

'Creative' Cure for Chlorosis By WARREN WOLFE

You've got a tree with a chlorosis problem. You've tried ferrous sulfate sprays with erratic results, and you don't like what it does to leaves. You've tried foliar solutions with little success, and you haven't been satisfied with soil treatments.

Iron Medicaps could be the answer to your problem. This new approach lets you feed the iron compound directly into the sap stream of the tree. There's nothing to spray in the air, no chemicals to handle, no holes to drill in the ground. It takes just 10 minutes or less to treat a tree and you can expect results in only 2-4 weeks. More important, one treatment lasts up to three years.

The secret is fast-acting ferric ammonium citrate loaded into unique plastic capsules with slotted sides for slow, timed release. Marketed under the name "MEDICAP," these plastic capsules have been tested at leading experiment stations as well as by hundreds of commercial arborists and nurserymen.

Without exception, Medicaps have solved chlorosis problems. Researchers have found them easy to use and have reported no drawbacks to their use. Moreover, they report the unique bevelled head of the Medicap seals holes effectively and prevents sap from bleeding. Most implantation holes are closed by callus within a year.



John Duling (left) of Duling Tree Experts, Muncie, Ind., discusses Medicaps with author Warren Wolfe, president of Creative Sales, Inc., Fremont, Neb. Duling and other professional arborists use encapsulated soluble chemicals as part of their total tree-care program.

Medicaps are available in different sizes, Mini ($\frac{3}{8}$ inch), Standard ($\frac{1}{2}$ inch), and Super ($1\frac{1}{16}$ inch) for use with trees of varying diameters. The capsules should be inserted into the tree from 2-4 inches apart and at different heights (from 1 to 3 feet above the soil) around the trunk. The ideal pattern would be to follow a spiral line from the 1 foot height up and around the circum-

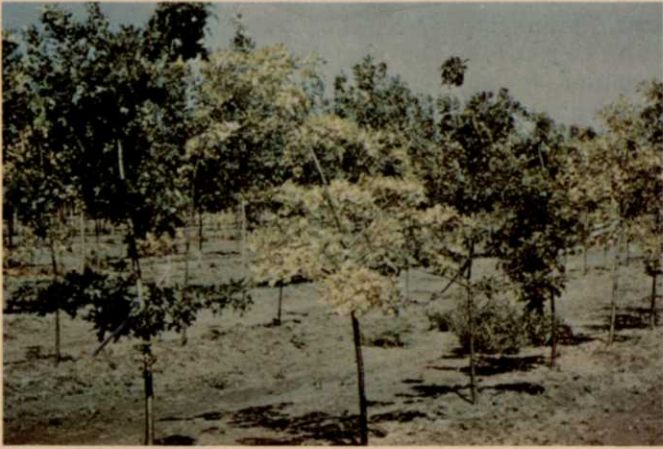
ference of the tree to a point 3 feet high directly above the starting point.

The hose size and depth must be enough to get the capsule entirely into the wood of the tree. When entirely inserted, the head of the capsule should be recessed slightly under the wood (not the bark). Then, the capsule will seal properly and avoid sap leakage.

Dan Neely, plant pathologist for the Illinois Natural History Survey, has been experimenting with iron capsules to control pin oak chlorosis for several years. In an article in the *Journal of Forestry*, Volume 71, Number 6, June, 1973 he reports on the successful use of Medicaps to treat chlorotic pin oaks in commercial nurseries and in several Illinois cities.

In summation of his work, Neely submitted data which shows the color of the tree before treatment and a comparison between MEDICAP treated and untreated (check) trees.

In the April, 1974 issue of *Arborist News*, Neely and D. F. Schoeneweiss reported on the use of iron capsules as well as other methods of controlling chlorosis. They report that "both implantation of dry salts and the soil injection of solutions have corrected iron chlorosis." But, they conclude "Implantation (Medicaps) requires less time and equipment than does soil injection, and is less troublesome."



Dan Neely treated these trees at Mayview Nursery with Medicaps in June '71. This photo was taken 30 days following treatment of trees 1, 3 and 4 (from left).

A close-up of trees 1 and 2 about 14 months after application shows second year effect of treated tree (left) and further decline of the untreated.



This Hinsdale, Ill. tree was treated in late July '72.



A Bald Cypress shows signs of iron chlorosis at time of treatment in June '71.



The same tree, 30 days after treatment, exhibits signs of total recovery.



The same tree in Hinsdale three weeks after treatment.



Medicap 'implants' remain in the tree. No return service call is needed to remove the applicators.



Injection sites normally heal over by tree callous a few months after application.

They recommend using Medicaps on pin oak in April, May or June according to table 1.

Neely and Schoeneweiss were not impressed with the use of foliar sprays and discounted the effect of soil treatments with sulfur and/or aluminum sulfate. Schoeneweiss did obtain good results with liquid iron chelates, soil injected at high rates. However the cost of material and the cost of application are considerably higher than the cost of treating with Medicaps. By conservative estimate, treating a 12 inch DBH tree with soil applied chelate would cost \$20.00 per tree for material alone. Then you have the cost of drilling 160 holes to a depth of 12-15 inches, plus the equipment to inject 200 gallons of solution at a minimum of 150 psi pressure.

