MULTINUTRIENT BLOCK

I. What are multinutrient blocks?

Multinutrient blocks are supplements for ruminants (goats, sheep and cattle) grazing on low-quality pastures and for animals are fed low quality forages.

Figure 1. Multi nutrient block

Multinutrient block is rich in:

1. Mineral – contains elements such as calcium, phosphorous and other minerals that are not naturally found in grass. These minerals are important for growth, reproduction and milk production.
2. Protein – Block gives up to 50% protein needed by animals for growth. The mineral content of block also helps in increasing milk production.
3. Energy – Block gives 45% energy needed by animals to increase production of meat and milk.

Figure 2. Ruminant is licking block

Figure 3. Raw materials for Multi nutrient blocks

Common recipes for Multi nutrient blocks

- Urea [4 - 10%]
- Sugar cane molasses [0 - 45%]
- Bran or forage [10 - 30%]
- Salt/minerals [0.5 - 30%]
- Binding material (cement, glay, bentonit) [6 - 15%]
- Others if possible [10 - 20%]

II. Multi nutrient block making process

Figure 4. Breaking the lumps of urea

Ingredients are prepared and weighted according to proper proportions. If there urea is missing you can replace this with cattle urine in which 4% of urea. lumps of urea, lime, salt and cement need to break up.

Then, stir and knead all the ingredients until they look evenly mixed.

Keep mixing, mixture is even and without lumps and add molasses or water and miss troughly.

Figure 5. Putting the mixture into plastic bags

Pour the mixture into molds to form the blocks. Each bloke may weigh 1 to 5 kilos each. Moulds should be lined with a plastic or paper liner to prevent the mixture from sticking to the wall of the mould.

Figure 6. Pressing the blocks with small sized machinery

Then press it until they became hard enough and you can use small scale machinery.

If the paper sticks to the blocks, it does not matter. Animals will eat the paper without any problem. But, if we used a plastic instead of a paper liner, we need to remove it.

Store the multinutrient blocks under cover in a dry place. Store big blocks under cover in a dry place until they become hard.

Figure 7. Storage of multinutrient blocks

III. Feeding animal

Only ruminant animals can be fed multinutrient blocks like cattle; goats; yaks; sheep, but not to monogastric animals (Figure 8).

Figure 8. Type of animals could not fed by blocks

The blocks are offered to animals in a wooden box or bucket of dimensions slightly larger than that of the block, which restricts biting of the block by animals.

Figure 9. a) Offering the blocks in box, b) Offering blocks on ground is forbidden.

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Key references: Togtokhbayar, (2006). Improvement of animal productivity through supplementary feeding with urea-mineral blocks (UMB) in Mongolia, AEA-TECDOC-1495. Pp-69-76.