Cottonseed found desirable for dairy cows

Dr. George F.W. Haenlein **Extension Dairy Specialist** University of Delaware

NEWARK, Del. - Whole cottonseed recently became available in the Northeast. Should you buy it as part of your dairy feeding program, and if so, under which circumstances?

Only sunflower seed equals whole cottonseed in its triple high values of energy-fat, protein and fiber. This makes either seed very attractive as a feed for early lactation dairy cows. Recent analyses show whole cottonseed has an average 21 percent crude protein in the dry matter, 18 percent fat, 29 percent crude fiber

(40 percent acid detergent fiber), 0.15 percent calcium, 0.62 percent phosphorous, 96 percent TDN, 1.01 megacalories net energy and a protein solubility of 41 percent.

Based on its combined energy and protein content, the dollar value of whole cottonseed would be \$166 per ton, if corn is \$3 per bushel and soybean oil meal (SBOM) \$240 per ton. At the same SBOM price but a cheaper corn price of \$2.50, whole cottonseed shouldn't cost more than \$149 to be comparable. Additional "opportunity" prices over a wide range of corn and SBOM prices are available from

Recent research in several herds with large numbers of highmilking dairy cows has shown that feeding whole cottonseed stimulates and supports even high milk production. Substituting usual dairy grain mixes with up to 20 percent whole cottonseed resulted in increased milk per cow even when the energy contents were equal. Milk fat percentages were slightly increased, too.

Digestive use of whole dairy rations was shown to improve in protein, fat and total energy, when increasing amounts of whole cottonseed were added.

In a comprehensive study, involving 55 California dairy herds to determine any possible side effects, when the recommended upper level of as much as 61/2 pounds whole cottonseed per cow was fed daily, no negative effects were observed in frequency of displaced abomasum, ketosis, milk fever, retained placenta or contents of milk fat, protein and solids-not-fat. Even 14 pounds per cow daily had only positive effects in milk and milk fat production (an increase from 68 to 72 pounds of

milk, on the average).

Calves also showed improved growth rates when fed whole cottonseed at 25 percent of the concentrate ration.

Cottonseed is toxic to swine and poultry, but not normally to ruminants, because a yellow pigment called "gossypol" in cottonseed (about 1 percent) can cause depressed blood hemoglobin and increased red blood cell fragility. Gossypol has been identified in blood plasma and liver, but not in milk in experiments feeding as much as 22 pounds of cottonseed per day to

However, aflatoxin has been

detected in some cottonseed samples, which could endanger the health of cows and humans, since it is excreted in milk. In such cases, ammoniation of cottonseed (1.5 percent for 21 days) has successfully reduced aflatoxin contents to negligible levels. Normally, aflatoxin occurs no more often in cottonseed than it does in corn or soybeans.

Feeding cottonseed, in my opinion, is indicated--even desirable-when:

*The price is right, *high milking cows need extra feed energy support, and *cows testing low milkfat percentages and improvement.

Machine Work

Speaker chosen for convention

EPHRATA - Brenda L. Dawson, Director of Member Services for The Fertilizer Institute in Washington, D.C. will be one of the three guest speakers to be featured at Pennag Industries' Annual Convention at the Philadelphia Adam's Mark Hotel, October 6-8. Ms. Dawson will address the convention on the topic of: "Environmental Issues and the Fertilizer Industry."

Ms. Dawson joined The Fertilizer Institute in August 1983. At TFI she works to formulate responses to federal regulatory

proposals which might impact the fertilizer industry in the areas of resource management and product quality. Also within these areas, she is responsible for representing and informing the industry of issues such as fertilizer use, water quality, fertilizer laws, and methods of fertilizer analyses.

Dawson received her bachelor's degree in biology, and her master's degree in environmental science and engineering from Virginia Polytechnic Institute and State University.





PLATE SHEARING AND PRESS BRAKE WORK

HIGH TENSILE WIRE FENCING

Approx. 3,000 ft. of 11/4"

Fin Heat Pipes, 11/4"..... * 1.25 per ft.

D.S. MACHINE SHOP **DAVID E. STOLTZFUS**

3816 E. Newport Road Gordonville, PA 17529 1 Mile East of Intercourse on Rt. 772

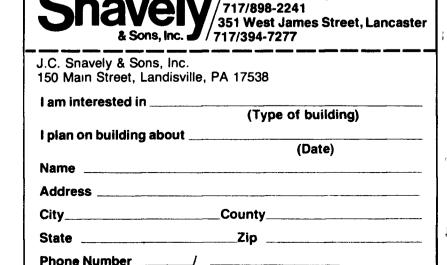


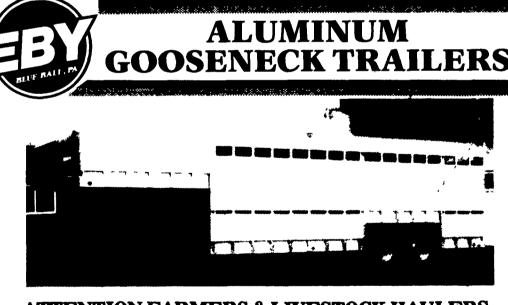
"Designed for your needs... to your specifications"

- Pole Barns
 Poultry Houses
 Dairy Barns
- Horse Stables Riding Arenas Utility Buildings
- Hog Houses Cold Storage Equipment Sheds
- Storage Buildings Work Shops Residences

To help you plan your building and write your own specifications, a professional Snavely field representative is ready and willing to assist you. For over 100 years Snavely has satisfied thousands of area farmers. Snavely's factory fabricated panels, walls, trusses, etc. not only make erection easier and faster but also save you considerable money. For a no-charge, no-obligation consultation on your building requirements, phone, visit, or mail the coupon below.

 $^\prime$ 150 Main Street, Landisville





ATTENTION FARMERS & LIVESTOCK HAULERS:

ALUMINUM EBY GOOSENECK TRAILERS, Standard Specifications:

LENGTHS AVAILABLE: 14' to 28' (longer lengths available as option) WIDTHS: 96" Standard - 102" Optional HEIGHT: 6'6" Standard - 7'6" Optional

A versatile, lightweight, Eby aluminum stock trailer is built to provide years of maintenance free service. An Eby trailer is custom built to fit your individual hauling needs - No mass production! We use only quality components and strong alloy aluminum to manufacture what may be the last trailer you'll ever buy.

CONSIDER THE FEATURES OF AN **EBY ALL-ALUMINUM TRAILER**

LIGHTWEIGHT

Eby stock trailers are 25-35% lighter than comparable steel trailers Less weight means better fuel mileage or increased

MAINTENANCE

Eby aluminum trailers won't rust Welding and painting can cost you dollars in down time and repairs

DURABILITY Eby trailers are built tough Quality components of 6061 alloy

aluminum provide the ruggedness required in a livestock trailer For more information on the economical choice in livestock trailers, contact:

NEW AND USED ALUMINUM GOOSENECKS FOR SALE

• (2) New 18 Ft. Wranglers

Used 24 Ft. Eby

