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What To Expect From Feeding Cottonseed ExPress® Meal To Dairy Cows

A recent study was conducted by Dr. John Shirley and his co-workers at Kansas State University titled "Extruded-Expelled Cottonseed Meal (ExPress Meal) As A Source of Protein And Fat For Lactating Dairy Cows." The objective of this study was to evaluate the effect of ExPress meal on milk yield and components when substituting for whole cottonseed in diets for lactating cows. The study involved 24 holstein cows fed in four groups comparing the following combination of ingredients in a Total Mixed Ration (TMR):

1. 6 lbs. of raw whole cottonseed + 2 lbs. distillers' grains.
2. 3 lbs. of raw whole cottonseed + 2 lbs. distillers' grains + 3 lbs. ExPress meal.
3. 6 lbs. ExPress meal + 2 lbs. distillers' grains.
4. 8 lbs. ExPress meal.

Dr. Shirley made the following observations:

- a. Cows' acceptability of the ExPress meal was excellent throughout the 84 days study (June-September) when the ambient temperature exceeded 100° F for 35 of the 84 days.
- b. Long term storage of ExPress meal in a commodity barn was not a problem.
- c. ExPress meal provided an excellent source of highly undegradable Rumen Protein (75% by-pass protein), an excellent source of highly digestible intestinally absorbable protein, fat and positive contribution to NDF and ADF in high energy diet.
- d. The use of ExPress meal in TMR reduces the number of ingredients needed to formulate diets for high producing dairy cows.

The result of the trial revealed the following:

1. Substituting ExPress meal for 50% or 100% of the raw whole cottonseed in the diet did not affect milk yield or composition even though the fat content was reduced suggesting that additional fat supply by raw whole cottonseed is not efficiently utilized by the cow.
2. The protein in ExPress meal was not only high in by-pass, but was quite digestible in the intestine which is critical to its success as a supply of absorbable protein.
3. Feeding distillers grains with ExPress meal did not result in any further benefits suggesting that ExPress meal provided sufficient amino acids to support production levels observed.

Contact Insta-Pro for the complete paper and data.

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