



Dairy Briefs

The Latest Information on Dairy Cattle Nutrition



Getting the Short Straw: Tips to Reduce Straw Use

Laura Martin, M.Sc

Nutritionists have been recommending feeding straw for more than a decade to help balance both dry cow and milk cow rations. Straw is a great source of effective fibre that helps the cows stay healthy. But when straw prices equal or out-pace hay prices and limited wheat acres threaten straw supplies what are some other options for producers.



Feeding a bit of straw really does make sense. It is a low energy, low potassium, high fibre feed. Straw is ideal for keeping dry cows from gaining too much weight and the low potassium is great at transition to help reduce the risk of milk fever. The push to harvest high energy corn silage and rocket fuel haylage has reduced the fibre coming from these forages. Straw helps keep enough fibre

in the milk cow diet to keep the rumen healthy and butterfat production up.

This strong demand for straw has forced prices up, especially with the short wheat harvest in 2014. OMAFRA's Peter Johnson calculated that of the almost 800,000 acres of winter wheat planted in 2013 only 85% was harvested due to the extremely harsh winter. While this year the weather has been mild (so far), the non-stop rains from September to November restricted seeding of the 2015 wheat crop. Peter accounts for slightly more than 600,000 acres planted this fall, which, even if all the acres are successfully harvested, still puts the number below last year's harvest.

So now that nutritionists have coaxed dairy producers into feeding straw to their herds, what can they now recommend to reduce straw usage on farm but still keep animals healthy and productive? Re-proportioning straw for the animals that need it most on the farm is an excellent idea for short-to-

Cont. >>

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Getting the Short Straw: Tips to Reduce Straw Use

By: Laura Martin, M. Sc, Nutritionist

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mid term feed shortages. Straw acres have dropped this low in the past and the resulting high prices encouraged more wheat acres to be planted in following years. Saving the straw for the close up dry cows and finding other feeds, for the rest of the herd, to replace the fibre will help stretch out the straw supply. Even those producers that never jumped on the feeding-straw-band-wagon (because cows should lay on straw not eat it), are likely still using straw for bedding, at least in calving or opportunity pens. Straw use can be reduced here as well. Dry, processed corn stalks or stover can also be used as a bedding pack material, but it must be dry, mould free and of overall good quality.



Corn stover can also replace straw in the diet. In terms of effective fibre and nutrient profile corn stover and wheat are fairly similar (Table 1). Research done at the US Dairy Forage Research Center in Madison, WI found that cows fed diets with corn stover or with wheat straw had similar performance. The main difference between the two fibre sources is that the wheat straw slowed feed passage rate down, increasing rumen retention times. Corn stover does need to be well processed as the large particle size can allow the cows to more easily sort the TMR.

Hay can also work as a replacement for straw. For any group, except the close up dry cows, either grass or legume hay should work. Legume hays can be high in potassium, but milk cows put a lot of potassium into their milk and can use forages high in potassium easily. If you have high potassium hay on-farm the best place to use it is in the milk cow diet. Grass hay tends to have more fibre and less potassium than legume hay (Table 1), so if getting enough fibre is a struggle than grass hay may be a better fit. It would work well for far off dry cows, heifers and milk cow groups as a fibre replacement. Grass hay can also be high in potassium, it really depends on crop management, but high potassium grass hay can still be fed to most groups. Cows only need a low potassium ration for 3 weeks prior to calving, so if dry cows are managed to have a close up ration for those days, feeding some high potassium hay to the far off cows in moderation shouldn't cause a problem in a properly balanced ration.

Table 1: Nutrient Comparison of Roughage Sources

	Wheat Straw	Corn Stover	1C Grass Hay	1C Legume Hay
Dry Matter, %	90.0	85.0	87.0	86.0
Crude Protein, %	4.8	5.0	10.0	16.0
TDN, %	45.7	49.0	57.6	61.0
NEL, Mcal/kg	0.82	1.08	1.30	1.37
NDF, %	73.0	65.0	61.0	49.0
ADF, %	49.4	42.4	37.5	33.6
Lignin, %	8.8	10.0	7.7	7.8
Potassium	0.65	1.35	1.75	2.00

Adapted from Feeding Corn Stover to Ruminants, Eastridge (2007) and SGS Agrifood Laboratories, Hay Summary (2015)



Kenpal Robot Pellets

Draw cows in the free traffic system and produce minimal fines

Joe and Barb Terpstra, along with the help of children Chelsey, Alison, Emily and Cole own and operate Cranbrook Farms, a 300 herd milk cow operation in Brussels, ON. They have been customers of Larry Merner and Kenpal since 2003.

