAM is trying to keep it from becoming such an emotional issue," says Vassey. "Emotions run pretty high on this sort of thing."

"We take the position that the legislature shouldn't penalize those who do post their land, but, rather, should develop incentives to encourage landowners to open their lands for recreation."

She says a big incentive would be to absolve such public-minded landowners from accident liability.

Maine Farm Bureau lobbyist John Olson reports that the first proposal, the one that would have prohibited hunting on one's own posted land, was defeated in early May. The second proposal is still in committee, but lacks much support, says Olson.

To contact SWOAM, circle number 82 on the reader service coupon.

BRADFORD COUNTY ENERGY GROUP

Landowners met recently at the Warren Center Community Building to learn about land leasing for natural gas exploration. Featured speaker at the Bradford County Energy Group meeting was Curtis Bauer, president of Forecon, Inc., a Jamestown, New York firm specializing in land management.

Drawing on 15 years experience as a consultant in Chataugua County, Bauer illustrated his talk with slides of soil erosion, water contamination, loss of valuable forest, and other pitfalls of drilling. He also pointed out that gas drilling companies can do a very good job of site restoration when the landowner is protected with a lease requiring just that.

Also present at the meeting were two employees of Ohio Leasing Company. They have been offering \$1.00 per acre per year with a typical 10 year lease for properties in the Litchfield Township area of Bradford County and also for ex-

tensive acreage in Susquehanna County.

Gary Green, spokesman for the Energy Group, stated that the group was successful in 1984 with influencing MarK Resources, Inc., a leasing company in central Bradford County, to offer \$5.00 per acre rental for a five year lease with an addendum of improved terms.

To contact Bradford County Forestland Owner Association, circle number 83 on the reader service coupon.

NORTH COUNTRY BOOSTS MARKET EFFORT

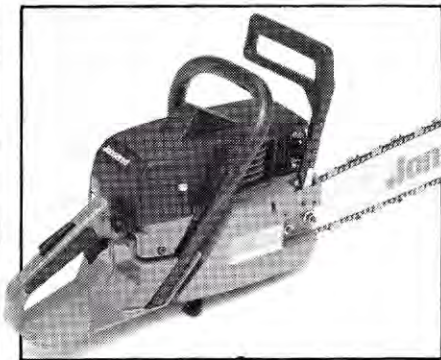
Forest owners and agency officials in northern New York have joined forces to boost the market penetration of their forest products. At THRIFT's April meeting, Tony Esser, from the federally funded Black River-St. Lawrence Resource Conservation and Development (RC&D) office, discussed the many new developments in forest-product marketing in the region and beyond.

"We have an image problem," said Liv Lansing, publisher of the *Boonville Herald* and member of THRIFT (Tug Hill Resources, Investment for Tomorrow). "We need to promote the New York label on our products."

Esser told the group that home-builders and do-it-yourselfers should be encouraged to use locally-produced lumber straight from the sawmill "without paying the inflated prices of building supply stores." Esser's office is compiling a directory of area wood producers which will be distributed to all Ft. Drum contractors and sub-contractors and to the general public. Area sawmillers are being surveyed on their willingness to participate in an advertising/education program. An advertising consultant from Syracuse has been contacted to work with them.

Last year the RC&D group hired a wood products marketing coordinator. He was charged with developing a local forest industry association, designing a green-lumber usage brochure, conducting business management seminars, exploring industrial development possibilities, increasing public awareness, promoting the use of wood for fuel, and market development. The coordinator's services have proved so valuable that the

(Continued on page 22)



NEW JONSERED CHAINSAW

Swedish chainsaw manufacturer Jonsered Motor AB has come up with another new model, the 670, said to be extraordinarily light (13.5 pounds) in relation to its power (4.6 D.I.N. horsepower). High chain speed is also designed into the saw, as is a unique choke/throttle combination for easier starting. *Circle number 68 on the Reader Service Coupon.*



MOELVEN LOG CLEAVER

"The Moelven Log Cleaver is an ingenious device," writes Syracuse Forestry School researcher Doug Monteith. "With only two moving parts (the hydraulic piston that drives the cleaver and the valve for controlling the hydraulics), it appears to be a highly reliable and effective machine. It employs an innovative design that combines a sharpened cutting blade to which are attached to wedges . . . so that the firewood chunk is split as it is severed. A Catskill Forestry Association member who owns one says he can process three face cords in an hour single-handedly!" *Circle Number 62 on the Reader Service Coupon.*

