

The choice is yours. Whether your customers need season-long preemergence weed control by itself or on fertilizer from leading formulators, Team fits.

Either way, you can control crabgrass and goosegrass season-long with just one application. Or even a split application, if need be, to better fit your program.

Team granular also fits your high standards of annual grass weed control. University tests show it's outstanding. Team gets to the ground and stays put to form a zone of protection that keeps weeds out all season long.

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A Division of Eli Lilly and Company
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Dept. E-455, Indianapolis, IN 46285, U.S.A.
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Circle No. 118 on Reader Inquiry Card

Spread it your way.



Team™ granular.

Team™ on fertilizer.



TABLE 2
CONDITION CLASS RATING SYSTEM
 Condition class uses the following rating scheme:

TRUNK CONDITION: Sound & solid (5)
 Sections of bark missing (3)
 Extensive decay & hollow (1)

GROWTH RATE: More than 6-inch twig elongation (3)
 2- to 6-inch twig elongation (2)
 Less than 2-inch twig elongation (1)

STRUCTURE: Sound (5)
 One major or several minor limbs dead (3)
 Two or more major limbs dead (1)

INSECT & DISEASES: No pests present (3)
 One pest present (2)
 Two or more pests present (1)

CROWN DEVELOPMENT: Full & balanced (5)
 Full but unbalanced (3)
 Unbalanced and lacking a full crown (1)

LIFE EXPECTANCY: Over 30 years (5)
 15 to 20 years (3)
 Less than five years (1)

Total Points	Class
23 - 26	Excellent
19 - 22	Very good
14 - 18	Good
10 - 13	Fair
6 - 9	Poor
0	Dead

a. *High priority:* all trees with dead, dying or diseased wood between one and two inches in diameter and/or requiring removal of interfering or weak branches which need attention in the near future, but pose no current threat of bodily injury or property damage.

b. *Low priority:* all trees with dead, dying or diseased or other incipient

problems that are judged not to need immediate maintenance attention and pose little threat of becoming serious problems until their next trim cycle.

4. **Safety clearance trim.** This category represents trimming needed to clear areas that obstruct pedestrian or vehicular traffic. All trees obstructing the view of traffic control signs were

noted in this category.

5. **Prune to shape.** Indicates the need to prune small trees correctly or eliminate weak, interfering or objectionable branches in order to minimize future maintenance needs. This applies to trees that can be worked with a pole pruner by a person standing on the ground.

6. **Clearance.** All trees not cleared to a height of 13 feet 6 inches over roads and 8 feet over sidewalks were included in this category.

Accomplishments

As a result of the inventory and cost comparison with city-provided services, the city's Department of Engineering moved to contract all tree maintenance at substantial cost savings to the city. Without the inventory, much of the work would not have been performed. The organized record-keeping offered by the inventory has aided the city dramatically. Now, only one individual is needed to maintain the system and contract out all necessary work as computerized scheduling necessitates. The computerized inventory also has provided the city with better accountability on how it spends tree management funds.

In 1985 and 1986, more than 2,600 trees were removed at an approximate cost to the city of \$350,000.

The Department of Engineering planted approximately 1000 street trees in 1986. Sites were determined by resident request and city prioritization. An emphasis for planting new trees was placed around urban garden sites, residential communities and areas where the likelihood of vandalism is less. The approximate cost for the 1987 planting of another 1,000 trees was \$350,000.

The DES street tree inventory did not inventory tree stumps to be removed within city boundaries. The Department of Engineering, however, identified approximately 100 stumps from city resident requests, other requests and departmental field inspections. All stumps were removed with an approximate cost of \$20,000.

By the end of 1987, two-thirds of Newark's tree population had been trimmed since 1985. The entire tree population was projected to be trimmed within another two years, with an estimated annual cost of \$300,000.

Emergency tree work for fallen limbs, branches and trunks is another service the Department of Engineering now has under contract. The two emergency response times used are the one-hour notice and 72-hour notice. The estimated cost to the city is approximately \$100,000. **LM**

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Your Ditch Witch Dealer

When people in the construction business hear the name Ditch Witch, they think trenchers and vibratory plows. And for good reason, because Ditch Witch is the leader in these fields. But you might be surprised at some of the *other* products offered by Ditch Witch. They are different than trenchers and plows, yet they fit in exactly with many of your specialized underground construction jobs.



