

COTTONSEED HULLS AS A ROUGHAGE FOR DAIRY COWS

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Drouthy conditions and limited roughage supplies demand that dairymen consider all possibilities in meeting the roughage needs of their herds. Under normal conditions, cottonseed hulls are not recommended for dairy cows. Certainly, they are not considered top quality roughages. However, under abnormal conditions causing a scarcity of high quality roughages, it may be necessary to feed hulls.

The analyses below give a comparison of cottonseed hulls and Johnson grass hay:

	<u>Crude Protein</u>	<u>Fiber</u>	<u>Nitrogen Free Extract</u>	<u>Digestible Protein</u>	<u>Net Energy Value</u>
Johnson grass hay	6.5	30.4	43.7	2.9	38.7
Cottonseed hulls	3.9	46.1	37.2	0.0	30.6

The above figures indicate that cottonseed hulls are worth somewhat less per ton than mature Johnson grass hay, Bermuda grass hay, Sudan grass hay or sorghum hay when fed in a manner to take care of certain known deficiencies.

There are at least two situations in which cottonseed hulls may need to be used as a roughage for dairy cows:

1. The herd owner has good hay and/or silage but not enough to last through the year; therefore, he must stretch his supply. Under these conditions, cottonseed hulls are used to the best advantage when fed in combination with a higher quality roughage such as a good grass or legume hay or silage.
2. The herd owner has no hay or silage and the only roughage produced is whatever scanty pasture may be available. These are extreme conditions and cottonseed hulls are fed as a last resort. The grain ration under these conditions should contain 24 per cent protein.

Cottonseed hulls are low in calcium and phosphorus and lack Vitamin A. When hulls are fed as the only roughage over a long period, these nutrients must be supplied in other forms if deficiencies are to be prevented. If both calcium and phosphorus are needed, they should be supplied in the form of steamed bone meal. When it is necessary to add only calcium, use limestone or oyster shell flour. In addition to adding these supplements to the grain ration at the rate of one per cent, a mixture of two parts steamed bone meal and one part salt should be fed free-choice. Vitamin A should be provided by feeding dehydrated alfalfa and alfalfa leaf meals of guaranteed carotene potency at the rate of two to four pounds per cow daily. Herd sires should be fed mineral and vitamin supplements when receiving low quality roughage such as hulls.

Cottonseed hulls will average about 43 per cent total digestible nutrients. This means that in a ton of hulls there are 860 pounds of TDN. At \$20 per ton the nutrients will cost about two and one-third cents per pound. To this cost per pound of nutrients must be added the cost of additional minerals, vitamins, and protein that will have to be fed along with hulls. In other words, the price of the hulls will eventually determine their worth as a feed and their comparative cost with other feeds.

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