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# Systemic spray reduces trimming on hedges, shrubs and ground covers!

  
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Spray Atrinal on hedges, shrubs and ground covers and they will require less trimming and pruning and have a more compact shape. Atrinal can also be used to remove unwanted blooms and prevent fruit set on certain species. And spraying is faster and easier.

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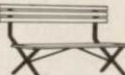


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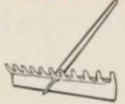




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Mail to: Standard Golf Co., 220 East 4th Street,  
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typical city to show how to obtain cooperation in a given community.

Dr. Richard Lawson, director of the institute for the last 25 years, said, "I think the program was exceptionally good." He said that all chairmen and panels of the programs were concerned about the economy and discussed issues, such as alternative sources of power, turf efficiency, retardants, and less frequent mowing. Next year's program, to be held at the same site in February, will include more topics on private funding and how to support services with less income, Lawson said.

PESTICIDES

**EPA wants further study on Surflan**

The Environmental Protection Agency has asked for investigation of the pesticide Surflan, made by Eli Lilly & Co., after some workers charged it may lead to birth defects.

Although no evidence from the EPA or Lilly experiments indicates any hazards from Surflan, the trade name for oryzalin, workers at a GAF Corp. plant in New York, which makes the chemical, requested a ban on it. The International Chemical Workers Union claimed that members working at the GAF plant showed several children with birth defects.

A meeting between the EPA, Lilly, and a New York doctor who raised the question about Surflan's effects on workers couldn't identify any connection between the chemical and birth defects. The doctor termed it, "multiple coincidences of birth."

Lilly ran additional studies looking for possibilities of birth defects, and data from one of these last studies was questioned, said an Eli Lilly spokesman. "We felt data, which was supported also by outside people, was sufficient," he said.

PESTICIDES

**Group petitions rules for aerial application**

Friends of the Earth have petitioned Federal Aviation Administration and Environmental Protection Agency officials to tighten regulations for aerial application of pesticides to require written permission of adjacent

property owners within 1,000 feet of that property.

The petition to the EPA further requests permission of adjacent property owners be required to make ground application within 250 feet of boundary. This could preclude retail nurseries and homeowners from any spraying.

The American Association of Nurserymen will file against the pro-

posal, which assumes all pesticides are very hazardous poisons and that registration label restrictions on the applicator as to how a chemical is to be applied, on what plants and for control of what pests is ineffective.

The AAN urges members and all interested to forward comments to: Document Control Officer, Chemical Information Div., (TS-793), EPA,

*Continues on page 53*

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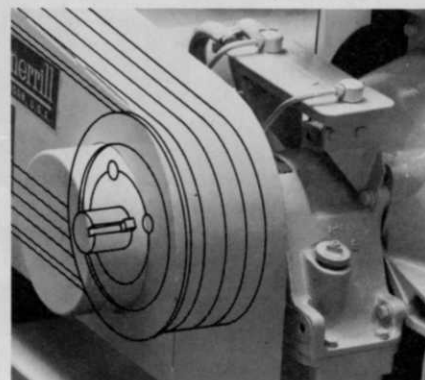


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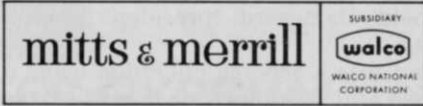


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MAY 1980/WEEDS TREES & TURF



# CORPORATE OFFICE GROUNDS RECEIVES GOLF COURSE CARE

By Robert W. Baird, Louisville, KY

A groundskeeping crew was "transplanted" from a suburban Chicago golf course to a corporate headquarters and has applied many of the same techniques used in golf course management to large estate management.

The mowers, tree trimmers, shrub pruners, and turf managers still get to work at 6 a.m. like they used to do to beat the golfers, but now it's mainly out of habit. The crew has renovated some 30 acres of turf that now look like fairways.

Boldly green against the white steel architecture of the Baxter Travenol Laboratories headquarters in Deerfield, the landscape appears like a well-tended golf course. However, not a single flag, green, tee or golfer can be seen. Instead you might see corporate executives taking lunchtime nature strolls.