Perma-Soil stabilizer reduces subsidence for a wide variety of repairs.

Perma-Soil® Stabilizer

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The 1025sk backhoe loader is compact, versatile and highly productive.

1025sk Sidekick® Backhoe/Loader

This is the machine that does the jobs others can't do, because it's compact enough to work in places where others can't go. The 1025sk is big on performance. It features a 10-foot depth backhoe on one end and a self-leveling, 2,500-pound operating capacity loader on the other. For maneuverability, the 1025sk has four-wheel steering and four-wheel drive.

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Ditch Witch compaction equipment helps complete the job.

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Circle Reader Service # 125.



POST-ERIZING LANDSCAPES

You can provide your landscape clients with an additional service if you've got someone on staff who can design and/or build attractive wooden fences. They not only add beauty to the home, but value too.

by Ronald C. Smith, Ph.D.

Early settlers found more wood than they'd ever seen when they arrived on the American continent. Coming from timber-short Europe, they used wood for virtually every building purpose imaginable: ships, homes, barns, schoolhouses, bridges, factories and fences.

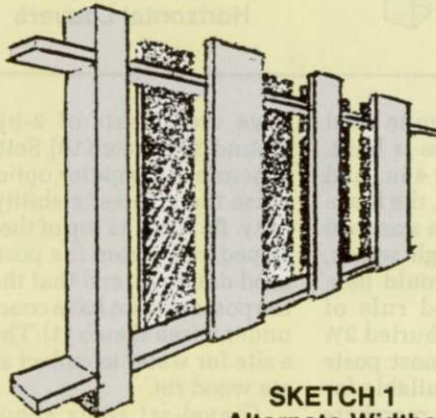
The poet Robert Frost wrote, "Good fences make good neighbors." Abraham Lincoln got his start supply-

ing fence rails, and Tom Sawyer convinced his friends into painting his Aunt Polly's fence. Today wood fences are increasingly popular with the homeowner to mark his boundaries, protect a swimming pool or provide privacy.

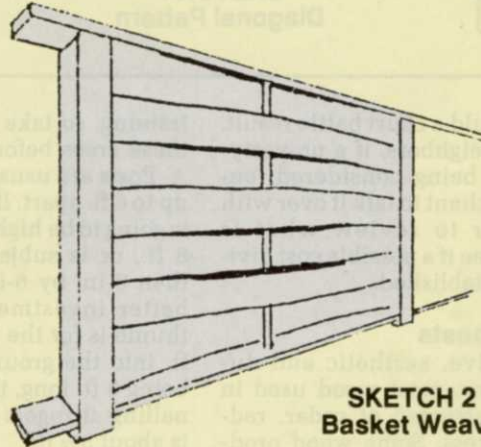
A well-designed and installed wood fence becomes a positive landscape asset, providing an attractive picture frame for a home or property. Fences come in all sizes and heights,

and most require only basic carpentry skills to construct.

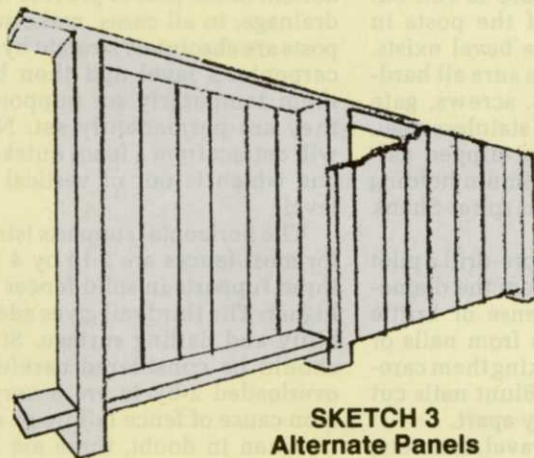
However, before installing a wooden fence, check with the local building code office; there may be height and/or construction limitations. If the fence is going to be put along a property line, don't guess! It is worth the investment of a few dollars to get an accurate survey of the property: opinions between neighbors do