NEW IN THE WOODLOT

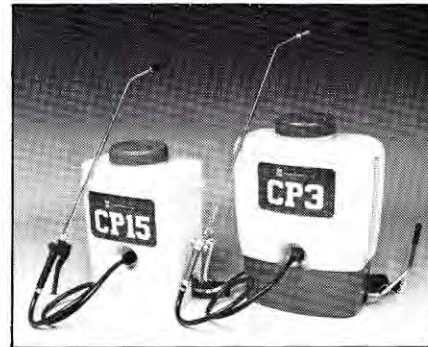
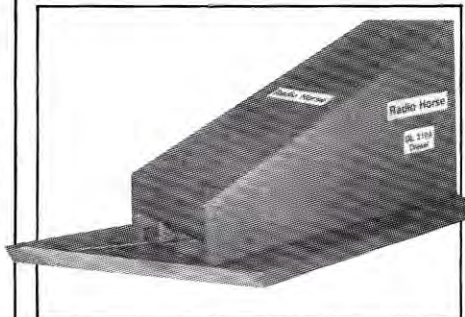
YANMAR MOWER

Yanmar Company is offering a diesel mower with a 48-inch-wide mowing deck. It should be very useful in the Christmas tree plantation. It features a 14 hp liquid-cooled engine and provides for on-the-go gear shifting . . . even into reverse. *Circle number 65 on the Reader Service Coupon.*



ECONOMY-MODEL RADIO HORSE

Now there is a lower cost model Radio Horse for forest owners and part-time users. The Radio Horse Model 310 features the same made-to-be-rugged drive train and radio control systems and your choice of a 14 hp Lombardini diesel engine or a Honda 11 hp gasoline engine. The Radio Horse has become well known as a low-impact tree harvesting machine. *Circle number 60 on the Reader Service Coupon.*



CP BACKPACK SPRAYER

Cooper Pegler may be a new name in backpack sprayers to Christmas tree farmers, but Coastal Chemical may not be. Coastal, with a known name in swimming pool chemicals, has taken on a line of small sprayers called CP (Cooper Pegler). The CP15 holds four gallons; the CP3 holds 5.3 gallons.

Both sprayers feature a pump handle that can be switched to right-hand or left-hand and a pressure control regulator. Both are offered with a full line of multi-nozzle booms, spray shields, tree guards, and variable-spray nozzles.

Sprayers of this type are now widely recognized as an economical means to employ herbicides and insecticides in the Christmas tree plantation. *Circle number 61 on the Reader Service Coupon.*



HOLDER FARM-FORESTRY TRACTOR

The design of the German-built Holder tractor makes it well-suited for farm-forestry work. With its four large wheels, it even looks like a miniature log skidder. The Catskill Forestry Association owns one for its thinning work and is well pleased with it. The Holder features articulated steering and a roll-bar that is easily converted to a closed cab. The model shown here is a Cultitrac A60, with 56 hp and water-cooled three-cylinder, four-stroke diesel engine. *Circle number 64 on the Reader Service Coupon.*

EQUIPMENT

For Sale: Maple Sugarmakers—check our low prices on major brands of equipment. Complete, personalized set-up advice free. Danforth's Sugarhouse, U.S. Route 2, East Montpelier, VT. 802/229-9536.

For Sale: Gafner Iron Mule 4WD skidder with knockleboom and trailer. Rich Peters, Box AA, Pawling, NY 12564. 914/855-1531.

Breeze wood bandmill. The modern, easy way to saw lumber. Accurate, efficient, portable. Hydraulic carriage feed and cut sizing. See it at Van Etten Community Festival 9/13/87 or write Bill Smyth, Box 11, Van Etten, NY 14889.

Wanted: Maple syrup evaporator pan of the smaller size. Will take delivery after the 1987 season. Contact: Daniel Cassens, Dept. of Forestry, Purdue Univ., W. Lafayette, IN 47907. 317/494-3644.

