Effect of Row Spacing, Cultivar, and Growth Stage on Soybean Forage Yield and Quality. (C03-heitholt113738-Poster)

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Abstract:

Effective management of soybean grown in north-central Texas requires knowledge of its potential value as a forage and a grain crop. To better understand these uses, a forage soybean cultivar (Tyrone) and Deltapine DP 5110S were planted in 14-inch and 28-inch rows on 11 May 2001 and 16 May 2002 (with DP 4344RR and AG 4702 added in 2002) near Dallas,TX. The soil was a Houston Black Clay with pH 8.3. Plots were harvested for forage on 16 July 2001 and 9 Aug 2001 and on 22 July 2002 using a mechanical forage plot harvester (2002 data are pending). In 2001, growth stages were R3 and R6 for DP 5110S and R1 and R3 for Tyrone. Plots were harvested for grain on 24 September 2001 (DP 5110S) and 24 October (Tyrone). Forage and grain yields were similar between row spacings but slightly greater with DP 5110S. Forage yields averaged 1.58 tons/acre at the first harvest and 2.01 tons/acre at the second harvest. The cultivar DP5110S had lower acid detergent fiber and neutral detergent fiber at the first harvest and higher N concentration at the second harvest than Tyrone. In vitro dry matter digestibility was similar across cultivars, row spacings, and harvests. By the second harvest DP 5110S had a greater percentage of biomass in fruit than Tyrone (13% vs. 1%) and Tyrone had a greater percentage in leaves (34% vs. 28%). Because of low grain yields (<18 bu/a) and low grain prices, harvesting DP 5110S for forage would likely be more profitable than harvesting for grain in this situation.

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