

## Late spring lawn fertilization 5/18/17

Late spring can be a great time to fertilize cool-season lawns with nitrogen. In early spring, lawn species like Kentucky bluegrass, tall fescue, and perennial ryegrass bolt out of the ground. For this reason, we do not recommend fertilizing lawns in March or April. Many homeowners, however, do apply fertilizer with crabgrass pre-emergence herbicide combination product during these months. That causes the turf to grow more rapidly and it makes it nearly impossible to keep up with spring mowing.

An alternative approach is to apply a stand-alone PRE in early April and then apply nitrogen fertilizer in late May to early June. A combo product can also be appropriate in mid to late-May (minding annual maximum herbicide restrictions). We recommend nitrogen fertilizer this time of year because the soils are starting to warm up. This energizes soil microbes, which steal nitrogen fertilizer from the turfgrass. Later in the summer, other microbes will start to break down organic matter, which will free nitrogen fertilizer for fertilizer uptake. The period from late spring to early summer is a point where turfgrass managers need to supplement the grass with nitrogen fertilizer.

We suggest homeowners use a fertilizer that is roughly 50% slow-release nitrogen. It usually requires a little digging to figure out how much nitrogen is slow-release and how much is quick release. The most obvious numbers on a fertilizer bag represent the percentage of nitrogen, phosphorus (as  $P_2O_5$ ) and potassium (as  $K_2O$ ) in the bag. The latter two numbers are really unimportant for most established lawns because phosphorus and potassium are rarely deficient. Look deeper on the fertilizer label and you'll likely find a part that says the percentage of water-soluble nitrogen (WSN) and water-insoluble nitrogen (WIN) in the bag. Alternative labels to WSN would include ammoniacal or urea nitrogen. Water-soluble nitrogen is generally considered "quick" release while water-insoluble nitrogen is generally considered "slow" release. There are exceptions of course. Some bag may even have a line that says the percent of slow-release nitrogen in the bag. It can be a bit confusing, honestly.

Here's an example. If the fertilizer grade is 32-0-4, this means that 32% of the bag's weight is nitrogen and 4% is  $K_2O$  (potassium or potash). The important part is to look at the different forms of nitrogen. It says that 5.4% of the bag is from ammonium, 19.8% is from urea, 6.3% from other water-soluble sources, and 0.5% is from water insoluble nitrogen sources. At a quick glance, it seems that 31.5% of the 32% nitrogen is WSN, so this fertilizer would be 98.4% quick-release. In actuality, 5.7% of the other WSN is derived from slower release nitrogen sources, so this fertilizer would actually be 82.2% quick release.

Clearly, it typically isn't very easy to figure out if a fertilizer is quick or slow release. It is important, however, because quick release fertilizers will promote rapid green-up, but the effect won't last very long. The majority of quick release fertilizer will typically last for three to six weeks. Fertilizers with roughly half-quick and half-slow release nitrogen will promote quick green up, which will last for six to ten weeks (depending on the source). Fertilizers with a majority of slow release nitrogen will be slow to promote green up, but will can add nitrogen to the system for months to years.

Adding a balanced nitrogen fertilizer (roughly half quick/slow nitrogen) will provide nitrogen to satisfy the growing microbe populations in late-spring and provide even nitrogen fertilizer into the summer.

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