Wanted: Heavy-duty wood splitter with minimum 4-way split, good condition. Contact: Dan Flynn, 280 Clark Road, Gansevoort, NY 12831. 518/793-6813 after 7 p.m.

NURSERY STOCK

For Sale: Excellent quality planting stock, i.e., for reforestation needs, our container grown seedlings can 1) improve growth and survival rates; 2) extend your planting season; and 3) reduce your planting costs in comparison to more traditional bare-root seedling stock. Write for free wholesale trade list. Western Maine Nurseries, Inc., Box FO, One Evergreen Drive, Fryeburg, ME 04037.

REAL ESTATE

Martinsburg-Lewis County, 4,000 acres, rolling hills, 25 acre lake, streams, ½ hour south of new \$600 million Camp Drum const., Watertown, Lake Ontario, \$490,000 firm. Call owner 201/944-3322 weekdays.

150 acres timberland, 2,000 ft. paved road frontage, Great Valley, New York, near Ellicottville ski area, spring fed stream, \$350/acre. 313/646-3193 evenings.

WOODLOT SHOP

Classified advertisements

TIMBER/LOGS

Wanted: Standing timber, top prices paid. 30 years experience cutting timber for farmers. Good reputation. Fully insured. Call 315/429-8010 or 315/429-9826. Arnold Moore, Box 157, Salisbury Center, NY 13454.

Wanted: quality sawlogs and hardwood veneer in the NY, PA, and NJ areas. They must be available for field inspection and will be paid for at the landing. Price lists can be sent upon request. Contact Kenneth Westfall, Westfall Lumber, PO Box 208, Harpursville, NY 13787. 607/693-3196.

For Sale: white pine logs, 200,000 B.F. Doyle Rule. Also mill residues. Contact Woodpecker Sawmill, RD 3, Oxford, NY 13830. 607/843-8113.

TIMBER/LOGS

For Sale: four black walnut trees DBH of 23", 26", 29", 31" and heights to first limb about 10'. Contact Paul Balcom, 34 Plymouth Pl., Williamsville, NY 14221. 716/633-1634.

Wanted: veneer quality red oak, white oak and white ash year-round. Field inspection can be arranged by contacting David McCracken, P.O. Box 921, Waynesburg, PA 15370. 412/627-3279. David R. Webb Co., Inc., 206 S. Holland Street, P.O. Box 8, Edinburg, IN 46124.

Wanted: cherry veneer logs, 12" diameter and up, 8' minimum lengths; indicate quantities you can deliver per month on long-term contract. Contact Edward Mitchell, 5712 Empire State Bldg., New York, NY 10118.

TIMBER/LOGS

Wanted: slicer grade veneer logs: white oak, red oak, white ash. Trucks available. Prompt payment. Contact Randy Oste, International Veneer Co., PO Box 15, Bemus Point, NY 14712. Tel. 716/386-6288.

WANTED

Wanted: Growing Christmas trees 3 feet-10 feet pruned or natural, Central-Western NY area. 315/524-7827.

Wanted: Attendees at Forestry seminar to be held 7:45 Friday evening, August 14, during 40th NYS Woodsmen's Field Days in Boonville, New York. Topics: How the Forest Industry Affects You; What a Forester Can do for You; and Tug Hill; Deep Forests, Strong People. Call Woodsmen's office 315/942-4593 for information.

Wanted: export and domestic quality cherry, w. oak and w. ash veneer logs or standing timberlands. Also require grades of sawlogs and panel cherry. Cash paid. Horizon Wood Products, Ridgeway, PA 15853. Phone: 814/772-4566.

Moving . . . let us know!

CLASSIFIED ORDER FORM

Forest Owner, Classified Dept.
710 W. Clinton Street, Ithaca, NY 14850

Figure one word for initial or group of numerals. Example: J.S. Forest, 100 Wood Road, Anywhere, NY 14850. 607/273-3507, counts as 10 words. 25¢ a word.

Please publish my _____ word ad for _____ times starting with the _____ issue.

I enclose \$ _____ (Check must accompany order).

