## GRAZING

## Can Mob Grazing Suppress Canada Thistle?

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ob grazing has been promoted across the United States to provide a wide range of benefits, one being enhanced weed suppression. While producer reports suggest weed populations begin to decline after two years of mob grazing, we could not find any detailed research, so we decided to test this method on Canada thistle-infested pastures at two Wisconsin locations. We compared rotational grazing (3-4 rotations/year, grazed prior to vegetation maturing, at a stocking density of 60,000 lbs/ac), mob grazing (2 rotations/year, grazed when vegetation was mature, at a stocking density of 400,000 lbs/ac), and a one-time fall application of ForeFront<sup>®</sup> the fall prior to initiating the study. The herbicide

Figure 1. Canada thistle density at Lancaster, WI



Figure 2. Canada thistle density at Prairie du Sac, WI.



treated plot was rotationally grazed throughout the study as previously described. Locations consisted of one productive pasture of primarily tall fescue and kura clover (Lancaster, WI) and another non-productive, predominately Kentucky bluegrass, pasture (Prairie du Sac, WI). Treatments were applied from 2012 to 2014 with sites being managed according to pasture best management practices throughout the course of the study (e.g., fertilization, mid-summer clipping).

While utilization, forage, and weed availability were measured, this article focuses on how treatments impacted Canada thistle density, which was annually measured in spring prior to grazing one, two, and three years after the research was initiated.

Sites behaved differently with respect to treatments so were analyzed separately. At Lancaster, the fall herbicide treatment provided nearly 100% Canada

thistle suppression after one year, while mob grazing and rotational grazing both had between 1.3 and 1.4 Canada thistle shoots per square foot (Figure 1). The spring following two years of treatment (2014) the herbicide treatment still had the lowest Canada thistle density, but the mob grazing treatment was now beginning to show reductions compared to rotational grazing. After three years (2015), mob grazing reduced Canada thistle density to similar levels as the one-time fall treatment of three years ago, while rotational grazing treatments had 87% more Canada thistle stems.

In contrast, mob grazing stimulated Canada thistle populations at Prairie du Sac throughout the course of the study. Mob grazed plots averaged 2-8 times more Canada thistle stems (Figure 2). The one-time fall herbicide treatment did reduce Canada thistle for two years, but then recovered to similar levels as the rotationally grazed control after the third year.

So why the differences between sites? We believe the pasture sward composition had a lot to do with the results. Lancaster was a competitive mix of species responding favorably to mob grazing and produced more biomass, which competed with the Canada thistle. Prairie du Sac was primarily Kentucky bluegrass, and although it thrived under mob grazing treatments, the site's lower general productivity likely limited its ability to compete with Canada thistle over the three years.

In summary, we found mob grazing can reduce weed populations like Canada thistle after three years, but the response appears to be linked to site specific conditions. Further, while not discussed in this article, we found animals readily grazed Canada thistle when applied at a higher stocking density, especially in the spring when plants are more spiny. Canada thistle has good forage quality and is very productive on pastures in the Midwest. In the study, we observed cattle utilizing over 1,500 lbs/ac of Canada thistle in one year at the Lancaster site. The ability to utilize this species with low palatability may make it less of a weed in mob grazed pastures.