MICRONUTRIENTS

the low cost yield persuader

Heavy yields, year after year, may be causing you big trouble even though you have seemingly been using adequate rates of fertilizer. If your corn, and other crops, don't seem to respond to high rates of fertilizer any more like they should, the trouble may well be MICRONUTRIENT DEFICIENCY.

In a recent nationwide survey among state experiment stations, virtually all states reported micronutrient shortages. Boron deficiency was the most widespread, being deficient in 41 states. Thirty-eight states reported boron deficiency was seriously cutting their alfalfa yields.

Other micronutrients which are known to be deficient in some soils are copper, iron, manganese, molybdenum and zinc. Recognition of zinc deficiency in corn is recent in many states, which further suggests the need for applying micronutrient elements as yields are stepped up.

What approach to the problem can you take? Get assistance from your county extension specialist who can obtain help from the state agricultural experiment station in diagnosing your problem. You can start in the early stages of crop growth . . . the signs will already be there and there'll still be time to take some corrective measures.

If only part of your field shows signs of micronutrient deficiency (less growth, yellowing of plants or even death in some cases) you will need to obtain samples of the plants from the troubled areas, as well as samples from the more normal areas. Foliage tests can be run on both for comparison. However, some state experiment stations are not equipped to run tests for all micronutrients.

Probably the best micronutrient tests can be run by you . . . right on your own farm, using test strips of single micronutrients either on the soil, or as a foliage spray. It must be pointed out, however, that regular amounts of nitrogen-phosphate-potash fertilizers should be used in both your control strips and the trace element application areas.

This may seem like a lot of trouble, but it may prove highly profitable. In Nebraska a recommendation for the application of 10 to 20 pounds of zinc is made whenever topsoil is removed in the process of leveling land for irrigation or building terraces. This practice has resulted in the difference between farmers obtaining no crop when not treated and 75 to 100 bushels of corn when treated. Considering that zinc can be purchased for as low as 40 to 45 cents per pound of metal and that the cost of corn production runs about 100 times that amount whether or not a single bushel is produced, there's a tremendous return on the investment.

In iron deficient fields in eastern Nebraska 50 cents worth of iron sprayed on foliage has doubled the yield of soybeans from 12 to 24 bushels.

Sometimes micronutrient deficiencies do not occur until higher yield levels are reached. In Wisconsin, for example, zinc and copper were sufficient for corn at a 100-bushel level. Increasing the major nutrient level (N-P-K) upped the yield another 25 bushels . . . but the addition of 2 pounds of copper oxide and 10 pounds of zinc sulfate further increased the yield by 16 bushels.

A word of warning . . . be careful not to put on more micronutrients than recommended . . . nor should you put micronutrients on indiscriminately. Yields have sometimes been depressed rather than helped under these conditions. It's best to get the recommended rates from your state experiment station, or commercial companies who specialize in such matters.

Many commercial fertilizer manufacturers add micronutrients to their regular grades. Usually this does not supply enough micronutrients to correct visable micronutrient deficiencies, but when scientifically added to N-P-K fertilizers to fit the area and crop, the yield difference is often startling . . . if nothing else it at least helps maintain the storehouse of micronutrients in the soil.