Alabama Planting Guide for Forage Legumes

Many factors influence successful forage production, but establishment of the crop is a key to profitability. It is essential to choose the appropriate crop species for the needed yield, quality, and persistence.

It is then critical to choose a variety that is recommended for one’s area. (Find more information on which forage species is appropriate for the need and a list of recommended varieties for the selected species at www.alabamaforages.com.)

Attention to other factors that affect successful stand establishment and yield is also important. Select high-quality seed that meets or exceeds recommended levels of germination, purity, and weed seed contamination. Ensure that the seed is planted at the right rate, depth, and time of the year. Additionally, ensure that seeding method and planting environment are appropriate to the species too. Also ensure that the seed is either pre-inoculated or that it is inoculated with the correct inoculant group.

The planting operation is when producers most often make yield-reducing mistakes, so take time to minimize these errors. This planting guide has been developed to help producers in establishing most forage legumes commonly grown in Alabama. Information provided about a given forage species is not necessarily a recommendation to grow that species but rather is for information only. Some commonly grown forage legumes are not recommended by Auburn University. Some varieties of given species may also produce well in certain areas while others may not. This guide simply offers the information needed to have the best chance of establishing a forage legume species, if a producer so chooses.

Five Steps to Higher Yields and More Profit

1. Test
   - the soil to determine nutrient needs. (Send soil samples to be analyzed at a certified diagnostic lab, such as the Soil, Forage, and Water Testing Laboratory at Auburn University.)
   - Apply lime and fertilizer at levels appropriate to soil test result recommendations.

2. Seed
   - with good, high-quality seed and good seeding techniques.
   - with certified seed for added assurance of high seed quality.
   - with treated seed, when possible, to protect against insect pests and disease.
   - with inoculants specific to the legume being planted.

3. Plant
   - with a goal of perfect stands!
   - at the proper depth in a properly prepared seedbed or no-till environment.
   - at the proper time, when soil temperature is adequate and moisture is appropriate.
   - at the correct seeding rate per acre.

4. Manage
   - for high yields!
   - pests (weeds, insects, and diseases) to ensure that the plant is competitive in establishing and maintaining a good stand.
   - to maintain proper soil fertility throughout the life of the stand.
   - grazing to best utilize forage potential.

5. Harvest
   - for high-quality yields!
   - at the right time.
   - with appropriate equipment that has been properly adjusted.

Exercise good handling and storage techniques to protect forage quality.
## Alabama Planting Guide for Forage Legumes

### Alfalfa

**Growth Habit:** Warm-season perennial  
**Area:** N, C, S  
**Soils:** Well drained, fertile, deep; pH 6.5–7.0  
**Seeding Rate (lb/A) Pure Live Seed:** D: 18–25 B: 20–25  
**Seeding Depth (inches):** 0–¼  
**Planting Dates:** N = Aug. 15–Oct. 1; C = Sept. 1–Oct. 1; S = Oct. 1–Nov. 1  
**Seed Quality Germ. % (Minimum):** 80  
**Seed Quality Purity % (Minimum):** 99  
**Weed Seed % (Maximum):** 0.50  
**Seed/Pound:** 227,000  
**Inoculant Group:** Alfalfa  
**Special Notes:** Avoid soils where subsoil pH is greater than 5.5, for greater chance of stand success and longevity.

### Alyceclover

**Growth Habit:** Warm-season annual  
**Area:** S  
**Soils:** Well drained, fertile; pH 6.5–7.0  
**Seeding Rate (lb/A) Pure Live Seed:** B: 15–20  
**Seeding Depth (inches):** ¼–½  
**Planting Dates:** S: May 15–July 15  
**Seed Quality Germ. % (Minimum):** 85  
**Seed Quality Purity % (Minimum):** 98  
**Weed Seed % (Maximum):** 0.25  
**Seed/Pound:** 300,000  
**Inoculant Group:** Cowpea  
**Special Notes:** Grows best in the Gulf Coast area with high summer rains.

### Annual Lespedeza (Striate and Korean)

**Growth Habit:** Warm-season annual  
**Area:** N, C  
**Soils:** Avoid lime soils of the Black Belt; pH 5.8–6.5  
**Seeding Rate (lb/A) Pure Live Seed:** B: 25–35  
**Seeding Depth (inches):** ¼–½  
**Planting Dates:** Feb. 15–Apr. 11  
**Seed Quality Germ. % (Minimum):** 85  
**Seed Quality Purity % (Minimum):** 99  
**Weed Seed % (Maximum):** 0.50  
**Seed/Pound:** 230,000 to 240,000  
**Inoculant Group:** Cowpea  
**Special Notes:** High nutritive quality, low yield.