<i>Minimum \$2.50</i>					
				<i>11-\$2.75</i>	<i>12-\$3.00</i>
<i>13-\$3.25</i>	<i>14-\$3.50</i>	<i>15-\$3.75</i>	<i>16-\$4.00</i>	<i>17-\$4.25</i>	<i>18-\$4.50</i>
<i>19-\$4.75</i>	<i>20-\$5.00</i>	<i>21-\$5.25</i>	<i>22-\$5.50</i>	<i>23-\$5.75</i>	<i>24-\$6.00</i>
<i>25-\$6.25</i>	<i>26-\$6.50</i>	<i>27-\$6.75</i>	<i>28-\$7.00</i>	<i>29-\$7.25</i>	<i>30-\$7.50</i>

Deadlines for ads: 2 months preceding month of issue. (Example: November/December issue closes September 10)
Please print or type copy — for added words, attach sheet.

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NEW! Now you can place your classified advertisement by telephone any time, night or day. Just call the *Forest Owner* at 607/273-3509 and dictate your advertisement, leaving your Mastercard or Visa account number. Daytimes, one of our advertising staff will handle your order. Nighttimes and weekends, our answering machine will record your advertisement.

Streamlined Sugaring

WHEN John J. McKelvey planned to nearly double the number of taps in his sugar bush, he might normally have had to double his evaporator size and maybe enlarge the sugar house to fit it in. He installed a reverse osmosis machine instead.

McKelvey, a retired associate director for the Rockefeller Foundation, purchased his 170-acre Richfield Hill Farm in Madison County in 1973. It consisted of a number of handkerchief sized fields, run-down, abandoned, and geared to horse drawn equipment. John and his wife decided to "soup up the farm," making it to produce what it was capable of producing.

For optimum land usage, the McKelveys decided the farm land would accommodate four types of farm enterprises, including maple sugar bush, field crop production, pasture land, and an apiary.

The farm—on rolling, country hillsides—straddles the boundary between Otsego and Herkimer Counties in the central part of the state. At from 1,450 to 1,580 feet above sea level, the land drains southwest through the Unadilla River into the Susquehanna River to the Chesapeake Bay. To the north lies the Mohawk Valley, with the Adirondack Mountains rising beyond the valley. To the southwest of the farm are the Catskill Mountains.

To make their 50 acre woodlot productive for a sugar bush, the McKelveys arranged for Dick Weir, district forester of the New York State Department of Environmental Conservation, to survey the land. They also arranged with him, on a cost share basis, to lay out a modern gravity-flow sap collection tubing system on both the north and south slopes of the farm's Richfield Hill. The hill is the basic topographical element on the farm, according to the U.S. Geographical Survey map.

To favor a maple stand, they decided the weed species of trees, including beech and elm, would be marked to be cut and used as a firewood supply for the sap

house evaporator. To date, 11 to 12 cords of firewood have been obtained from the weed species annually. The McKelveys favored valuable tree species of ash, basswood, and cherry to be eventually felled and used for lumber.

The district forester also assisted the McKelveys in locating a group of lumbermen who could cut the weed species and also clean up the sugar bush, making it viable for maple syrup production.

By the close of 1974, all the ground work had been completed and the McKelveys were on their own. By deciding initially to go with tubing, the McKelveys have never used so much as a single bucket on the farm. By using tubing, the labor required to collect the sap would be lessened, they believed. In addition, the tubing lent itself to the natural gravity flow of the hillside sugar bush.

The McKelvey's next step was to remodel and enlarge what had been a milk house and install an evaporator within it. Three years later, they replaced the original evaporator with a larger one. Even more recently, in a further step to moder-

Charles Coons examines the holding tank at the foot of the south slope.

nize, the McKelveys have installed a reverse osmosis machine, more simply called an R.O. machine.

