



## NITROGEN STATUS OF CORN FIELDS

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Once again, excessive rainfall is raising questions about N loss and management practices that might be used to overcome this potential loss. This potential loss has also been a concern in other years in the recent past. We can learn from the past; but, no two years are the same.

Until the week of June 6, most of the rainfall throughout the state was not extremely heavy—it just seemed to rain every day. Certainly, there were fields where the water ponded and corn emergence was reduced substantially. For these areas, replanting, rather than N loss, will be the major consideration.

In recent years, there has been a switch in N application from preplant to sidedress timing for sandy soils. Since most sidedress N has not been applied to these sandy soils, N loss is not yet a serious concern.

For the remainder of the fields, there is a concern about loss. Until the week of June 6, soil temperature in many of the wet fields was low. These cool temperatures should have minimized losses due to denitrification. In addition, it is not possible to accurately predict N and denitrification losses by analysis of soil samples. So, a soil sampling approach as a management tool is not suggested at this time.

In other years, a scoring system was used to predict the need for additional N during the growing season. In June of 2004, this scoring system was applied to several fields with an additional 40 to 50 lb. N per acre recommended. Most reports during the winter from growers who used additional N indicated a positive yield increase from the supplemental N. The reported yield increases ranged from 5 to 15 bu. per acre.

So, rather than using soil testing in 2005, use of the scoring system is suggested. This scoring system relies heavily on plant appearance and color. That score sheet follows.

### Question #1

When and how was the N applied?

- a) In the fall, less than 4 inches deep and soil temperatures were above 50°F .....6
- b) In the fall, 4 or more inches deep and soil temperatures were above 50°F .....5
- c) In the fall, above 4 inches with N-Serve and soil temperatures above 50°F .....4
- d) In the fall, below 4 inches with N-Serve and soil temperatures below 50°F .....3

- e) In early spring (end of March or in April) ..... 3
- f) Broadcast on the soil surface in the fall with no incorporation .....4
- g) Broadcast on the soil surface followed by incorporation 50°F ..... 3
- h) In May followed by incorporation .....2

Question #2

What was the predominate spring (May) soil condition?

- a) Normal or drier than normal .....1
- b) Wetter than normal ..... 3
- c) There was standing water in the low areas .....4

Question #3

How does the crop look?

- a) Taller than 12-16 inches, showing N deficiency\* .....5
- b) Shorter than 12-16 inches, showing N deficiency\* ..... 3
- c) Shorter than 12-16 inches, showing no N deficiency\* .....2
- d) Taller than 12-16 inches, green ..... 1

\*Corn that shows N deficiency has an overall light green color and frequently the leaves show some striping. The first true leaf will usually have a yellow V along the midrib. The point of the V will be near the plant and not at the tip of the leaf.

To determine the need for supplemental N, add the scores for the answer to each question. If the score is 7 or less, supplemental N will probably not be needed. With a score of 10 or more, supplemental N is suggested. A rate of 40 to 50 lb. N per acre is suggested. This should be knifed in or incorporated in some way, if possible. A score of 8 or 9 falls into a gray area and requires a second evaluation. Wait 3 to 4 days and evaluate again. The appearance of the corn plant changes rapidly at this time of the year. The evaluation should take place before the window for sidedress application is closed.

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