Small Ruminant Biological Control of Amur Honeysuckle and Common Buckthorn: Is it a Viable Option?

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**Introduction**

Many acres of forests and woodlands in the United States are invaded by non-desirable invasive understory vegetation such as Amur honeysuckle, buckbrush, common buckthorn, and multiflora rose. Amur honeysuckle (AH; Lonicera maackii Herder) and common buckthorn (CB; Rhamnus cathartica L.) are tall shrubs that are common invaders in forested lands across central and eastern United States. These shrubs grow readily in many soil types, climatic environments, and are often so prolific that they form dense understory thickets, which restrict native plant growth and tree seedling establishment.

**Methods**

On 20 April 2011, 49 pregnant Katahdin hair sheep were brought to the Plant Materials Center (PMC) in Elsberry, Missouri to be rotationally grazed through 19.2 acres that is divided into three paddocks infested with AH and CB. The ewes began lambing about 5 days later. All sheep were removed from the PMC on 13 June, to give the paddocks a regrowth period and so the lambs could be identified and ear tagged. Eight ewes and their 16 lambs were brought back on 22 June and rotationally grazed through the three paddocks. All of the shee were removed 18 August because the sheep had grazed what they could up to a height of about 4.5 feet (1.4 m). The stocking rate was approximately 1.1 Animal Unit Month/Acre (AUM/ac).

Approximately every 21 days and when they were moved, each animal was evaluated for weight, body condition, FAMACHA®, and fecal egg count (nematodes and coccidia). The FAMACHA® system is a method that estimates the degree of infection of the Haemonchus contortus parasite. The score is a range from 1-5, with 1 being that the eyelid membrane color is a dark red and indicates no significant anemia caused by the parasite, while a score of 5 indicates a white eyelid membrane and severe anemia.

Permanent vegetation monitoring points were established in all of the paddocks before the animals were brought in. Before and after the grazing season, pictures were taken and estimates of woody plant overstory basal area, cover, and species present were taken.

**Results**

The ewe and lamb results are summarized in tables 1 and 2. There was not an apparent difference in species composition of the understory species at any of the monitoring points within any of the pastures by the end of the 2011 grazing season.

**Discussion**

The negative ADG and total gain of the ewes is not unexpected, due to the fact that they lambed, and most ewes lose some weight during that time. The body condition and FAMACHA scores suggest that the Katahdin breed were resilient to the stresses of this study. However, the amount of weight that was lost may be of concern. The lambs gained weight throughout the season which suggests that grazing AH and CB may negatively alter ewe performance but may not negatively impact lamb performance.

Analysis of the vegetation monitoring points suggest that there was little, if any, change in the species composition after one year of grazing. It is expected that it will take at least 3 years of grazing to see a significant impact on the vegetation species composition.

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**Literature Cited**