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## Should I Save my Spouted Wheat to Feed to my Cattle?

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Receiving adequate rainfall in mid to late spring can be a mixed blessing. The moisture is vital for pastureland and establishing summer crops, however, the wet weather may delay the harvest of small grains and the additional moisture may lead to sprouting. Sprouted grains are usually considered unsuitable for milling or distilling, however they can serve as an excellent source of nutrients for cattle.

Wheat is commonly used for human consumption. Therefore it is usually priced higher than other feedstuffs and therefore not utilized for livestock consumption. Sprouted wheat, however is discounted heavily at the mill and may be economically feasible to incorporate into beef cattle rations.

### **Feed Value**

Data from Idaho and Washington State indicate nutrient value and animal performance are not affected by utilizing sprouted vs. normal wheat. Table 1 presents data comparing sprouted and normal wheat in Idaho. There is actually a concentration of nutrients through the sprouting process, but the bushel weight goes down due to bulkiness of the sprouts. Additionally, these data show that wheat can be included in the diet of growing animals up to 24% before ADG and feed efficiency begin to decline (Table 2). Feeding trials from Washington State show similar performance when comparing normal wheat, low sprouted wheat (9% sprouted kernels), and high sprouted wheat (58% sprouted kernels). Research from Michigan State show that including sprouted wheat in the ration above 20% may cause palatability issues.

Table 1. Nutrient comparison of normal and sprouted wheat (Idaho).

	<b>Normal</b>	<b>Sprouted</b>
<b>Bushel wt, lb</b>	60.4	55.9
<b>CP, %</b>	12.3	13.2
<b>Crude fiber, %</b>	3.2	3.6
<b>Fat, %</b>	0.8	0.9

Table 2. Effect of inclusion of sprouted wheat on animal performance (Idaho).

	Sprouted Wheat in Ration			
	0 %	12%	24%	36%
<b>ADG, lbs</b>	2.28	2.30	2.41	2.34
<b>Feed:Gain</b>	8.94	8.56	8.46	8.89

### Economics

The most important management decision in utilizing sprouted wheat is determining if it is economical to utilize in beef rations. The big question is, “Should I take the discount for sprouted wheat at the mill, or should I use it to replace corn in a ration for my cattle?” Wheat is very similar in energy to corn, but is actually higher in CP. Most likely wheat will be considered solely as an energy replacement; therefore Table 3 evaluates the price at which wheat will economically replace corn. Please note that there is potential for additional replacement of CP supplement, but for simplicity of comparison, here it is only compared as an energy feed.

Table 3. Evaluation of price at which sprouted wheat can economically substitute shelled corn.<sup>a</sup>

Price of corn, \$/bu	Price of wheat, \$/bu
\$2.50	\$2.44
\$3.00	\$2.93
\$3.50	\$3.42
\$4.50	\$4.40
\$5.00	\$4.89
\$5.50	\$5.38
\$6.00	\$5.87
\$6.50	\$6.36

<sup>a</sup> Calculations based on sprouted wheat = 88% TDN and 56 lb/bu; corn = 90% TDN and 56 lb/bu.

### Feeding and Management Considerations

Sprouted wheat can be higher in moisture and therefore have the potential for mold and toxins. Previous studies have not reported problems with mold. However, if sprouted wheat is stored at moisture levels conducive to spoilage, the grain should be observed for mold, and subsequently tested for the presents of mycotoxins.

Wheat is a high energy feed that derives this energy predominantly from starch. The starch from wheat is more rapidly fermentable than corn. For that reason, when considering including sprouted wheat in a ration, it should be included with caution to avoid potential acidosis and/or founder. Sprouted wheat should be introduced into the diet in a step-up program if fed over 10% of the diet. Introduction should start at 10% and stepped up in increments of 10% every 4-5 days or when constant intake and appetite are observed.

### Summary

Sprouted wheat has the potential to be an excellent source of nutrients for cattle. When considering buy or retaining sprouted wheat, understanding its feasibility is essential before incorporating it into a ration. For additional information, please contact your local Cooperative Extension office.