

Laura Phillips  
District Extension Agent, Horticulture

### **Spring Lawn Fertilization**

As our lawns turn green and start growing, many people wonder when to fertilize their turf grass and what fertilizer to use. Properly timed fertilizers can go a long way in improving your lawn, but incorrectly applied fertilizer is a waste of money and can cause problems for your grass.

There are three main nutrients we add to our lawns: nitrogen, phosphorus, and potassium. Our turfgrass uses up nitrogen but does not add nitrogen back into the soil. While most Kansas turfgrass species can survive on relatively low amounts of nitrogen, they will benefit from a yearly addition of nitrogen. Grass will use phosphorus and potassium, but at much slower rates. You should only add phosphorus and potassium to your lawn when a soil test shows the levels are below optimal.

How much nitrogen you need in a year will depend on the type of grass you have and what quality of lawn you want. For example, zoysia grass needs around 2 pounds of nitrogen per 1,000 square feet for a high-quality lawn, whereas tall fescue will need between 3 and 4 pounds of nitrogen per 1,000 square feet. Usually, you apply only 1 pound per 1,000 square feet at a time. Too much nitrogen at once can cause chemical burn on your grass. A slow-release nitrogen fertilizer is much less likely to burn your lawn.

It is important to note that 1 pound of nitrogen does not equate to 1 pound of fertilizer. Fertilizer bags have a label with three numbers separated by dashes. This tells you what percent of that bag is nitrogen, phosphorus, and potassium respectively. So, a fertilizer with 24-4-6 contains 24% nitrogen, 4% phosphate, and 6% potassium. It would take 4.2 pounds of a 24-4-6 fertilizer to get 1 pound of nitrogen. The back of the package should have instructions on how much fertilizer to use, but you can also find online fertilizer calculators to help you determine application rates.

For nitrogen fertilizer to work, it needs to be properly timed. The rule of thumb is to fertilize when the grass is actively growing. For warm season grasses, like zoysia or Bermuda, can be fertilized anytime past May 15<sup>th</sup> and before August 15<sup>th</sup>. If you fertilize too early, you will mainly be helping the cool-season weeds take over. If you fertilize too late in the season, it will encourage new growth that will be susceptible to damage from colder fall temperatures.

For a cool-season lawn, the timing is nearly opposite. Cool-season lawns can benefit from up to three, spaced-out nitrogen applications. If you are going to do any fertilizing, the most important time to apply nitrogen for a cool-season lawn is in September. This will help promote a healthy root system and encourage a thicker stand of grass. You can fertilize again in November to help the grass build up food reserves for the winter.

You can fertilize a cool-season lawn a third time in Spring, but not until early May. When cool-season grass experiences its first flush of growth in the spring, adding nitrogen can cause it to grow too fast and exhaust its food reserves - which it will need to survive our hot summers. It is best to use a slow-release fertilizer for a May application to provide more controlled growth as summer approaches.

If you have any questions on fertilizing your lawn, you can contact me for more guidance. You can also find K-State's publication "Fertilizing Lawns in Kansas" online for free.