Pasture Management for Weed Control

**Nitrogen recommendations for dryland pastures and haylands in Nebraska.**

<table>
<thead>
<tr>
<th>Zone</th>
<th>Pasture</th>
<th>Hayland</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>80–120</td>
<td>60–90</td>
</tr>
<tr>
<td>II</td>
<td>50–80</td>
<td>40–75</td>
</tr>
<tr>
<td>III</td>
<td>40–60</td>
<td>25–50</td>
</tr>
<tr>
<td>IV</td>
<td>20–40</td>
<td>10–30</td>
</tr>
</tbody>
</table>

*Use the higher rate when a full profile of subsoil moisture is present.

**Fertilization**
Fertilizer can be used to increase the production of your grass, which may also increase the competition for weeds. The cost of fertilizer, value of hay or pasture and the plant species response to fertilizer are all important considerations when deciding whether or not to apply it. The risk of changes in hay value, rainfall timing and amount and the yield response to the fertilizer may not be worth the money spent to apply the fertilizer.

**Herbicide Control**
If your operation is not conducive for rotational grazing, herbicide applications may be the best option. October and early to mid-June are usually the two most effective times to control most perennial weeds, such as thistles. Products like Grazon®, Forefront®, Curtaill, Milestone® and 2,4-D (among others) have been shown to successfully control annual and perennial broadleaf weeds. The fall is also a great time for thistle control. Pastures that had thistles earlier this year, most likely have small seedlings this fall. They will be small and a flat, rosette growth form. At this growth stage, thistles are very sensitive to certain herbicides, making October and early November one of the best times to use herbicides. The herbicides listed above will provide adequate control for thistles. No matter which herbicide you use, be sure to read and follow label instructions.

When to Fertilize
Supplemental fertilization is most beneficial during periods of maximum plant growth. The ideal time to fertilize is in the spring, just after trees have fully leafed out. This allows trees to maximize the amount of fertilizer taken up by the roots and the growing tree. Bodily plants take up nutrients through their root systems and, in most cases, respond best to soil applications of fertilizers.

Fall applications, once leaf drop begins and before the ground freezes, are the second best time to fertilize, however, considerable amounts of nitrogen may be lost to leaching during the winter months. Do not apply fertilizer to frozen soil.

Do not apply fertilizer:
- In late summer, August and September, which may promote growth flushes that are very succulent and could be easily damaged by the freezing temperatures of early autumn.
- During the first year for newly transplanted trees, since this can create an unbalanced leaf-to-root ratio.
- For large transplanted trees, it is best to wait several seasons for the roots to develop before fertilizing.

What Nutrients are Needed?

- **Nebraska soils typically have high levels of phosphorus and potassium, so additional fertilization with these nutrients is seldom needed.** If a soil analysis indicates the phosphorus level is less than 6 ppm (Bray #1) or 4 ppm (sodium bicarbonate) or potassium is below the range of 75 ppm (extractable K), then applications of one or both of these to bring the nutrients to these respective levels would be beneficial for tree and shrub growth.

- **Nitrogen** is the most frequently-limiting nutrient for plant growth, but completing a soil test to determine existing nutrient levels is a good idea before additional fertilizer is applied.

- Phosphorus and nitrogen runoff are frequent polluters of lakes, ponds and streams. Many states restrict the use of phosphorus in landscape fertilizers for this reason.

- **Calculating the Amount of Nitrogen Fertilizer Needed**
First, determine the number of square feet under the tree's canopy. Next, the actual pounds of fertilizer product to be applied is calculated based on the product's nitrogen concentration. Recommended rates are 1.5 lb of actual nitrogen or 1 lb of actual phosphorus per 1,000 square feet of area under the tree's drip line or a shrub's base.

- **For large transplanted trees, it is best to wait several seasons for the roots to develop before fertilizing.**

**Making Applications**
Due to the potential damage to grass under trees when making granular fertilizer applications, do not exceed 1.5 lb of actual nitrogen per 1,000 square feet of ground area per application. This will reduce the risk of “burning” the grass.

Fertilizer can be applied with a spreader calibrated to apply the recommended amount. Start 2–3 feet from the trunk and move outward in concentric circles until you reach 2–3 feet beyond the drip line (end of branches). Care should be taken to avoid overlapping your circles. Immediately irrigate to move fertilizer into the soil profile.

Fertilizer spikes are a convenient and simple way to apply fertilizer, and can be effective if used in sufficient quantities. However, they are a more expensive alternative when compared to granular fertilizer.