

## **On-farm feed rations for goats and cattle (based on locally-available resources)**

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We know that stock feed constitutes 65-70% of your running costs in livestock projects. We also know that most velds and pastures in Zimbabwe and Africa are degraded. Planting of improved varieties of pasture grasses and legumes has not been adopted much by farmers, due to communal nature of grazing resources; costs of paddocking; and shortage of water.

This brings us to consider an important source of feed for ruminant animals: crop residues.

Feeding crop residues (mashanga) to ruminants is not new to African farmers. However, by mixing crop residues with other ingredients, we increase their feeding value and can come up with complete rations for maintenance (e.g. drought) and production needs of animals.

The basic concept is to formulate feed that is roughly balanced for energy, proteins and minerals, but which is also palatable or tasty for the animal.

For drought emergency or maintenance only, use a variation of:

**86 parts straw (mashanga): 10 parts molasses; 2 parts mineral pre-mix; 1 part urea; 1 part salt.**

For higher production, use a variation of the following mixture:

**737.5 parts straw (mashanga): 262.5 parts green fodder: 250 parts concentrate feed (oilseed cake/maize crushes/rice or wheat bran).**

NB: For “parts” you can use grammes or “kg” proportionally.

### **Principles**

Many farmers make the mistake of feeding the different ingredients separately. This results in wastages because animals select the palatable soft parts and discard the rest.

To ensure maximum intake of the whole ingredients, chop the straw (maize/wheat/rice/sorghum) into small pieces. Then add other ingredients. Mix thoroughly so that you get a uniformly-spread mixture of ingredients. Then feed your animals. Make sure you give enough for them to finish eating within a fairly short time (+-40 minutes).

Take-away message

Crop residues can form an important basis for the nutrition of ruminant animals. Do not burn crop residues, nor leave them in the field to be trampled! Harvest them/collect them and store them where they keep dry and use them later in the dry season.

Pre-mixes add the minerals and vitamins that are required for maximal functioning of the animal that cannot be provided by the dry roughage.

### **Urea from chicken manure**

**You can calculate manure yield by using these average rates based on AGRITEX recommendations:**

Broiler produces 1.7kg manure/ per bird;

Growers produce 3.5 kg/bird;

Layers produce 16.7 kg/bird over one year.

Urea is a source of non-protein nitrogen, which is required by micro-organisms in the rumen to manufacture their own protein. A local source of non-protein nitrogen is chicken manure.

Chicken manure can be included in ruminant rations. But care has to be taken not to spread infections from the manure to your animals. The major danger is Botulism.

### **Manure treatment**

To ensure that the chicken manure does not give a risk for spreading disease (e.g. Botulism), it is important to ensure that it is completely DRY. The best way of doing this is to expose it to direct **SUNLIGHT** for a couple of days. Spread the manure on a sheet of metal, or sack and expose it to the sun to dry out completely. 5 days would do the trick.

### **Principles of feeding**

Always introduce new feeding regimes slowly. Start with low quantities as the animal's digestive system builds the enzymes and microbes required to digest the feed. Then gradually increase quantities.

Thank you for reading. Give us some feedback, and happy farming!