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Wastage From Feeding On The Ground

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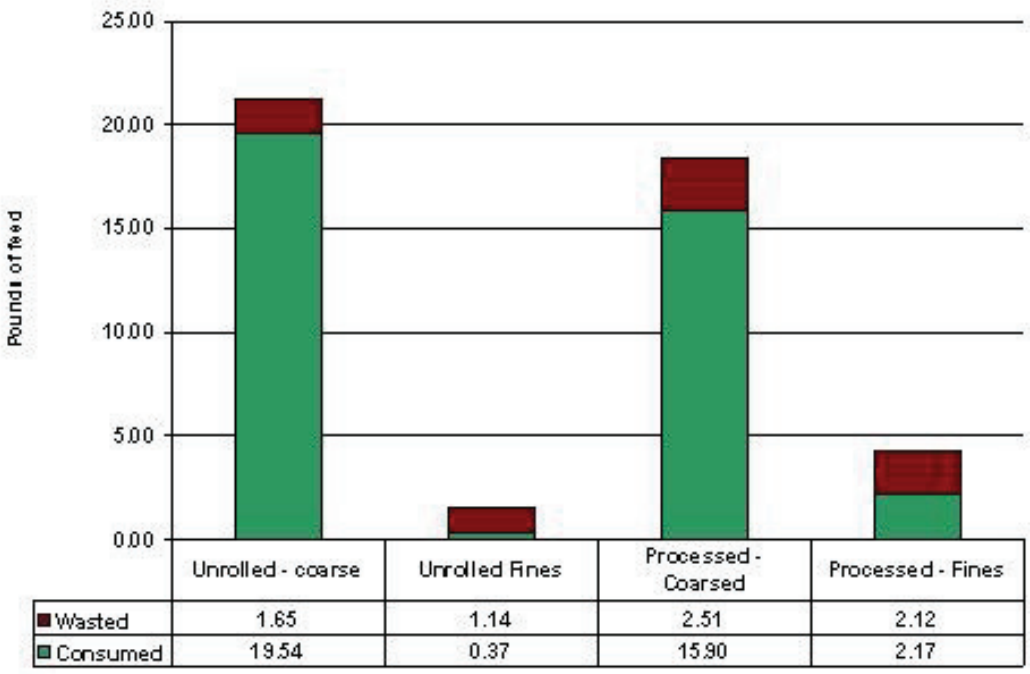
Feed is commonly fed on the ground to cattle over winter. How much feed is wasted from cattle mixing the feed into the snow? In 2004, Alberta Agriculture, Food and Rural Development began a project to measure the losses that occur when feeding dry hay, either processed or unrolled, on the ground versus hay processed into portable feed bunks. The feeding project was done in conjunction with the Western Forage/Beef Group at the Lacombe Research Centre in Lacombe, AB. The experiment was conducted in February 2005.
A bale processor and a truck-mounted bale unroller placed dry hay onto tarps covered with snow.

- Meadow brome hay was fed to 55 bred heifers. Feed was supplied at 90% of expected intake to ensure the heifers cleaned up as much they could.
- Snow, ice, wasted feed and manure was gathered off of the tarps after the feeding event.
- The material was dried, manure removed and weighed for total loss.
- The wasted feed was sieved over a ¾ inch screen and weighed to determine amount of fine and coarse material.
- Nutrient quality was established from coarse and fine material collected at the time of feed delivery.
- The feeding processes were repeated four times.

Total Feed Losses

Processed onto the snow	19%
Unrolled onto the snow	12%
Processed into the feed bunk	0%

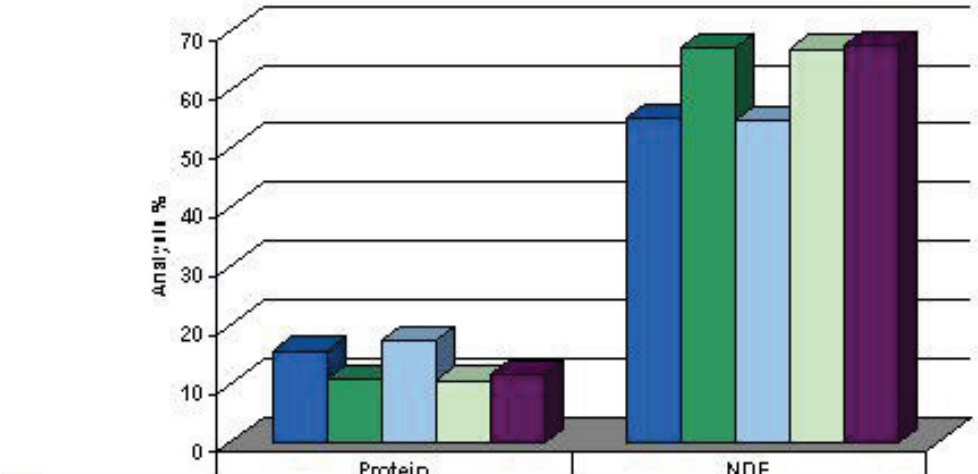
Figure 1 summarizes the pounds of feed provided and amount of feed lost by particle size by delivery system.



	Unrolled - coarse	Unrolled Fines	Processed - Coarsed	Processed - Fines
Wasted	1.65	1.14	2.51	2.12
Consumed	19.54	0.37	15.90	2.17

Figure 1. Pounds of feed supplied versus consumed by delivery system

All feed was analyzed for nutrient levels according to particle size. Measurements were made for protein, fiber and macro minerals.



	Protein	NDF
Processed Fine	15.5	55
Processed Coarse	10.7	67
Unrolled Fine	17.3	54.8
Unrolled Coarse	10.5	66.9
Bale Average	11.6	67.6

Figure 2. Protein and fiber %

Conclusions

- Both feed quantity and quality are lost when feeding on snow. A loss of fine materials results in cows consuming a lower quality ration than what is reported on feed test results.
- Lower forage quality due to fine material loss can reduce animal performance. Rations may need to be

adjusted accordingly.
- Losses of magnesium and calcium in the fine material create the potential for winter tetany to occur.
- Field observations supported findings from Study 1, showing fines at the bottom of the windrow.To minimize loss of feed and feed quality, use a portable feed bunk or other method to prevent feed trampling.

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