

Bristly locust: successful establishment in an emulated organic silvopasture

D.M. Burner and J.M. Burke, USDA-ARS, Dale Bumpers Small Farms Research Center, 6883 S State Hwy 23, Booneville, AR 72927; phone 479-675-3834; fax: 479-675-2940; e-mail: David.Burner@ars.usda.gov

Bristly locust (*Robinia hispida*) is a native tree legume found throughout much of the US, but it has received relatively little attention as a potential crop. While only 2-10 ft tall, bristly locust somewhat resembles black locust, produces pink flowers, and the stems are covered by soft, inoffensive red bristles. Like many tree legumes, the species could have potential as livestock browse. Our objective was to determine if mechanically planted bristly locust could be established in an experimental silvopasture. One to five trees were transplanted by backhoe in each of 237 plots (total of 446 trees) in a pasture dominated by bermudagrass and sericea lespedeza. No chemical weed suppression was used for establishment. Number of live trees at 5 months and 1 year post-planting (1.3 trees/plot on each date) was about half that at planting (2.5 trees/plot). However, abundant shoots were produced at 2 years post-planting, when trees had more than twice the live shoots (mean of 5.3 shoots/plot, range 0 to 26 shoots/plot) as at planting. Shoots spread an average of 4.7 ft (range 1.6 to 7.9 ft) from the tree. Budburst occurred during a short time interval, and was complete for nearly all trees by 8 April. Most trees had either flower buds or emerged flowers on 28 April, but no seeds were observed. The short time frame of budburst and flowering, and low seed production, suggest that our population might lack genetic diversity. Bristly locust appears to be suited for organic browse because of good survival and shoot production in competition with existing vegetation. Further research is needed, however, on its nutritive value, presence/absence of anti-nutritional factors, anthelmintic properties, and grazing management.