### Arrowleaf Clover

**Growth Habit:** Cool-season annual  
**Area:** N, C, S  
**Soils:** Well drained, medium to high fertility; pH 5.8–7.0  
**Seeding Rate (lb/A) Pure Live Seed:** B: 5–10  
**Seeding Depth (inches):** 0 –¼  
**Planting Dates:** N: Aug. 25–Oct. 1 C: Sept. 1–Oct. 15 S: Sept. 15–Nov. 1  
**Seed Quality Germ. % (Minimum):** 85  
**Seed Quality Purity % (Minimum):** 99  
**Weed Seed % (Maximum):** 0.50  
**Seed/Pound:** 400,000  
**Inoculant Group:** Clover  
**Special Notes:** Overseeded 3–5 weeks later.
### Ball Clover

**Growth Habit:** Cool-season annual  
**Area:** N,C,S  
**Soils:** Sandy loam to clay pH 5.8–7.0  
**Seeding Rate (lb/A) Pure Live Seed:** B: 3–5  
**Seeding Depth (inches):** 0–¼  
**Planting Dates:** Sept.–Oct.  
**Seed Quality Germ. % (Minimum):** 85  
**Seed Quality Purity % (Minimum):** 95  
**Weed Seed % (Maximum):** 0.30  
**Seed/Pound:** 1,000,000  
**Inoculant Group:** Clover  
**Special Notes:** Tolerates wet soils. Will germinate at lower temperatures than most annual clovers.

### Berseem Clover

**Growth Habit:** Cool-season annual  
**Area:** S  
**Soils:** Poorly drained, loam to clay loam; pH 5.8–8.0  
**Seeding Rate (lb/A) Pure Live Seed:** B: 20–25 D: 15–18  
**Seeding Depth (inches):** ¼–½  
**Planting Dates:** S: Oct. 1–Nov. 15  
**Seed Quality Germ. % (Minimum):** 85  
**Seed Quality Purity % (Minimum):** 98  
**Weed Seed % (Maximum):** 0.50  
**Seed/Pound:** 207,000  
**Inoculant Group:** Clover  
**Special Notes:** Well suited for non-acid Black Belt soils and in high rainfall areas near the Gulf Coast.

### Birdsfoot Trefoil

**Growth Habit:** Warm-season perennial  
**Area:** N,C  
**Soils:** Well drained, productive; pH 6.5–7.0  
**Seeding Rate (lb/A) Pure Live Seed:** Alone: B: 8–10 Mix: B: 4–5  
**Seeding Depth (inches):** 0–¼  
**Planting Dates:** Sept.–Oct.  
**Seed Quality Germ. % (Minimum):** 80  
**Seed Quality Purity % (Minimum):** 99  
**Weed Seed % (Maximum):** 0.50  
**Seed/Pound:** 370,000  
**Inoculant Group:** Trefoil  
**Special Notes:** Will not compete with bahiagrass or bermudagrass. Reseeds under proper management.

