

DEDICATED PEOPLE WHO CARE

ABOUT FARM FAMILIES
ABOUT THE ENVIRONMENT
ABOUT THE COMMUNITIES WE SERVE

509.397.4355
800.873.8666
www.mcgregor.com
PO Box 740
Colfax WA 99111



NEWS RELEASE

For Immediate Release

FALL-APPLIED NITROGEN FALLS SHORT OF WHEAT DEMANDS IN THE PNW

COLFAX, Wa. (September 01, 2020) –The unique growing environment of the PNW, paired with the highly mobile nature of nitrogen, poses significant and cascading challenges that are increasingly difficult to overcome if nitrogen investments are not adequately managed from the start. Holding nitrogen higher in the soil profile longer into the season is critical to better align peak nitrogen availability with the peak nitrogen demands of the crop. “The single largest driver we have to effect the *grains per head* yield component is aligning the crop’s nitrogen access with its demand curve for nitrogen,” says Cat Salois, Director of Research and Technology for The McGregor Company. This ultimately feeds the plant what it needs, when it needs it, and is vital to ensuring higher yields and strong economic benefit to growers.

Nitrogen impacts every growth stage of the plant’s lifecycle and each of the three yield components of cereal crops – *Heads per Acre*, *Grains per Head*, and *Weight per Grain*. Access to nitrogen early in the season drives tiller production (*Heads per Acre*), while nitrogen availability after flowering influences protein content and weight per grain. However, it is during stem elongation (when the *Grains per Head* yield component is determined) that wheat has the highest nitrogen demands at 4-5 pounds per day. In the Pacific Northwest, winter wheat stem elongation typically occurs well into the spring from late March to May. “The challenge we face is keeping our nitrogen investments high enough in the soil profile long enough to be accessible during the crop’s peak demand curve,” says Salois. “If those demands are not met, the plant will begin repartitioning nitrogen resources too early in the lifecycle – ultimately shortening the growth period and reducing yield potential.”

Cold soil temperatures slow the nitrogen movement, however, fall-applied nitrogen in the PNW means shanking in September when soil temperatures are warm and nitrification risk is high. “Fall nitrogen applications often start converting from immobile ammonium to mobile and leachable nitrate in the FALL,” notes Salois. “These applications tend to leach *below* the root zone by peak demand in the spring.” Conversely, spring top-dress applications have proven to be a risky strategy as well. “PNW soils not only stay cool well into spring, but we also contend with the unpredictable nature of spring incorporating rains,” observes Salois. “Often our spring nitrogen applications are still *above* the root zone during the crop’s peak demand periods.”

With fall-applied nitrogen availability peaking too early and spring-applied nitrogen availability peaking too late, Cat Salois and her team of research agronomists at The McGregor Company have aggressively focused their research around how to more effectively manage a soil profile with unpredictable spring moisture. “Research repeatedly shows that nitrogen stabilization products can significantly improve our