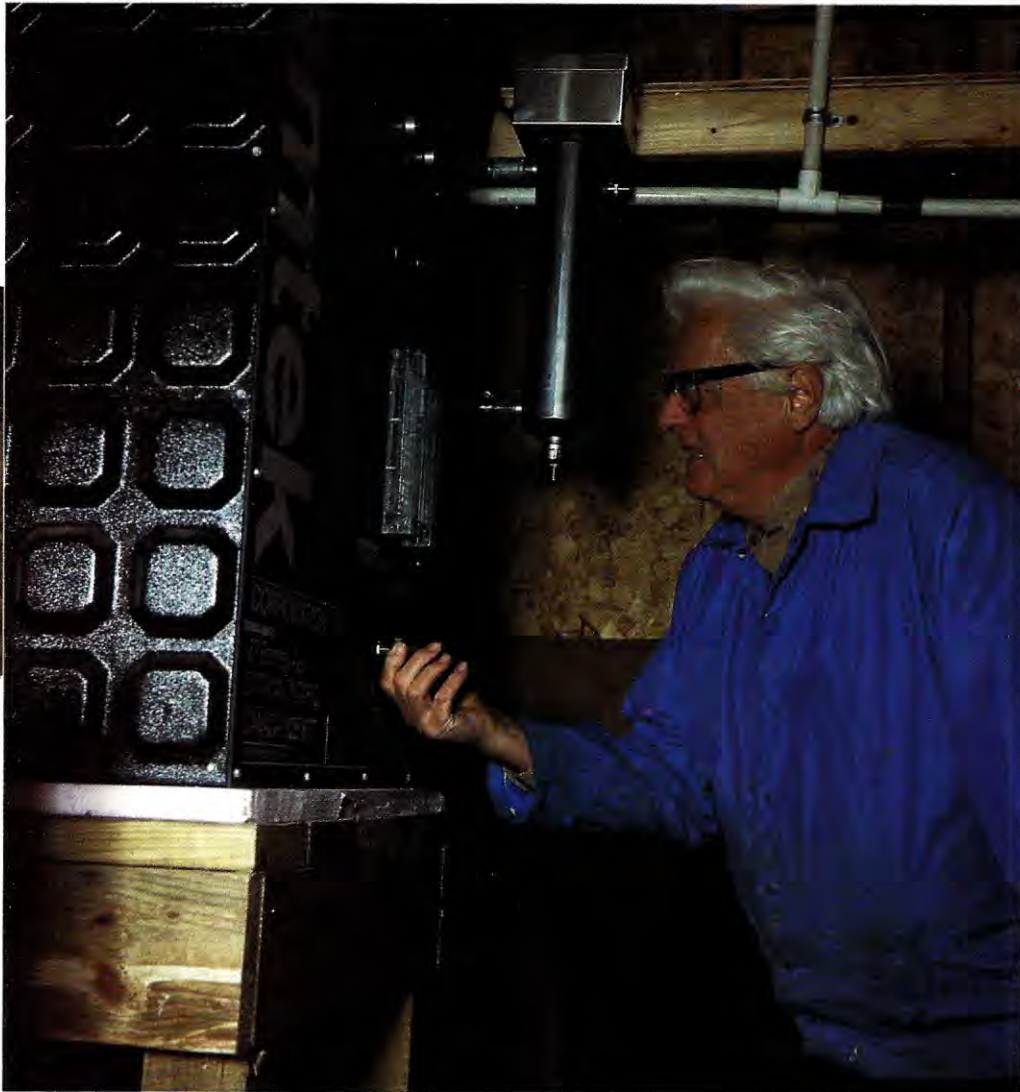
According to John, "The reverse osmosis machine is a system of molecular membranes which take sap from the field at a certain concentration—normally two to three percent—and expresses the water from the sap to a point where sap can be run into the evaporator at a concentration between eight and twelve percent sugar. This is a tremendous advantage when you realize that by going from two percent to eight percent, fifty to seventy-five percent of the water is removed," he adds.

Of course, with less water to evaporate, less boiling is needed in the evaporator. For example, 2% sap requires 40 gallons of sap to make a gallon of syrup, but 4% sap requires 20 gallons of sap to make



by Joseph Albino

**John J. McKelvey's
Richfield Hill Farm
combines smart
land-use planning
with modern
equipment like the
reverse osmosis
machine for optimum
woodlot production.**



a gallon of syrup. Thus, instead of boiling for 14 hours, the operator may only have to boil for 7 hours.

Take, for example, the fact that a 3x10 evaporator is rated to handle 1,000 taps. With a reverse osmosis machine in the system, an operator can double his taps and continue to use the same size evaporator. Otherwise, the operator, without a reverse osmosis machine, would have to install a 4x14 evaporator to handle 2,000 taps.

