MANAGEMENT RESULTS ON A FINE SANDY LOAM SOIL

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The Continental Can Nursery was established in 1946 and has been in continuous production since that time. This is the only private nursery in Louisiana and at the present time is producing 6 million seedlings annually. Problems began in the nursery in the late 1950's.

The nursery had originally been on a 1:1 rotation, but due to increased seedling demand it was put on a 2:2 rotation in 19579 and continued the practice until 1963. As best it can be determined, soil management was unchanged while production was increased. This created ideal conditions for nematodes and pathogenic fungi.

In 1962, a new nursery block was added to make possible the use of a 1:1 rotation again. The area needed much cutting and filling to get the proper slope. It was put into production in 1963 and the first three crops were almost total failures.

The problem would have to be described as chlorosis; but there were better than 15 known causes for the ailment. Our crop was averaging 50-75 percent plantable seedlings. In the early 1960's, methyl bromide was applied to three-fourths of the nursery (over a period of 3 years); one-fourth of the nursery was treated each year. The first treatment gave excellent results, but the last two did almost nothing.

I took charge of the nursery in 1965, just after planting. The following work has been done since then.

In 1965, Captan Terraclor 10-10 was disked into one acre of soil at the rate of 125 pounds per acre, and a Morton chemical, EP-201, was applied to another acre. The EP-201 gave good results but none came from the Captan Terraclor 10-10. In 1966, a test was conducted using EP-201, methyl bromide, Vorlex, and Shell DD. One block of each treatment was covered with a plastic cover. All of these treatments gave fair results. The covered area had less grass than the uncovered but seedling growth was about the same.

A thorough analysis of the soil was made. It was found that the nursery had an excess of phosphate, lad organic matter, low pH, nematodes, root rot, and in some areas, a high concentration of salts. To compound the problem, there was no pattern to the chlorosis. Some good seedlings grew on the poor areas and some bad seedlings were produced on the good soil. A foliage analysis also gave us no hint to our problem.

Fertilizer tests with both the major and minor nutrients were run with no positive results.

No single treatment gave us complete success, but by combining several treatments, fumigation, proper fertilization, and better soil management, our problem has been solved. The nursery is again growing good seedlings and another nursery expansion is underway.

I would like to compare notes with others who have had similar

problems. The following observations have been made in our nursery:

1. Chlorosis appears in mid-June with hot weather
2. It is wide spread at first, but usually disappears except for small irregular patches.
3. No pattern can be determined.
4. Nitrogen applications help sometimes.
5. Iron applications help sometimes.
6. It first appears on the new growth and usually on the second or third bud elongation.
7. As long as you can keep the bud elongation, a plantable seedling may be grown.
8. When the needles in the bud begin to curl and die, they are beyond help.
9. A cool rainy spell usually helps.
10. Color appears again in the fall and growth resumes.
11. If these seedlings remain in the field for the second season, they usually look healthy.
12. The outside drill seems to be affected more.
13. It does not spread--as I would expect nematode or fungi would spread.
14. Root growth is inhibited.
15. Good and poor seedlings may grow only one drill apart.