

## Watch pH When Fertilizing Small Grains

NEWARK, Del. — Proper fertilization of small grain crops starts with a recent soil test to assess the nutrients available to the plants. The test will indicate pH first. This is a very important factor for small grains, because if the pH is too high, a manganese deficiency very likely will occur.

"For silt loams, the pH for small grains can range between 5.5 and 6.4," says University of Delaware extension agronomist Dr. Richard W. Taylor. "Within this range, let experience be your guide." For intensive cereal management (ICM), he recommends a soil pH between 6.0 and 6.4. For sandy loam and loamy sandy soils, it can range between 5.5 and 6.2. While for ICM wheat, it should be between 5.8 and 6.2.

If the soil test recommendation

calls for additions of phosphorus, potassium or lime, Taylor suggests adding these inputs during the last phase of seedbed preparation. Also, if double-cropped soybeans are to follow the wheat, the P and K required by the beans can be applied at this time. Fall nitrogen (20 to 30 pounds of N per acre) can also be applied just before the last disking or harrowing. "Research has not consistently shown benefits from fall-applied nitrogen," the agronomist says.

If the soil pH is too high, or the soil test indicates possible manganese deficiency problems may be encountered, the nitrogen fertilizer of choice would be ammonium sulfate. Broadcasting manganese would be expensive, since in this case 20-40 pounds of actual manganese would be

needed for each acre. Instead, says Taylor, the manganese can be applied either in a band (at a rate of 4-8 pounds per acre) or in a foliar spray when deficiency symptoms first appear.

"If your grain drill can band fertilizer," he says, "nitrogen could also be banded, and using ammonium sulfate will help reduce the chances that any micronutrients will limit yields."

The exact timing of nitrogen fertilization in the spring depends on the status of the grain crop. If the wheat, despite all measures taken, has grown and tillered very little, apply nitrogen as soon as possible in the spring, or in late February or very early March. Under these circumstances, it's best to make split applications of N to limit plant height. "Early nitrogen applications will increase the height of wheat and can necessitate the use of a growth regulator to shorten plants and reduce lodging losses," Taylor cautions.

If an early application is not

needed, he recommends applying N at Feekes growth stage 5 (when the plants have fully tillered and the leaf sheaths are fully erect) or stage 6 (early jointing, when the first node can be felt above the soil surface).

"The nature of the previous crop can also affect the nitrogen fertilization program for small grains," the agronomist says. "For example, when following a soybean crop, you can usually expect some help from the nitrogen fixed by this legume. So adjust spring fertilization to account for the N contribution from the soybeans. However, if a great deal of residue is left on the soil surface after soybean harvest, applying a small amount of N in the fall would be useful to ensure adequate free soil nitrogen for the emerging grain crop. Reduce the spring nitrogen rate accordingly."

Split nitrogen applications will reduce the risk of N loss either by leaching or denitrification from unforeseen weather conditions, Taylor says. "Growers must

estimate the nitrogen rate with which to topdress wheat in late February or early March. Preferably, N should not be applied to frozen ground unless farm circumstances dictate otherwise."

The total available nitrogen for the wheat should be between 60-100 pounds per acre (80-120 pounds per acre for ICM wheat). "This means the grower must estimate the amount of residual N left in the ground from preceding crops," Taylor says. "If you applied 20 pounds of N per acre in the fall, assuming a carry-over after soybeans of another 20 pounds of N per acre, you should apply about 40-60 pounds of N in the spring."

If using granular nitrogen, apply it as uniformly as possible. Liquid nitrogen is best placed between each row, unless applied before greenup as a broadcast spray.

A complete fertilizer can also be applied in spring, Taylor says, in order to provide the phosphorus and potash necessary for double-cropped soybeans, if these nutrients weren't added in the fall.

## 'Teacher Of The Year' Nominees Sought

Nominations are being accepted for the national "Conservation Teacher of the Year" awards program according to Ernest Turner, district manager for the Franklin County Conservation District. The competition is open to all full-time teachers working at the kindergarten through high school level who have developed an outstanding program of conservation education.

The National Conservation Teacher of the Year will receive \$1000 in cash and an expense paid trip to Little Rock, Arkansas for the 1988 Annual Convention of the National Association of Conservation Districts. The national second place winner will receive a \$500 cash award and the first place regional winner will receive \$200.

Co-sponsored by NACD and the Deutz-Allis Corporation, the purpose of the awards program is to encourage the development of creative learning experiences in conservation for young people. "Any teacher in a public or private school in our conservation district who puts emphasis on conservation as a regular part of the instructional program is eligible for nomination," said Turner.

Interested teachers can obtain additional information and

nomination forms from the Franklin County Conservation District, phone 264-8074 or from their respective school principals.

## Feed Grain Land Diversion For '87

WASHINGTON — Secretary of Agriculture Richard E. Lyng recently announced a voluntary paid land diversion for the 1987 feed grain program.

Those choosing to participate in the paid diversion will be required to divert 15 percent of their feed grain acreage base to acreage conservation reserve, Lyng said. He said diversion payment rates per bushel are: corn, \$2; sorghum, \$1.90; barley, \$1.60; and oats, 80 cents. Fifty percent of the diversion payment will be paid in advance, with half in cash and the balance in generic commodity certificates.

The voluntary 15 percent paid diversion in combination with the 20 percent acreage reduction announced Sept. 29 gives producers the opportunity to set aside 35 percent of their feed grain base acreage.

Secretary Lyng said the 1987 per-bushel established target prices for feed grains will be the same as for the 1986 crops — \$3.03 for corn, \$2.88 for sorghum, \$2.60 for barley, \$1.60 for oats.

He also announced that loan rates per bushel for the 1987 crops are \$1.82 for corn, \$1.74 for sorghum, \$1.49 for barley, \$0.94 for oats and \$1.55 for rye.

A marketing loan program will not be implemented

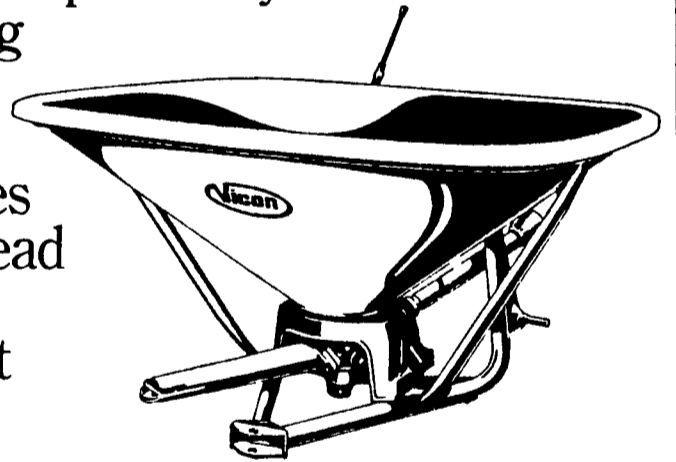
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