John also points out towards the end of the season when the sap concentrate gets down to 1½%, an operator will often stop boiling because it doesn't seem worthwhile. However, with the reverse osmosis machine, the sap can be concentrated to a point where it becomes economically feasible to boil it.

Installation of the reverse osmosis machine enabled the McKelveys to handle the extra volume of sap without installing a larger evaporator and without increas-

John McKelvey checks the controls on the reverse osmosis machine.

ing the labor force. Also, by using a reverse osmosis machine, the McKelveys find they can use half as much fuel wood in the evaporator as before.

In more recent years, the McKelveys have also retained the services of Charles Coons, on a part-time basis, from the nearby community of Richfield Springs, to manage the woods and expand the sugar bush.

Though originally the tubing was taken down at the end of each season, Coons advised the McKelveys to leave the tubing in place year-round as a labor savings. Coons also points out that taking the tubing down and putting it back up tends to stretch the lines.

The plastic tubing runs from tree to tree and drains into a 600 gallon tank at the foot of each hill, on the north and south slopes. From these tanks, the sap is

pumped to a similar tank at the sugar house. It then passes by an ultraviolet light that sterilizes it, lessening the bacterial action. Because bacteria changes the sucrose to invert sugars, and invert sugars are darker than the sucrose, a darker syrup results without use of the ultraviolet light. A lighter syrup is more desirable and brings a better price at the retail counter.

After passing the ultraviolet light, the sap flows into a 660 gallon holding tank. A high pressure pump pumps the sap into the R.O. machine.

The clear water—called permeate—passes into a tank above the evaporator. At the close of each day, the permeate—which is absolutely sterile—is used to flush the filters and membranes of the R.O. machine to keep them clean for the next flow.

The concentrated sap passes into a holding tank, later to pass by another ultraviolet light to further sterilize the sap before it flows into the evaporator.

When the reverse osmosis machine was first hooked up, the controls were accidentally reversed. Pure water flowed into the evaporator. There was a problem, the McKelveys concluded, because it was taking a long, long time for the sap to boil down!

The final product is sold in 12 ounce jars, one-half pints, and one-gallon cans. Most of it is sold to retail customers in the nearby community of Richfield Springs. In addition, a certain amount is sold by mail order to friends and relatives throughout the country.

As of this writing, the McKelveys have accomplished the goals they established in 1973, as follows:

1. Twenty-four acres of woodlot are under intensive maple sugar production with 650 taps on 500 trees yielding 130 gallons of maple syrup each year. Eventually, 900 trees will be tapped on 50 acres.

2. Thirty acres of pasture support 20 head of cattle. This pasture land occupies 30 acres of land which was too rocky, hilly, or swampy for crop production. Work included tearing out old fencing, building new fencing, installing solar powered electric fencing to divide the pasture for rotational grazing, liming and fertilizing the pasture, developing the natural springs and water courses, and installing the tile drainage.

3. Development of 75 acres of crop land, 60 acres of which yield about

(Continued on page 22)

IT IS NOT ENOUGH TO OWN A FOREST



The challenge is to nurture it, to fulfill a destiny of beauty, productivity, and family pride . . . while turning enough dollars over to hang on to it. But how?

There are no easy answers, only ideas to ponder by the woodstove. That's what NYFOA is all about: ideas, family pride in forest management, and sharing of dreams.

Through regular issues of *Forest Owner* magazine, frequent seminars and woodswalks in one another's woodlots, and extended tours to extend the fellowship and learning in foreign lands, members of the New York Forest Owners Association are growing as surely as the trees in their woodlots.

Join!

Check your preferred membership option:

- Regular - \$10 Family - \$15
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Send checks payable to:
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Yes, I'd like to join the New York Forest Owners Association and get more out of my woodlands.

Name _____

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County _____ Phone _____ 7/87

REGIONAL REPORTS

(Continued from page 17)

Adirondack North Country Association (ANCA) is underwriting his employment by the RC&D for another year.

