



UNDERSTANDING THE FEED TAG

What is not stated on the tag can be as important as what is

BY WAYNE SKELTON

You've just backed up to the barn and unloaded the bags of feed you picked up at the local feed store. It's chore time and as you open a bag, the first thing you do is rip the feed tag off to get at the stitching. Some of you will simply throw that tag in the garbage, but some will notice that there is a lot of information on that little piece of paper. What does it all mean? The following article will walk you through what is stated on the tag, what is not on the tag and how to recognize a few clues which can help give you an indication of the quality of that feed as compared to others.

Let's start with the question: What is a feed tag? Simply put, it is a label that contains required, specific information from the manufacturer of the feed, to you the end user. The tagging or labeling of feeds in Canada is controlled by "Feeds Act R.S.C., 1985, c. F-9" and enforced by the Canadian Food Inspection Agency. It spells out the nutrient concentration, feeding instructions, levels of and specific claims of medications and drug withdrawals and the warnings and cautions associated with the product. All feed tags in Canada will be expressed in metric measure but as I work in the beef industry, tradition prevails and our language of choice on the ranch is usually imperial, or in pounds and ounces. This is something that all of us who choose to continue to use the imperial system need to be aware of, so the appropriate conversions can be made to ensure correct nutrition and responsible medication use.

To help explain, let's refer to our sample feed tag.

The most important feed nutrient for livestock is energy. Energy supports maintenance and fuels performance and reproduction

12% BEEF CATTLE RATION

Usually the first piece of information we will see is the actual feed name. We can clearly see that this product was formulated for beef cattle. The 12% refers to the product's crude protein content. As well, the *type* of feed will be part of the name. Three types are common: rations, supplements and minerals/premix.

In our example, feed is a ration which is usually fed at two to five kilos or higher per head per day along with on-farm roughage, such as hay. The ration contributes energy, protein, minerals and vitamins to the animal's diet.

If the term supplement were in the name, it would have typically been formulated to be fed at one half to one kilo per head per day and would primarily supplement the diet with protein, minerals and vitamins. Supplements are normally blended or top dressed with the producers, on-farm grains and roughages.

Feed tags bearing the names mineral or premix would contribute the mineral and vitamin fortification to the diet as blended, top dressed or offered free choice to achieve usual feeding rates of 100 – 220 grams per head per day.

GUARANTEED ANALYSIS

The guaranteed analysis is a list of the nutrient concentrations as calculated by all of the nutrients contributed by the ingredients in the formula. Most feed companies with a responsible feed quality control protocol in place will randomly submit a sample for nutrient analysis to ensure that, within accepted tolerances, those sample results agree with their guaranteed analysis. Although selenium is a trace mineral, it will be stated separately on the feed tag instead of being included in the guaranteed analysis with the other trace minerals.

One nutrient expression that can sometimes cause a little confusion is "Equivalent Crude Protein from Non-Protein Nitrogen" or sometimes stated as ECP from NPN. For the vast majority of feeds this is an indication that the feed contains urea and contributes to its crude protein. In the rumen, true protein is broken down into nitrogen. Urea is nitrogen. One gram of feed grade urea contributes the equivalent of 6.25 grams of protein to the rumen.

There are upper limits to which urea may be fed and it cannot be utilized by monogastric or single stomached animals such as horses, pigs, poultry, the family dog and young calves without fully functional rumens. This is one of many reasons why producers should feed species specific feeds only to the livestock for which the feed was formulated.

Foot Hills

12% BEEF

Medicated with monensin (as monensin sodium) 600 mg/kg for the prevention of coccidiosis caused by *Eimeria bovis* and *Eimeria alberti*.

This feed contains added selenium at 0.534 mg/kg.

GUARANTEED ANALYSIS:

Crude Protein (min)	12.0 %	Sodium
Crude Fat (min)	1.5 %	Vitamin
Crude Fibre (max)	15.0 %	Vitamin
Calcium (act)	0.1 %	Vitamin
Phosphorus (act)	0.2 %	
Equivalent Crude Protein from Non-Protein Sources		

A list of ingredients used in this feed may be obtained upon request.

FEEDING INSTRUCTIONS: Feed 12% Beef Cattle Ration as a supplement to dry matter. Feed at the rate of 0.73% of body weight per day. Feed in conjunction with mineral, salt and other feeds available at all times.

