

Slow release fertilizer technology:

Slow release fertilizers achieve slow release statics by a number of mechanisms. The release rate of the active ingredient is important in controlling the growth rate of the turf and may have other benefits as well (e.g., organic matter).

Slow release can be achieved by a fertilizer carrier which needs to be altered in the soil to make it available for turfgrass roots to absorb it. This includes methylene urea. The longer the molecule of methylene used, the slower the release rate.

Urea formaldehyde (UF) must also go through chemical change in the soil before the nitrogen is available to the plant. Therefore, UF is also a slow release fertilizer.

The other way slow release can be achieved is by providing a physical and/or chemical barrier in place for slowing down the release of the nitrogen inside the fertilizer prill. Sulphur coated urea is one example. Both the particle size of the prill and the size of the pores (cracks in the prill) affect the rate of release, and thus control the rate of availability. Larger pore size and smaller prill size increase the release while larger prill size and smaller pore size (cracks) slow down the release.

Even newer, is the coating of fertilizer pellets with plastic. The plastic thickness (and breakdown of it) and type of plastic used controls the rate of release. There are even products that contain both a plastic coating on top of sulphur coating.

Slow release fertilizers have simple special considerations you need to make before deciding on their use. Large amounts of products can be applied at one application, since some fractional proportion of the total nitrogen will be available at any one time. The potential advantage is even growth, with less numbers of field applications. There is nothing to say that slow release forms cannot be supplemental with an initial or supplemental “quick release application”. In other words, one does not exclude the other. Listed below are general characteristics of nitrogen carriers. This is one of the important first steps in what you need to know about successful and responsible nitrogen management for turf.