

NITROGEN (N)

Nitrogen (N) is a building block for amino acids and proteins and acts as a catalyst for other nutrients. Nitrogen can sometimes be tricky to harness for maximum efficiency. It doesn't stay in one form for an extended period. The most common form the plant uses, the nitrate (NO_3) form, is the most susceptible to moving with water. Balancing crop demands with increased accountability makes it imperative that growers constantly evaluate nitrogen management.

Common symptoms of nitrogen deficiency include:

- *Stunted Growth*
- *Small Fruit Size*
- *Lower Yields*
- *Light green to yellow leaves with older leaves showing symptoms first*



Nitrogen Products

High *N*RG-N™

*N*Response™

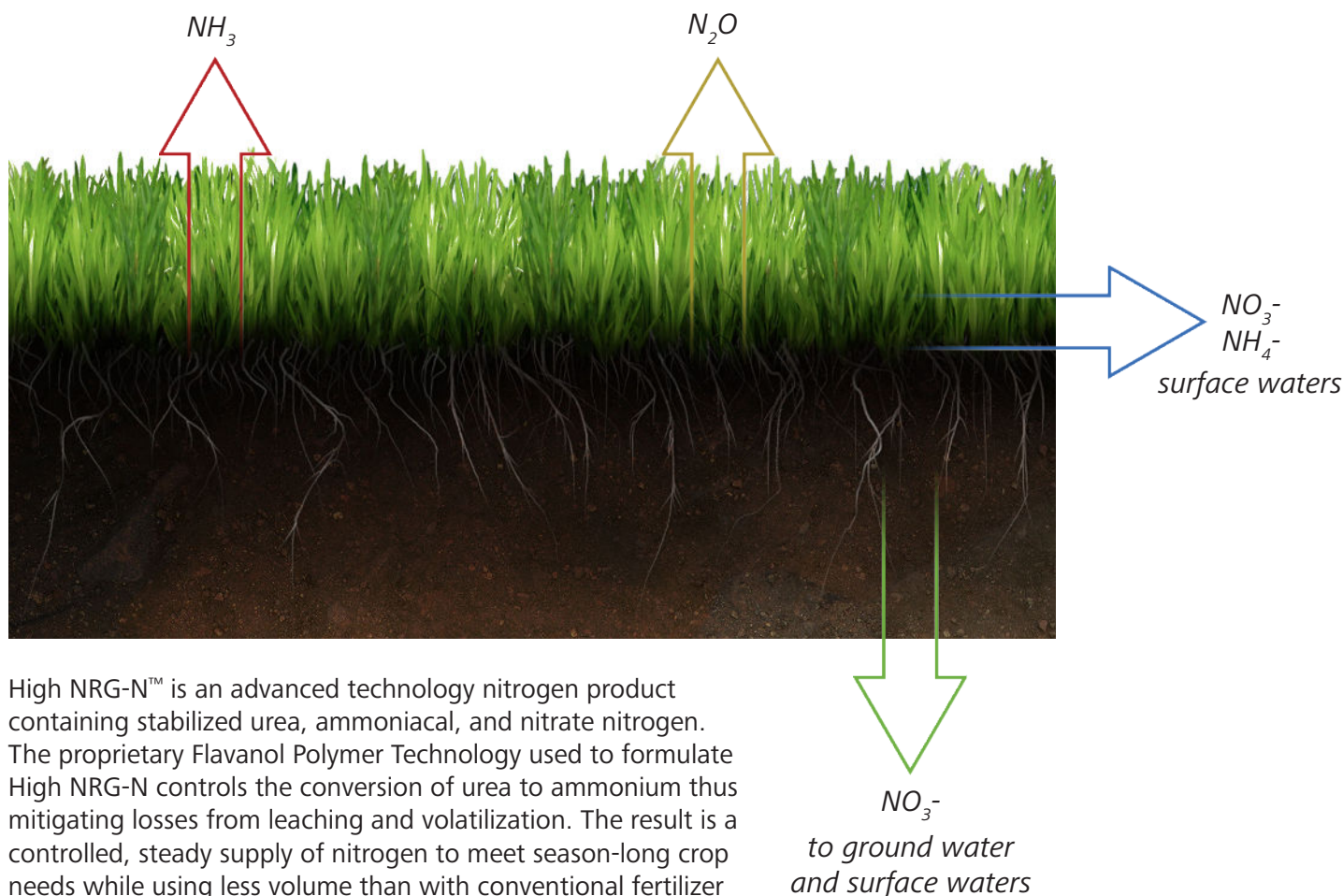
e*N*hance™





Improving Nitrogen Utilization

Nitrogen fertilizer is subject to losses due to volatilization, denitrification, and leaching. The severity of loss is often dependent on soil moisture, temperature, and the placement of nitrogen in the soil. Many liquid fertilizers contain three forms of nitrogen – urea ($(\text{NH}_2)_2\text{CO}$), ammonium (NH_4^+) and nitrate (NO_3^-). Most plants can utilize the ammonium and nitrate forms of nitrogen, although the biological processes in the soil work to convert nitrogen to the nitrate form. Nitrate is the most susceptible to loss through leaching.



High NRG-N™ is an advanced technology nitrogen product containing stabilized urea, ammoniacal, and nitrate nitrogen. The proprietary Flavanol Polymer Technology used to formulate High NRG-N controls the conversion of urea to ammonium thus mitigating losses from leaching and volatilization. The result is a controlled, steady supply of nitrogen to meet season-long crop needs while using less volume than with conventional fertilizer sources.

eNhanse™ is a nutritional supplement that amends the urea and ammonium portions of UAN solutions to reduce the amount of ammonium converted to nitrate. That reduces volatility and denitrification, making nitrogen available to the plant as it is needed. eNhanse also works within the plant to aid in nutrient transport, making other nutrients that enter the plant more efficient.

Traditional nitrogen “stabilizers” are used to prevent nitrogen loss so their use can be considered an insurance policy. If soil and environmental conditions are not conducive to nitrogen loss there would be no benefit to the addition of those stabilizers. However, High NRG-N or eNhanse improves the utilization of nitrogen in the plant and are not dependent on soil and environmental conditions. Adding eNhanse to UAN solution allows the user to reduce the rate of fertilizer and maintain yields, or use the full rate of fertilizer and have the potential for higher yields than achieved by UAN without eNhanse.

NResponse™ is a liquid urea nitrogen fertilizer designed for quick response. NResponse is derived from urea nitrogen fertilizers, and improved to promote a faster and more efficient response. NResponse is engineered to reduce leaf burn and promote healthy growth, especially where nitrogen deficiencies exist.