This past winter, some of the RC&D staff attended the Northeast Wood Products Exposition in Boston. They took a sample of Black River-St. Lawrence wood products, "but we were embarrassed at how little we had," said Mr. Esser. Other marketing groups were there with massive displays and promotional materials. "You **have** to get your name in front of people," adds Esser, "if you want to move your products."

RC&D and the St. Lawrence Housing Council jointly produced plans for a 24x32, two-bedroom "Northlander" post and beam house that could be built by do-it-yourselfers for about \$22,000, including plumbing fixtures, cabinets, but excluding the cost of the site and its preparation.

To obtain a set of plans, circle number 99 on the reader service coupon.

NE IMPLEMENT HOSTS TIOGA OWNERS

Nearly 40 forest owners were treated to farm-forestry equipment demonstrations at Northeast Implement Corporation in late April. The twilight meeting was arranged by the Tioga Chapter of the New York Forest Owners Association. Northeast Implement has grown as a business by specializing in forestry machin-

ery tailored to farm-tractor operation. The equipment shown included the Farmi winch, the Valby chipper, and a knuckleboom which can be operated as a claw for lifting logs or, as the group saw it, a giant scissor that snips four-inch-diameter trees in brush-clearing operations. Company owner Rainer Langstedt says a smaller, lower-cost chipper, somewhere on the order of \$2,400, is being developed that should have wider appeal to those who would make only occasional use of a chipper. All of Northeast Implement's equipment is manufactured by Finnish companies.

Mr. and Mrs. Langstedt also provided some great homemade brownies and hot coffee for a chilly evening!

A late June twilight meeting featured a visit to NYFOA member Jonathan Fyock, whose property near the Pennsylvania border has recently been the site of successful gas-well drilling. Mr. Fyock shared his observations and experiences with the the drilling companies. More wells are expected to be drilled in the Tioga County area in coming months, so Mr. Fyock's advice was most welcome.

After the meeting at the gas well, the group reconvened at a nearby meeting hall for a business meeting. It was announced that Todd Trammell of Lisle, NY, had agreed to become chapter treasurer, and plans were laid for future chapter activities.

To contact the Tioga Chapter of the NY-FOA, circle number 88 on the reader service coupon. ■

SUGARING . . .

(Continued from page 21)

10,000 bales of high quality alfalfa hay, and 15 acres of which yield about 200 tons of silage. Additional fence row removal and bush clearance will bring more acres into production in future years. John notes the elevation of the farm lends itself to a short growing season and limits farming to field crops in support of a local prosperous dairy industry.

4. Three-hundred pounds of honey are derived from seven hives. Honey production may be increased in the next decade.

It should also be noted the Agricultural Stabilization and Conservation Service not only helped finance the initial elimination of weed trees in the sugar bush, but the Soil Conservation Service

helped with the fence row removal and layout for strip cropping the hillside fields. This federal agency also assisted in the establishment of a sod waterway, diversion ditch, and the development of spring water to provide a steady source of water for the cattle on pasture.

Although an active and involved forest owner, John McKelvey maintains fascinating outside interests. He is Chairman of the Board of Trustees of the International Institute for Tropical Agriculture in Nigeria and is on assignment for them. In addition, he is Deputy Chairman of the International Trypano Tolerance Center in Africa. This work deals with the development of resistance in cattle to the same sort of disease that causes sleeping sickness in human beings. ■

WOODCUTS

LOGGING, ZONING AND FOREST OWNERS

Questions have been raised about town zoning and logging ordinances. Cornell Cooperative Extension has published a Conservation Circular (Vol. 20, No.3) that offers a discussion of the issues involved. On the pro side it offers: the encouragement of logging practices; protection of property boundaries, streams, soil, and roads; and the keeping track of logging.

The con side offers: enforcement that lacks expertise; burdening of foresters; extra cost to landowners; and confusion caused by lack of uniformity in regulations.

What is lacking in this publication is the fact that these laws are building blocks for future legal issues, and also that the costs of zoning and ordinances are borne not only by the landowners and logger, but by all the taxpayers of the town.

The public is not interested in the stewardship of the land, only in stopping what offends the majority. The rules established in the majority of logging ordinances or town zoning are a result of a hasty act to quiet the angry mob. And if the agency that oversees the law is too tough, lawsuits are brought to deregulate, abolish, or reduce the power of the agency. When these laws become so oppressive they cause a problem for the citizen to make a living, he or she can sue the agency. There are now "right to work" laws and "right to farm" laws on the books.

