# GAL-Xe<sup>ONE®</sup> CONTROLLED-RELEASE TECHNOLOGY

## WHAT IS CONTROLLED-RELEASE?

Polymer Coated Fertilizers (PCF), such as BEST®'s own GAL-Xe<sup>ONE®</sup>, are advanced, controlled-release fertilizers specifically designed to meet the precise feeding requirements of turfgrasses and plants. These technologies feature an ultra-thin polymer coating to gradually provide a complete and precise release of nutrients. The products have an extremely tough, durable coating to withstand fracturing, even during severe handling, blending, or application operations. There is no premature release due to fractured coatings and no hot water insolubles remaining unreleased. Just controlled, complete release when needed.

# **HOW DOES GAL-Xe<sup>ONE®</sup> TECHNOLOGY WORK?**

PCFs such as GAL-Xe<sup>ONE®</sup> release nutrients by osmotic diffusion - the constant, gradual diffusion of nutrients through the polymer coating. The thickness of the applied coating controls the rate of osmotic diffusion. Osmotic diffusion rates increase as soil temperatures increase and decrease. The osmotic release mechanism is essentially unaffected by varying amounts of soil moisture, microbes, or pH levels, assuring a more predictable release pattern.

# RELEASE BY OSMOTIC DIFFUSION



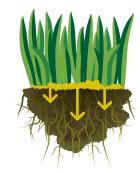
#### **Moisture Absorption**

Within a week of application, the polymer coating allows soil moisture in, which activates encapsulated nutrients but doesn't release them.



#### **Nutrient Diffusion**

Over the next several months, the membrane slowly releases dissolved nutrients through osmotic diffusion, only when triggered by soil temperature.



### **Polymer Decomposition**

After complete release of nutrients, the polymer coating microbially decomposes into naturally occurring soil elements.

## **WORLD CLASS FERTILIZER PERFORMANCE**

Simplot GAL-Xe<sup>ONE®</sup> uses patented technology developed with NASA to provide a controlled-release fertilizer with advanced polymer coating technology. The proprietary reactive layer coating, created with support from NASA's Space Alliance Technology Outreach Program, uses cross-link polymers that provide a nutrient boost up front, followed by controlled release.



