

Mung bean varietal introductions to Tennessee

Farmers in Tennessee need to have vigorous high yielding crop species for successful farm management. With a range of plant species available, it is crucial to choose crops that fit into current agricultural rotations. Mung bean (*Vigna radiata*) is an exotic grain legume originating in Asia that could grow well in Tennessee but for which little agronomic research has been done. Our objective for this research was to compare the growth and productivity of three varieties of mung bean (AAMU1, Berken, and OK2000) in three experiments conducted in different locations of Middle and West Tennessee. The sites were in Carthage (Smith County), Memphis (Shelby) and Nashville (Davidson) and consisted of different experimental designs emphasizing low input, mechanical harvest and hand weeded plots, respectively. Plot sizes consisted of four, six and one row with spacing at 15, 7.5 and 30 inches between rows, respectively in the three locations. Seeding density varied from 150, 200 to 250 thousand seed per acre in Memphis but were not monitored in Carthage or Nashville. The Smith and Davidson counties were planted in June while Shelby was planted in July. Sets of thirty pods were collected per plot prior to general harvest to use in nutritional evaluation. Plant height and overall yields were measured per variety using a subplot and / or the entire plot. Cultivating in three locations across Tennessee and across two months allowed us to see the development in different climatic conditions as well as the use of different cultivation techniques. The mechanical yields increased steadily with increasing density in the Shelby County trial but were lower than in Davidson and Smith counties where wider row spacing and hand harvesting were used. We are focused on yield per variety, potential of mechanizing planting and harvesting, along with the nutritional contents mung bean supplies based on environmental factors. This species contains high amounts of protein, iron calcium and magnesium. Along with all these objectives we are working on canning of the mung bean produced in Tennessee through a partnership with Bush's beans, testing several different techniques in order to see cooking time and eventually consumer preference.