HERBICIDES ON PASTURE

Pastures and rangelands that stay in production for many years can see weed pressure come in from outside sources such as ditches, creek beds, livestock manure and wildlife. Even pastures that are well managed with grazing rotations and timing can see weed populations increase in drier years. Gateway Research Organization (GRO)'s heifer pasture is a good example of this, as it has been managed through rotational grazing since it started in the late 1970s. However, weeds and other undesirable species such as thistle, tansy, wild roses, and tree saplings have moved in and are starting to impact forage production and cattle grazing, with Canada thistle being the biggest issue. Some work has been done in the past with Stem-mining Weevils and herbicides to control the thistles, but the thistles have spread in recent years, most likely due to the drought-like conditions.

When GRO was approached by Envu to conduct a trial with their TruRange product, the GRO Pasture seemed like a great fit to do some replicated work on the heavy thistle growth in the rototilled rejuvenation strips. To provide GRO producers with more information on potential return on investment for pasture production, a demonstration of other products and methods was conducted near the replicated trials. The herbicide products and methods conducted in the demonstration strips were: mowing at 6", mowing at 10-12", Restore II, Restore NXT, Reclaim II A and B, Reclaim II B (2,4 D) and Grazon XC. These can be viewed and compared in summer 2026 at the heifer pasture.

THISTLE CONTROL TRIAL:

The thistle trial was set up using a split plot design with two grazing treatments (grazed and ungrazed), each containing three TruRange sub-treatments (control, label rate 1- 68 g/ac and label rate 2- 135 g/ac). Each plot is 20 m long, with the grazed treatment being 10 m wide and the ungrazed treatment being 5 m wide.

Within each of the treatments, clippings from four 0.25 m2 quadrats were collected. Each sample was weighed for total biomass, then sorted into grasses, legumes, weeds and thistles. Each category was reweighed (wet and dry), and moisture loss was calculated to assess productivity and species composition changes
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APPLICATION AND DATA COLLECTION:

Pre-treatment sampling: June 26, 2025
Spray Date: July 4, 2025
Post-treatment sampling 1: July 29, 2025
Post-treatment sampling 2: October 15, 2025

Control

TruRange

RESULTS AND DISCUSSION:

Before the herbicide was applied, thistle was present in all treatment plots. On average, thistle made up about 60 to 68 percent of the total plant biomass. Both grazed and ungrazed plots had similar levels of thistle, showing that baseline conditions were fairly consistent across treatments before spraying.

Thirty days after the herbicide application, thistle remained the dominant species in most plots. Average thistle biomass ranged from 56 to 90 percent across the different treatments. Grazed plots generally showed higher thistle dominance than ungrazed plots. The highest percentage of thistle was seen in the Rate 1 Grazed

treatment at 90 percent, while the lowest was in the Control Ungrazed treatment at 56 percent. Compared with the measurements taken before treatment, thistle had increased in most plots, indicating that the herbicide had not yet caused a significant reduction in thistle within the first 30 days.

By 110 days after spraying, thistle had declined dramatically in the treated plots. Both Rate 1 and Rate 2 herbicide applications were highly effective, nearly eliminating thistle in both grazed and ungrazed areas. In contrast, the untreated control plots still had a substantial amount of thistle.

SUCKERING POPLAR CONTROL TRIAL:

The suckering poplar control trial was set up using a randomized design with three TruRange rates (control, label rate 2- 135 g/ac and label rate 3- 202 g/ac) and four replications of each. Each plot is 15 m in length and 10 m in width with data being collected from a 5 m by 15 m sub-area.

Plots were grazed twice, approximately four days before each data collection event. The first graze was before the treatments were applied, and the second graze was after the treatments were applied.

APPLICATION AND DATA COLLECTION:

Pre-treatment tree counts: July 3, 2025
Spray Date: July 4, 2025
Post-treatment tree counts: August 19, 2025

RESULTS AND DISCUSSION:

After spraying, tree survival clearly reflected the intensity of treatment. Control plots, which were not sprayed, remained largely unaffected, with an average of approximately 95% of trees surviving, and in some cases even showing slight growth. By contrast, plots treated with 2x or 3x spray rates suffered dramatic losses, with only about 2–3% of trees remaining, indicating nearly complete mortality. Notably, there was little difference in outcome between the 2x and 3x rates, suggesting that once a high threshold of spraying is reached, additional intensity has minimal further impact.

FUTURE DATA COLLECTION:

The next plant sampling and poplar sucker counting are to occur in July of 2026, approximately 365 days post-treatment. Further data collection next summer will provide more information for analysis and on the extended control of thistles and poplar suckers and we expect to see an increased yield on the grasses.

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