The golf course comparison is not contrived. Landscape architectural firm Sasaki Associates, Watertown, MA, wanted a grounds less maintenance-demanding than a golf course in their original landscape design for the complex which opened in 1975. But the turf management technique of Otto Damgaard Sons, Des Plaines, IL, landscape contractors, which took over maintenance responsibility of the grounds in early 1979, showed painstaking methods not unlike those used by golf course managers.

The maintenance crew of Damgaard, under the direction of Bob Block, is the same one that for years had tended the greens and fairways of Sportsmen's Country Club in nearby Northbrook. But that was before development pressures brought a change in ownership at Sportsmen's and a change in plans for the golf course site. Sportsmen's was to be no longer a golf course but a housing development. It was only after concerned citizen action that 18 of the 45 holes at Sportsmen's were preserved as a public course under the Northbrook Park District.

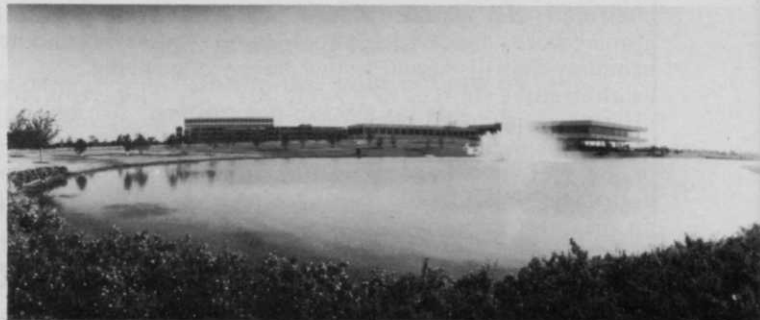
So Block and his crew found themselves in need of a job. A third party put them in touch with Damgaard and the crew of Sportsmen's became the crew of Damgaard, most of them assigned to the Baxter Travenol operations.

One of the first assignments for Damgaard's new crew was to upgrade the turf on 30 acres of high visibility turf on the 188-acre site located along the well-travelled Tri-State Tollway linking Chicago with Wisconsin. Fescue had taken over the area.

"I was quite sure we could turn the situation around," Block recalled. He believed the turf could be re-established without the expense and trouble of sodding or re-seeding.

"The idea was not to tear it up, but upgrade it," says Ronald Damgaard, president of the landscape firm.

What resulted was a seeding operation using a seeder equipped with a series of thatching knives three inches apart that cut slits into the turf to a



**Baxter Travenol Headquarters** after renovation to fairway-like appearance.

depth of  $\frac{1}{2}$  inch. Seed was metered precisely and directed by tubes on the seeder.

"You put the seed where you want it. You get a much surer catch and a purer stand, quicker," said Block. And because seed loss was only a fourth of that in conventional methods, only 35 pounds per acre was needed. The operation, completed in the fall, used five hybrid Kentucky bluegrass varieties. Today's turf is a noticeable improvement over a fescue-dominant stand.

Another operation Damgaard and Block credit with healthier turf was aerification with a "calcined clay" aggregate used as a soil conditioner. Such conditioning is desirable in the highly clay, hardpan soil predominating in the immediate Chicago area. The clay holds too much water; breaking up the soil improves the drainage. A great deal of topsoil understandably was brought in during site development. To properly drain trees, underground drainage tiles were used.

