Establishing Clovers and Other Forage Legumes for Livestock Grazing

Planting clover and other forage legumes can be very beneficial to livestock producers across the state of Texas. Forage legumes not only provide forage for livestock, but also help to improve soil quality. The type of legume to be planted will vary according to the part of the state in which you are located as well as the management system (grazing or hay production) that will be used. Soil type and pH are also major factors in determining species and varieties of legumes to be planted. The seeding rate will vary according to the variety, but can vary from as little as three pounds per acre to as much as thirty pounds per acre.

Some guidelines for establishment of forage legumes are:

**When to Plant**
- The planting date for most forage legumes is mid-September through October on prepared seedbeds. Over-seeding should be done in October and early November. Remember that late November plantings can be risky in some areas because of cold temperatures.

**Preparation**
- A soil sample should always be taken at least three or more months prior to planting. The soil test report will help to determine which varieties are suitable for the soil type and will also help you to determine if additional fertilizer and other soil amendments are needed. If the soil analysis recommends applying lime, it should be applied at least three months before planting the clover.
When purchasing seed, it is preferred to buy seed that has been germination tested. If the germination rate is less than 75% you should increase the recommended seeding rate for that variety of legume.

Legumes perform best when there is a well prepared seedbed. The seedbed should be smooth and firm.

**Planting**

Proper inoculation of legume seed immediately before planting is very important. Inoculation allows Rhizobium bacteria in the inoculants to form nodules on the roots. The Rhizobium bacterium lives in these nodules. The bacterium removes nitrogen from the air and stores it in these nodules. The nitrogen is released when the plant root die and decay. The nitrogen is then available as a fertilizer source for summer forages.

Some legumes now come pre-inoculated and coated. Check with the seed supplier to see if you need to inoculate the seed or if it is pre-inoculated.

Seed should be planted at a depth of 1/4 to 3/4 of an inch. This may require some special equipment. When the equipment is not available, broadcasting is also an option. In either case, the soil should be rolled or packed following planting to assure proper soil contact with the small seed.

<table>
<thead>
<tr>
<th>Forage Species</th>
<th>Seeding Rates (lbs./acre)</th>
<th>Soil pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arrowleaf</td>
<td>8 - 10</td>
<td>Less than 7</td>
</tr>
<tr>
<td>Ball</td>
<td>2 - 3</td>
<td>Less than 7</td>
</tr>
<tr>
<td>Berseem</td>
<td>12 - 16</td>
<td>Greater than 7</td>
</tr>
<tr>
<td>Crimson</td>
<td>16 - 20</td>
<td>Less than 7</td>
</tr>
<tr>
<td>Vetch</td>
<td>35 - 45</td>
<td>Greater than 7</td>
</tr>
<tr>
<td>Red</td>
<td>10 - 12</td>
<td>Less than 7</td>
</tr>
<tr>
<td>Rose</td>
<td>12 - 16</td>
<td>Wide Range (adapted above and below 7)</td>
</tr>
<tr>
<td>Subterranean</td>
<td>16 - 20</td>
<td>Less than 7</td>
</tr>
<tr>
<td>White</td>
<td>3 - 4</td>
<td>Less than 7</td>
</tr>
</tbody>
</table>

**Weed Control**

A well established and maintained forage legume pasture can generally compete with many weed seedlings. However, if pastures are not well maintained and the stand begins to decline due to over grazing or weather related conditions, weeds may gradually invade pastures.

Routinely mow the pasture to keep developing weeds at bay. This is especially beneficial once livestock have been removed from the pasture.
Mow or use an herbicide treatment to control weeds in bordering pastures.

Mow or use an herbicide treatment to control weeds along fence rows that border legume pastures.

Work closely with your local Extension agent or agricultural chemical representative for selective herbicides that can be used to control weeds in legumes at various stages.

Use with other Winter Forages

You can over-seed your clover seed along with ryegrass and small grains. This practice is commonly used for winter grazing programs.

Prior to planting, excess grass should be removed by either grazing the area with livestock or removing it for hay.

Planting can be done by using a sod seeding drill or by lightly disking and broadcasting the seed.

Dragging or rolling the pasture following the over-seeding will assure good contact between the soil and the seed.
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