Prescription for Producing Ten Tons of Alfalfa per Acre

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Alfalfa, long recognized as the 'queen of forages' for livestock feed on farms where produced, has surfaced as a cash crop for Indiana. As a result of research at the Normandy Farm near Indianapolis, we are now able to 'write a prescription' for producing 8-10 tons of alfalfa-grass hay per acre. That's 3000 pounds of crude protein! Here is that prescription:

1. Select a deep, well-drained soil, and lime it at least 6 months prior to seeding to raise the pH to 6.8.

2. Prior to or at time of seeding, fertilize according to soil test (see Table 1). If band seeding, the K₂O rate should not exceed 100 pounds per acre to avoid fertilizer burn.

3. Prepare a fine, firm seedbed, using a culti-mulcher or corrugated roller.

4. Seed 10-12 pounds of a recognized high-yielding, disease-resistant alfalfa variety with 2-3 pounds of a proven orchardgrass variety per acre. If a pure alfalfa stand is preferred, increase the rate to 12-15 pounds per acre. Be sure to inoculate the alfalfa seed if not pre-inoculated.

5. Seed as early as possible in the spring, using a band- or roller-type seeder; a band seeder is preferred if soil is low in phosphorus.

6. Control weeds. For pure alfalfa without a companion crop, Eptam 7E or Balan can be applied pre-plant and incorporated into the soil. For an alfalfa-grass mixture, 2,4-DB can be applied about 1 month after seeding to control broadleafed weeds. (For the latest information on weed control in forages and proper herbicide use, see Purdue Extension Publication ID-1, "Weeding with Chemicals," available from your county Cooperative Extension Service office.)

7. Take the first cutting of alfalfa in the early bloom stage (60-70 days after seeding) and subsequent cuttings every 30-35 days thereafter. In following years, make the first harvest in the late bud stage (about May 20) and every 30-35 days thereafter.

8. Maintain this 30-35 day harvest schedule as closely as possible. This means being prepared to harvest any particular cutting as low-moisture silage, if weather is unfavorable for hay-making.

9. The alfalfa weevil, meadow spittlebug and potato leafhopper can significantly reduce both the yield and quality of alfalfa if not controlled. The weevil and spittlebug attack the first cutting, while the leafhopper attacks the second, third and fourth cuttings. (For current information on their detection and control, see publications E-28, "The Meadow Spittle-

<table>
<thead>
<tr>
<th>Soil test</th>
<th>Fertilizer required*</th>
<th>P₂O₅</th>
<th>K₂O**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level</td>
<td>P</td>
<td>K</td>
<td>lbs./acre</td>
</tr>
<tr>
<td>Very low</td>
<td>0-10</td>
<td>0-80</td>
<td>230</td>
</tr>
<tr>
<td>Low</td>
<td>11-20</td>
<td>81-150</td>
<td>190</td>
</tr>
<tr>
<td>Medium</td>
<td>21-30</td>
<td>151-210</td>
<td>150</td>
</tr>
<tr>
<td>High</td>
<td>31-70</td>
<td>211-300</td>
<td>110</td>
</tr>
<tr>
<td>Very high</td>
<td>71+</td>
<td>310+</td>
<td>40</td>
</tr>
</tbody>
</table>

*Assumes removal is directly proportional to yield with no change in rate of soil release.
**If band seeding, K₂O rate should not exceed 100 pounds per acre.

10. Timing of the September cutting is critical in determining the longevity of an alfalfa stand. This cutting should be made during the first week of September in northern Indiana, during the second week in the central part, and during the third week in southern Indiana.

11. A final harvest can be taken in late October when growth has stopped and the temperature drops to 24°F or below, killing the leaves. The best way to harvest is to graze lightly or cut high for silage, because drying conditions are generally poor for making hay at this time. Also, a high stubble insulates the crowns, collects snow and helps prevent ice sheet damage.

12. Maintain the stand by fertilizing annually with 150 pounds of P₂O₅ and 600 pounds of K₂O per acre. Application rates, especially for potash, should be split and applied immediately after the May and September cuttings. Where boron is deficient, apply 2 pounds per acre annually either in a mixed fertilizer or as borax (20-30 pounds per acre).