

Fertility Management of Cool Season Forages

January, February, and early March *always* give us a fertilization window for our cool season forage species. Except for 2019, that is. Mother Nature is working overtime this spring to keep field work at bay, and that means that some of our brome and fescue hay fields or pastures have yet to receive fertilizer. What's that mean for 2019 forage production?

For starters, let's not disregard the effect that weather will have on this year's crop. 2018 served as a great example of what happens when we go directly from winter to summer. Cool season grasses prefer temperatures ranging from the 40's to the mid-70's. Optimum growth occurs in that window. If the time frame for growth in that temperature window is reduced, growth may be compromised as well. When temperatures consistently reach the upper end of that temperature spectrum, cool season species tend to move towards reproduction, reducing the vegetative growth we prefer for higher yields. Fertilizer rate/timing/etc... won't change what conditions our weather from this point provides us.

Research in Kansas indicates that good yields can occur from fertilizer applications even in to late March or early April. Again, temperature has a lot to do with how well that holds true, but in general, even later fertilizer applications can result in good yields. That said, the highest yields generally result from fall applications over spring. Fall applications of nitrogen and phosphorous stimulate root growth and produce more tiller buds that result in more stems (and higher yields) the following spring. Spring applications might result in an increased protein level (if harvest is timely), but yields are generally lower when compared to fall applications.

While we're on the topic of fertility, production losses tend to be 'blamed' on the nitrogen component of the fertility program, when other nutrients may well be the culprit. Cool season forages require about 12 pounds of phosphorous and around 40 pounds of potassium per ton of hay per acre. Soil test results would suggest that phosphorous has been deficient in many of our hay stands for years with potassium becoming a greater concern. Don't forget these important nutrients as well.

While there's reason to be *concerned* about the window of opportunity we have for applying fertilizer to our cool season grass stands, there's no need to panic – yet. Think of your forage production potential as a wooden barrel with every stave of that barrel representing the factors affecting production. Temperature, water, nitrogen, phosphorous, potassium, cutting height, harvest timing, etc... are all staves of that barrel. If any one of them is compromised (and we haven't

even discussed pH levels...or weed control...or...), forage production can be sacrificed as well. Our best bet at this point is to do the best we can to continue to implement best management practices so that we can optimize production as we move forward.