

THE FORAGER

Agronomics with livestock in mind!

Manure Applications to Forage Stands

With the wet conditions in many areas during September, and the current spell of drying weather in others, the short forage supply due to late spring planting and the drought of 2011, along with extremely high prices, many producers have taken a final harvest of grass and alfalfa forage crops. Maximizing a forage supply will be extremely important this year due to tight supplies and high prices for replacement forages. This is likely to impact many producers. Be sure to use or recommend forage analysis on all forages in a farm on a frequent basis during the coming feedout period.

With late-season harvest for many forage stands, this can provide an opportunity to empty manure pits and provide the current and future crop with needed nutrients for next year. Alfalfa and forage grasses are heavy consumers of soil nutrients. Book values for nutrient *removal* by alfalfa, for instance are 50 lbs Nitrogen (N), 15 lbs Phosphorus (P) and 50 lbs Potassium (K); Orchardgrass removes 50 lbs N, 17 lbs P and 62 lbs K; and Timothy removes 38 lbs N, 14 lbs P and 62 lbs K - all based on a per ton of dry matter. A typical five (5) ton/acre/year alfalfa crop removes 250 lbs N, 75 lbs P and 250 lbs K, while a four (4) ton orchardgrass harvest removes 200 lbs N, 68 lbs P and 248 lbs K. Without close monitoring with soil test reports or fertilizer budgets, soil fertility levels can be dramatically lowered during a four to six year life span for many fields.

Fall or winter applications of manure to forage stands can be used to [help] meet the high demands of forage nutrients if some agronomic and environmental considerations are kept in mind. The challenges of manure applications to forages are related to soil and stand conditions. Fall/winter manure applications are a great time to address P and K levels. They also save time in the spring, when soils also tend to be wetter. Manure applications this time of year can also help root development before winter dormancy and help spring growth get started. Weed scientists report less weed stimulation from fall manure applications compared to spring applications.

Wheel traffic can cause surface and deep compaction when soil conditions are not fit. Over the lifespan of the stand this compaction can lead to reduced water infiltration and decreased surface and deep root development. Injury to the developing shoots and the crowns can also lead to reduced stands. Drag line

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manure applications can also injure shoots and crowns. Using flotation tires and smaller loads can reduce these effects but staying off poor soil conditions is important. Environmentally, fall/winter manure applications can lead to a greater risk of runoff. Applications made to forage stands will limit this risk compared to applications to corn silage fields, where there is little resistance to runoff. Another risk more common in wetter areas is infiltration into tile lines. Producers should be aware of field conditions when applying manure at any time of the year. Liquid manure is preferable to bedded pack manure, when being applied to forage fields. Smothering of the crop and the potential for picking up manure clumps next spring may increase with bedded pack manure. A typical rate of 3000 gal/acre of liquid manure in the fall will be adequate. Priority for manure applications should be older grass stands first, followed by the oldest alfalfa stands and then younger stands last. Make sure producers know that they need to stay out of waterways and 100 feet away from streams. This is becoming more and more of a concern, with the advancement of nutrient management planning and certification requirements. Check crop records and soil test reports to closely monitor soil nutrient levels. It is still possible to take advantage of fall and winter weather to address nutrient needs and distribute manure to targeted areas.

(Edited from an article in by Paul H. Craig, PSU Extension – Field Crop News)

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