Comparing Annual Forages for productivity

Project Duration
2020

Objectives
To compare multiple green feed forage blend combinations to evaluate their suitability for harvest as ruminant feed. In addition to comparing quality, quantity (MT/ac) and compatibility of the blends, their regrowth potential was also assessed in order to create best recommended practices for producers in the Interlake region and beyond.

Collaborators
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Results
Haymaker Oats and Arborg Oats were comparable all season in terms of the plant height, however, differences were noted in the leaf size and diameter of the stem (data not shown). The plots with forage peas began to lodge later in the season, more notably in the Arborg Oats and Forage Peas blend.

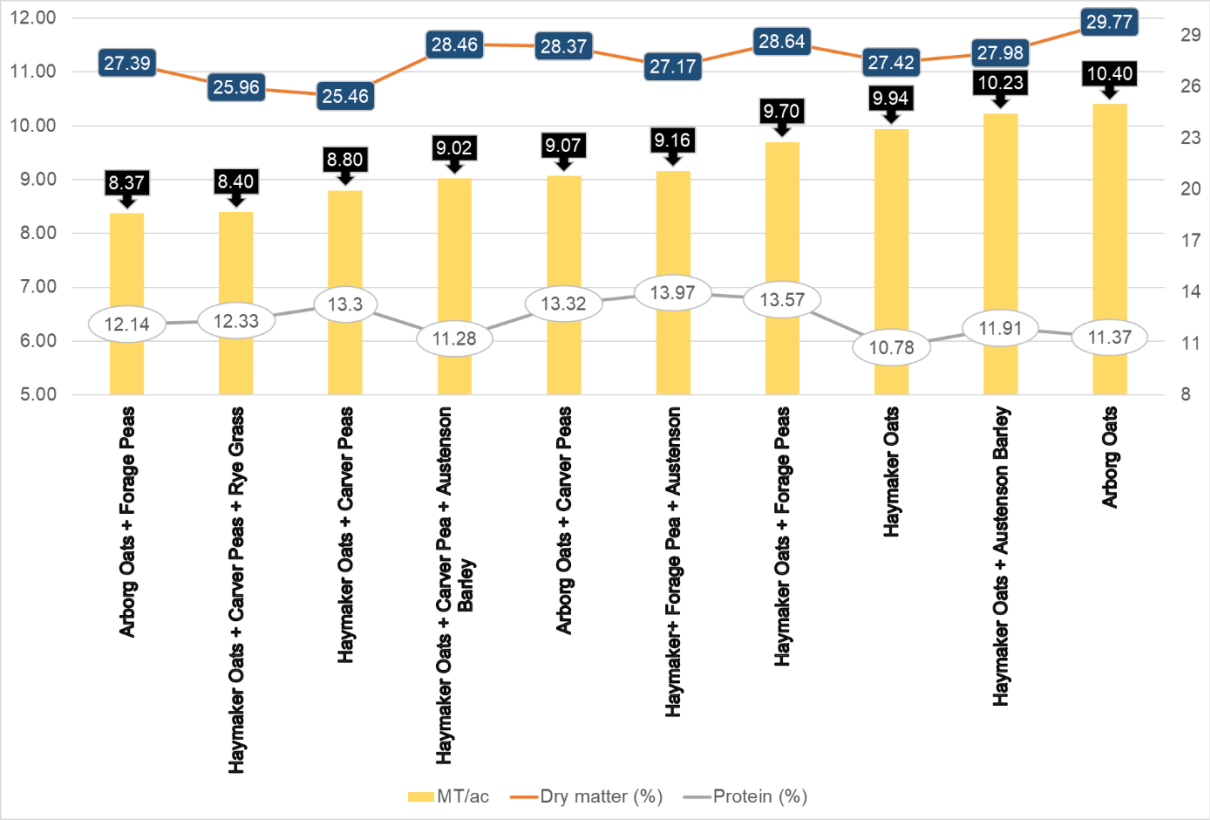

Fig 1. Production (MT/ac at 65% moisture), dry matter (%) and protein content (%) comparisons among different forages / forage blends tested at Arborg site.

The plots of Arborg Oats had maximum tonnage (10.4 MT/ac) followed by Haymaker Oats & Austenson Barley blend (10.23 MT/ac). Protein content, however, was less than 12 per cent in both forage treatments. The plots of Haymaker Oats, Austenson Barley and Forage peas had maximum protein content (13.97%), however, forage tonnage from these plots was only 9.16 MT/ac putting it in the middle of all tested forages / forage blends.
In general, blending peas with annual cereal crops improved protein quality of the forage blends. Dry matter of different forages / forage blends varied from 25.5 – 29.8% (Fig 1). Quality analysis (ADF, NDF & TDN) results are given in Fig 2.

