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Hay & Grazing Management- Back to Basics

by

The Augusta Co-Op Agronomy Team

Current Situation

With high input costs and volatile agricultural prices, it is difficult to plan and be relatively certain of ending a production year with a profit. However, there are some very basic facts about hay and pasture management that are research based and documented by years of success and data.

What we wish to accomplish with this fact sheet is to review these fundamental tools for a successful 2009 production year and beyond.



Start with a Soil Test

Soil Tests for pasture and hay fields should be pulled every three years. Then, the crop inputs applied versus the yields removed should be monitored in between soil samples. Augusta Co-Op's staff of field representatives can assist with this task.

Set Production Goals

Not every farmer has the same production goals! Dairy farmers may have a 6 Ton/acre hay crop goal while other livestock farmers may only have a 3-4 Ton/acre goal. Input requirements vary significantly for each ton of forage harvested per acre.

Hay Crop/Pasture Fertilizer Removal Rates (lbs/ton)

Crop	N	P ₂ O ₅	K ₂ O	Mg
Alfalfa	60	15	60	5
Red Clover	56	13	45	6
Grass Hay	45	12	50	5
Grass Pasture	60	5	17	2

The table above is an illustration of the amount of nutrients removed per ton of a forage crop. Simply multiply your yield goal times the pounds removed per ton to know how much nutrient needs to be available to the plants. Please note for pastures, less nutrients are physically removed because of the natural recycling of nutrients.

Some amount of the nutrient may already be naturally present in the soil. You must also factor in the amount of nutrients that may be added by regular applications of manure or sludge to your field(s). Starting with this bank of nutrients already present, additional fertilizer inputs may need to be added to meet plant nutritional needs.

If your soil tests indicate "above optimum" for P or K, then less fertilizer inputs need to be applied.

If your soil tests indicate "below optimum", then more fertilizer inputs need to be applied.

It is critical to meet plant nutrient needs each year. If plant nutrient needs are not met, you will begin to "mine" the nutrients out of the soil. As you "mine" nutrients, this will reduce yields in 2009 and future years.

How do you make nutrients more available to plants?

1. Apply Lime First based on soil test results

Getting fields to the proper pH level is the critical first step in maximizing forage production. **Why?** The soil pH in a range of 6.2-6.5 for most crops allows the soil to make more available to the crop the macro, secondary, and micro nutrients needed. Lime should be applied 4-6 months ahead of the growing season. **Why?** It takes a while for the lime to begin neutralizing the soil.

2. N, P, and K fertilizer applications based on the legume component of a field

This is the second step once your pH is correct. Depending on your farm management preference, two applications of N per year allow the most efficient use of N in a grass hay field. One scenario might be to apply N before the first & second cuttings and to apply P & K in the fall. Another scenario might be to apply N, P & K in the spring before the first cutting and to apply N right after the first cutting to promote growth for a second cutting.

For pasture fields, you may want to consider a N application in early spring and a N application in August to stockpile fall forage.

For fields with a strong legume base, focus more on fall applications of P & K as well as magnesium and sulfur nutrient levels.

Other Forage Production Tips

Infuse Legumes Into Grass Meadows

To offset some costs for N in grass fields, include some legumes in the forage mix. For dairy farmers, that usually means alfalfa. For other livestock producers, clovers can fix enough N to support good yields of grass hay or pasture.

Cutting Height and Crop Rest

Remember, all plants are small factories that need the right infrastructure to produce forage efficiently. That simply means that the plant needs to regenerate after each cutting or grazing. To do this, the plant needs 2-3 inches of "green" leaf still available to kick start the production line - plus 4 weeks of rest to rebuild the production inventory (i.e. grass).

So raise the discbine cutting height and don't overgraze! This is a fundamental forage production practice. By not following these guidelines, it may cost at least one cutting per year or half the production potential of a pasture. It will also raise production costs because the hay or pasture field will need to be re-established with new seeding more often.

Variety Selection

When the need to establish new forage seedings occurs, be sure to contact your Augusta Co-Op field representative or local store. They will assist you in selecting the best type of forage variety to meet your forage production goals. Augusta Co-Op markets high quality seeds. These seed varieties have excelled in forage research trials and deliver high yields in a variety of conditions. These seeds help farmers reach the production and profit goals of their farm.