### Black Medic

**Growth Habit:** Cool-season annual  
**Area:** Black Belt  
**Soils:** Lime soils; pH of 6.5–7.5  
**Seeding Rate (lb/A) Pure Live Seed:** B: 10–12  
**Seeding Depth (inches):** 0–¼  
**Planting Dates:** Sept.–Oct.  
**Seed Quality Germ. % (Minimum):** 80  
**Seed Quality Purity % (Minimum):** 95  
**Weed Seed % (Maximum):** 0.30  
**Seed/Pound:** 266,000  
**Inoculant Group:** Alfalfa  
**Special Notes:** Can be grazed in pastures in the Black Belt Region. Not recommended for hay production.
<table>
<thead>
<tr>
<th>Forage Legume</th>
<th>Growth Habit</th>
<th>Area</th>
<th>Soils</th>
<th>Seeding Rate (lb/A) Pure Live Seed</th>
<th>Seeding Depth (inches)</th>
<th>Planting Dates</th>
<th>Seed Quality Germ. % (Minimum)</th>
<th>Seed Quality Purity % (Minimum)</th>
<th>Weed Seed % (Maximum)</th>
<th>Seed/Pound</th>
<th>Inoculant Group</th>
<th>Special Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Lupine</td>
<td>Cool-season annual</td>
<td>S</td>
<td>Well drained; pH 5.8–67.5</td>
<td>B: 100–120 D: 50–75</td>
<td>1½</td>
<td>Sept. 15–Nov. 1</td>
<td>80</td>
<td>98</td>
<td>0.30</td>
<td>3,500</td>
<td>Lupine</td>
<td>If fertilized, does well on sandy soils. Sweet varieties utilized for grazing.</td>
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</tr>
<tr>
<td>Brassicas (rape, kale, turnip, canola)</td>
<td>Cool-season annual Brassica</td>
<td>N,C,S</td>
<td>Well drained, productive; pH 5.8–7.0</td>
<td>B: 8–10 D: 5–8</td>
<td>0–½</td>
<td>Feb.–Mar. Sept.–Oct.</td>
<td>85</td>
<td>99</td>
<td>0.20</td>
<td>156,000</td>
<td>--</td>
<td>Not a legume. Primarily used for soil improvement and spring hog grazing.</td>
</tr>
<tr>
<td>Caley Peas</td>
<td>Cool-season annual</td>
<td>Black Belt</td>
<td>All Black Belt soil; pH 5.8–7.0</td>
<td>B: 50–55</td>
<td>½–1</td>
<td>Sept. 1–Oct. 15</td>
<td>80</td>
<td>95</td>
<td>0.20</td>
<td>18,000</td>
<td>Pea and Vetch</td>
<td>Good at reseeding. Grows on soils too wet for most clovers on both acid and calcereous soils.</td>
</tr>
<tr>
<td>Chicory, Forage</td>
<td>Perennial Forb</td>
<td>N,C</td>
<td>Moderately well drained; pH 5.8–8.0</td>
<td>Alone: D:4–5 Mix: D: 2–3</td>
<td>¼–½</td>
<td>Aug.–Oct. 15</td>
<td>65</td>
<td>N.D.</td>
<td>0.50</td>
<td>426,000</td>
<td>--</td>
<td>Not a legume. High nutritive quality and very palatable.</td>
</tr>
</tbody>
</table>
### Common Vetch

<table>
<thead>
<tr>
<th>Growth Habit: Cool-season annual</th>
<th>Area: N,C,S</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soils: Well drained, sand, loam, clay; pH 5.8–8.0</td>
<td></td>
</tr>
<tr>
<td>Seeding Rate (lb/A) Pure Live Seed: B: 30–40</td>
<td></td>
</tr>
<tr>
<td>Seeding Depth (inches): 1–2</td>
<td></td>
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<tr>
<td>Planting Dates: N: Sept. 1–Oct. 15 C: Sept. 1–Oct. 15 S: Sept. 15–Nov. 15</td>
<td></td>
</tr>
<tr>
<td>Seed Quality Germ. % (Minimum): 80</td>
<td></td>
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<tr>
<td>Seed Quality Purity % (Minimum): 98</td>
<td></td>
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<tr>
<td>Weed Seed % (Maximum): 0.10</td>
<td></td>
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<tr>
<td>Seed/Pound: 8,000</td>
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<tr>
<td>Inoculant Group: Pea and vetch</td>
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<tr>
<td>Special Notes: Vetch/small grain mix: B: 20–30 lb of vetch, with 60–90 lbs of small grain per acre.</td>
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</tbody>
</table>

### Cowpeas

<table>
<thead>
<tr>
<th>Growth Habit: Warm-season annual</th>
<th>Area: N,C,S</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soils: Well drained, fertile; pH 5.8–6.5</td>
<td></td>
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<tr>
<td>Seeding Rate (lb/A) Pure Live Seed: R: 30–40 B: 100–120</td>
<td></td>
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<tr>
<td>Seeding Depth (inches): 1–3</td>
<td></td>
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<tr>
<td>Planting Dates: May 1–Jun. 15</td>
<td></td>
</tr>
<tr>
<td>Seed Quality Germ. % (Minimum): 80</td>
<td></td>
</tr>
<tr>
<td>Seed Quality Purity % (Minimum): 98</td>
<td></td>
</tr>
<tr>
<td>Weed Seed % (Maximum): 0.25</td>
<td></td>
</tr>
<tr>
<td>Seed/Pound: 4,000</td>
<td></td>
</tr>
<tr>
<td>Inoculant Group: Cowpea</td>
<td></td>
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<tr>
<td>Special Notes: Most commonly used for soil improvement and wildlife plantings.</td>
<td></td>
</tr>
</tbody>
</table>