This past July, the Terpstras incorporated 6 Robotic Milking Systems into their operation. "It was a smooth transition and our Sales Rep was there" says Joe. Each day they average 2.9 visits to the robots, per cow and have a minimal fetch rate of less than 5%. "If they're not going in the robots, then there's something wrong with the pellets" says Barb, crediting Kenpal's Robot Pellets as contributing to some of their success with the robots.

When asked what makes the Kenpal Robot Pellets the right choice for their operation, Joe responds by saying "they're hard, stay whole, are palatable and draw cows in the free traffic system". Kenpal's gemSTART Robot Pellets are a blend of protein and energy sources designed to both support milk production and work as positive reinforcement to cows visiting the robots. The high quality pellets contain Herbageum Condiment flavouring agent to attract cows into the robot, and produce minimal fines in the feeders. Kenpal's Robot Pellets provide benefits for both the animals and producers.



Front Row: Joe & Barb Terpstra, Larry Merner
Back Row: Emily, Cole, Alison & Chelsey Terpstra

Since starting the Robotic Milking Systems with Kenpal's Robot Pellets, Joe and Barb have noticed a significant increase in their cow production. They are anticipating an even greater increase in the months to come.

Having just filled their quota and recent incentives, the Terpstra family are looking forward to next year's incentive days with Kenpal by their side.

Joe, Barb, Chelsey, Alison, Emily and Cole Terpstra
Cranbrook Farms
Brussels, ON

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The close up dry cows are the most sensitive group on the farm when it comes to getting a ration balanced. Diets too high in potassium or calcium can put cows at greater risk for milk fever after they calve. If feeding straw is no longer an option then feeding low potassium, low calcium grass hay is the next best thing. All hay fed on the farm should be analyzed before feeding it and low potassium hay should be marked and saved for the close up cows. It is possible to control the level of potassium in grass hay but a field needs to be managed intentionally for a low potassium hay program.

Grasses are actually better than legumes at scavenging potassium from soil. Although grasses have historically been low in potassium this is most likely due to grass fields receiving less fertilizer than legume fields, and grasses being harvested at greater maturities than legume hays. Because grasses can readily pull potassium from the soil, fields that test low for potassium make the best fields to grow low-potassium grass hay. If low potassium soil isn't an option then harvesting when grasses are mature can also help reduce potassium. Flowering grass hay can have half the potassium of grass earlier in the season. Since haylage is typically harvested earlier than dry hay it tends to be higher in potassium than hay taken off the same field. Avoid using potassium fertilizers or manure on the field until soil tests show potassium levels are too low (too low will reduce forage yield). Second cuttings also tend to show lower potassium levels than first cuttings from the same field as the first cut has already pulled potassium from the soil. As low potassium grass hay requires more intensive crop management it is a good thing that only a small percentage of the herd requires this specialized hay. Whether low potassium hay is directed to all the dry cows or just the close up dry cows it really doesn't require that many acres to grow a year's supply (Table 2).

Table 2: Minimum Low-Potassium Grass Hay Requirement for Dry Cows

	50 Cow Dairy	100 Cow Dairy	300 Cow Dairy
60 Day Dry Period			
Tonnes/Year	14	27	81
Acres Needed	5	10	30
Just the 21 Day Close-Up Period			
Tonnes/Year	5	10	30
Acres Needed	2	4	12

**Assumes 5 kg hay/cow/day*

Adapted from Growing Low Potassium Grass Hay for Close-up Dry Cows, McFadden (2008)

While straw really is ideal for providing necessary scratch for milk cows and a low potassium filler for dry cows there are other alternatives available. Corn stover and hay can be used to replace some of the straw on farm, and growing low-potassium hay allows for straw use to be cut back significantly. It's not too late to start planning for spring planting!



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