

STABILIZE SPRING NITROGEN APPLICATIONS

SITUATION

Many farmers feel that it is a greater agronomic benefit to apply nitrogen (N) in the spring rather than in the fall, because it coincides with the nitrogen needs of the corn crop. With this thought, a key question of many growers is, “Is a spring nitrogen stabilizer application still needed?”

FACTORS TO CONSIDER

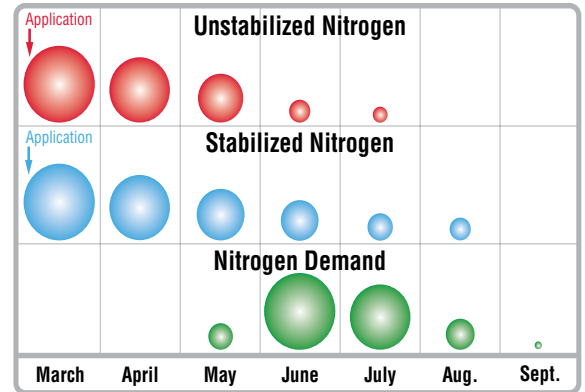
- Timing of spring nitrogen application
- Soil drainage quality and [cation exchange capacity \(CEC\)](#)
- Type of nitrogen and method of application
- Effective N stabilization

ACTION PLAN

- 1. Consider the timing of nitrogen application.** Many university researchers believe that spring applications benefit from a nitrogen stabilizer, such as [N-Serve®](#) or [Instinct™](#) nitrogen stabilizer, as there is a significant period of time between application and when the corn crop utilizes the applied N the most.
- 2. Check soil texture, drainage and CEC.** The Cation Exchange Capacity (CEC) of your soil is a measure of its ability to hold and release various elements and compounds. Heavy clay soils have a higher CEC and water-holding capacity. If these soils are poorly drained or are in a saturated condition for days at a time, N stabilizers can help keep nitrogen in the ammonium form so it can attach to clay particles, helping to prevent leaching or denitrification. Sandier soils may not be able to hold the required amount of nitrogen because of their low CEC. In these types of soils, a nitrogen stabilizer can hold nitrogen in the ammonium form longer, keeping it in the root zone longer and reducing leaching.
- 3. Be aware of how much ammonium nitrogen is being applied.** Your N source is an important factor in determining how much of the N is in the ammonium form, but the question is how much? Anhydrous ammonia with an analysis of (82-0-0), and urea with an analysis of (46-0-0), are both comprised entirely of 100 percent ammonium. To prevent loss, anhydrous ammonia needs to be applied below the soil surface. Urea, if applied on top of the soil surface and not incorporated, will need a urease inhibitor to keep it from volatilizing off. If a urease inhibitor is used, products like N-Serve and Instinct will provide more effective stabilization. UAN (28 percent nitrogen) is 75 percent ammonium and 25 percent nitrate — which is a leachable form — so stabilizing that remaining 75 percent is even more critical.
- 4. Nitrapyrin — available only in N-Serve and Instinct — is the best nitrogen protection.** Other products can protect against surface volatility, but won't slow the bacteria that convert nitrogen from its ammonia form to its nitrate form, which can be lost to leaching or denitrification. Only nitrapyrin, the active ingredient in N-Serve and Instinct, can help N stay available in the root zone of the corn crop through the phase of the growing season when it's needed most.

Summary

Research shows more than 20 percent of a field's nitrogen can be lost after one or two spring rainfalls. No matter your source of nitrogen in the spring, using an effective stabilizer like N-Serve or Instinct can help keep N available throughout the corn growing season. For more information, contact your local Mycogen Seeds customer agronomist or trusted agronomic adviser.



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