

# Hay Making and Storage for Livestock Production in Arid and Semi-Arid Areas

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## Introduction

The Arid and Semi-Arid Lands (ASALs) produce large quantities of feed materials of high quality during the wet seasons. The excess feed produced can be conserved to be used during the dry season. This would minimize livestock bodyweight loss and unwarranted deaths witnessed during the dry season. Despite the perennial feed challenge characterizing pastoral livestock production, adoption of feed conservation is very low or non-existent in most pastoral communities across the East African region. On the other hand, some pastoralists have adopted inappropriate methods of hay conservation leading to avoidable feed wastage.

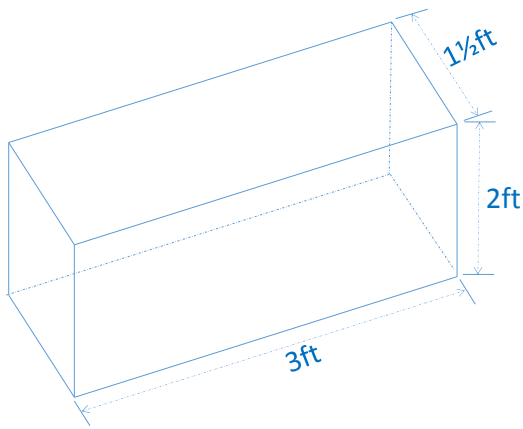
## Common hay conservation strategies

The most commonly conserved feed in ASALs are various materials collectively referred to as hay. Hay is conserved as standing hay in the farms or grazing fields or is cut and conserved as loose or baled hay. Hay conserved at the right stage has better value than standing hay because of its high quality.

## Hay making

- Cut when 20-30% plants have flowered
- Cut at 5 cm above ground or slightly higher for most grasses
- Use baler where possible
- If not baled, collect dry forage material and store in a dry shed

The moisture content of the hay should be less than 20% to avoid mould growth.



*Dimensions of a hay box*



*Manual hay making using a hay box*

### Hay storage structures

A good hay conservation structure should protect hay from:

- Rain water
- Direct sunlight
- Pests
- Stray domestic and wild animals
- Foreign materials

Additionally, the structure should allow good aeration.



*Large hay barn (23 × 21 × 12 ft) for 1000 bales*



*A small hay barn (10 × 10 × 10 ft) for 360 bales*

To estimate the space needed for hay conservation, determine:

- Dry matter needed per day (A)
- Days the hay will be needed (B)
- Weight of dry matter in the bales (C)
- Volume of the bales (D)

Space needed =  $(C/A) \times B \times D$  (cubic) unit

### Advantages of conserving hay

- It can be made from different types of grass species and crops
- When protected from the weather it can be stored indefinitely with little nutrient loss
- Package sizes and shapes can vary
- Harvesting, storage and feeding can be done by hand or can be completely mechanized.
- Hay often can meet, or almost meet, the nutrient needs of many classes of livestock
- Provides feed reserve for periods of shortage



*Baled hay in a store*

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