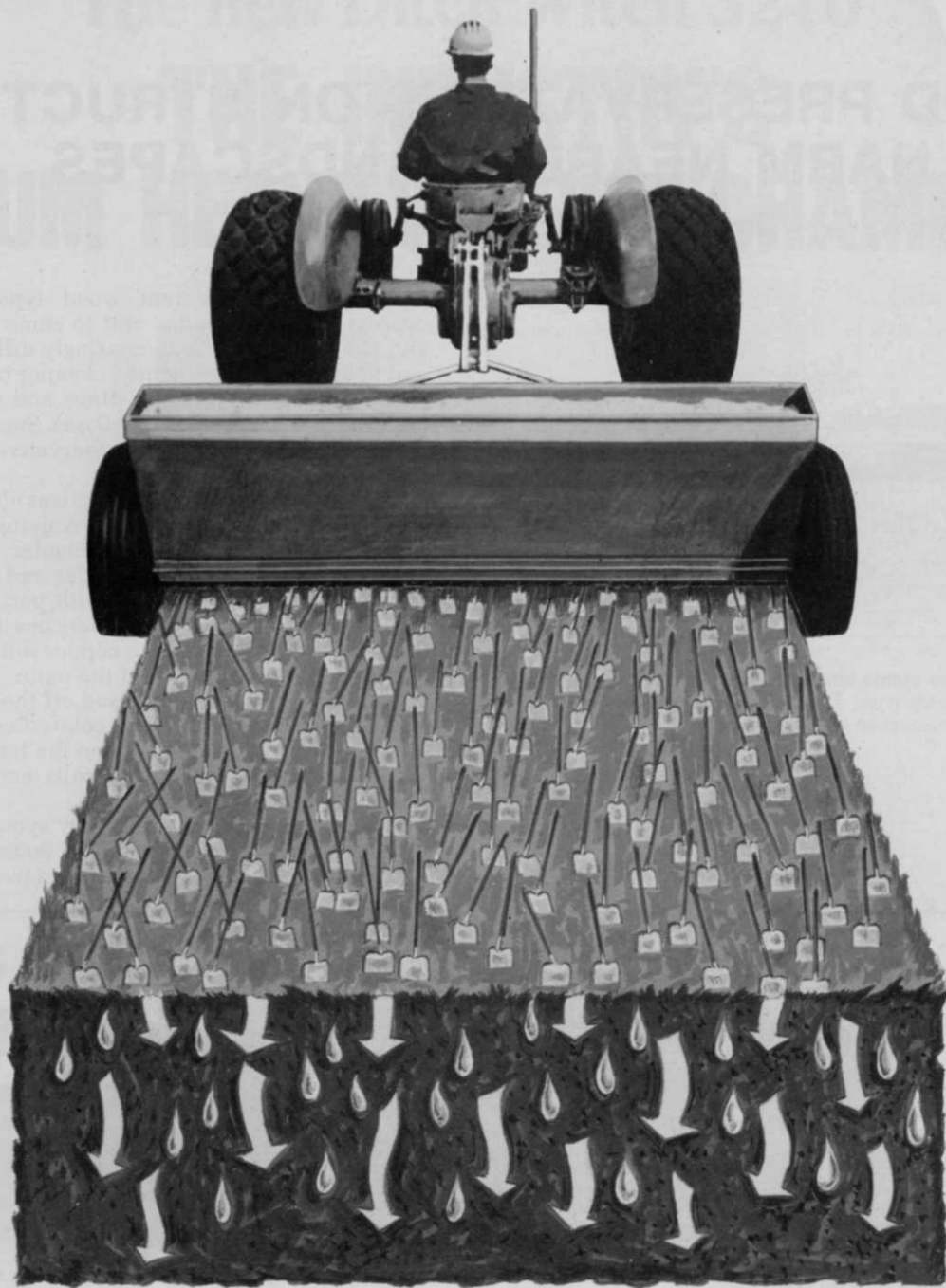
Block keeps a flexible fertilization program using monthly, nearly weekly, applications of both liquid and dry materials, as well as fall applications of potash and Milorganite. The liquid fertilizer is a water-soluble 20-20-20.

Block and his crew say expertise comes from close familiarity with turf, trees and shrubs, living with them on the job. One of his crewmen, Bill Israel, a 43-year veteran of the golf maintenance business, is assigned to special projects. He trims special trees on the grounds, and keeps close tabs on a focal point contorted Scotch pine inside a Japanese garden. The pine rises above a glazed tile courtyard, but does not get a lot of water because the tile absorbs solar heat. The pine receives water two hours twice a week.

