

Evaluation of sunn hemp hay for St. Croix white hair sheep production

S. A. Weiss and R. W. Godfrey University of the Virgin Islands, Agricultural Experiment Station, RR1 Box 10,000 Kingshill 00850, St. Croix U.S.V.I. USA

Sunn hemp (SH; *Crotalaria juncea* L.) has historically been cultivated as a multi-purpose fiber crop that has received increased interest as a cover crop and green manure in both temperate and tropical climates. Sunn hemp may serve as a useful livestock forage when harvested as hay from mixed crop-livestock systems. A pen trial measured growth traits of post-weaning St. Croix White hair (n = 36) lambs fed a mixed ration containing a concentrate diet (16% crude protein) fed at 2% body weight and either SH or sorghum-sudan hay (SS; *Sorghum bicolor* x *S. sudanense* cv. Mega Green) fed ad-libitum for 84 days. Both SH and SS were cultivated on St. Croix, USVI prior to the feeding trial as part of a mixed cover crop-livestock systems experiment. The SH hay had an average of 116 g/kg crude protein, 556 g/kg acid detergent fiber, 713 g/kg neutral detergent fiber, and 557 g/kg in vitro dry matter digestibility. The SS hay had an average of 83 g/kg crude protein, 468 g/kg acid detergent fiber, 669 g/kg neutral detergent fiber, and 605 g/kg in vitro dry matter digestibility. Lambs receiving SH hay did not exhibit increased growth performance over lambs receiving the SS hay. Sunn hemp hay resulted in an average daily gain (ADG) of 80 g compared to SS hay with an ADG of 75 g. However, as previous research indicates, castrated male lambs had greater ADG than female lambs with 89 g compared to 70 g, respectively ($P < 0.05$). This study indicates that St. Croix White Hair Lambs will consume SH hay and attain growth performance similar to that of the conventional forage SS. Sunn hemp hay is a tropical legume that can grow without the need for nitrogen fertilizer and has plant tissue quality characteristics that make it a viable option as an alternative livestock forage resource.

Palabras Claves/Key Words: Sunn Hemp, Mixed Crop-Livestock Systems, St. Croix White hair sheep, Tropical Hay