EFFECTS OF DIFFERENT LEVELS OF CORN GLUTEN
FEED IN RATIONS FOR BEEF CATTLE

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Corn gluten feed (CGF) is by-product of wet-milling corn in the manufacture of corn starch or syrup. On the average this product contains about 22.0% crude protein, 2.0% ether extract and 9.0% crude fiber. Some studies with species other than ruminants, such as swine and poultry, have demonstrated that CGF might be satisfactory to replace a part of the protein supplement although CGF generally is low in protein quality. Possible replacement with CGF in ruminant rations has received little study, especially with forage based diets. Therefore, there is a need for research to establish the limits and value of corn gluten feed in rations for grazing beef cattle.

Past OSU research has shown supplementation with soybean meal to produce very positive and economical responses in daily gain in stocker cattle. Moreover, intake and digestibility of forage were improved substantially by soybean meal when stocker cattle were fed medium quality prairie hay. The objective of this study, therefore, is to determine the effects of replacing soybean meal supplements with different levels of CGF when beef cattle heifers are fed a basal diet of medium quality prairie hay (harvested in early to mid July). Fifteen heifers will be fed five different protein supplements in a replicated 5 x 5 Latin square design trial. Hay will be labeled with markers of chromium oxide and Ytterbium to estimate digestion parameters and rate of passage.

The next stage of the study will involve a feeding trial using five heifers with ruminal and duodenal cannulae. Animals will be fed rations as in trial 1 to estimate the rate of disappearance of CGF from dacron bags placed in the rumen and to measure the protein bypass to the duodenum by using a dual marker system.

This study should provide information on the potential usefulness and preferable level of CGF in supplements for grazing beef cattle such as stockers and perhaps beef cows.

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