

ies Tied To Feeding

tural Experiment Station in Germany, described an important principle in animal nutrition called the isodynamic action of nutrients. He said that all nutrients are used in the body as energy except for the nitrogen part in protein.

Today, we still consider foremost the energy content of a ration and look for energy density values when we feed high-milk-producing animals. We get energy calories from carbohydrates, starch, sugar, fiber, even protein and the most from fat.

However, in feeding ruminants we now focus much more on feeding, a two-phase system: the rumen microflora, and post-ruminally, the ruminant animal itself.

We try to harvest the rumen microflora in a maximum way. For 80 years we have known that the

rumen microflora synthesizes protein from nitrogen, which is then harvested by the ruminant post-ruminally.

We can provide more protein for that "harvest" during digestion in the small intestines in two ways. Either we manipulate the rumen microflora to synthesize more, or we feed the rumen with protein that the microflora can't touch, so it passes through, making it more available in the small intestine.

This has led to the new concept of "by-pass" nutrients and the terms rumen-degradable and rumen-undegradable, not only for protein, but for fat and carbohydrates as well.

Instead of the simple approach of counting calorie contents for all nutrients, we now need to add spe-

cific identifications.

This is where the Kivimae study comes in.

His extensive data show significant differences not only in fiber, protein and minerals, but also in soluble carbohydrates; sugar contents; and plants, depending on stage of maturity, time of day, harvesting method, weather and between species of forages.

While we always promote alfalfa as extremely important for our milking animals because of protein and calcium contents, horse people have usually preferred red clover and timothy.

The Kivimae study gives some clues. Soluble carbohydrate contents in red clover and timothy are much higher than in alfalfa.

Although alfalfa has negative trends with advancing maturity, ti-

mothy actually has the highest soluble carbohydrate content after flowering.

We now look for these additional terms in a ration, not to make it more complicated, but because with our new computer capabilities, we can handle additional parameters. And it pays back in higher returns over feed costs.

It has been shown that in order to maximize milk production, we must increase both the microbial protein yield and the by-pass protein supply.

The process by which microbes produce protein is a major utilizer of carbohydrates.

In other words, we must feed energy to the microbes so that they can synthesize protein for later harvest by the ruminant.

What kind of carbohydrates? Rumen-degradable carbohydrates were correlated with higher milk yields and milk protein percentage up to an optimum point. Increased starch in the rumen resulted in higher milk yields; however, maximum milk yield resulted from an optimum combination of rumen degradable and undegradable carbohydrates.

At a milk yield level of 5 percent of bodyweight, it's now recommended that an optimum ration should contain 25 to 30 percent fiber and 35 to 40 percent non-fibrous carbohydrates, starch and sugars.

Fifty to 60 percent of the fiber should be rumen-degradable, and 50 to 55 percent of the non-fibrous

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over Status

According to the ABS promotional news release, Nittany is a type specialist and ABS' number one type improver (+2.57 PTAT).

The company's analysis of Nittany daughters is that they rate high in dairy strength and milk from high, wide rear udders and smoothly attached fore udders. He also has a better than average type pattern, near average milk components, and a TPI ranking of +1115, according to the news release.

Two bulls bred by George and Paul Sheypuk of Jermy, are 29 H6171 Shey-Land Mark Slogan-ET and 29 H6077 Shey-Land Cinderfella.

Slogan is a Chief Mark son from a Very Good Bell daughter with an Excellent mammary. Slogan's dam is backed by an 91-point cow that produced through 12 years of

age.

Based on 109 daughters in 67 herds, Slogan is rated with PTAs of +1942M, +49F, and +49P.

With a PTAT of +1.93 and an udder composite index of +2.03, Slogan is a high type and good Total Performance Sire (+994 TPI).

ABS analysis is that Slogan daughters are similar to Bell daughters in conformation, but have an advantage in improving foot angle, something uncommon with Chief Mark breeding.

The other Sheypuk bull, Cinderfella is a Steady Spipper son from a Very Good Bell daughter. Cinderfella's dam is backed by the 95-point Quietcove Matt Cinderfella cow.

Based on 45 daughters in 35 herds, Cinderfella is rated with PTAs of +1548M, +51P, and

CAMP HILL (Cumberland Co.) — The Pennsylvania Farmers' Association (PFA) is seeking emergency aid for dairymen who were forced to dump their milk during the March 13-14 "Blizzard of 1993" which paralyzed the state with one to three feet of snow, frigid temperatures and high winds.

In a letter to Gov. Casey, PFA

+75F. With a PTAT of +0.95 and an udder composite index of +1.47, Cinderfella is a good Total Performance Sire (+963 TPI).

ABS analysis of Cinderfella daughters is that they are smaller cattle with strong udder clefts and fore udder attachments. Cinderfella is a good choice for calving ease (5 percent DBH), according to ABS.

president Keith Eckel said, "The blizzard of '93 has caused a severe financial hardship for some farmers in our Commonwealth." Because of the state of emergency declared by the Governor during the storm, milk trucks were not allowed to use roads leading to dairy farms for regular pick-up. As farmers' bulk milk tanks became filled to capacity while waiting for the milk trucks, they were forced to dump milk they could no longer store.

"A survey we have reviewed indicates that more than 1.7 million pounds of milk was dumped," Eckel said, "This would represent a loss of over \$200,000 to approximately 548 producers." Additional reports are expected to reveal further losses due to dumped milk. "It is our understanding that

most farmers worked diligently to open their farm lanes and local roads, only to find that their milk truck was prevented from using major highways due to the emergency declared status," Eckel said.

PFA is asking that in addition to compensating local municipalities for snow removal expenses, some emergency relief be provided to dairymen who suffered milk losses.

The state of emergency imposed during the storm and its aftermath also created problems for milk truck operators.

PFA is urging the governor to declare milk trucks as emergency vehicles and to dismiss any charges brought against milk truck drivers during the storm.