

'Spoonfeed' nitrogen for greater efficiency

MORRISTOWN, N.J. — Corn growers can guard against heavy nitrogen losses and reap a greater return from their fertilizer investment by making multiple, or split, applications of this vital nutrient, according to Don Johnson, agronomist, Allied Corporation.

"Most of the nitrogen used by a corn plant is absorbed six to 12 weeks after planting," he says. "With today's soaring interest rates and high costs of crop production, it just doesn't make sense to apply most of your nitrogen several weeks — or even months — ahead of the crop-uptake period."

Johnson is not against fall fertilization. But he does think corn growers, as a general rule, should apply no more than half of their crop's total nitrogen requirement at that time.

"The balance, he adds, should be 'spoonfed' to the crop during the spring and summer months.

"It's never a good idea to put all your eggs in one basket," Johnson says. "To play it safe, farmers should apply nitrogen several times a year in smaller increments, rather than apply most of it in one shot.

"The result will be greater nitrogen efficiency, higher yields, less risk of nitrogen losses from denitrification or leaching, and perhaps most importantly — reduced nitrate pollution in well water," he adds.

The advantages of splitting nitrogen applications have been demonstrated at several universities, perhaps most dramatically at the University of Minnesota.

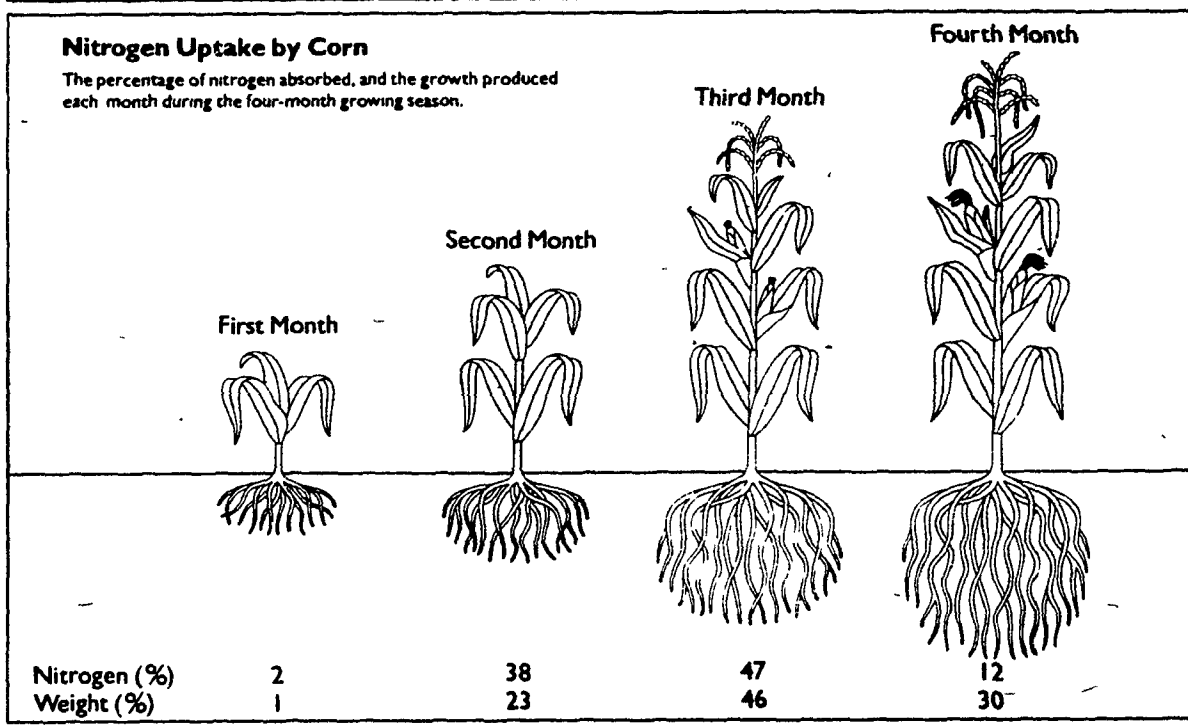
When 100 pounds N were applied at planting, yield was 92 bushels per acre, compared to 43 bushels where no nitrogen was applied.