Israel was able to nurture grass to grow on the steps of a formal stairwell that leads, for symbolic effect, from the corporate headquarters to the edge of one of several retention basins in front of the site.

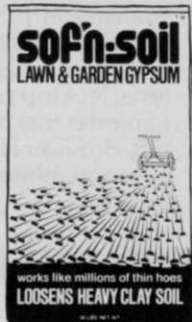
The care provided by a former golf course crew has helped make Baxter Travenol a landscaped showplace.

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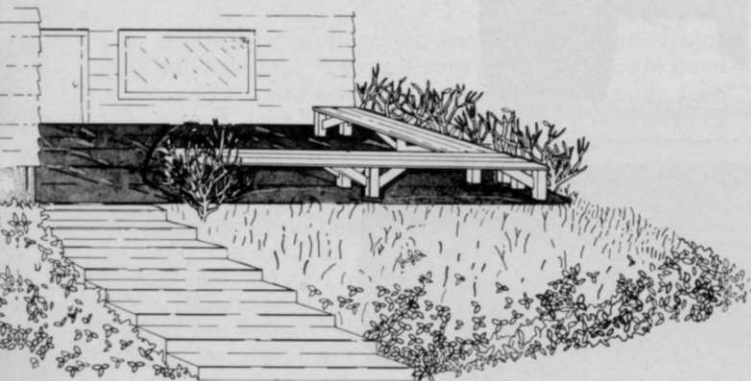
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# WOOD PRESERVATIVES ON STRUCTURES MAY HARM NEARBY LANDSCAPES

By Warren T. Johnson, Department of Entomology, Cornell University, Ithaca, NY



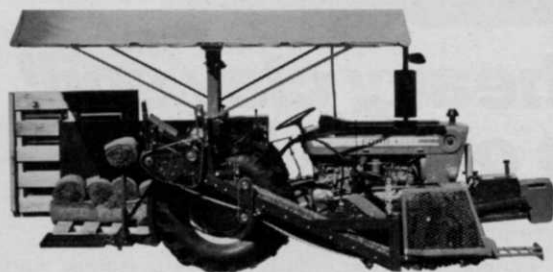
**Landscape plants killed** or injured by copper salts washed from patio benches. The benches were made from pressure treated construction lumber.

Durable, decay resistant wood types such as cypress, redwood, cedar and to some extent oak and ash are becoming increasingly difficult to get and to pay for. Consequently, cheaper construction lumber, primarily the soft pines and spruce, are being used for landscape purposes. Such lumber is often treated with wood preservatives to resist decay.

In 1979, a plant health problem was observed in a suburban housing community involving plants adjacent to a patio. The rectangular patio was bordered by a house on two sides and beautifully terraced, on the other sides, with periwinkle and euonymus. In early summer, benches made of soft pine pressure treated with a copper salt were set in place on the terrace sides of the patio. The day after installation the owner hosed off the benches to remove the surface of green colored copper salts. During the hosing, the leaves on the terrace plants were splattered with diluted salts and the roots received all of the washwater.

Within one week, phytotoxicity symptoms were noted and within two weeks the euonymus was defoliated. Periwinkle plants within two feet of the

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WEEDS TREES & TURF/MAY 1980

patio edge were likewise defoliated and in four weeks those within 18 inches were dead. In four weeks phytotoxic symptoms, of leaf drop and varying degrees of chlorosis, were evident down slope for a distance of four to six feet. Symptoms were less severe as the distance from the patio edge increased.

Nine weeks after the patio benches were installed, impatiens, a bedding plant considered highly reactive to salts, were planted in the area. Those impatiens closest to the patio, within the 18 inch band, defoliated within six days, indicating that the copper salts had not leached sufficiently to permit their growth. The periwinkle that survived nine weeks began to re-leaf although the leaves were stunted. The euonymus did not re-leaf but the new buds appeared healthy.

In the described situation a heavy rain would likely have produced the same effect as hosing the benches. Since recovery was observed late in the growing season it is assumed that dilution of the copper salts will continue during the winter to non-symptomatic levels in the spring.

