Growing Big Trefoil for Forage

Area of Adaption

Big trefoil (Lotus pedunculatus, Lotus uliginosus, Lotus major) is well adapted to poorly drained, acid soils and is more tolerant of wet conditions than birdsfoot trefoil (Lotus corniculatus). It will tolerate standing water and flooded areas and can be found growing in drainage ditches that carry water all winter. Big trefoil is grown primarily along the Atlantic and Gulf coasts. In Oregon, it also may be grown in cool, upland areas with high rainfall, but is restricted to use in western Oregon because it lacks the winter hardiness required by conditions in the eastern part of the state.

Primary Use

Big trefoil can be used as a companion legume to reed canarygrass, meadow foxtail, or tall fescue on poorly drained pasture land. Although primarily suited to high rainfall areas, big trefoil can be used in wet, seepy areas where rainfall is less than 40 inches.

Varieties

Marshfield is a relatively new variety and produces well in western Oregon. Columbia and Beaver are older varieties and seed is likely unavailable. “Common” big trefoil is available from some suppliers.

Establishment

A good seedbed is necessary because trefoils have low seedling vigor. Seed should be planted no deeper than ½ inch after inoculation with the correct bacteria. Big trefoil requires its own specific bacteria and will not become nodulated with cultures used for birdsfoot trefoil or other legumes. Big trefoil should be planted in the spring as soon as a seedbed can be prepared. In areas where it cannot be drilled, big trefoil can be established by surface sowing in March. Late summer plantings are less satisfactory because big trefoil usually is planted in areas with poor winter drainage and the plants may not be well established. For best seedling establishment, broadcast or drill seeding should be followed by using a corrugated roller.

<table>
<thead>
<tr>
<th>Use</th>
<th>Precipitation</th>
<th>Big trefoil seeding rate</th>
<th>Companion species</th>
<th>Companion species seeding rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inches</td>
<td>Lbs/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pasture</td>
<td>40-60</td>
<td>2</td>
<td>Tall fescue</td>
<td>15</td>
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<tr>
<td>or hay</td>
<td></td>
<td>2</td>
<td>Meadow foxtail</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>Reed canarygrass*</td>
<td>10</td>
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* Reed canarygrass must be kept below 1 foot in height by grazing to prevent it from taking over the big trefoil.
Fertility and pH Requirements

Big trefoil will tolerate acid soil conditions and low fertility. However, improved production will be obtained by adequate levels of phosphorus (70 lbs/A of \( \text{P}_2\text{O}_5 \)).

Management

Big trefoil, a non-bloating legume, is more tolerant of grazing than birdsfoot trefoil because of the presence of rhizomes. It should not be grazed closer than 2 to 4 inches, and a 4-week recovery period should be used to ensure a long-lived stand.

The nutritional value of big trefoil is similar to that of birdsfoot trefoil and alfalfa. However, when grown on nonirrigated or drier sites, big trefoil is less productive than birdsfoot trefoil because of its shallower root system.

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