### Crimson Clover

<table>
<thead>
<tr>
<th>Growth Habit: Cool-season annual</th>
<th>Area: N, C, S</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soils: Well drained; pH 5.8–7.0</td>
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</tr>
<tr>
<td>Seeding Rate (lb/A) Pure Live Seed: B: 20–30</td>
<td></td>
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<tr>
<td>Seeding Depth (inches): ¼–½</td>
<td></td>
</tr>
<tr>
<td>Seed Quality Germ. % (Minimum): 85</td>
<td></td>
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<tr>
<td>Seed Quality Purity % (Minimum): 99</td>
<td></td>
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<tr>
<td>Weed Seed % (Maximum): 0.50</td>
<td></td>
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<tr>
<td>Seed/Pound: 150,000</td>
<td></td>
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<tr>
<td>Inoculant Group: Clover</td>
<td></td>
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<tr>
<td>Special Notes: Overseeded: 3–5 weeks later. Avoid lime soils.</td>
<td></td>
</tr>
</tbody>
</table>

### Crownvetch

<table>
<thead>
<tr>
<th>Growth Habit: Cool-season perennial</th>
<th>Area: N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soils: Well drained; pH 5.8–6.5</td>
<td></td>
</tr>
<tr>
<td>Seeding Rate (lb/A) Pure Live Seed: B: 8–10</td>
<td></td>
</tr>
<tr>
<td>Seeding Depth (inches): ¼–½</td>
<td></td>
</tr>
<tr>
<td>Seed Quality Germ. % (Minimum): 65</td>
<td></td>
</tr>
<tr>
<td>Seed Quality Purity % (Minimum): 95</td>
<td></td>
</tr>
<tr>
<td>Weed Seed % (Maximum): 0.50</td>
<td></td>
</tr>
<tr>
<td>Seed/Pound: 242,500</td>
<td></td>
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<tr>
<td>Inoculant Group: Crownvetch</td>
<td></td>
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<tr>
<td>Special Notes: Conservation is the primary usage. Slow to establish, but provides good cover.</td>
<td></td>
</tr>
</tbody>
</table>
### Alabama Planning Guide for Forage Legumes

**Hairy Vetch**

**Growth Habit:** Cool-season annual  
**Area:** N, C, S  
**Soils:** Well drained, sand, loam, clay; pH 5.8–8.0  
**Seeding Rate (lb/A) Pure Live Seed:** B: 20–25  
**Seeding Depth (inches):** 1–2  
**Planting Dates:** N, C: Sept. 1–Oct. 15  
S: Sept. 15–Nov. 1  
**Seed Quality Germ. % (Minimum):** 80  
**Seed Quality Purity % (Minimum):** 98  
**Weed Seed % (Maximum):** 0.10  
**Seed/Pound:** 16,000  
**Inoculant Group:** Pea and vetch  
**Special Notes:** Vetch/small grain mix: B: 18–20 lb of vetch, with 60–90 lbs of small grain per acre.

### Perennial Peanut

**Growth Habit:** Warm-season perennial  
**Area:** S  
**Soils:** Well drained, sandy; pH 5.8–7.5  
**Seeding Rate (lb/A) Pure Live Seed:** Rhizomes: 80 to 120 bu/A  
**Seeding Depth (inches):** 1–2  
**Planting Dates:** S: Dec. 1 - Mar. 1  
**Seed Quality Germ. % (Minimum):** Use fresh, live, certified sprigs.  
**Seed Quality Purity % (Minimum):** Use fresh, live, certified sprigs.  
**Weed Seed % (Maximum):** Use fresh, live, certified sprigs.  
**Seed/Pound:** Rhizomes  
**Inoculant Group:**  
**Special Notes:** Will not tolerate poor drainage.  
Best adapted to the southern one third of Alabama.

### Red Clover

**Growth Habit:** Cool-season biennial  
**Area:** N, C, S  
**Soils:** Well drained, fertile; pH 6.0–8.0  
**Seeding Rate (lb/A) Pure Live Seed:** B: 12–15 D: 8–10  
**Seeding Depth (inches):** $\frac{1}{4}$–$\frac{1}{2}$  
**Planting Dates:** N,C: Sept. 15–Nov. 15 --OR-- Feb. 1–Apr. 1  
S: Sept. 15–Nov. 15  
**Seed Quality Germ. % (Minimum):** 85  
**Seed Quality Purity % (Minimum):** 98  
**Weed Seed % (Maximum):** 0.50  
**Seed/Pound:** 272,000  
**Inoculant Group:** Clover  
**Special Notes:** Persistence is typically 2–3 years, excellent for use in mixed pastures for grazing.