Although the common wood preservatives are toxic to plants, there is little doubt that treated lumber will continue to be used in outdoor living areas. Paints and penetrating oils applied to treated lumber will give some protection from copper preservative. Where the natural appearance of the wood is important, use a clear penetrating oil such as CFW Clear Wood Finish. Such products, available in paint stores, are said to seal in the preservative salts and allow the natural grain to show through.

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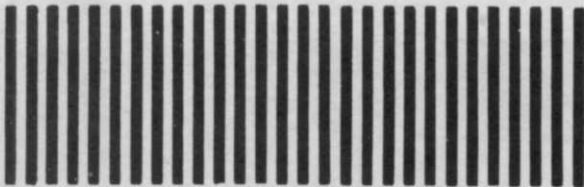


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    - 100  \$70,000,000,000 to \$80,000,000,000
    - 101  \$80,000,000,000 to \$90,000,000,000
    - 102  \$90,000,000,000 to \$1,000,000,000,000
    - 103  \$1,000,000,000,000 to \$1,500,000,000,000
    - 104  \$1,500,000,000,000 to \$2,000,000,000,000
    - 105  \$2,000,000,000,000 to \$2,500,000,000,000
    - 106  \$2,500,000,000,000 to \$3,000,000,000,000
    - 107  \$3,000,000,000,000 to \$4,000,000,000,000
    - 108  \$4,000,000,000,000 to \$5,000,000,000,000
    - 109  \$5,000,000,000,000 to \$6,000,000,000,000
    - 110  \$6,000,000,000,000 to \$7,000,000,000,000
    - 111  \$7,000,000,000,000 to \$8,000,000,000,000
    - 112  \$8,000,000,000,000 to \$9,000,000,000,000
    - 113  \$9,000,000,000,000 to \$10,000,000,000,000
    - 114  \$10,000,000,000,000 to \$15,000,000,000,000
    - 115  \$15,000,000,000,000 to \$20,000,000,000,000
    - 116  \$20,000,000,000,000 to \$25,000,000,000,000
    - 117  \$25,000,000,000,000 to \$30,000,000,000,000
    - 118  \$30,000,000,000,000 to \$40,000,000,000,000
    - 119  \$40,000,000,000,000 to \$50,000,000,000,000
    - 120  \$50,000,000,000,000 to \$60,000,000,000,000
    - 121  \$60,000,000,000,000 to \$70,000,000,000,000
    - 122  \$70,000,000,000,000 to \$80,000,000,000,000
    - 123  \$80,000,000,000,000 to \$90,000,000,000,000
    - 124  \$90,000,000,000,000 to \$1,000,000,000,000,000
    - 125  \$1,000,000,000,000,000 to \$1,500,000,000,000,000
    - 126  \$1,500,000,000,000,000 to \$2,000,000,000,000,000
    - 127  \$2,000,000,000,000,000 to \$2,500,000,000,000,000
    - 128  \$2,500,000,000,000,000 to \$3,000,000,000,000,000
    - 129  \$3,000,000,000,000,000 to \$4,000,000,000,000,000
    - 130  \$4,000,000,000,000,000 to \$5,000,000,000,000,000
    - 131  \$5,000,000,000,000,000 to \$6,000,000,000,000,000
    - 132  \$6,000,000,000,000,000 to \$7,000,000,000,000,000
    - 133  \$7,000,000,000,000,000 to \$8,000,000,000,000,000
    - 134  \$8,000,000,000,000,000 to \$9,000,000,000,000,000
    - 135  \$9,000,000,000,000,000 to \$10,000,000,000,000,000
    - 136  \$10,000,000,000,000,000 to \$15,000,000,000,000,000
    - 137  \$15,000,000,000,000,000 to \$20,000,000,000,000,000
    - 138  \$20,000,000,000,000,000 to \$25,000,000,000,000,000
    - 139  \$25,000,000,000,000,000 to \$30,000,000,000,000,000
    - 140  \$30,000,000,000,000,000 to \$40,000,000,000,000,000
    - 141  \$40,000,000,000,000,000 to \$50,000,000,000,000,000
    - 142  \$50,000,000,000,000,000 to \$60,000,000,000,000,000
    - 143  \$60,000,000,000,000,000 to \$70,000,000,000,000,000
    - 144  \$70,000,000,000,000,000 to \$80,000,000,000,000,000