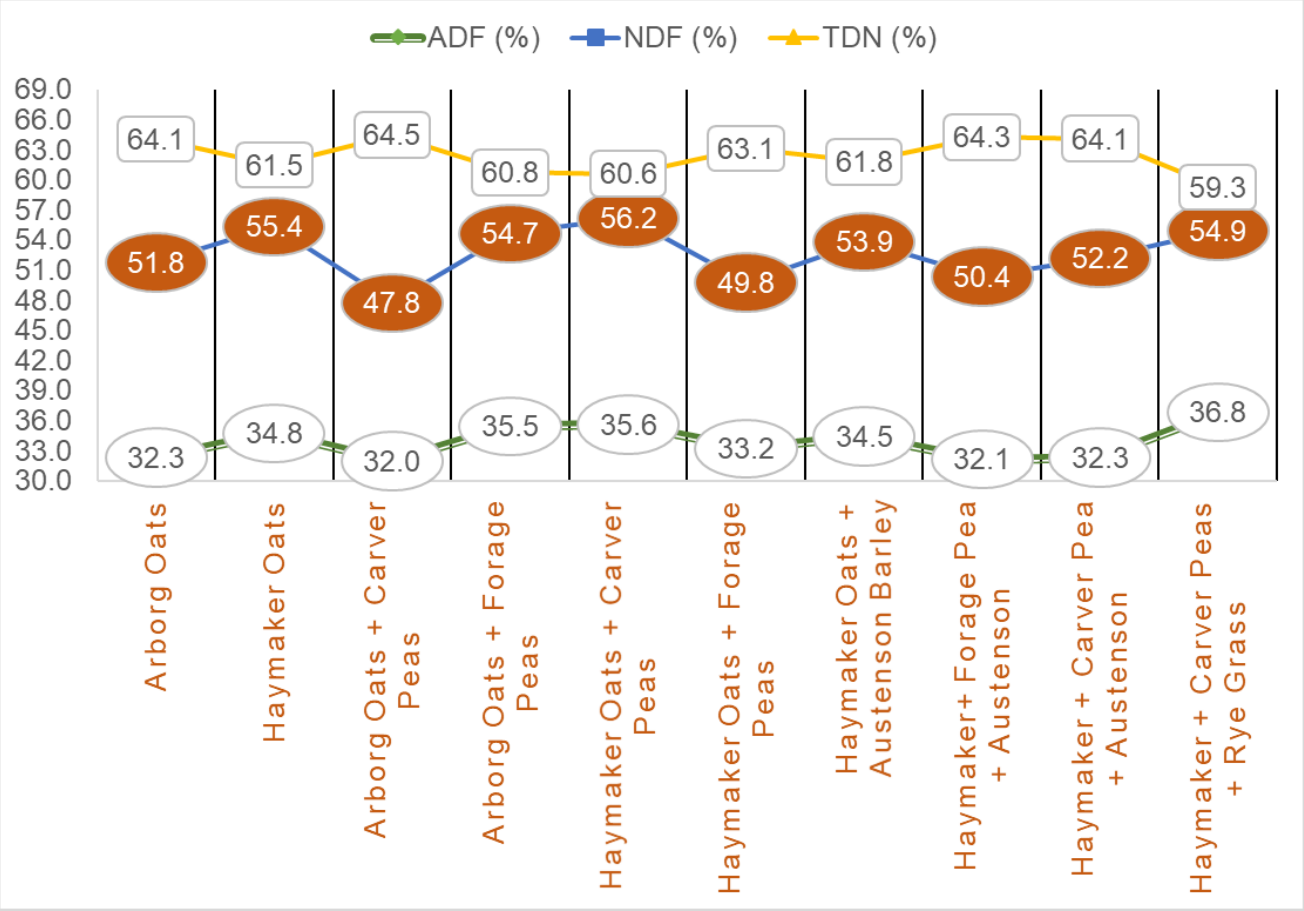

Fig 2. Acid Detergent Fiber (ADF), Neutral Detergent Fiber (NDF) and Total digestible Nutrients (TDN) comparisons among tested forages / forage blends at Arborg site.

Project Findings

Tonnage differences were evident among forages / forage blends tested in the current study. Higher tonnage were recorded from cereals grown either alone or in blends (Oats and Barley together), however, higher protein content were recorded in cereal / peas blends. Data from this project could be used to plan annual forages / forage blends as per specific needs of the producers.

One blend tested had Italian rye grass in it. The Italian Rye Grass had little regrowth after harvest at this site. The survival of the rye grass will be monitored into the spring to asses if this is a good option for early spring grazing.

Materials & Methods

Experimental Design – Demonstrations with three replicates
Treatments – The following forage / forage blends were seeded for the comparisons -

1. Arborg Oats at 3 bu /acre
2. Haymaker Oats at 3 bu/acre
3. Arborg Oats at 2 bu/acre and Carver Peas at 1 bu/acre
4. Arborg Oats at 2 bu/acre and Forage Peas at 1 bu/acre
5. Haymaker Oats at 2 bu/acre and Carver Peas at 1 bu/acre
6. Haymaker Oats at 2 bu/acre and Forage Peas at 1 bu/acre
7. Haymaker Oats at 2 bu/acre and Austenson barley at 2 bu/acre
8. Haymaker Oats , Forage Peas, and Austenson Barley all at 1 bu/acre
9. Haymaker Oats, Carver Peas and Austenson Barley all at 1 bu/acre
10. Haymaker Oats at 2 bu/acre and Carver Peas at 1 bu/acre with Italian Rye Grass at 12 lbs/acre

Plot size – 8.22m^2
Data collected – plant stand, plant height at maturity and forage yield

Agronomic info

Stubble, soil type – Fallow, heavy clay
Soil nutrient levels (N-P-K:lbs/acre): 290-38-540
*Fertilizer applied (*lbs/acre): N – 75, P – 25
Seeding/harvesting date – May 26 / Aug 7