DEDICATED PEOPLE WHO CARE

ABOUT FARM FAMILIES
ABOUT THE ENVIRONMENT
ABOUT THE COMMUNITIES WE SERVE

509.397.4355
800.873.8666
www.mcgregor.com

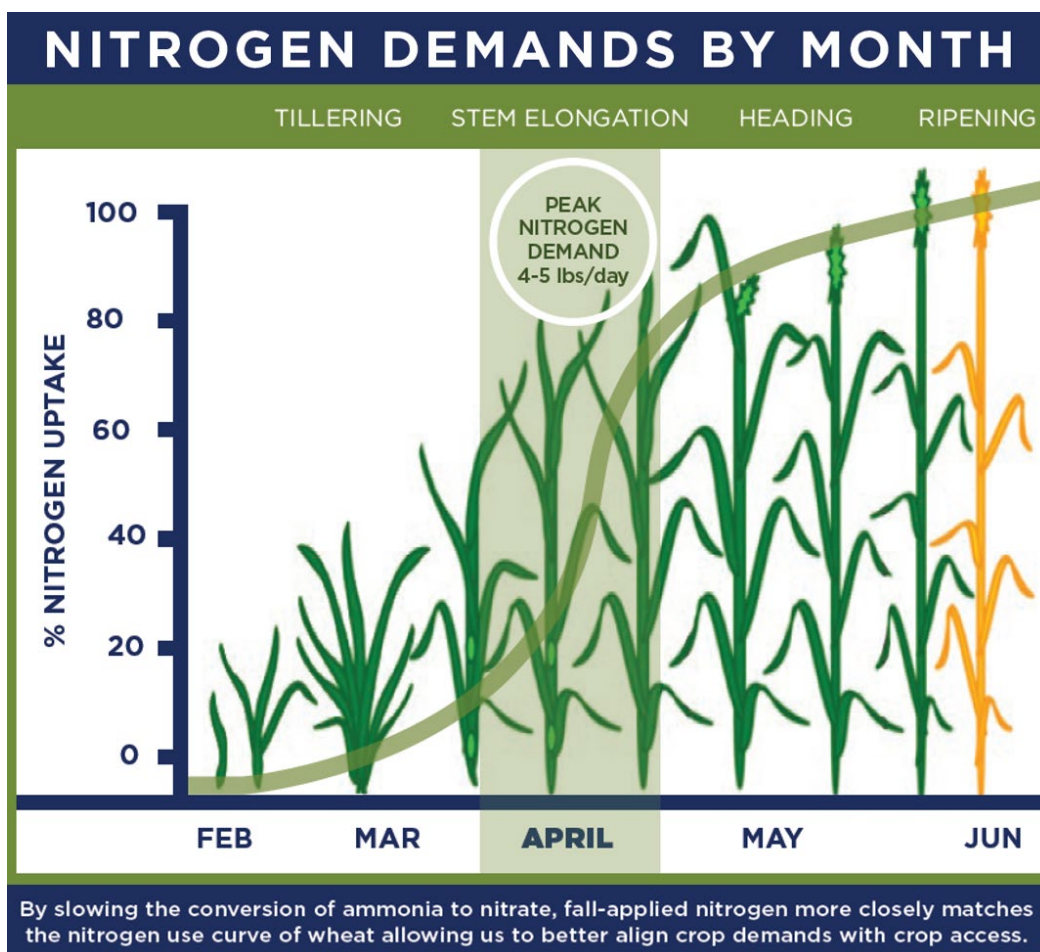
PO Box 740
Colfax WA 99111



ability to manage where the nitrogen is in our soil profile,” says Salois. “By slowing the conversion of ammonia to nitrate, fall-applied nitrogen more closely matches the nitrogen use curve of wheat allowing us to better align crop demands with crop access.”

Nitrification inhibiting products, such as *LockdownN* and *N-Serve*, target the enzyme produced by *Nitrosomonas* bacteria in the soil that is responsible for converting immobile ammonium to mobile nitrate. By controlling this enzyme, the nitrogen conversion process is slowed, the loss from leaching and denitrification is reduced, and the farm’s nitrogen investment is retained higher in the root zone longer into the season. “The use of nitrogen stabilizing products is the closest thing we have to slow-release nitrogen in our environment,” says Salois. “It allows the grower to more effectively keep nitrogen in the right place at the right time in order to better meet the plant’s demands throughout the growing season – maximizing grains per head, nitrogen use efficiency, and profitability on the farm.”

Establishing a strong nitrogen foundation in the fall is essential to season-long plant health and achieving optimal yield. For additional information on nitrogen stabilization, visit www.mcgregor.com or contact a McGregor Certified Crop Adviser at (509) 397-4355.



**DEDICATED PEOPLE
WHO CARE**

ABOUT FARM FAMILIES
ABOUT THE ENVIRONMENT
ABOUT THE COMMUNITIES WE SERVE

509.397.4355
800.873.8666
www.mcgregor.com
PO Box 740
Colfax WA 99111



###

MEDIA CONTACTS:

Cat Salois | 509.397.4355 | cat.salois@mcgregor.com
Ryan Tippett | 509.397.4355 | ryan.tippett@mcgregor.com
Kayla Almond | 509.397.4355 | kayla.almond@mcgregor.com