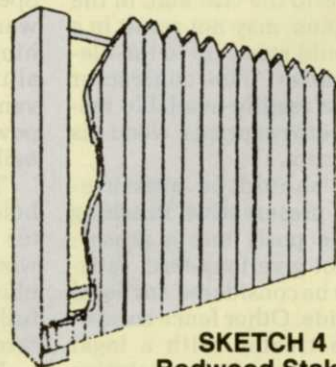
SKETCH 1
Alternate Widths



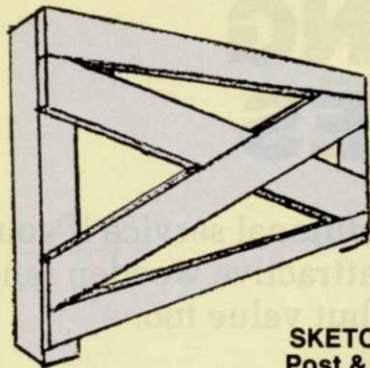
SKETCH 2
Basket Weave



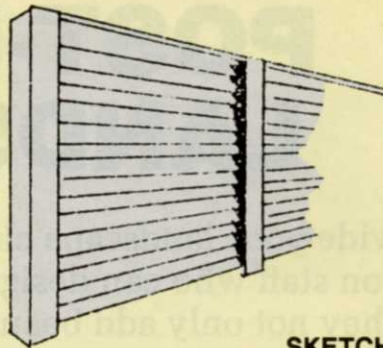
SKETCH 3
Alternate Panels



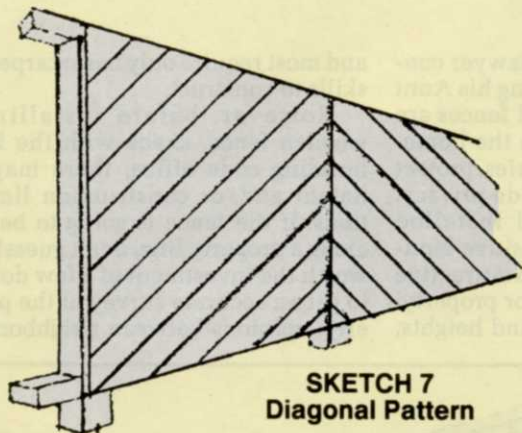
SKETCH 4
Redwood Stakes



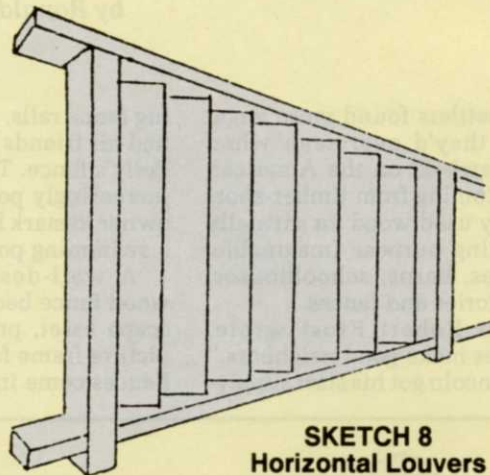
SKETCH 5
Post & Rail



SKETCH 6
Louvers



SKETCH 7
Diagonal Pattern



SKETCH 8
Horizontal Louvers

not count should a court battle result. Speaking of neighbors, if a property-line fence is being considered, encourage your client to talk it over with his neighbor to review what is planned and see if a possible cost division can be established.

Woods and posts

For competitive, aesthetic and durability reasons, most wood used in fences is constructed of cedar, redwood, or cypress. Some wood products may be pressure-treated pine impregnated with a registered wood preservative to give it longer life. This treatment adds to the cost and, in the case of some pine, may not result in a fence that would stand up to the elements any better. The contractor should use the readily-available material, at competitive prices; wood his clients will accept.

The posts should be pressure-treated with a preservative. Brushing or dipping the posts into a preservative does not give long-term satisfaction; it may be considered an illegal use of a pesticide. Other fence components can be treated with a legal brush-on preservative before painting or, if staining, treated with a preservative added to the stain. Rot starts in joints where boards are fastened to

framing, so take special care to treat these areas before the fence is built.

