

MEDICINE AND MANAGEMENT

By CARL TROOP, VMD



Urea may lead to profits or death

Summer is past history and Fall is well upon us. There are two very critical jobs to be accomplished during these transition months between the growing season of Summer and the feeding season of Winter. One task is the culmination of the harvest which started in early Spring with Winter rye, proceeded through the Summer with small grains and hay, silage harvest of early Fall, and finally the corn grain and soybeans before the snow starts to fly. The other task occurs as the farmer stands back, takes stock of the feed he has been able to produce himself, and decides what is going to be necessary to purchase to supplement his home grown feeds.

The largest cash outlay for purchased feed is by far protein, and this is the area farmers most often look to when cutting corners or cutting costs. However, the management decisions as to whether to substitute non-protein-nitrogen (NPN) sources for vegetable

protein requires a completely different line of thought than it did a few years ago. In the "good ole days" (and this was not too many years ago) urea was cheap and could always be substituted for vegetable protein at a substantial savings. Now with the increased cost of urea and the rollercoaster prices of vegetable protein, one must use his calculator to decide if substitution of a NPN source is economical at any one particular time, and this may change several times during a year.

Protein is made up of smaller units called amino acids which in turn are made up of several elements including nitrogen, which is essential. Most animal's requirement of protein must be satisfied by ingesting the intact protein or amino acids. It was discovered in 1891 that the bacteria and protozoa of the rumen can use non-protein nitrogen for the formation of protein. As the rumen microorganisms

multiply they manufacture their own body protein, mostly from the raw material of the ration ingested. This bacterial and protozoal protein may then be digested in the stomach and intestine of the ruminant host. So bacteria can take nitrogen from a non protein source such as urea, combine it with certain carbohydrates to form protein, which is then available to the host animal. Early research resulted in usage of non protein sources of nitrogen in the livestock industry starting during World War II. The question of whether or not to feed urea or other non protein nitrogen source as a substitute for some of the natural vegetable protein must be made on more than just economic considerations. There are many who would never feed urea and feel that urea itself is harmful and can cause problems.

The facts are that urea can be a cheaper substitute for protein rich feeds or supplements (depending on the prevailing prices) for any

animal with an actively functioning rumen, excluding young calves but including cattle, sheep, goats, camels, deer, giraffes, and buffalo. However extreme care must be exercised to successfully feed non protein nitrogen. When feeding NPN you are substituting a simple synthetic nitrogen containing compound for some natural vegetable protein which also contains vitamins, minerals, carbohydrates etc. Such a NPN ration should thus be suitably fortified to insure adequate phosphorus, trace minerals, sulfur and soluble carbohydrates (starches and sugars) so as to provide the rumen organisms adequate building blocks to combine with the nitrogen to make the protein.

Urea must be fed only to a limited degree, most figures being given at about three per cent of the concentrate. Since rumen organisms must adjust gradually to urea feeds, introduction should be gradual, usually three to four weeks being adequate.

Mincemeat sale set

MECHANICS GROVE - The Mechanics Grove Brethren Church is planning a homemade mincemeat sale for November 2. Profits from the sale will go to the Brethren Churches Disaster Relief Fund. Prices of the mincemeat are \$1.65 a quart and \$.90 a pint. Orders will be taken by Mrs. Elam Mull, 717-786-2036, with the pick-up date November 2 at the church. Those people who wish to freeze the mincemeat are asked to provide their own container.

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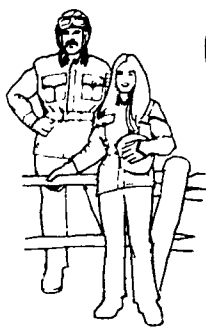
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