

## Winter Pasture Establishment in Warm-Season Perennial Grass Pastures Overton Research Center Tech Report 2021-3

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Warm-season perennial grasses (WSPG) are the primary forages grown for both pasture and hay in the subtropical climate of east Texas and the US southern region. Forty million acres of WSPG in this region currently support about 5 million cattle or 15% of total US cattle. Soils are generally sandy, acidic and infertile, and average annual rainfall ranges from 45 to 55 inches. Rainfall is evenly distributed throughout the year, but with reduced amounts in late summer and early fall. The introduced, tropical perennial grasses, bermudagrass (*Cynodon dactylon* [L.] Pers.) and bahia grass (*Paspalum notatum* Flugge), are dormant at least five months of the year from about mid-November to late-March. Clovers (*Trifolium* spp.), annual ryegrass (*Lolium multiflorum* Lam.) and small grains are often overseeded into these WSPG sods to extend the grazing period. Winter pasture establishment is a critical phase of this forage system and must occur during the early fall months (Sept-Oct) when rainfall is variable and temperatures are shifting from hot to cool.

**Planning.** Consider your options and make decisions as early as possible on the following: forage species and cultivars to plant; how many acres and where; soil amendments needed (lime and/or fertilizer); and planting methods.

**Soil Testing.** If you have had a soil test in the past 12 months, then additional testing may not be required. A soil test taken in the early spring will provide information on pH and available plant nutrients for both the WSPG and fall planted annual forages. On sandy, acid soils pay special attention to soil pH and liming requirements. Warm season perennial grasses are generally less sensitive to acid soil pH than ryegrass or clovers. For best results with overseeded ryegrass and annual clovers, the soil pH should be no lower than 6.0. Acid soils in combination with high soil aluminum can cause seedling death, stunting, and poor root growth for many winter annual clovers and ryegrass. Additional information on soil testing is available from Texas A&M AgriLife Extension Service Soil, Water and Forage Testing Laboratory (<http://soiltesting.tamu.edu>).

**Timing, Timing, Timing and Luck.** In theory, the perfect overseeded winter pasture species or mix would germinate and start rapid growth exactly when we had squeezed the very last grazing day or hay harvest out of our WSPG. And, they would continue to provide winter forage until the exact moment in March or early April when the WSPG started rapid growth. This 'perfect' species or mix in combination with WSPG would then provide year round grazing and of course produce excess forage to be harvested for hay. While the plant breeders are working overtime to

develop this ‘perfect’ winter pasture species, we must depend on our best judgements and hope for ‘good luck’ with the weather and our timing choices.

Wishful thinking aside, we have to balance the management of WSPG with the timing of planting and winter pasture species choices to optimize livestock production from the pasture and forage system.

### **Basic Principles for Overseeded Winter Pasture Establishment**

- Use soil testing to determine fertilizer and lime requirements.
- Plant winter pasture species and cultivars that are best adapted to your region, soil type and production system objectives. See ‘Forage Legumes for Texas 2020’ in this proceedings. For ryegrass and small grain information see the following web sites. (<http://Overton.tamu.edu>) and (<http://varietytesting.tamu.edu>). Take note of seed tags for information on species, cultivar, germination and weed seed contamination.
- Reduce competition from existing warm season perennial grasses. Planting into a grass stubble taller than 2 inches will reduce establishment success. Reduce stubble height by hay harvest, grazing, and timing of planting. Early to mid-October is usually a good fall planting date target in northeast Texas.
- Ensure good seed to soil contact. Heavy thatch (dead grass and stems) buildup on the soil surface will cause problems with forage legume and ryegrass establishment. Light disking before planting will encourage decomposition of thatch and expose soil.
- Use appropriate seeding rates for the forage species. See following website for more seeding rates: (<http://aggieclover.tamu.edu>).
  - Ryegrass                      25 to 40 lbs/ac
  - Forage rye                    100 lbs/ac
  - Crimson clover              20 lbs/ac
  - Arrowleaf clover          10 lbs/ac
  - White clover                4 lbs/ac
- Match planting methods to forage species. Both clover and ryegrass can be planted with success by broadcasting over the sod with careful attention for seed to have soil contact. A no-till pasture drill will allow more precise seed placement and improve establishment relative to broadcasting over the sod. Small grain establishment will require deeper seed placement (1 to 1.5 inches) than needed for clovers or ryegrass and will need either a drill or moderate disking to ensure seed placement.