058-AGR

Effect of planting density and variety on mung bean yield in Tennessee

Mung bean (*Vigna radiata L.)* is a good-yielding legume species suited to agricultural crop rotations and could be of interest to Tennessee farmers. This Asian grain legume boasts high nutritional value and drought tolerance. The climatic characteristics of its region of origin closely parallel those of West Tennessee's growing environment, making it a candidate for agricultural experimentation in our state. A multi-year study was conducted in typical delta soils at the Shelby County research center in West Tennessee. The objective was to test the overall performance and adaptability of this legume to the environmental conditions of Memphis Tennessee, the two varieties were used were Berken and OK2000. Various planting densities and planting dates were used to determine suitability. Planting was automated with a drill planter and involved three different seeding densities: 150,000, 200,000, and 250,000 seeds per acre, all at 0.75-inch planting depth. Conventional tillage and herbicide treatments (Select and Reflex) were used for land preparation and weed control. Trait measurements included plot weight, seed moisture content, and total yield in lbs./acre. Results varied between the three years: where yield was higher in 2023 and 2024 than in 2022 although seed moisture content exhibited no significant variation in any year. Yield showed significance across the three years with the year showcasing a P value of < 0.01 These findings provide a scientific foundation for understanding the performance of mung bean varieties in the specific environmental conditions of Memphis, Tennessee.