How do we go about keeping forestry separated from this town board zoning? This is a hard question, but we know that hasty zoning is a poor form and regional government (the Adirondack Park Agency) has more problems than it can properly handle.

There must be a clearing-house type agency that will work with all concerned. It must be willing to look at what the biologist, forester, and economist have to offer. It must be willing to find the quantity and quality of raw materials needed by industry in-state and out-of-state. It would have to oversee the actions of the

loggers and bring requests of the loggers to the proper agency. It must listen to town planners and make its presence known at town meetings. It must know forestry from the ground up and be willing to go the extra mile for the industry, even if it means stepping on some of its own. Once this clearing-house has established itself, the cry for forestry laws and ordinances will die down.

Who are these supermen for such an agency and where are they? How do we find such a group? In New York, at least, they are here and in place; they are known as the Forest Practice Board.

We the people of the forestry community . . . landowners, loggers, foresters, and civil servants . . . must support them, make their presence known to the town boards, planning groups, and offenders. They can't do the job alone. Report offenders and report local Forest Practice

Boards that look the other way.

The most important item in this spectrum of options from free ownership to complete government control is the landowner. If you hired a carpenter and told him to work in one room and you found one of his workers wrecking the whole house, you would not delay in firing him. Yet people do not fire people sitting on a skidder or operating a chainsaw. If you don't want regional government or town zoning, you're going to have to start firing those loggers and foresters who don't respect your property.

—Robert O. Richter

Southern Tier Chapter

NY Forest Owners Association

Woodcuts is a page of editorial and reader opinion. Short essays on topics of interest to forestland owners may be submitted to Forest Owner, 710 West Clinton Street, Ithaca, NY 14850. ■

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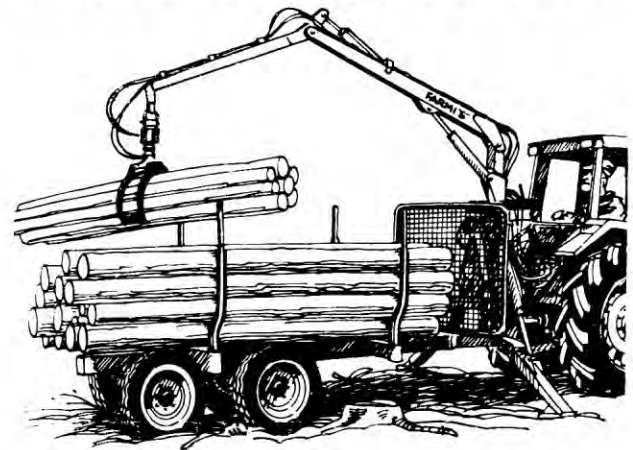
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In a crowded field of woodchippers, the Valby chippers stand out by producing exceptionally uniform chips. In addition to traditional uses of chips, one can use Valby chips in gasifiers and chip stokers which demand high uniformity. The uniform chips enable inexpensive chip transport methods such as grain augers to be used. The chip size is continuously adjustable between $\frac{3}{4}$ " and 1". This covers all traditional uses of woodchips from animal bedding and energy chips to pulp chips and landscaping chips. Maximum slab size is 10" wide or 9" in diameter for roundwood. Three knives on a 41" disk do the cutting. The Valby chippers can be supplied with V-belt pulleys for electric motor hookup or with a PTO hookup for farm tractors. The chippers are available with direct feed from knives or with hydraulic feed rollers.

SMALL KNUCKLEBOOM



The Farmi HK 1800 is the loader that firewood and pulp producers have been waiting for. The loader is affordable and big enough to get the job done. The loader can be mounted directly on most Farmi winches. The loader can also be mounted on pulp trucks and trailers. It can be used as a stationary unit to feed firewood processors or woodchippers such as the Valby Chipper. The winch and loader combination is a universal machine which can be used for a multitude of jobs. Prebunching, forwarding, loading of pulpwood can all be performed with this machine combination.

Life cap. at 6 ft. reach	2160 lbs.
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