

# Missouri Chapter News

Walnut Council: Growing Walnut and Other Fine Hardwoods



## Grazing Goats in Walnut Tree Plantations

Mike Trial, Member, Missouri Walnut Council

We rotated two herds of 25 female goats through 24 acres of mature walnut tree plantations in 2021 from the beginning of May through the end of September. The vegetation in the plantations was 75% trees and 25% open pasture. The grassy vegetation we wanted to control was tall fescue, Johnson grass, and some sericea lespedeza. Our target woody species to control were autumn olive and bush honeysuckle. We used lightweight, moveable electric fence to establish paddocks.

Goat grazing is generally more expensive than mowing, but it is more effective in suppressing woody shrubs **if the woody shrubs are less than six feet tall**. We demonstrated grazing is effective in height control for fescue, sericea lespedeza, and Johnson grass.

Planning paddock size, layout, and timing of fence moves is important. Goats should be rotated out of small paddocks before they run out of foliage. We found that 25 goats would graze off a 1 to 2 acre paddock in about 10 days. Paddocks should include enough trees so that goats can shelter from sun and rain. And goats should not be rotated back into a paddock sooner than six weeks. This is because their fecal matter on the ground needs that length of time to deteriorate so they won't browse it up and develop worms.

We found it effective to continuously rotate goats through 1 to 2 acre paddocks all season while maintaining a six week interval between passes. We also found it effective to graze goats in one pass early in the season, mow the area in mid-season, then put the goats back in for one pass late in the season. The goats control the woody invasives by browsing off the leaves thus suppressing growth. They are able to reach up to about five feet, and they will bend down small diameter stalks and browse them bare.



**Photo Above** - An autumn olive shrub at the base of an 8" diameter walnut tree has been browsed bare of leaves by female goats.

We tried a single pass of goat grazing in the middle of the season, but this did not work well. The woody invasives put on too much height and diameter before and after the goats were in the area. But the goats did effectively graze-off non-shrub ground cover even when it had grown tall. We had some areas where Johnson grass was six to eight feet tall by the time we got the goats into it, but the goats were still able to graze it down very nicely, including ingesting the seeds.



**Photo Left** - A goat bends down an autumn olive stem to browse the leaves.



**Photo Right** - Mike Trial and a 25 head goat herd. Bare stems in foreground are autumn olive shrubs browsed bare of leaves.



**Photo Left** - Grass under trees at far right has been mowed. Area in center and left under power line is goat-grazed Johnson grass.

In summary, we found a relatively fast rotation of small goat herds through small paddocks in tree plantations is an effective alternative to mowing, hand cutting or spraying woody invasives. It does require careful planning of paddock layout, timing of the goat graze, and a commitment to moving fences in a timely manner during the grazing season.