Understanding How Enhanced Efficiency Fertilizers Support 4R Nutrient Stewardship

4R Nutrient Stewardship was first introduced into the agricultural market and is endorsed by many within the fertilizer industry. Initially promoting ag-based best management practices (or BMPs), this initiative now helps turfgrass managers meet their objectives of efficient and responsible nutrient management.

Farm Fields to Turfgrass

The 4R initiative is comprised of four principles: the **Right fertilizer source**, applied at the **Right rate**, at the **Right time** and in the **Right place**. These principles advocate BMPs such as optimizing nutrient uptake, minimizing loss to the environment and complying with applicable regulations and statutes.

4 nutrient stewardship PARTNER

Enhancing the 4R Principles

Incorporating enhanced efficiency technologies into your fertilization program can make it easier to put these principles into practice. There are controlled-release, slow-release and stabilized nitrogen technologies available to effectively meet site-specific conditions and turfgrass requirements—and knowing how to properly utilize these technologies can help you benefit from the following 4R principles.

The 4R approach is endorsed and supported by the International Plant Nutrition Institute, The Fertilizer Institute, The Canadian Fertilizer Institute and the International Fertilizer Industry Association.

Right Source.

Enhanced efficiency fertilizers (EEFs) are more effective in matching nutrient delivery with turfgrass demand, compared to non-amended urea sources.

ADVANTAGE:

- More of the nutrition you apply is taken up by the turfgrass, which helps to optimize your fertilizer investment.

Right Rate.

EEFs can be applied at higher rates because they can extend the longevity of nutrient availability.

ADVANTAGES:

- Fewer applications are needed to maintain turfgrass health and appearance.
- Nitrogen use can be reduced by up to 40% over the growing season compared to quick-release, non-amended sources.
- It is important to match application rate with product longevity so that adequate nutrition remains available to the plant.

Right Time.

Soil temperature and microbial activity are key factors that regulate how and when EEFs release nutrition, so season of application is an important consideration.

ADVANTAGES:

- You can better match nutrient availability with turfgrass demand based on climate and changing weather conditions.
- Provides a solution for state or local regulations and fertilizer blackout periods.

Right Place.

EEFs provide options to meet specific turfgrass nutritional needs on steep slopes, near water, in sandy soils and in soggy or drought-prone areas.

ADVANTAGE:

- Maximizing turfgrass uptake promotes healthy growth, while minimizing potential nutrient losses, especially in difficult-to-fertilize or environmentally sensitive locations.

The Key Takeaway

Remember that the 4R principles are all interrelated. How they are implemented at the local level depends on site-specific factors, like soil type, turf species, growing seasons and climate conditions. You have the opportunity to utilize these principles with EEFs to responsibly improve nutrient use efficiency. That's not only better for the turfgrass and your bottom line, it's A Better Way to Fertilize.™