

♠ Ace Forage Cowpea ♠

Your “Ace in the Hull” for forage, wildlife browse, seed and cover crops.



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‘Ace’ is a small seeded cultivar of forage cowpea (*Vigna unguiculata* [L.] Walp.) developed for use in wildlife supplemental plantings, cover cropping systems and legume hay production. Ace was developed in the Texas A&M AgriLife Research Forage Legume Breeding Program at Overton and released in May 2018. Ace was evaluated at Texas A&M AgriLife Research and Extension Centers at

both Overton and Vernon, TX. This new forage cowpea is licensed to Amigos Genetics in Justin and Breckenridge, TX (800 722-8616).

'Iron and Clay' forage cowpeas are widely used in Texas and the US southern region as supplemental plantings for white-tailed deer (*Odocoileus virginianus* Zimm.) but seed production of these very late flowering cowpeas is restricted in north Texas due to winter kill prior to seed maturity. Iron and Clay is a variety mix of two old forage cowpea types, 'Iron' and 'Clay'.

Forage biomass production of Ace at Overton, TX was 2539 and 4200 pounds per acre in 2013 and 2016, respectively. Forage biomass production of Ace at Vernon, TX in 2015, 2016 and 2017 was 3470, 5302 and 6015 pounds per acre, respectively. Protein content of Ace forage at Vernon in 2015 and 2016 was 16.5 and 16.4 percent, respectively.

Natural reseeding would be a useful trait for forage cowpeas, reducing establishment costs and allowing naturalization of stands. The term "reseeding" in this context is defined as the "natural reestablishment of crop stands from seed in a second or preceding season". Reseeding is a common management practice in forage and pasture production systems but is not a usual component of forage cowpea management. The traditional, multi-purpose use of cowpeas as both human food and forage crops for livestock has resulted in the selection and breeding of cowpea cultivars with large, edible seed, either for fresh vegetable use or as dry pulse crops. In our program we intentionally evaluated cowpea breeding lines with

smaller seed in hopes of identifying germplasm with some combination of smaller seed, hard seed and high forage production.

Greenhouse studies from two years of Ace seed production indicate that about half of an Ace cowpea seed crop will germinate in the first month after seed maturity and the other half will germinate slowly over about 60 or 70 days (assuming moisture and temperature conditions appropriate for germination.). The reseeding trait of Ace needs further field testing but could be a valuable tool in stand management.

Ace has moderate southern root-knot nematode resistance. Galling of Ace by southern root-knot nematode is very low and nematode reproduction is low, relative to susceptible cowpea lines.

Biomass yield of Ace is similar to the variety mix Iron and Clay but with earlier maturity and much smaller seed. Seed size of Ace is less than one-half that of Iron and Clay (Ace seed size: 9000 seed/lb; Iron and Clay seed size: 3800 seed/lb). First bloom of Ace is in late August and seed are mature in NE Texas by mid-October, allowing Texas seed production. Texas seed production is a value-added trait that is important to the Texas seed industry and the Texas agricultural economy. Ace will be a valuable cultivar in the wildlife supplemental forage market and as a forage and cover crop.

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