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## DIRECTORY APPENDIX

The following equipment listing was inadvertently omitted from our 1977 Managers Guide to Equipment and Supplies:

Dedoes Industries, Inc. 1060 W. Maple Rd., Walled Lake, Mich. 48088

> Aerators Rollers Spikers Slicers Poa-annua Stripper

## Fusarium wilt hits Texas shade trees

Two Texas shade trees, the mimosa and the mulberry, are suffering from fungus diseases.

Dr. Wendell Horne, a plant pathologist for the Texas Agricultural Extension Service, says the mimosa tree is being removed from the Texas landscape by Fusarium wilt. The fungal organism that causes the disease had its origin on the eastern seaboard and has spread westward in recent years.

The wilt, which also occurs in cotton, peas and watermelons, results from spores that become airborne after lying dormant in the soil. It affects plant vitality and the leaves. The tree later shows symptoms of color loss and droopiness and cracks along the bark soon appear, emitting a foul smelling sap.

Two resistant varieties of mimosa trees, Charlotte and Tyrone, are currently being used but not to a great extend in Texas, notes Horne. Furthermore, chemical controls for the disease are not profitable at this time. About all homeowners can do is to give the trees good cultural care and to avoid mechanical injury.

The mulberry tree is afflicted with a fungal leafspot disease during the autumn months. This shade tree loses its leaves as a result of a windborne fungus that produces the disease, explains Horne.

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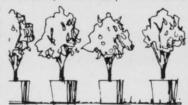


by preventing compaction, it keeps the soil loose enabling more oxygen to reach and help nourish the root system. And because Horticultural Perlite also retains three to four times its weight in moisture, it keeps the root network moist long after watering. The result is a beautiful blanket of green growing on a thick healthy, robust rootsystem that not only keeps grass beautiful, but prevents golf courses, institutional and campus

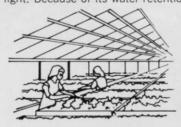
lawns and residential lawns from getting soggy, mushy or soft underfoot.

Nurserymen find Horticultural Perlite practically indispensible for container grown plants and shrubs because of its ability to retain moisture, and to keep the mixture

around the root environment loose. It is also a great "starting mixture" for transplanted stock as it helps reduce the incidences of transplant shock. And because Horticultural Perlite is sterile and non-toxic, it won't rot, decompose, disintegrate or break down. Nor will it help promote insect life. Being light in weight, Horticultural Perlite makes container moving light work and shipping costs a lighter expense. It's not only ideal for your plants - Horticultural Perlite is ideal for your business.



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distribution of moisture to stimulate fast root development in cuttings and to speed seed germination. Most important, by keeping the starting mixture loose, Horticultural Perlite permits a freer flow of oxygen to help nurture the new growth. This also makes transplanting easy; without root damage; and without undo shock. Horticultural Perlite is inert matter that can last indefinitely in your seed beds. It is sterile, odorfree and can't promote insects or bugs. It is a

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## City trees more insect vulnerable

A city dweller who plants a forest tree in his front yard today is perhaps as foolhardy as the misguided soul who accidently introduced the tree-destroying gypsy moth into the hardwood forests of the United States in the 1870's.

D. G. Nielsen, entomologist at the Ohio Agricultural Research and Development Center, makes this comparison to show that man's meddling with nature is making it easier for some insects to attack and damage trees.

Forest trees planted in the hostile urban environment of polluted air, high velocity wind currents, insufficient light and water, and extreme temperature fluctuations often have less vigor than their counterparts in the wild. Nielsen says this makes trees along city streets more susceptible to insects which would not normally bother them in the woods.

For example, in the forest the bronze birch borer prefers mature trees or those in poor health. Actually, the insect provides a "service" to the forest by weeding out sick and old trees to allow more room for young healthy trees. However, in the city the birch borer will attack apparently young healthy trees. Nielsen says these trees are probably suffering from water stress in their foreign surroundings which make them more vulnerable to their insect enemies. Insects will attack a stressed tree in the urban environment just as they will attack a sick or old tree in the forest.

Nielsen says that since people will continue to plant trees in the city, some insects will take advantage of the situation. The problem is knowing when the insect population will change from being harmless to destructive. Some people will "jump the gun" and use a pesticidal spray because they see all insects as threats. What many people do not understand is that most insects are harmless and some even beneficial in their relationships with trees.



