Does ultra high density grazing as part of adaptive multi-paddock grazing have merit in Ontario?

**METHODS**

**Specific Questions**

- Does stocking density affect the amount of forage consumed?
- Does pasture recovery differ between standard and high density grazing?

**Design**

To test high density grazing as part of his AMP approach, Tony McQuail would move cattle through a 3-day sequence:

- Standard stock density, 1 paddock/day (control 1)
- Ultra high density, 6 paddocks/day (treatment)
- Standard stock density, 1 paddock/day (control 2)

He repeated this 3-day sequence over 5 areas in the pasture. Tony’s ultra high density paddocks had over 100,000 lb bodyweight per acre, and he achieved these densities with many smaller paddocks throughout a single day. The same set of 15 paddocks got a second pass, all with standard stocking densities (Table 1).

**RESULTS**

**Rising Plate Meter**

- The rising plate meter consistently underestimated the amount of daily forage consumed when compared to estimates based on animal units consuming 30 lb dry matter (Figure 2).
- This is likely due to lack of calibration with the specific pastures. Nevertheless, we can use Tony’s numbers to estimate relative change in biomass.

**Recovery**

- Recovery did not differ between the control and ultra high density grazing (P=0.49, Figure 4).
- Tony suspects very dry conditions (Figure 5) in the beginning and middle of the growing season stunted any potential response.

**Key Findings**

- The amount of forage consumed was the same, irrespective of standard or ultra high density grazing.
- Tony found no difference in pasture recovery between standard and ultra high density grazing.
- Tony will graze these areas in a similar way next year to see if a second year of a “hit and boost” has benefits.

**TAKE HOME MESSAGE**

Tony’s finding that his cattle consumed the same amount of forage, irrespective of standard or ultra high density grazing, provides evidence that ultra high density grazing provides enough biomass for the animals. This is contrary to thoughts from those that oppose ultra high density grazing.

While Tony found no difference in recovery, the dry season may have contributed to this. He will continue to graze in this pattern next year and record forage biomass.

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**Table 1**

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Stocking density (lb bodyweight per acre)</th>
<th>Paddock size (acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ultra High Density</td>
<td>317,147 - 634,295</td>
<td>0.059 - 0.118</td>
</tr>
<tr>
<td>Control 1</td>
<td>389,886</td>
<td>Mean: 0.087</td>
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<tr>
<td>Mean: 38,211</td>
<td></td>
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<tr>
<td>Control 2</td>
<td>45,078 - 77,121</td>
<td>0.169 - 0.725</td>
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<tr>
<td>Mean: 57,377</td>
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**Figure 1.** Areas used for the 9 moves. Each move included an ultra high density area that was divided into smaller paddocks (green) and two standard density paddocks (controls, red).

**Figure 2.** Correlation between the rising plate meter reading and daily forage estimates from animal units x 30 lb dry matter.

**Figure 3.** Forage consumed in the two control sections and the ultra high density sections. Means (bars) +/- 1 standard deviation (lines) are shown (n=5 replicates).

**Figure 4.** Pasture recovery in the two control sections and the ultra high density sections. Means (bars) +/- 1 standard deviation (lines) are shown (n=5 replicates).

**Figure 5.** Monthly total rainfall at Meeting Place Organic Farm in 2018. Historical monthly averages exceed 7 cm for these months.