

CONSULTANT CORNER/DAIRY TECH TALK

'DO YOUR HIGH-ENERGY PRODUCTS FIT WITH ALFALFA SILAGE?'

A combination of nitrogen and protein sources are featured in high-energy Purina® Dairy products (Maxi-Tech® Super-EXT® and Ultimate EXT®). Result of studies at Purina Mills' Dairy Research Unit indicate that rumen microbial activity is increased and digestibility of ration fiber components are improved when urea is added as a nitrogen source to fat-containing rations.

"...Can We Still Feed Ultimate EXT?"

Customers frequently ask, "Can we still use the protein and nitrogen sources in Ultimate EXT to obtain high production? We're feeding high-quality alfalfa silage". These managers have heard suggestions that "too much soluble protein" will result in rations of this type. Furthermore, some have been counseled that all rations which use high-quality alfalfa silage must have exotic protein sources added to the ration. Protein sources usually recommended with these opinions are blood meal, fish meal, and other animal by-products. Reasons for including these protein sources include: "too much soluble protein"; "not enough bypass protein"; or "blood urea nitrogen levels will be too high". Seldom mentioned are the added expense of some of the protein sources or a potential lack of palatability associated with these protein sources. Even with total mixed rations, palatability can be a problem when large amounts of some animal by-product protein sources are fed.



Don Deetz
Dairy Consultant
Purina Mills

Research With Alfalfa Silage

Researchers at the University of Wisconsin supplemented an alfalfa silage ration with grain and various protein supplements to investigate production responses. Details of the ration were:

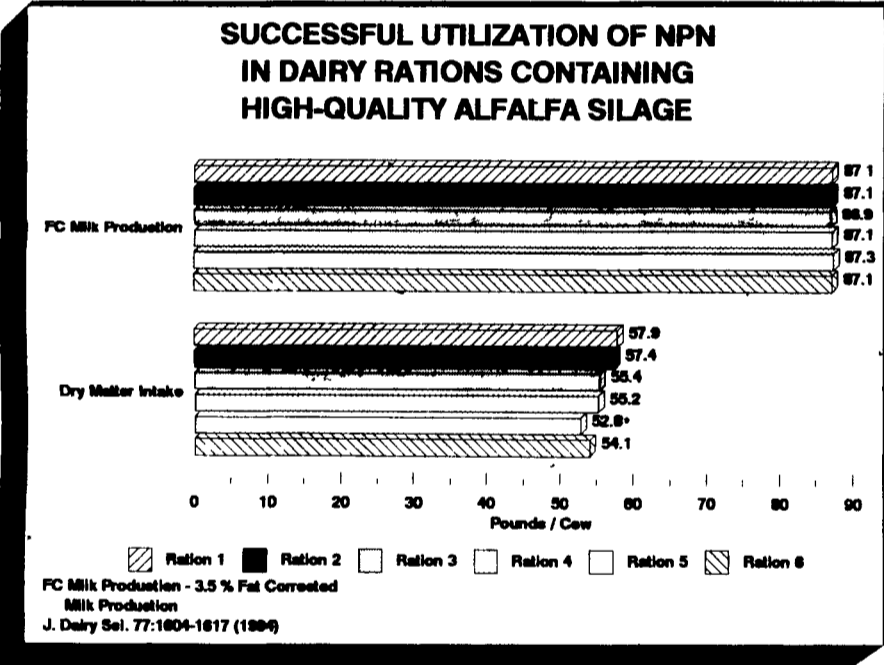
- ° Ration Was: 60% Alfalfa Silage; 40% Grain (Dry Matter [DM] Basis)
- ° Alfalfa Silage Was:
 - Dry Matter 45.9% DM Basis
 - Crude Protein (CP) 20.2% DM Basis
 - Acid Detergent Fiber 36.7% DM Basis
 - Neutral Detergent Fiber 43.5% DM Basis
 - Undegradable Intake Protein 22.4% Of Total CP
- ° Production Trial During Weeks 4-17 Of Lactation

- ° Rations were:
 - Ration 1: Supplemental Protein Sources - Soybean Meal and Urea (Urea = 0.68% Ration DM).
 - Ration 2: Supplemental Protein Sources - Soybean Meal and Urea (Urea = 0.02% Ration DM).
 - Ration 3: Supplemental Protein Sources - Animal By-Products and Urea (Urea = 0.79%; Animal By-Products = 2.72% Ration DM).
 - Ration 4: Supplemental Protein Sources - Animal By-Products, Soybean Meal, and Urea (Urea = 0.10%; Animal By-Products = 3.15% Ration DM).
 - Ration 5: Supplemental Protein Sources - Animal By-Products and Urea (Urea = 0.40%; Animal By-Products = 4.86% Ration DM).
 - Ration 6: Supplemental Protein Sources - Animal By-Products, Soybean Meal, and Urea (Urea = 0.03%; Animal By-Products = 7.02% Ration DM).

Key observations from this research are:

- ° Urea Intake Ranged Higher Than Typical Purina Program:
 - Minimum: 0.01 (Ration 2) and 0.02 (Ration 6) Lbs./Day.
 - Maximum: 0.39 (Ration 1) and 0.44 (Ration 3) Lbs./Day.
- ° Protein Source and Protein Degradability Had No Influence On Fat-Corrected Milk Production (See Figure) or Milk Components.
- ° Concentration of Plasma Urea Nitrogen Was Not Influenced By Protein Degradability or Protein Source
- ° Addition of Animal By-Products To Ration In Amounts Ranging From 1.5 - 3.8 Lbs. DM / Day Decreased Total Dry Matter Intake By Up To 5.1 Lbs. (See Figure).

Herd performance is often enhanced when Purina nutrient-dense supplements and superior forages, such as high-quality alfalfa silage, are combined in the feeding program. The sources of protein and nitrogen in Purina high-energy products can provide opportunities for additional production and profit, even if alfalfa silage is a staple forage source in your feeding program.



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