102

Conventional Mung Bean Production in West Tennessee (Shelby County)

Farmers search continuously for successful crop alternatives to insert into their rotations in hopes of diversification. With broad climatic hardiness, mung bean (MB) can withstand heat and drought common in the Southeast region of the Unites States. Furthermore, this crop can be planted in many climatic regions. MB is well adapted to the southern and eastern Asian climate and we presume that west Tennessee has a similar hardiness those area but without the biotic constraints that have developed in Asia. Our objective for this research was to compare the growth and productivity of two varieties of mung bean (Berken, and OK2000) at Agricenter International in Memphis, Shelby County TN. This area is a good example for large scale farmers due to the preparation and planting being completed in a mechanical manner using a Great Plains 6' in row drill planter and an ALMACO plot combine to ensure precise harvesting. The crop was managed with conventional herbicides for other legumes and initial irrigation followed by rainfall supply. The use of this machinery gives farmers the opportunity to see what MB is capable of yielding when planted using the machinery that is available on their farm. A total of 36 plots were planted containing six rows each spaced at 7.5 inches between rows. The independent density variable was organized in a randomized complete block design. Treatments included densities of 150, 200 and 250 thousand seeds per acre. In terms of results, yields increased as the seeding density increased. Per plant production rates increased as well. This location performed well despite the 71 consecutive days of drought that followed the planting in early July. While yield performance was adequate for a new crop it was lower than for equivalent grain legumes but primarily due to drought and shattering at mechanical harvest. The design gave us data to determine best planting practices to use in following seasons. With the cultivation of mung bean in Memphis being preformed using Agricultural Research Management (ARM) it allows for precise design and data collection. Along with this design we used two herbicides one pre-emergence (Select) and one post emergence (Reflex) testing the resilience that mung bean has toward them. Overall, this crop is a great opportunity to diversify agricultural fields for the state.