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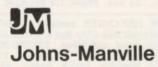
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## **USED EQUIPMENT**

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Winterize your trees

# Lab findings may alleviate tree mortality

To a tree, Greg Brown is a "cold" person.

On more than one occasion he has calmly watched little seedlings freeze to death.

Then he has torn apart the seedlings — right down to their cells to find out why some trees are more cold-hardy than others.

The "autopsies" are beginning to pay off. The University of Missouri-Columbia professor of forestry had identified factors ranging from a "supercooling" phenomenon to a built-in "antifreeze" that could help us have more cold-hardy trees in the years ahead.

He and his colleagues have isolated and identified a glycoprotein (a protein bound with sugars) which binds the water in the cells and keeps it from turning into ice. They found the glycoprotein in black locusts, well-known for their hardiness. Similar glycoprotein has been found in fish which live in the Antarctic Sea.

Brown's basic research findings will be used by plant breeders who will now be better able to select for cold hardiness. Others will use his information to develop chemicals that will stimulate plants to produce glycoprotein or other forms of plant "antifreeze."

Manufacturers are already selling cyro (cold) protectants which basically slow plant growth. "Dormant plants are more hardy," explained Brown.

The UMC research will help protect trees from early fall freezes and late spring freezes — something that would be worth millions of dollars to the fruit and nursery industries.

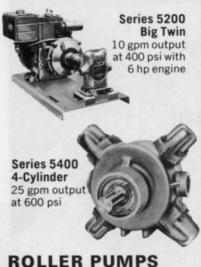
"And by extending a tree's hardiness, we could introduce desirable species into areas where they couldn't grow before," said Brown.



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## **PISTON PUMPS**





# Study predicts 4.5% growth in lawn, garden, houseplant chemicals: \$650 million in '75

U.S. consumers spent \$650 million at the manufacturers' level in 1975 for pesticides, fertilizers, potting soils, and related chemicals for lawns, gardens, houseplants, and general household use, a new 18-month survey reports. Fertilizers, which are used on lawns, gardens, and potted plants, are the largest category with 46 percent of the market, followed by insecticides with 27 percent.

Although the overall business is forecast to grow at a steady yet not spectacular rate of 4.5 percent to 1980 (as measured in constant 1975 dollars), several products are forecast to far exceed the average, according to C. H. Kline & Co., marketing consultants. The most rapidly growing products will be houseplant fertilizers, pesticides, and potting soils, the survey reports. The major reason for the growth of these products is the increasing popularity of potted plants.

According to Kline, over 750 million houseplants are maintained by nearly 60 million households, or an average of 12.5 plants in each household. Although hundreds of different varieties of plants are offered, ivy, philodendron, cactus, fern, and wandering jew are the most popular. Many plants are fertilized and otherwise cared-for regularly.

Certain other segments of the overall business are also growing rapidly, according to Kline. For example, supermarkets and discount stores are becoming leading retail outlets for these products and women are becoming more important purchasers of garden chemicals.

Changes in retail distribution and the growth of small-packaged houseplant chemicals have attracted many consumer product companies to this business because of their skills in selling to mass marketers. Among the recent entrants are 3M, Alberto-Culver, Gillette, and Pfizer (Leeming/Pacquin).

According to the study, however, the overall market is dominated by three companies: O. M. Scott, a division of ITT (lawn fertilizers); Standard Oil Co. of California's Ortho Division (outdoor pesticides); and S. C. Johnson & Son (household insecticides). These three together controlled 29 percent of the overall market in 1975 with the remainder split among small regional companies. In all, about 250 companies market lawn, garden, and houseplant chemicals in the U.S.

Private labeling of theses products is an important aspect of the overall business. Kline reports that roughly 15 percent of all manufacturers' sales, including 25 percent of all potting soils, 15 percent of all fertilizers, and 15 percent of all soil conditioners and mulches, are made by private-label manufacturers.

Lawn, Garden, and Houseplant Chemicals 1976 is based on analysis of 1,697 interviews, including 166 indepth interviews with executives in the industry, government agencies, and trade associations and journals; 1,004 telephone interviews with a national probability sample of individual consumers; and 527 interviews with retail outlets.

The study is part of a two-survey analysis of all off-farm applications for fertilizers and pesticides. The companion survey *Professional Markets for Pesticides and Fertilizers*, covers the market for these chemicals in 16 end-use industries including highways, golf courses, mosquito-abatement operations, and railroads. Information on both surveys is available from C. H. Kline & Co., 330 Passaic Avenue, Fairfield, N.J. 07006.

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