

Protecting Your Nitrogen Fertilizer Investment

Your investment in nitrogen fertilizer can be substantial depending on weather and crop needs. Total nitrogen needs for corn typically ranges from \$40 - \$75 per acre. Only a portion of applied N is used by the crop, with most of the unused portion lost to the environment. In very wet growing seasons, N losses can be severe, reducing corn yield sharply unless additional N is applied in-crop. In the past, "insurance" N was often applied to make up for these potential losses. However, with today's N management products and practices, that is no longer necessary.

So, what are these tools to protect your nitrogen investment? There are several answers to that question. We at Sunrise Cooperative want to work with you to find some methods that fit your operation and that you can easily and effectively use to protect yourself from excessive N losses. Here is our list - you may have ideas of your own that you would like to discuss with us.

- Nitrification inhibitors, such as **N-Serve** and **Instinct**. These products delay the conversion of ammonium N to nitrate N until the crop needs large amounts of N. Nitrate N is soluble and subject to leaching to tile or groundwater. These inhibitors can be added to either anhydrous ammonia or to UAN, or even to manure.
- Volatilization inhibitors, such as **PCT N-SAVE** and **Agrotain**. These products protect surface applied N from volatilization and are typically used to coat urea.
- Products which combine nitrification and volatilization inhibitors. These are typically used to coat urea or are added to UAN.
- Slow-release N, such as **Super-U**. These formulations of dry N are coated with a polymer that breaks down slowly and "spoon feeds" the corn crop.
- Split applications of N. This can take many forms. Here are a couple of the most popular:
 - Applying a portion of the needed N at or just before planting and the balance side dressed before the corn is knee-high (V4-V6)
 - Applying at least 1/2 of the needed N at or just before planting and the balance just prior to silking with the use of high clearance equipment. If early season weather has been extremely wet; this 2nd application can be made earlier and the rate of N adjusted to account for early season loss.
- Use of the Maximum Return to Nitrogen tool to plan rates of N. This useful on-line tool adjusts N rates based on the cost of N and the price of corn.
- Use of in-season N models, such as **Field Forecasting Tool** and **Adapt N**. These on-line tools are usually available on a subscription basis, and use localized rainfall, heat and soils data to determine how much additional N should be applied during the growing season. They are intended to be used in a split application program.

We at Sunrise Cooperative are committed to helping you formulate a Nitrogen management program that optimizes yield and protects the environment. Give us a call and let us do this!