



Alberta Feed Barley

Survey 2020

The feed barley survey was initiated to build a long-term source of data that outlines the nutritional profile of barley produced in Alberta since barley is the main feed source for the beef industry in Western Canada. In the fall of 2020, Alberta Barley randomly collected 18 barley samples from a number of fields covering the length and breadth of the province. The samples were sent to A&L labs for standard analysis of their nutritional profiles. The results are shown in the tables below.

KEY POINTS

- The average per cent of crude protein found in the survey was 10.7%, which is higher than the average found in corn (10.3%), but lower than in rye (11.8%) and oats (11.6%). The average crude protein found in this survey is lower than the crude protein requirements for backgrounding diets for beef cattle (12.5% to 13.5%). Alberta-grown barley is renowned for its high protein contents.
- The average total digestible nutrients (TDN) and average net energy maintenance (NEM) found in this study exceeds the recommended TDN range of 55% to 65% and NEM range of 0.90 to 1.32 Mcal/kg¹ recommended for beef cows (NRC, 2000). This means Alberta-grown feed barley provides sufficient levels of TDN and NEM.
- The amount of calcium found in barley samples surveyed is lower than the amount required to meet the nutritional needs of beef cattle (NRC, 2000).
- Selenium was non-detectable in the survey, indicating that selenium should be added to the cattle's diet in order to reach required amounts, if the cattle are fed barley alone. However, barley is often fed with other feed additives which increases the feed nutrient contents.

Table 1. Chemical and fibre composition of barley grains harvested from Alberta in fall of 2020

	Average
Starch	49.63
Crude protein	10.7
Crude fat	1.73
ADF	5.37
NDF	14.24

ADF: Acid detergent fibre; NDF: neutral detergent fibre

Table 2. Energy values in barley grains harvested from Alberta in the fall of 2020

	Average
TDN, %	71.53
NE _L Mcal/Kg	1.66
NE _G Mcal/Kg	1.22
NE _M Mcal/Kg	1.83

Table 3. Mineral content of barley grains harvested from Alberta in the fall of 2020

Mineral	Average
Calcium %	0.06
Copper %	3.63
Phosphorous %	0.28
Potassium %	0.48
Sulphur %	0.11
Magnesium %	0.12
Zinc µg/g	29.28
Iron µg/g	65.07
Manganese µg/g	17.44

Calcium was found to be very low. Selenium was below the detectable limit.