    - 145  \$80,000,000,000,000,000 to \$90,000,000,000,000,000
    - 146  \$90,000,000,000,000,000 to \$1,000,000,000,000,000,000
    - 147  \$1,000,000,000,000,000,000 to \$1,500,000,000,000,000,000
    - 148  \$1,500,000,000,000,000,000 to \$2,000,000,000,000,000,000
    - 149  \$2,000,000,000,000,000,000 to \$2,500,000,000,000,000,000
    - 150  \$2,500,000,000,000,000,000 to \$3,000,000,000,000,000,000
    - 151  \$3,000,000,000,000,000,000 to \$4,000,000,000,000,000,000
    - 152  \$4,000,000,000,000,000,000 to \$5,000,000,000,000,000,000
    - 153  \$5,000,000,000,000,000,000 to \$6,000,000,000,000,000,000
    - 154  \$6,000,000,000,000,000,000 to \$7,000,000,000,000,000,000
    - 155  \$7,000,000,000,000,000,000 to \$8,000,000,000,000,000,000
    - 156  \$8,000,000,000,000,000,000 to \$9,000,000,000,000,000,000
    - 157  \$9,000,000,000,000,000,000 to \$10,000,000,000,000,000,000
    - 158  \$10,000,000,000,000,000,000 to \$15,000,000,000,000,000,000
    - 159  \$15,000,000,000,000,000,000 to \$20,000,000,000,000,000,000
    - 160  \$20,000,000,000,000,000,000 to \$25,000,000,000,000,000,000
    - 161  \$25,000,000,000,000,000,000 to \$30,000,000,000,000,000,000
    - 162  \$30,000,000,000,000,000,000 to \$40,000,000,000,000,000,000
    - 163  \$40,000,000,000,000,000,000 to \$50,000,000,000,000,000,000
    - 164  \$50,000,000,000,000,000,000 to \$60,000,000,000,000,000,000
    - 165  \$60,000,000,000,000,000,000 to \$70,000,000,000,000,000,000
    - 166  \$70,000,000,000,000,000,000 to \$80,000,000,000,000,000,000
    - 167  \$80,000,000,000,000,000,000 to \$90,000,000,000,000,000,000
    - 168  \$90,000,000,000,000,000,000 to \$1,000,000,000,000,000,000,000
    - 169  \$1,000,000,000,000,000,000,000 to \$1,500,000,000,000,000,000,000
    - 170  \$1,500,000,000,000,000,000,000 to \$2,000,000,000,000,000,000,000
    - 171  \$2,000,000,000,000,000,000,000 to \$2,500,000,000,000,000,000,000
    - 172  \$2,500,000,000,000,000,000,000 to \$3,000,000,000,000,000,000,000
    - 173  \$3,000,000,000,000,000,000,000 to \$4,000,000,000,000,000,000,000
    - 174  \$4,000,000,000,000,000,000,000 to \$5,000,000,000,000,000,000,000
    - 175  \$5,000,000,000,000,000,000,000 to \$6,000,000,000,000,000,000,000
    - 176  \$6,000,000,000,000,000,000,000 to \$7,000,000,000,000,000,000,000
    - 177  \$7,000,000,000,000,000,000,000 to \$8,000,000,000,000,000,000,000
    - 178  \$8,000,000,000,000,000,000,000 to \$9,000,000,000,000,000,000,000
    - 179  \$9,000,000,000,000,000,000,000 to \$10,000,000,000,000,000,000,000
    - 180  \$10,000,000,000,000,000,000,000 to \$15,000,000,000,000,000,000,000
    - 181  \$15,000,000,000,000,000,000,000 to \$20,000,000,000,000,000,000,000
    - 182  \$20,000,000,000,000,000,000,000 to \$25,000,000,000,000,000,000,000
    - 183  \$25,000,000,000,000,000,000,000 to \$30,000,000,000,000,000,000,000
    - 184  \$30,000,000,000,000,000,000,000 to \$40,000,000,000,000,000,000,000
    - 185  \$40,000,000,000,000,000,000,000 to \$50,000,000,000,000,000,000,000
    - 186  \$50,000,000,000,000,000,000,000 to \$60,000,000,000,000,000,000,000
    - 187  \$60,000,000,000,000,000,000,000 to \$70,000,000,000,000,000,000,000
    - 188  \$70,000,000,000,000,000,000,000 to \$80,000,000,000,000,000,000,000