NOTE: Complete diets refers to the complete feed on a dry matter basis

Animal Body Weight (kg)	Dry Matter Intake (kg/head/day)
500	10.0
540	10.8
580	11.6
620	12.4

WARNING:

1. Do not supplement monensin from other sources (e.g. Rumensin Controlled Release Capsule).

CAUTIONS:

1. Directions for use must be carefully followed.
2. Do not use in association with another feed.
3. Do not exceed recommended levels as recommended.
4. Do not allow dogs, horses, other equines to ingest this feed. Ingestion of monensin by these species has caused death.
5. Do not use monensin-medicated feed for pregnant animals.

Feed is perishable, store in dry area free from insects. Ingestion of this feed can cause illness or death. This feed contains

Manufactured by Foot Hills M

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Mills Mills Ltd.,

BEEF CATTLE RATION

60 mg/kg (0.0060%) as an aid in the prevention of coccidiosis caused by *Eimeria bovis* and *Eimeria Zuernii* in cattle.

- Monensin (act) 0.03 %
- Monensin A (min) 13,333 IU/kg
- Monensin D (min) 1333 IU/kg
- Monensin E (min) 13 IU/kg

(max) 0 %

Obtain from the manufacturer or registrant.

Feed to beef cattle consuming 2% of their body weight per day in the ration or consult the feeding chart listed below.

Encourage animals to eat to appetite. Have a good supply of clean fresh water available.

The ration plus the roughage and must be corrected back to a 100% dry matter basis.

Monensin Activity (mg/head/day)	Amount of 12% Beef Cattle Ration (Kg/head/day)
220	3.66
238	3.96
255	4.25
273	4.55

Do not mix with other sources (e.g. other feedstuffs containing monensin or the active ingredient).

Do not feed to animals containing supplemental selenium. Reduced average daily gains may result.

Do not allow chickens or guinea fowl access to formulations containing monensin. Access has been fatal.

Do not use for the treatment of outbreaks of coccidiosis.

Protect from insects and rodents. Do not feed moldy or contaminated feed as monensin does not add copper. Do not feed to sheep.

Mills Mills Ltd., Wingfield Alberta, Canada

NET WEIGHT

MEDICATION

“Medicated with monensin (as monensin sodium) 60 mg/kg (0.0060%) as an aid in the prevention of coccidiosis caused by *Eimeria bovis* and *Eimeria Zuernii* in cattle.”

If the feed is medicated, this is usually stated immediately under the feed name. You’ll see the actual drug name, its concentration in the feed and the claimed effect of the medication.

This particular feed product has been medicated with monensin sodium. However the brand name of the medication used will not be listed. Currently there are two brands available to feed manufacturers that could have been used to medicate the feed we used as an example. As monensin sodium can safely be fed at approved levels to beef cattle right up until slaughter, this tag carries no statement within the “Warnings” imposing a withdrawal period of the medication from the animal. This is not the case with many other approved or veterinary prescribed feed medications. Read your tag!

INGREDIENTS

“A list of ingredients used in this feed may be obtained from the manufacturer or registrant.”

All feed manufacturers in Canada are obligated to provide, at the request of the end user, a list of all of the ingredients used to produce that feed in question. There is no such obligation to reveal the actual amounts, or the recipe of those ingredients that make up a tonne of that product. Many dollars are spent in feed research by individual feed manufacturers and these researched discoveries are their competitive edge in the marketplace. As such, those formulas are usually kept protected.

FEEDING INSTRUCTIONS

Feeding instructions are generally straightforward and are developed to ensure that at the least the minimal, and at the most, the maximum amounts of any particular nutrient is supplied to the animal as specified in “Table 4” of the Canadian Feeds Regulations 1983 Feeds Act, and that the medications are delivered at the correct dose. For example, selenium can be fed up to a maximum of 3mg per head per day. If we look at our highest feeding rate on this tag of 4.55 kg per head per day and multiply that by the selenium level of 0.534 mg per kg, we have delivered 2.42 mg of selenium, stayed below the maximum and still medicated the animal correctly.

Early in my career in livestock nutrition, I would found myself on farm in the position of comparing my feed tag against a competitors feed tag. That day,

Continued on page 30

FEEDING INSTRUCTIONS *continued*

I might have more phosphorus while a competitor might have a higher calcium level. And on the comparisons would go.

I have since come to understand that this can be a very perilous way of determining the quality of a particular feed. Although I have just spent many paragraphs explaining the volumes of information on a feed tag, that information at face value really does not give a clear indication of *quality*. For example (and strictly hypothetically!), let's assume we have a tag in front of us. The guaranteed analysis states: 18% crude protein, 4.5% fat and 16% fibre. At first glance this appears to be a well-fortified product. And it probably is. However, this product could have been formulated with woodchips, clay, 10W30 motor oil and lawn fertilizer and still calculate to the above guaranteed analysis. There are many different ways to get to an 18% protein level! I have since learned how to recognize some clues on a tag to get some idea of its quality.

