Spring Pasture Management: Weeds & Fertility

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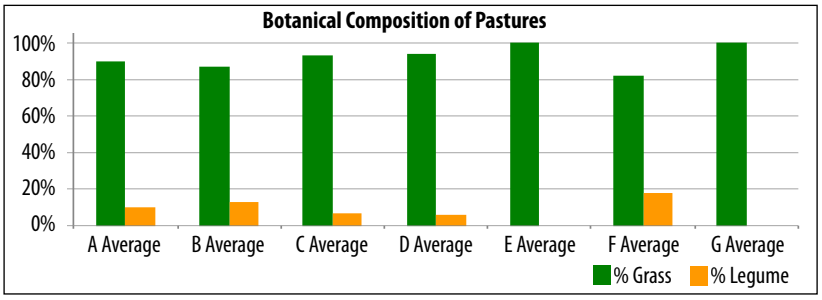
As spring approaches, the challenge for planted pastures is to effectively tackle two key areas: weed control and pasture fertility. Trying to be proactive, some farmers may be fertilizing too soon with the goal of increasing nutrients "to choke" some of the weeds. However, weed control needs to come first no matter the scale of the task. Weeds are also plants that benefit from fertilizer application. If the weed problem is a small one, addressing it early will likely require fewer resources and avoid complications and extra costs that come with large-size weed populations. Once the weeds are in check, the next step is to boost fertility.

The first move toward addressing weed control and pasture fertility is to do a diagnosis. The goal of the pasture diagnosis is to check soil nutrient status and check for the presence of weeds (type and % of each) and botanical composition of the pasture (% grass, % legume, % bare soil). Diagnosis of pasture composition and presence of weeds needs to wait until there is some green-up early in spring. Steps toward soil fertility diagnosis can be taken early.

While you wait for green-up, you can soil test. If you do not have fall soil test results, take a soil sample as soon as the weather allows, even before noticeable plant growth. A small investment in soil testing (~$10-15/sample) will actually save you money from applying unneeded nutrients. A basic soil test will provide information about pH and basic nutrients like N, P, and K. Also check micronutrient levels if you have never done it or if it has been several years. Knowing your soil pH is part of your pasture fertility management and is critical because it controls the availability of nutrients in the soil and microbial interactions which are key to legume production. Soil micronutrients, like vitamins for us, are needed in very small amounts but they are essential for many plant functions.

Lack of fertility in a pasture leads to minimum growth of existing species. In many cases, the lack of growth is confused with the need to renovate the pasture. Figure 1 shows a diagnosis done on several pastures used for dairy production that had not received proper fertilization. After doing an early soil test and determining botanical composition last year, pastures were found to be very low in K, and also low in some micronutrients, all associated with the low clover presence where several years earlier legumes thrived. Before making a major decision such as partial or total renovation, check fertility status and make sure the lack of growth is not due to deficient nutrients in the soil. Once the soil nutrient status is known, take action.

Figure 1. Botanical composition of seven different paddocks, all part of the grazing rotation in a dairy heifer module. The paddocks, 4 acres in size, were: A. Bromegrass & red clover; B. Orchardgrass; C. Meadow fescue and red clover; D. Festulolium, timothy & white clover; E. Tall fescue; F&G. Bromegrass and white clover. Notice the low legume percentage, which is below the target 30%. This low legume presence as well as the low biomass yield was associated with very low soil potassium and boron.



Control weeds prior to fertilizer application, and then lime/fertilize according to soil test results as soon as possible. Plant response to nutrient deficiency may not be noticeable right way. Early weed control cannot be emphasized enough. Weeds can be controlled in many different ways, chemically or mechanically. Spray foliar herbicides or apply them to cut stems (chemically, if non-organic), burn, hand-pull, dig, or mow (mechanically, most likely if organic). Control needs to be timed to the biology of the weeds.

According to life cycle, weeds can be classified into:

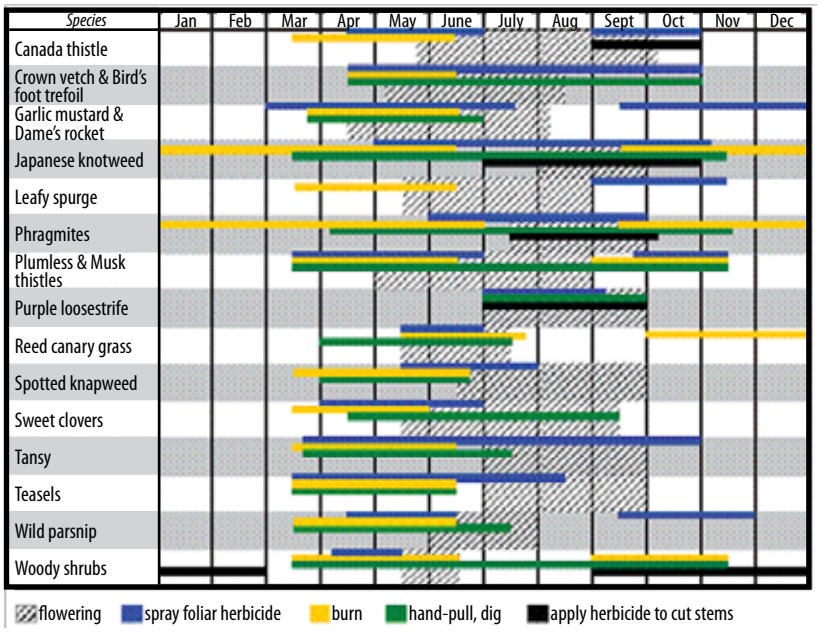
a. Annuals. These weeds grow from seed each year. Examples are pigweed, wild oats, and foxtail.

b. Biennials. These plants need two years to complete the life cycle. In year 1, they grow from seed (in the spring), develop a rosette, and in year 2, they flower, set seed, and die. Examples are bull thistle, burdock, and mullein.

c. Perennials. These weeds live more than two years. They propagate from seeds and have structures like stolons, also known as 'runners' or above-ground stems; and rhizomes, which are below-ground stems. Examples are Canada thistle, Johnsongrass, and field bindweed.

Most methods target control before flowering of the weed and are species-specific. Notice in Figure 2 the listing of the weeds in the first column, and how the method of control is dependent on weed type. This is why it is important to do a diagnosis of the weeds present and the amount. The more you know the weed target of control, the better prepared you will be to control it.

Figure 2. Suggested timing of control for select weed/species in southern Wisconsin.



Note: These times become later as you move north or for areas near the Great Lakes.