MOLASSES UREA BLOCK

A combination of molasses, urea and additional components are used in the making of the molasses urea blocks. These blocks are used to supply degradable protein and fermentable energy to ruminants to assist in the development of the animal. Medication for the control of parasitic worms can also be added although varying successes have been reported.

- Molasses provides fermentable substrate and various minerals and trace elements. Its pleasant taste and smell, makes the block very attractive and palatable to animals.

- Urea which provides fermentable nitrogen, is the most important component of the block. Urea may increase the intake of straw and other low quality forages as well as improve their digestibility. The intake of urea must be limited to avoid toxicity problems but sufficient to maintain ammonia levels in the rumen consistently above 200 mg N/l for growth of micro-organisms in the rumen and high rates of degradation of fibre.

- Wheat or rice bran has a multiple purpose in the blocks. It provides some key nutrients including fat, protein and phosphorus. It also acts as an absorbent for the moisture contained in molasses and gives structure to the block. It may be replaced by other fibrous materials such as dry and fine bagasse.

- Other crop residues can also be included in Molasses Urea blocks. Clearly this depends on availability, and some crop residues and by-products will provide more nutrients than others.

- Minerals may be added where appropriate. Common salt is generally added because this is often deficient in the diet and it is cheap.

- A gelling agent or binder is necessary in order to solidify the blocks. Various products have been tried successfully: calcium oxide (quick lime) magnesium oxide, bentonite, and calcium hydroxide.

- Various chemicals or drugs for the control of parasites or for manipulation of rumen fermentation can be added to the molasses blocks which can be an excellent carrier for these products.

Method

The blocks can be made by the hot or cold method. However, the hot method have been found to produce blocks which are harder than those by the cold method.

Hot Method

- Weigh all ingredients

- Heat molasses and bring to a simmer (approximately 85°C).

- When the molasses is simmering uniformly reduce the heat or the pan from fire.

- Add the urea (and sulpahate of ammonia) to the hot molasses and stir vigorously to dissolve.

- Add the salt and stir to dissolve

- Add the quick lime and mix the mass to a uniform consistency. If the molasses is too hot there may be foaming when the quick lime is added to the mixture. Ammonia may also be released when the lime is added to the mixture and for this reason it is recommended that the person stirring the mixture should wear a mask and goggles.

- Add the filler and mix to a uniform consistency.

- Pour or shovel the mass into the moulds and compact it with tamper.