### Sericea Lespedeza

**Growth Habit:** Warm-season perennial  
**Area:** N,C,S  
**Soils:** Well drained, moist (avoid lime soils); pH 5.8–6.5  
**Seeding Rate (lb/A) Pure Live Seed:** B: 15–20 B: 20–30 (if no herbicide)  
**Seeding Depth (inches):** $\frac{1}{4}$–$\frac{1}{2}$  
**Planting Dates:** N: Mar. 15–May 15 --OR-- Jun. 15–July 15  
C: Mar. 1–May 1  
S: Feb. 1–May 1  
**Seed Quality Germ. % (Minimum):** 85  
**Seed Quality Purity % (Minimum):** 99  
**Weed Seed % (Maximum):** 0.50  
**Seed/Pound:** 372,000  
**Inoculant Group:** Cowpea  
**Special Notes:** Use certified, hulled seed.
### Soybeans

**Growth Habit:** Warm-season annual  
**Area:** N, C, S  
**Soils:** Deep loam, bottoms; pH 5.8–6.5  
**Seeding Rate (lb/A) Pure Live Seed:** D: 60–100  
**Seeding Depth (inches):** 1–3  
**Planting Dates:** N: May 1–May 30; C: May 1–May 30; S: Before June 15  
**Seed Quality Germ. % (Minimum):** 80  
**Seed Quality Purity % (Minimum):** 98  
**Weed Seed % (Maximum):** 0.10  
**Seed/Pound:** Variable  
**Inoculant Group:** Soybean  
**Special Notes:** Tolerates drought when grown for forage. Short grazing season with no substantial regrowth.

### Subterranean Clover

**Growth Habit:** Cool-season annual  
**Area:** C, S  
**Soils:** Well drained, productive; pH 5.8–7.3  
**Seeding Rate (lb/A) Pure Live Seed:** B: 8–10  
**Seeding Depth (inches):** ¼–½  
**Planting Dates:** C, S: Sept.–Oct.  
**Seed Quality Germ. % (Minimum):** 85  
**Seed Quality Purity % (Minimum):** 99  
**Weed Seed % (Maximum):** 0.05  
**Seed/Pound:** 54,000  
**Inoculant Group:** Clover  
**Special Notes:** Good reseeding potential. Lower yielding than crimson or arrowleaf clover.

### Sweetclover

**Growth Habit:** Cool-season annual or biennial  
**Area:** Black Belt  
**Soils:** Lime soils of the Black Belt; pH 6.5–7.0  
**Seeding Rate (lb/A) Pure Live Seed:** B: 12–15  
**Seeding Depth (inches):** ¼–½  
**Planting Dates:** Sept.–Oct.  
**Seed Quality Germ. % (Minimum):** 80  
**Seed Quality Purity % (Minimum):** 99  
**Weed Seed % (Maximum):** 0.50  
**Seed/Pound:** 259,000  
**Inoculant Group:** Alfalfa  
**Special Notes:** Drought tolerant, winter hardy. Will not tolerate soil acidity.

### White/Ladino Clover

**Growth Habit:** Cool-season perennial  
**Area:** N, C, S  
**Soils:** Moist bottoms and productive uplands; pH 6.0–7.5  
**Seeding Rate (lb/A) Pure Live Seed:** B: 2–3  
**Seeding Depth (inches):** 0–¼  
**Planting Dates:** N, C: Sept.–Oct. --OR-- Feb. 1–Apr. 1; S: Sept. 15–Nov. 15  
**Seed Quality Germ. % (Minimum):** 85  
**Seed Quality Purity % (Minimum):** 99  
**Weed Seed % (Maximum):** 0.50  
**Seed/Pound:** 768,000  
**Inoculant Group:** Clover  
**Special Notes:** Commonly used seeded into established cool-season grass pastures.

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PLS—Pure Live Seed  
N.D.—No Data to Support a Recommendation  
B—Broadcast  
D—Drill  
R—Rows

When buying inoculants, be sure that the legume species you want to plant is listed on the package. All inoculants are not created equal and are species specific. Apply fungicide/fertilizer or other seed treatments at least 48 hours before planting; inoculate at planting. Remember (1) not to inoculate and treat legumes with fungicides at the same time, and (2) not to inoculate legume seed with fertilizer. Note: Presented pH values are a range and may not represent the ideal pH of planting.
Revised by Katie Mason, Graduate Research Assistant; Leanne Dillard, Extension Specialist, Assistant Professor; and Kim Mullenix, Extension Specialist, Assistant Professor, all in Animal Sciences at Auburn University. Donald M. Ball, Professor Emeritus and former Extension Agronomist.

For more information, contact your county Extension office. Visit www.aces.edu/directory.

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