

1.1. Ruminant Management and Breeding – ANS 224-4

2.2. Urea Molasses Mineral Block

3.3. ⌘ Poor Nutrition is the biggest constraint in animal production (especially cattle, considering its importance in the overall agricultural/livestock farming systems). ⌘ This problem arises due to mainly to the following: ⌘ Ruminants are basically fed fibrous forages and low quality roughages such as straw, especially during dry seasons. ⌘ Limited or no concentrate feeds and/or vitamin-mineral premixes are provided to ruminants to supplement the poor diet.

4.4. ⌘ Urea Molasses-Mineral Block (UMMB) is a mixture of following in a solid form. Ingredient Parts per 100kg mix Molasses 36.00 Rice bran 38.00 Urea 10.00 Cement 8.00 Salt 1.90 Dicalcium phosphate 2.00 Trace minerals 0.10 Water 4.00 TOTAL 100.0 Proportion of different ingredients required to prepare a 100kg UMMB

5.5. ⌘ As a feed supplement, it provides cattle with essential nutrients such as protein, energy and minerals usually deficient in most forages and crop residues.

6.6. Ingredient Parts per 100kg • All ingredients mentioned mix • Mixing vat, a shovel  
Molasses 36.00  
Rice bran 38.00 • A casting vat/molding vat  
Urea 10.00  
Cement 8.00  
Salt 1.90  
Dicalcium 2.00  
phosphate  
Trace minerals 0.10  
Water 4.00  
TOTAL 100.0

7.7. ⌘ Put the ingredients (except water) evenly into a mixing vat, based on the requirement. ⌘ Mix them thoroughly-to distribute ingredients evenly. ⌘ Add recommended amount of water and mix well. ⌘ Transfer the mixture into molding vat and let it dry. ◆ Always protect the block form water so it does not become soft.

8.8. ⌘ UMMB is given to cattle as a lick. This means that the solid block is left in a place where the cattle can lick it freely. ⌘ A very convenient place to put lick is, ⌘ In front of the place where the cattle is restrained in the night. ⌘ Milking shed. ⌘ Normally, a 5kg block should last 7-10 days when given to a cow weighing 350-450kg.

9.9. ➤ DO NOT feed to calves below 6 months of age. ➤ DO NOT feed to cattle that have not eaten for a whole day. ➤ DO NOT feed too much of it to any cattle. ➤ Always provide clean drinking water -Adlibitumly

Urea Treatment of Rice Straw

10.10. ⌘ Almost all of the domesticated animals in lesser developed countries and even some in the developed world exist mainly on poor quality plant materials. ⌘ Perhaps the most abundant feed in most regions is the straw remaining after harvest of cereal grains. ⌘ Straw can provide some carbohydrate but is very deficient in other nutrients. ⌘ Also, because of the high lignin content, digestibility is poor. Methods are available, however, to increase the digestibility of poor quality feeds.

11.11. ⌘ One of the most successful procedures to improve digestibility of crude plant material is through treatment with ammonia. ⌘ This weakens the hard cell walls, allowing better penetration by rumen

microorganisms to produce more effective fermentation and liberation of nutrients. After chopping, the straw is moistened with a urea solution (2.5 to 5%) and usually covered for several weeks. Ammonia, released from the urea, weakens the lignified outer wall and increases the digestibility of the straw. Once treated and if properly covered to preserve anaerobic conditions, the urea-ensiled material can be stored for several months.

12.12. > 100kg of paddy straw > 40 l of water > 4 kg of Urea > Polythene sheet > Water canne > Bucket etc.

13.13. 1. Polythene sheet should be spread over on the selected site. 2. The one fourth paddy straw spread over the polythene sheet. 3. The water-urea solution sprinkle over the paddy straw and mix properly. 4. Then next one fourth paddy straw spread over and again sprinkle the urea solution. 5. Airtight the treated straw and kept for 21 days.

14.14. 1. Treated paddy straw has enhanced nutritive value than the untreated paddy straw. 2. Treated paddy straw is liked by cattle. 3. Increase palatability. 4. Feed intake will increase. 5. Maintained the health quality.

15.15. The calf of below six month should not be fed with treated straw. The pregnant cattle are also not being fed with treated straw. The fungal growth straw should not be taken for UTPS. The treated straw will be fed after exposure of air for at least 10 minute. The starting quantity of UTPS should be regulated from lesser quantity to higher in periodic manner. UPTS – Urea Treatment of Paddy Straw

16.16. Urea toxicity can take place due to higher intakes within a shorter period-thus, limit feeding, provide adequate soluble carbohydrates (eg. molasses) Urea toxicity is characterized by uneasiness, tremors, excessive salivation, rapid breathing, incoordination, bloat, tetany. Due to rise in blood ammonia levels. rise of rumen pH cease the rumen function. An emergency treatment for urea poisoning is drenching of vinegar (acetic acid-lowers rumen pH)

17.17. Extension Recommendations for Preparation of Urea- Molasses-Mineral Block (UMMB), and feeding to cattle as a supplement – NFFD www.fao.org