    - 189  \$80,000,000,000,000,000,000,000 to \$90,000,000,000,000,000,000,000
    - 190  \$90,000,000,000,000,000,000,000 to \$1,000,000,000,000,000,000,000,000
    - 191  \$1,000,000,000,000,000,000,000,000 to \$1,500,000,000,000,000,000,000,000
    - 192  \$1,500,000,000,000,000,000,000,000 to \$2,000,000,000,000,000,000,000,000
    - 193  \$2,000,000,000,000,000,000,000,000 to \$2,500,000,000,000,000,000,000,000
    - 194  \$2,500,000,000,000,000,000,000,000 to \$3,000,000,000,000,000,000,000,000
    - 195  \$3,000,000,000,000,000,000,000,000 to \$4,000,000,000,000,000,000,000,000
    - 196  \$4,000,000,000,000,000,000,000,000 to \$5,000,000,000,000,000,000,000,000
    - 197  \$5,000,000,000,000,000,000,000,000 to \$6,000,000,000,000,000,000,000,000
    - 198  \$6,000,000,000,000,000,000,000,000 to \$7,000,000,000,000,000,000,000,000
    - 199  \$7,000,000,000,000,000,000,000,000 to \$8,000,000,000,000,000,000,000,000
    - 200  \$8,000,000,000,000,000,000,000,000 to \$9,000,000,000,000,000,000,000,000
    - 201  \$9,000,000,000,000,000,000,000,000 to \$10,000,000,000,000,000,000,000,000
    - 202  \$10,000,000,000,000,000,000,000,000 to \$15,000,000,000,000,000,000,000,000
    - 203  \$15,000,000,000,000,000,000,000,000 to \$20,000,000,000,000,000,000,000,000
    - 204  \$20,000,000,000,000,000,000,000,000 to \$25,000,000,000,000,000,000,000,000
    - 205  \$25,000,000,000,000,000,000,000,000 to \$30,000,000,000,000,000,000,000,000
    - 206  \$30,000,000,000,000,000,000,000,000 to \$40,000,000,000,000,000,000,000,000
    - 207  \$40,000,000,000,000,000,000,000,000 to \$50,000,000,000,000,000,000,000,000
    - 208  \$50,000,000,000,000,000,000,000,000 to \$60,000,000,000,000,000,000,000,000
    - 209  \$60,000,000,000,000,000,000,000,000 to \$70,000,000,000,000,000,000,000,000
    - 210  \$70,000,000,000,000,000,000,000,000 to \$80,000,000,000,000,000,000,000,000
    - 211  \$80,000,000,000,000,000,000,000,000 to \$90,000,000,000,000,000,000,000,000
    - 212  \$90,000,000,000,000,000,000,000,000 to \$1,000,000,000,000,000,000,000,000,000
    - 213  \$1,000,000,000,000,000,000,000,000,000 to \$1,500,000,000,000,000,000,000,000,000
    - 214  \$1,500,000,000,000,000,000,000,000,000 to \$2,000,000,000,000,000,000,000,000,000
    - 215  \$2,000,000,000,000,000,000,000,000,000 to \$2,500,000,000,000,000,000,000,000,000
    - 216  \$2,500,000,000,000,000,000,000,000,000 to \$3,000,000,000,000,000,000,000,000,000
    - 217  \$3,000,000,000,000,000,000,000,000,000 to \$4,000,000,000,000,000,000,000,000,000
    - 218  \$4,000,000,000,000,000,000,000,000,000 to \$5,000,000,000,000,000,000,000,000,000
    - 219  \$5,000,000,000,000,000,000,000,000,000 to \$6,000,000,000,000,000,000,000,000,000
    - 220  \$6,000,000,000,000,000,000,000,000,000 to \$7,000,000,000,000,000,000,000,000,000
    - 221  \$7,000,000,000,000,000,000,000,000,000 to \$8,000,000,000,000,000,000,000,000,000
    - 222  \$8,000,000,000,000,000,000,000,000,000 to \$9,000,000,000,000,000,000,000,000,000
    - 223  \$9,000,000,000,000,000,000,000,000,000 to \$10,000,000,000,000,000,000,000,000,000
    - 224  \$10,000,000,000,000,000,000,000,000,000 to \$15,000,000,000,000,000,000,000,000,000
    - 225  \$15,000,000,000,000,000,000,000,000,000 to \$20,000,000,000,000,000,000,000,000,000
    - 226  \$20,