Posts are usually 4 in. by 4 in., and up to 8 ft. apart. If, however, the fence is going to be higher than the standard 6 ft., or is subjected to high winds, then 6-in. by 6-in. posts would be a better investment. A good rule of thumb is for the post to be buried 2½ ft. into the ground. With most posts being 8 ft. long, the post available for nailing stringers and other members is about 5½ ft.

To allow the moisture to run off, customize the tops of the posts in some manner so that a bevel exists. Speaking of nails, make sure all hardware, including nails, screws, gate hinges and straps are of stainless steel, aluminum alloy or hot-dipped galvanized steel. For maximum holding power, use annular or spiral-Shank nails.

To reduce splitting, pre-drill a pilot hole about three-quarters the diameter of the nail. For dense or brittle wood, grind sharpness from nails or blunt the points by striking them carefully with a hammer. Blunt nails cut through; sharp ones pry apart.

Posts can be set in gravel, concrete, set on concrete and braced with strap iron, or simply stabilized in the ground by digging a hole big enough to

have crosscleats of 2-by-4s below ground (see sketch 10). Setting posts in concrete is a popular option as it provides the greatest stability and longevity. Be sure the top of the concrete is sloped away from the post to provide good drainage, and that the bottom of the post does not have concrete placed under it (see sketch 11). This would be a site for water to collect and accelerate wood rot.

Gravel-set posts should be provided with 6 in. of gravel beneath the bottom of the post to provide for good drainage. In all cases, make sure the posts are absolutely straight by using a carpenter's level and then bracing them temporarily for support until they are permanently set. Nothing will detract from a fence quicker than one which is out of vertical or not level.

The horizontal supports (stringers) for most fences are 2 in by 4 in. Use three supports in solid fences 6 ft. or higher. The third rail gives added stability and nailing surface. Stringers should be considered carefully, as overloaded 2-by-4s are a very common cause of fence failure or sag.

When in doubt, three are always better than two, and the method of attachment is very important. While nailing may be quick and appear to be

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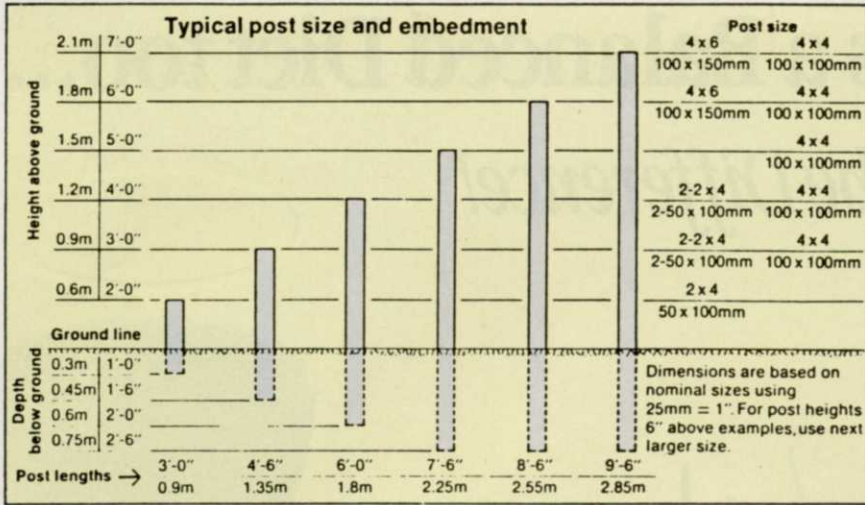
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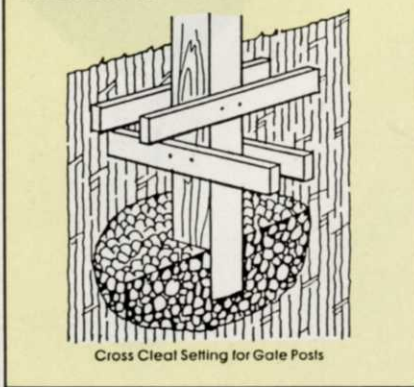
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SKETCH 9



SKETCH 10



satisfactory, in time the nails may loosen or pull out as they are exposed to the weather.

