

# HOW DO UFLEXX™ AND UMAXX® STABILIZED NITROGEN WORK?

UFLEXX™ and UMAXX® Stabilized Nitrogen provide the latest technology alternative to slow or controlled release nitrogen. Understanding how stabilized nitrogen works, and why it delivers superior performance, begins with understanding the different types of nitrogen fertilizer available and how they behave in the soil.

## THE BASICS OF NITROGEN.

Nitrogen is one of the main nutrients used by plants, along with carbon, hydrogen and oxygen. Nitrogen occurs naturally in soil, but is quickly used up by growing plants. Irrigation and rainfall also deplete the soil of nitrogen. Regular nitrogen fertilizer applications are essential to plant health and growth. Not enough nitrogen can stunt the growth of plants, which can turn a yellowish-green. Too much, and the plants have a growth surge, but they aren't strong, making them more susceptible to disease and bugs.

## TYPES OF NITROGEN FERTILIZER.

There are three types of nitrogen fertilizer: quick release, slow/controlled release, and Stabilized Nitrogen.

- **Quick release nitrogen fertilizer** provides fast green up, but lasts a short time and can cause growth peaks and greater environmental risk.
- **Slow/controlled release fertilizers** include reacted/long chain urea like methylene urea, urea formaldehyde and coated nitrogen like sulfur or polymer coated urea. These products last longer and require less frequent application. However, their effectiveness depends on unpredictable factors like moisture, temperature, and microbial activity in the soil. In addition, slow/controlled release fertilizers

can lose up to 30% of their nitrogen, often within days of application.

- **UFLEXX and UMAXX Stabilized Nitrogen** change the game entirely by making nitrogen immediately and continuously available to the plant and at the same time controlling nitrogen loss that other fertilizers can't. Both UFLEXX and UMAXX Stabilized Nitrogen contain two inhibitors that work with soil chemistry to hold nitrogen in the soil. These inhibitors prevent nitrogen from being lost in the air, in the soil and into the groundwater.

UFLEXX and UMAXX can deliver this superior extended performance because they work without a coating or other control mechanism. UMAXX provides long lasting performance, making it ideal for use on golf courses and other areas where frequent application isn't desirable. The reduced amount of active ingredient in UFLEXX provides a medium duration source of nitrogen, making it ideal for lawn care operators or in situations where more frequent application is needed.

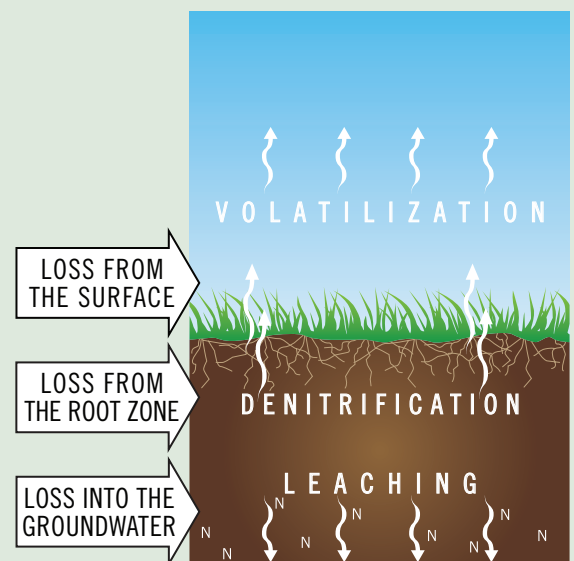
Both products keep nitrogen stable in the soil, ensuring it's available to plants. The result is consistent feeding with minimal flush growth and exceptional turf color and quality. And less nitrogen lost means up to 25% less nitrogen used\*, making UFLEXX and UMAXX better for the environment.

## WHERE DOES NITROGEN GO?

When other types of fertilizer are applied to the surface, nitrogen loss into the air begins immediately. This loss into the air, called volatilization, starts when urea (the source of nitrogen in fertilizer) comes in contact with a soil enzyme called urease and moisture. Urea breaks down, causing nitrogen to evaporate into the air.

Once urea is taken into the soil with moisture, and urease breaks it down, it can be lost through denitrification. This process transforms ammonium into other forms of nitrogen. Some of the nitrogen is lost as gas into the air, some is "tied up" in the soil (not in plant-available form), and some becomes nitrate to feed plants.

Nitrogen can also be lost to leaching, which occurs when nitrogen is washed out of the root zone, beyond the reach of plants. Sandy soils are more prone to this loss, but it can happen with heavy rain in other types of soil.



## COMPARING NITROGEN FERTILIZER OPTIONS.

	STABILIZED NITROGEN		QUICK RELEASE	SLOW OR CONTROLLED RELEASE		
	UFLEXX	UMAXX	UREA	PCU (POLYMER COATED UREA)	SCU (SULFUR COATED UREA)	REACTED/ LONG CHAIN
Nitrogen release mechanism	Natural soil chemistry – reliable	Natural soil chemistry – reliable	Quick breakdown due to soil microbes.	Requires specific soil moisture and temperature to release.	Coating flaws provide a quick release of N, while remaining N is eventually released through breakdown due to soil microbes.	Breakdown due to soil microbe activity.
Nitrogen %	46%	47%	46%	41%, 42% or 43%	38%, 39%, 43%	38%, 40%
Controls loss into air	<b>YES</b>	<b>YES</b>		<b>SOME</b>	<b>SOME</b>	<b>SOME</b>
Controls loss from the root zone	<b>YES</b>	<b>YES</b>		<b>YES</b>	<b>SOME</b>	<b>YES</b>
Protected against catastrophic nitrogen release due to coating failure	<b>YES</b>	<b>YES</b>	<b>YES</b>			
Less environmental impact	<b>YES</b>	<b>YES</b>		<b>YES</b>	<b>YES</b>	<b>YES</b>
Works in dry blends	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>
Can be used in liquid applications	<b>YES</b>	<b>YES</b>	<b>YES</b>			<b>SOME</b>
Minimizes mower pick up	<b>YES</b>	<b>YES</b>	<b>YES</b>			
Eliminates offsite movement (floating) due to heavy rain	<b>YES</b>	<b>YES</b>	<b>YES</b>			<b>YES</b>
Exceptional color response	<b>YES</b>	<b>YES</b>				
Steady growth rate	<b>YES</b>	<b>YES</b>		<b>YES</b>	<b>YES</b>	<b>YES</b>
Performs in a wide variety of soil temperatures	<b>YES</b>	<b>YES</b>	<b>YES</b>			
Eliminates flush growth/surges	<b>YES</b>	<b>YES</b>		<b>YES</b>	<b>SOME</b>	<b>YES</b>
Keeps nitrogen immediately and continuously available	<b>YES</b>	<b>YES</b>				

### GET THE UFLEXX AND UMAXX STABILIZED NITROGEN ADVANTAGE.

When you compare UFLEXX and UMAXX Stabilized Nitrogen to other nitrogen fertilizer options, the advantages are clear. Both deliver superior turf color and quality in a wide variety of soil temperatures. Both work in granular or liquid applications, so they can be incorporated into your current fertility program easily. And most importantly, both control post-application loss of nitrogen, so you save money and the environment by using up to 25% less\*.

So keep your business on track and your bottom line healthy, all while reducing environmental impact. Ask your distributor about the great value of UFLEXX and UMAXX or call 888-547-4140 today.

[www.agrotainturf.com](http://www.agrotainturf.com)

888-547-4140

\* Based on research at Ohio State University evaluating performance of Kentucky bluegrass 2008.  
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