When 100 pounds N were divided into four 25-pound doses and applied at 30-day intervals, yield jumped to 154 bushels per acre — a 62-bushel increase.

In similar trials, fields receiving a 200-pound rate of N in one shot at planting produced 158 bushels per acre — only four bushels more corn than where 100 pounds N had been applied in four 25-pound increments.

When the 200 pound rate was split into eight 25-pound doses and applied at 15-day intervals, yield rose to 192 bushels per acre — a 34-bushel increase.

"Not every farmer has the time or ability to make eight — or even



More than half of the total nitrogen used by corn is absorbed three to four months after planting. With today's soaring interest rates and rising costs of crop production, it just

doesn't make sense to apply most of your nitrogen fertilizer several weeks, or even months, ahead of the crop-uptake period, Johnson says.

Grangers urge continuation of farm programs

SPOKANE, Wash. — "The most important consideration in any national farm program continues to be the need for improving farm prices and income," stated the National Grange in its 115th annual convention held here, Nov. 9-16.

Grange delegates from 37 states said future farm programs must accomplish the objectives of furnishing adequate food and fiber to the consumer at affordable prices and provide a fair return to producers for their labor, capital and management.

The farm leaders are recommending the establishment of non-recourse loan levels and target prices on all major farm commodities to be adjusted annually to equal production costs. Also establishing adequate authority for set-aside and land diversion programs with payments for land taken out of production at rates

sufficient to accomplish program objectives.

They want to continue the disaster assistance program until the federal crop insurance program has been evaluated and found to be a suitable replacement, and that the prevented planting program be continued. Also expand and utilize authority for government purchase of U.S. produced beef and pork for use in domestic and P.L. 480 programs.

The delegates also called for updating crop planting history and use of previous years harvested acres as a basis for acreage adjustments and discontinue the normal crop acreage concept for acreage adjustments.

They oppose allowing any government agency to become the sole negotiator in export sales of U.S. produced grain and soybeans.

four — applications of nitrogen in one season," Johnson notes. "But these data serve to make a point about the benefits of 'spoon-feeding' nitrogen to a crop when it needs it most.

"When farmers apply all of their nitrogen at once, they're severely undercutting their yield potential."

While farmers growing corn on dryland cannot possibly use nitrogen as efficiently as irrigators, they can still make three applications without having to buy new equipment or make drastic changes in their cultural practices, Johnson says.

For example, if a corn crop's total nitrogen requirement is 200 pounds per acre, Johnson suggests applying 100 pounds in the fall, with a nitrogen stabilizer. An additional 60 pounds N can then be

applied in a tank mix with next spring's herbicide, and another 40 pounds N can be sidedressed when corn is in the eight- to 10-leaf stage. (More nitrogen can be sidedressed, if needed.)

"If a deficiency of another nutrient is detected after the crop is up, the farmer may then want to knife in a mixed liquid," Johnson says. "If the crop is short on sulfur, then a nitrogen-sulfur solution such as Suran (28-0-0-2S) or ammonium thiosulfate (12-0-0-26S) could be used."

If fields are too wet to be sidedressed or fertigated, an aerial application of a nitrogen-containing foliar spray could be used in the interim to fill the nitrogen gap, Johnson says.

Foliar fertilizers such as Folian (12-4-4-5S), NZN (15-0-0-5Zn), NMG (14-0-0-4Mg) and NFE (16-0-0-4Fe) can supply the crop with enough nitrogen until fields can be sidedressed or fertigated.

These foliar sprays can be "piggybacked" with most popular insecticides, fungicides and postemergence herbicides to save a trip across the field. Johnson urges farmers to consult their farm supplier or do a jar test before tank mixing any agrichemicals.

A foliar fertilizer, he adds, can supply only a small percentage of the crop's total fertilizer requirement, and should not be used as a substitute for good soil fertility.

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