❑ CP-52

Biomass and N contibution of Sunn Hemp (*crotalaria juncea* **l.**) on an Oxisol in Puerto Rico

Anita Santos and Elide Valencia, University of Puerto Rico, Mayagüez, Call Box 9000, Mayagüez, PR, 00681

Sunn hemp (*Crotalaria juncea* L.) has a fast growth and high N 2 fixation ability justifying its use on degraded soils in the tropic to improve soil fertility. However, there is little information on time of planting as well as date of harvest to maximize biomass production in Puerto Rico. The objective of this study was to assess May and October plantings of cv. Tropic sunn and three harvest dates effects on biomass and N contribution. Tropic sun was seeded (10 kg ha-1) on a Oxisol (Cotito series) at the Agricultural sub-station of Isabela, University of Puerto Rico. At 6, 8 and 12-wks after planting biomass was estimated in a marked 2 m2 by clipping at 15-cm height and fresh weigh taken. Subsamples (500 g) were taken and dried in an open aired oven at 60° for 48 h to determine dry matter percentage and then ground to pass 1 mm sieve. Ground samples were used for N analysis following the procedures of AOAC (1990). Data was analyzed using SAS (1999). There was time of planting effects (P<0.05) on biomass. Maximum biomass was produced at the May planting and 12-wk harvest (17 Mg ha-1) and was three times higher than for the October planting (5.9 Mg/ha). When comparing date of harvest, biomass at the 6-wk in May exceeded the 6-wk October harvest by 6 Mg ha-1, suggesting that Tropic sunn is highly photoperiodic. Because of higher yield for the May plantings, N contribution differed (P<0.05) surpassing 400 kg ha-1 for the 12-wk harvest. N concentration differed when the upper and lower canopy was compared. Mean values were 2.2 and 0.88% for upper and lower canopy, respectively. Sunn hemp is more productive in the May than October planting. The 12-wk harvest doubled its biomass compared to the 6-wk harvest in May, but was not as evident for the October planting during the same period. In summary, Sunn hemp is a productive legume that can be used for weed control and incorporated in rotational cereal grain planting in Puerto Rico. However, litter decomposition and N mineralization of upper and lower canopy needs to be determined.

Key Words: Sunn hemp, biomass, tropic sunn and N contribution

❑