

# Feeding Whole Soybeans to Cattle

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Due to lower price of raw soybeans, farmers are considering feeding whole soybeans to beef cattle and other farm animals. Contrary to some producers' belief, the protein in raw soybeans appears to be utilized as efficiently as the protein in solvent soybean meal. No nutritional advantage for cooking, roasting, or extruding soybeans has been shown when fed to beef cattle. The high fat content gives whole soybeans a higher energy value than corn. However, this high fat content does limit the amount of whole soybeans that can be used to advantage in beef cattle rations. Also, the fat in ground raw soybeans will become rancid after a few days of storage in hot weather. Cooking or other high heat treatment of soybeans will inactivate enzymes that cause the fat to become rancid, allowing potentially longer storage time.

The bottom line when feeding whole soybeans to cattle can be summarized as follows:

1. Whole soybeans can be used efficiently to supply protein in beef cattle rations.
2. For best results limit whole soybeans to 15% of the total ration dry matter. Higher levels of soybeans in a ration may cause scouring, acidosis, decreased performance, and may cause cattle to "go on and off feed."
3. Raw soybeans contain urease so they **should not** be mixed with urea in a ration.
4. Storage molds can be extremely toxic, so beans with storage molds should not be fed to livestock unless extreme care is exercised.
5. Beans should be below 13% moisture to prevent bin molding.
6. Beans should be introduced to animals slowly and increased gradually.
7. The beans should not be fed to young calves that do not have a functional rumen.
8. Raw soybeans at times offer an opportunity for beef cattle producers to lower their feed costs and improve profitability provided they have the equipment and facilities to feed beans to beef cattle.
9. **A word of caution:** Soybeans treated with many herbicides **cannot** be used for livestock feed. If in doubt, read the label!

## **Soybeans Enhance Conception Rate**

Feeding whole soybeans to ruminants seems to protect a portion of the fat from degradation in the rumen. Recent trials by Zumbrunnen and others at the University of Missouri indicate that whole soybeans can be an economical way (at least based on today's prices) for delivering a level of unsaturated [fatty acids](#) necessary to increase early conception rates in beef cows. In these studies beef cows fed rations containing whole soybeans (3.5 pounds per head per day for 50 days prior to breeding) had more calves than cows fed traditional supplements (an equal ration containing corn gluten feed and soybean meal). First service conception for the cows fed the whole soybean supplementation showed a 15% improvement in conception rate compared to the traditionally supplemented cows. In a similar study conducted at the MU Thompson Research

Farm, the results were even more dramatic with over a 20% advantage to the whole soybean supplemented cows. Interestingly, work done at the USDA Research Center in Miles City, Montana, found that calf survivability was improved when cows were fed high fat [diets](#) prior to calving. However, in the Missouri study no difference in survivability between treatments was recorded.

Studies from Missouri, [Texas](#), Montana, and New Mexico have all demonstrated that fat supplementation (at appropriate levels) in the gestation [diet](#) of first calf heifers could have a positive effect on the subsequent reproductive rate and calf weaning [\[](#)