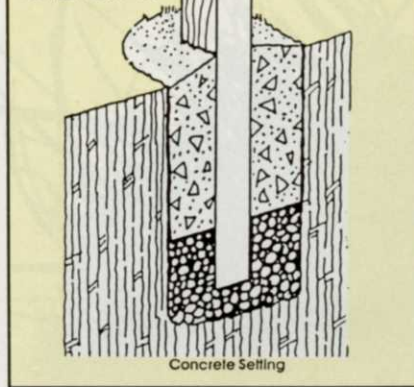
Use either a counter-sunk carriage bolt for attachment or a steel angle bracket to attach to the posts. If nailing is still preferred, then use the annular or spiral-shaped ones for maximum holding power.

Facing detail

Fences have many purposes, but most are installed for privacy or some degree of security in a hopefully aesthetic manner. One of the best fence styles to meet these criteria is the board-on-board or alternate board style. In addition to aesthetic features, this style allows the air to pass through, spreading out snow drifts for faster melting. The real bonus of this fence is that it looks great from both sides.

A solid, stockade-type fence may offer a little more privacy and security, but it provides the greatest wind resistance, causes deep snow drifts to form, looks good from only one side and is usually quickest to deteriorate. Additionally, heat zones can build up on south or west exposures which can kill some plants or at least accelerate plant desiccation.

SKETCH 11



Let your imagination run free in selecting a design—virtually anything can be done, which is a major advantage of working with wood (see sketch 4).

The gate

Since gates will be getting the most wear and tear, their construction should be especially sturdy. Here, the posts should be 6-by-6 set in concrete and assembled with screws rather than nails, for greater strength. The minimum width for gates is 3 ft., with 4 ft. being preferred. The larger opening allows for the easy movement of small garden and construction equipment.

Like fence panels, gates are usually a matter of design preference.

Every successful gate has good frame construction and good hinges used to hang the gate. There are any number of hinges available, but the hinge must be matched to the weight of the gate. As a rule, gates should be supported by at least 3 hinges, particularly if there is a chance that any excess load will be put on the gate, soft metal hinges should be avoided. Small children are one of the most common excess loads. Kingpin and flat hinges made of heavy duty, hot

dipped galvanized steel are commonly used and re-bolted to the gate, rather than nailed.

Finishing it off

Many people prefer to allow their wood fences to weather naturally. Most pressure-treated wood will weather to a pleasing gray color. Should the wood be painted or stained, be sure it's dry before any type of finish is applied.

If a paint is to be applied, be sure to cover with a good wood primer first, then paint with a good grade of outdoor house paint, either oil or latex based. Once done, repainting will be needed every 3 to 5 years depending on exposure and weather conditions.

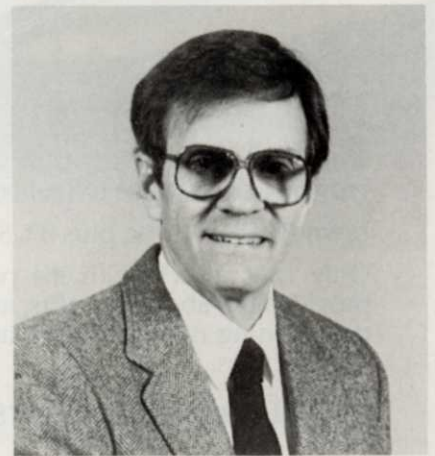
If staining is preferred, there are three basic types:

- Penetrating stain - These are usually oil-based and are transparent, highlighting the wood grain in the fence. They also mellow with age if a protecting top coat is not applied.

- Latex stain - These are water-based, making clean-up much easier. They are semi-transparent and will mask some of the wood grain. Latex stains do not penetrate wood as deeply as a penetrating stain, and they too, will mellow with age if no protective coating is applied.

- Varnish-based stains - These stains combine a penetrating stain with varnish for protection; they are available in both gloss and semi-gloss finish.

Wood fences open a vista of opportunities for landscape ideas. Most truly do create a microclimate for growing plants that might have been too tender for the location. In some cases, fences can provide protection from the extremes of sun or wind allowing for the installation of small fountains or reflecting pools. **LM**



Ronald C. Smith, Ph.D., is an extension horticulturist with North Dakota State University, Fargo, N.D. He is also on the board of the North Central Turfgrass Association.