

Yield of Eastern Gamagrass with Interseeded Legumes

Eastern gamagrass is a palatable and digestible perennial warm season grass which can be used for hay, haylage and in managed pasture situations. Its use on steeper slopes instead of corn silage will reduce soil erosion and water quality problems. Its perennial nature and large root system would increase carbon sequestration. Companion planting with legumes would be beneficial for reducing erosion, adding nitrogen, improving yield, forage quality and weed control. Eastern gamagrass cv. "Pete" was established in 1998 at 3 sites on Tioga silt loam, Valois gravelly silt loam, and Howard gravelly silt loam soils in NY.

Alfalfa, birdsfoot trefoil, black medic, red clover, white clover and oats were interseeded into the gamagrass after a July cultivation. The companion crops established well and provided good erosion control in the fall and winter. The companion crops persisted well into the 3rd year with percent cover in mid June for red clover, white clover, birdsfoot trefoil and alfalfa of 97.8, 96.1, 75.0 and 74.0% respectively.

In 2000 we had abnormally cool temperatures. The perennial companion crops competed with the gamagrass reducing yields compared to the control. The gamagrass yields when grown with alfalfa, white clover, red clover and birdsfoot trefoil were 69.6, 71.3, 73.3, and 86.3% of the control respectively. . There were significantly higher gamagrass yields outside of the companion crop study area due to adequate weed control. The eastern gamagrass yields in these areas for two cuttings on the above soil types were: 2.99, 2.75 and 2.11 dry matter tons/ac respectively.

Key words: eastern gamagrass, legumes, companion planting

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