

Considerations for Feeding Raw Whole Soybeans

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Low agricultural prices and in some situations damaged or wetter than ideal soybeans that may not be marketable or receive large discounts when sold have some beef producers considering feeding raw whole soybeans to their beef cattle to be able to get higher value or make some use out of them.

If you are looking at feeding them primarily due to the low prices, it will be worth comparing their value as a protein source to other protein supplements to make sure that feeding them is a better economic decision than selling them, even at the low prices. UW Extension has a new feed cost comparison spreadsheet at the Wisconsin Beef Information Center website that can make that task easier.

<https://fyi.uwex.edu/wbic/decision-tools-and-software/>

Raw soybeans can be used in cattle rations with some limitations to prevent potential problems from occurring. Following is a list of factors from Aaron Berger, University of Nebraska Extension Beef Educator, to take into consideration when using raw whole in beef rations.

- Soybeans are approximately 40% crude protein and 20% fat.
- Soybeans should be introduced gradually into the diet.
- High fat levels in cattle diets can negatively impact fiber digestion. Soybeans should not be feed a level higher than needed to meet protein requirements in the diet. In growing calves, limit soybeans to 7% of the diet or less and 5% or less in finishing diets.
- Raw soybeans contain a trypsin inhibiting enzyme that is important to protein digestion in non-ruminants and monogastrics. Nursing calves and calves less than 300 pounds should not be fed raw whole soybeans.
- The protein in soybeans is approximately 70% rumen degradable and 30% rumen undegradable. Growing calves being fed corn silage and other feeds that are low in rumen undegradable protein show improved average daily gain performance when protein sources such as distillers grains that are high in rumen undegradeable protein are utilized to meet protein needs. Feeding raw whole soybeans in the place of distiller's grains to meet protein needs in a diet that is predominantly corn silage would likely result in decreased animal performance.
- Raw whole soybeans have a total digestible nutrient value of 91%. They might be a price competitive protein source at current commodity prices, there are other sources of energy that are more economical. It is important to do your homework to make sure they are an economical protein option in your situation.
- For mature cows on forage based diets, soybeans should not be fed at more than 10% of the diet on a dry matter basis. This would be approximately 2-3 pounds on a daily basis. Cows

needing 0.4 of a pound of supplemental crude protein per head per day could be fed two pounds every other day and meet their protein requirement.

- Urea should not be fed in combination with raw soybeans due to the urease activity of soybeans and risk of ammonia toxicity.

Raw whole soybeans can be a good protein source in a ration when used judiciously to avoid potential problems from the qualities they possess that can cause problems for cattle. It is also important to evaluate them on a price for feed value basis to make sure feeding them is a good choice economically as well.