By contrast, treating a 12 inch DBH tree with Medicaps, would cost a homeowner only \$8.95 for 10 capsules, plus the time to drill 10 injection holes and press in the cartridge. For a commercial arborist, the cost would be far less.

Elton M. Smith, Extension Specialist for Landscape Horticulture at Ohio State University, reports on Medicaps in his article "Chlorosis of Pin Oak-Encapsulated Iron Most Effective Remedy."

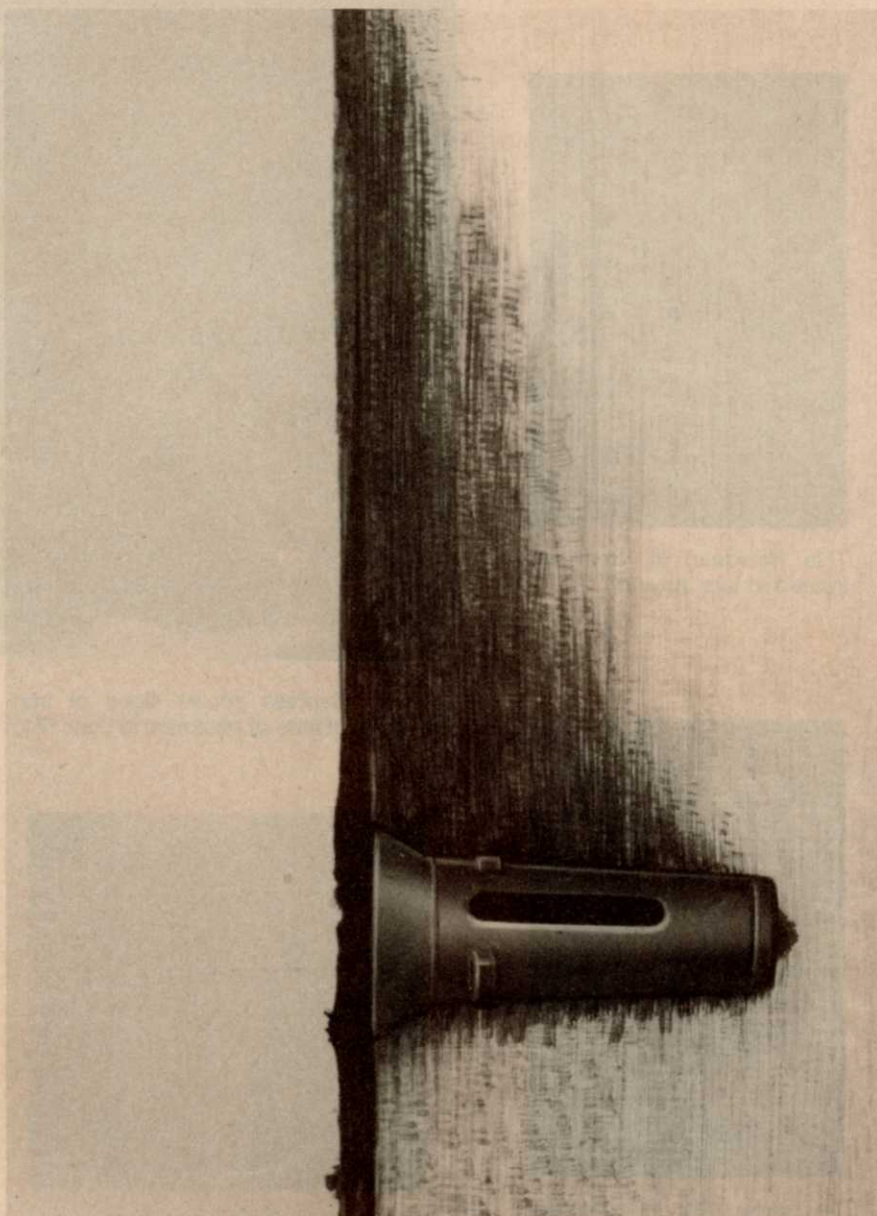
He used iron capsules in comparison studies with foliar spray and soil application of iron chelate, and trunk injections of iron sulfate. In

summing up he reports, "Trunk implantations with capsules (Medicaps) were superior to all three compared treatments on visual observation, were longer lasting and quicker to apply."

Similar reports have been received from research scientists, city foresters, and independent operators over a widespread area. Medicaps are curing iron chlorosis.

According to research evaluations by numerous universities, the capsule injection technique is equally adaptable to systemic pesticides. Recent popularity in tree trunk injection stems from the fact it avoids common public resistance to spraying. Furthermore far less time and equipment is required when compared to foliar sprays or soil injection.

| TRUNK DIAMETER (breast height) | MEDICAP SIZE | DISTANCE BETWEEN HOLES |
|-----------------------------------|----------------|---------------------------|
| 1-4 | Mini (3/8") | 2 |
| 4-12 | Std. (1/2") | 3 |
| 12 and up | Super (11/16") | 4 |



Medicap tree injection cartridges provide easy, economical placement of encapsulated soluble chemical directly into the active sap flow of the tree.

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