The most important feed nutrient for livestock is energy. Energy supports maintenance and fuels performance and reproduction and would be one reliable indicator of the quality of our 12% example ration. However, energy is not required to be listed or expressed on any feed tag in Canada. Today when comparing feed tags I will observe the fat levels, as generally speaking the higher the fat percentage, the higher the energy concentration. The fat level of corn is 3.0% whereas barley is about 2.5%. If a combination of those grains are used as major ingredients in a ration and then diluted down with protein, mineral and vitamin sources, I would still like to see a fat level of at least 2.0% to 2.25% if I were to expect reasonable gain from that feed.

Feed tags expressing fat levels of over 3.0% are a good indication that additional fat or oil has been added or that high fat by-products have been used as ingredients, producing a feed that is relatively high in energy.

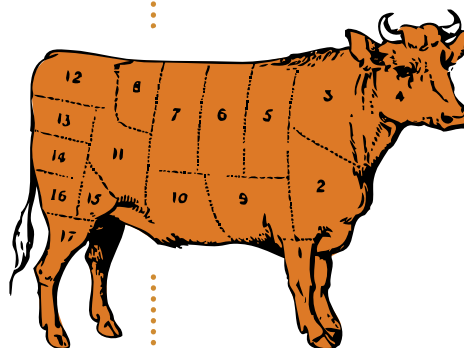
One other nutrient that I pay attention to in a ration type feed is the fibre. Lower fibre levels tend to suggest a higher energy feed. A fibre level of 15% to 16% would be the maximum I would like to see in a feed for growing cattle.

Usually, if I encounter a fibre level in excess of 20% and the feed is relatively cheap, I suspect a high fibre, low energy ingredient has been used. Oat hulls come to mind. Although oat hulls have their place in livestock nutrition, one needs to recognize that they are high in fibre, contribute almost no energy to the ration, are good fillers and are cheap.

The difficulty in using fibre as an energy indicator is that some ingredients such as beet pulp, soybean hulls, and wheat shorts are also high in fibre. They contain digestible fibre and unlike other fibres, the rumen can break this down and use it as an energy source. Some excellent calf creep rations with these types of ingredients will have fibre levels in excess of 20%. A list of ingredients or a discussion with your feed dealer will assist you in determining the quality of the feed in question.

We have discussed how to recognize urea from the feed tag and although I do not consider urea to be a poor quality protein source, it is best fed to cattle on high grain rations and should not be considered for cattle less than 400 lbs. Identifying it will help us place the right feed in front of the right cattle. When comparing feed tags, the inclusion of urea also tends to bring the cost of a feed down assuming all other nutrient levels are similar.

This product could have been formulated with woodchips, clay, 10W30 motor oil and lawn fertilizer and still calculate to the guaranteed analysis



UNDERSTANDING MINERAL AND PREMIX TAGS

Occasionally, on mineral or premix feed tags, the sources of minerals used may be listed. When evaluating different mineral feeds, keep in mind, the absorption rate by the ruminant from the most available (usually most expensive) to the least or unavailable (usually cheap) are chelates, followed by sulphate sources, followed by oxide sources.

Be cautious, as it is possible that even when the nutrient specifications appear to be similar, the least expensive product could prove to be the most expensive if the animal can only metabolize a small fraction of the nutrients claimed on the tag.

While not implied on a feed tag, another indicator of the feed quality is the cattle themselves. Cows don't lie! If good management and quality genetics are there, then a good quality feed will allow them to express that.

After many years in the trenches of the feed trade, working for and competing with some of the best feed manufacturers in Canada, I can best describe it as extremely competitive. Given that, one last piece of advice I might end with is that although I wouldn't ask you to blindly accept this idea, I find that more often than not, the price tag can be a strong indicator of quality. You generally get what you pay for. As a producer you need to determine whether your stock can utilize low quality or will require high quality feed, or something in between.

These are some of the more basic points of information regarding the feed tag and usually satisfy most of the inquiries I would encounter on farm. Much more detailed information can be found at; www.inspection.gc.ca/english/anima/feebet/regdir/sect4_1e.shtml

I encourage you to work with a nutritionist or feed company you are comfortable with, ask lots of questions, understand your feeds and how to feed them and then stand back and watch them critters grow!



Livestock nutritionist Wayne Skelton has years of experience in formulating feeds.

For over 25 years Wayne Skelton has worked for a number of feed companies in Canada as a beef specialist. He also owns Skelton Cattle Company, a purebred Hereford outfit and he offers nutritional consulting services. For more information: www.skeltoncattlecompany.com or t. 780 839 8600.