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24 • 28 • 35 PTO  
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**260-C:** This compact 24 PTO H.P., 2-cyl. diesel includes as standard equipment: Continuous PTO, 6-speed trans., 3-pt. hitch with draft and position control, and more. Hydrostatic steering optional. The perfect tractor for turf and horticultural work. Wt. 3,180 lbs. (approx.). Turf or general purpose farm tires. Price with 5.00 x 15/12.4 x 24 GPF Tires.

LIST PRICE\*\*: 2-WD — \$5,802.00



**310-C:** A 2-cyl. compact, 28 PTO H.P. tractor. Standard features include: Continuous PTO, 6-speed trans., 3-pt. hitch with draft and position control, and more. Hydrostatic steering optional. Excellent turf or small farm tractor. Turf or general purpose farm tires. Wt. 3,159 lbs. (approx.). Price with 5.00 x 15/12.4 x 24 GPF Tires.

LIST PRICE\*\*: 2-WD — \$6,227.00



**360-C:** A heavy-duty, compact 3-cyl., 35 PTO H.P. tractor engineered for outstanding performance and economy. Standard equipment includes: 6-speed trans., hydrostatic steering\*, continuous PTO, 3-pt. hitch with draft and position control, and more. The ideal tractor for heavier turf work or small farm chores. Turf or general purpose farm tires. Wt. 3,630 lbs. (approx.). Price with 5.00 x 15/12.4 x 24 GPF Tires.

LIST PRICE\*\*: 2-WD — 7,247.00

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\*Hydrostatic steering to be phased-in on the 360-C.

\*\*Prices based on Long Mfg. N.C. Inc.'s current suggested list price, for standard equipped tractors with tires as specified, F.O.B. point of manufacture; and are subject to change without notice.

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# One. Two.



## Spray Roundup® on the turf area to be renewed.

With just one application of Roundup® herbicide by Monsanto, you can control or destroy most unwanted vegetation. Including stubborn intruders like annual bluegrass, bermudagrass, quackgrass, johnsongrass, tall fescue, and kikuyu grass.

In a matter of days, Roundup circulates throughout these weeds. Even into the below-ground roots, destroying the entire plant. Yet Roundup has no residual soil activity. That means there is no injury to new seedlings planted after application.



## Spread Pennfine Perennial Ryegrass seed over the area treated with Roundup.

After applying Roundup, seed with fast-growing, fine-leaved Pennfine Perennial Ryegrass. Pennfine was developed by Dr. Joe Duich at Pennsylvania State University. Pennfine has been proven to germinate quicker, grow denser, and resist disease better than traditional ryegrasses. And it penetrates compact soil, sending its roots to depths of 12 to 18 inches. These qualities make Pennfine an excellent choice for turf renewal and help to explain why it's used by turf professionals from coast to coast. In a short time, you'll see the proof for yourself.

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ROUNDUP® IS A REGISTERED TRADEMARK OF MONSANTO CO.,  
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