35th ANNIVERSARY

FERTILIZERS GROW: heavy grades to polymers

Turfgrass nutrition has gone from agricultural products to sulfur-coated ureas to polymer coats.

by EUGENE MAYER/The Scotts Company

Fertilizer is widely used by people growing any type of plant material, including turfgrasses and ornamentals. Like other items we frequently come in contact with, it's often taken for granted. Fertilizer users recognize the various types such as soluble, ag grade, organic, blended, homogeneous, and slow release. Slow- or controlled-released types indicate technologies such as methylene urea, ureaform, IBDU, SCU, and, recently, polymer-coated.

Few products to use in 1960

Do we remember (possibly a few do) or do we understand that there was a time when the fertilizers that we take for granted today were not available for us to manage plant growth and health? Time marches quite rapidly, but as recently as 35 years go many of the fertilizer technologies we routinely use were only just becoming commercialized or were not even on the drawing boards. In the early 1960s and before, the most readily available forms were agricultural-grade heavyweight fertilizers that were of poor physical quality and, with the slightest misapplication, prone to burn and even kill the plant. The only safe and slow-release fertilizers were the natural organics such as manures, animal by-products, and grain meals. These generally were difficult to handle, had a strong, unpleasant odor, were not easily accessible, and did not deliver good value for the consumer.

As other technologies have been invented or improved over the past few years, so have fertilizer technologies. Ureaform and methylene ureas were first manufactured for commercial use in the late 1950s and early 1960s. This itself brought on a revolution in fertilizer technology for the homeowner as well as the professional. It provided for lightweight fertilizer plus controlled or slow release, which would provide spoon speeding and predictable response rate to the plant.

Methylene urea arrives

One of the most memorable experiences of my younger years was working in Scotts' fertilizer plant when the first bag of homogeneous, lightweight, high-analysis methylene urea turfgrass fertilizer was produced on a commercial scale. There was only one product, and this served the homeowner as well as the professional. Today there are many choices based on plant needs, both for the homeowner and the professional user.

Easier as tech improves

Other slow-release fertilizer types were soon to follow. IBDU was released in the mid 1960s, as was the first polymer-coated fertilizer, Osmocote. The sulfur-coated ureas started to surface on a commercial scale in the late 1970s and early 1980s. The polymer-coated fertilizers were at a standstill until the early 1990s, when new polymer coatings were developed that were more acceptable for turfgrass growth. These are now widely used in the turfgrass and ornamental industry.

What is in store for the 21st Century? New and better technology, I am sure, for research on plant nutrition and improved fertilizer efficiency continues at a feverish pace by industry, government agencies and universities. This builds on what has transpired over history and the last 35 years.

—Eugene Mayer is manager, training & technical support, The Scotts Company.