Determining Wet Soil Tolerance of Four Clover Species

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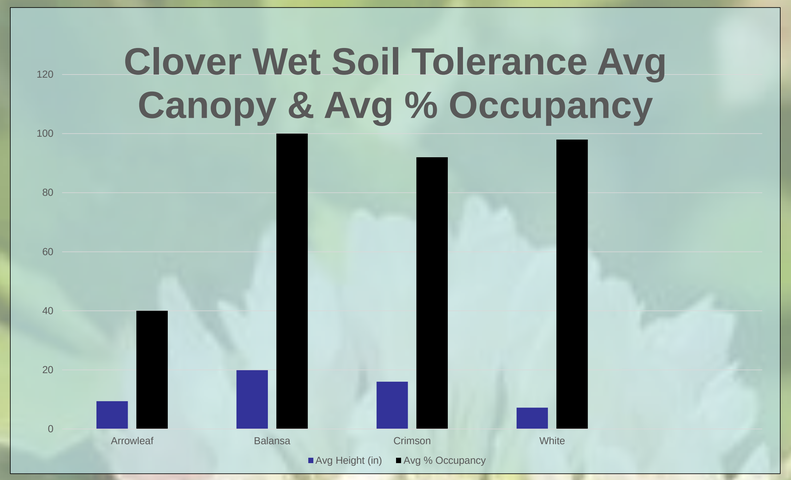
This experiment was conducted at the Southwest Research and Extension Center near Hope, AR in Hempstead County

Objective:

Determine wet soil tolerance of 4 clover species

Materials and Methods:

- **Site**: Warm-season grass forage base mowed to 3" prior to
- **Site Preparation:**
  - All plots received pre-plant herbicide of 1qt/ac glyphosate + 0.25% non-ionic surfactant
- **Plot Layout:**
  - 4 clover species
  - 4 replications = 16 plots
  - Plot size = 6' x 25' (150 sq ft)
- **Planting Date:** October 15, 2020
- **Seeding Depth**: ¼"
- **Equipment:** Great Plains 3P606NT no-till drill
- **Soil fertility as tested:**
  - pH 6.7, P=44lbs/ac, K=146lbs/ac
- **Soil fertility applied at planting:**
  - 80lbs/ac P_2O_5, 110lbs/ac K_2O, 1lb/ac Boron
- **Seeding rates:**
  - Arrowleaf (Blackhawk) @ 6lbs/ac
  - Balansa (Fixation) @ 8lbs/ac
  - Crimson (Dixie) @ 20lbs/ac
  - White (Durana) @ 3lbs/ac



Results and Discussion:

In March, the Arrowleaf, Crimson, and White clover were impacted by Sclerotinia Crown and root rot which occurs in cool wet regions. Results conducted during this study on very wet soil, showed that Balansa clover had excellent growth and stand density, but stands of Crimson and Arrowleaf clovers were thin and poor. Balansa had a canopy height of 20" on April 20th compared to a canopy height of only 7" for the Durana white clover. Maturity of Balansa appears to be between that of Crimson clover (very early) and that of Arrowleaf clover (very late). April to early May appears to be the period of highest productivity for Balansa. There was minimum forage growth in fall and winter, however, as day length increased, and temperature warmed upright forage growth was promoted with Arrowleaf and Crimson annual clovers.

Conclusion:

Balansa clover appears to be a good option in wet natured soils. Future research is needed to look at Balansa to see where it is best suited with other forages options.

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