



Centurion
UNIVERSITY
Shaping Lives...
Empowering Communities...

HAY CONDITIONING IMPORTANCE AND METHODS



Centurion
UNIVERSITY

*Shaping Lives...
Empowering Communities...*

What is hay

The forages like grasses and legumes that have been cut, and then dried under sunlight.

It is used where the shortage of forages.

Hay making is preferred mode of conserving the food of all green forages.





Centurion
UNIVERSITY

*Shaping Lives...
Empowering Communities...*

What is hay conditioning

A conditioner (or hay conditioner) is a farm implement that crimps and crushes newly cut hay promote faster and more even drying.

The names **Haybine** and **Discbine** are brand names of mower-conditioners, although some farmers use these names somewhat generically.

The conditioning of hay by means of crushing, crimping or flailing is becoming increasingly popular with many hay-makers.



Centurion
UNIVERSITY
*Shaping Lives...
Empowering Communities...*

Importance of hay conditioning

Reduce dry down time up to 50%.

Consistently soft hay

Nutritious

Reduce field curing time



Centurion
UNIVERSITY

*Shaping Lives...
Empowering Communities...*

Advantages

It is used when there is less availability of fodder.

The chances of spoilage will be less than the silage.

It require less space for its storage.

Speed up field curing and reduces drying time by 30%.

Disadvantages

It require a lot time and extra labor.

During hay conditioning process 10-15% loss of nutrients occur.

Hay making is done in presences of sun light.

If sunlight is not available it difficult the hay making process.



Centurion
UNIVERSITY
Shaping Lives...
Empowering Communities...

Types of hay conditioner :

there are 3 types of hay conditioner

1. smooth roll
2. corrugated roll or crisper type
3. flail types

1. Smooth roll:

the smooth roll gives continuous crushing action to hay, leaving no part uncrushed. It has two rolls of combination of one roll of rubber roll & another steel roll. Most rubber roll have spiral grooves to aid in picking up the hay & feeding between the rolls.

2. Corrugated roll or crisper type:

It is also equipped with two malleable iron rolls with tapered flutes that mesh together. Some conditioner use a fluted bar roll that passes against a smooth rubber roll. As the hay passes between the roll , it is bent, crimped, cracked at interval and some cases crushed.



Centurion
UNIVERSITY

*Shaping Lives...
Empowering Communities...*

3. flail-type

It is a hay harvester, but it is used as hay conditioner also. In this the shear is removed to reduced the cutting action. The hay is partially chopped by the swinging hammers or knives.



Centurion
UNIVERSITY

*Shaping Lives...
Empowering Communities...*

Principle of hay conditioning

Fast drying maximize **green color and palatability**.

The rapid drying is more suitable for hay making as it **minimize the microbial growth**.

The basic principle is to reduce moisture content in order to inhibit the action of microbial enzymes.

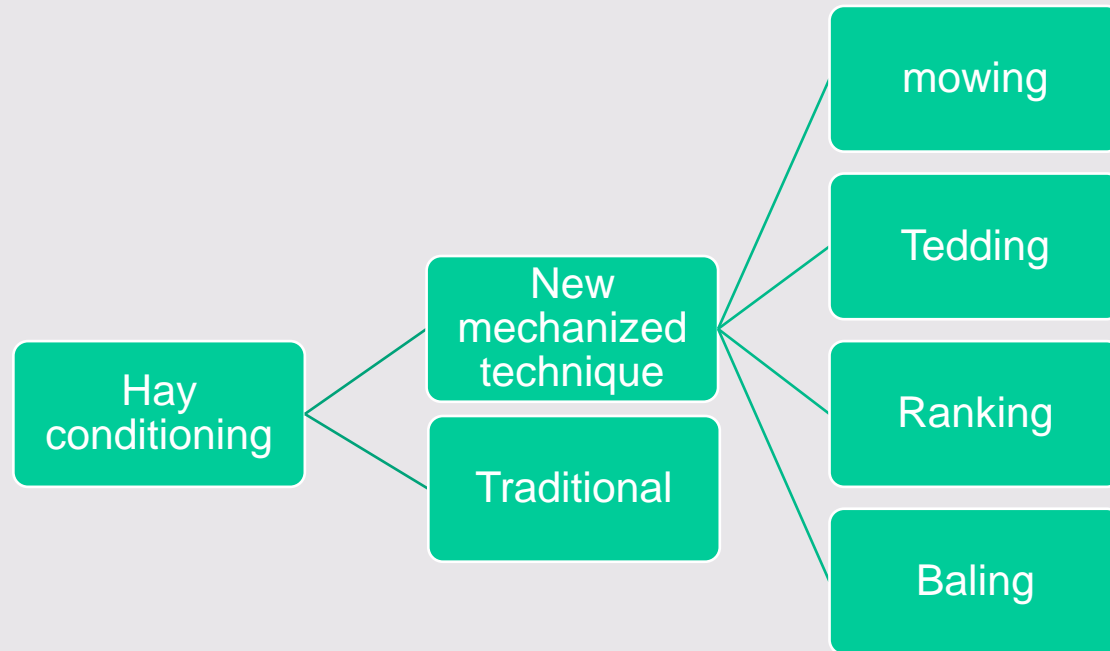
In order to store green crops in a stack the moisture content should be **reduced to 15-20%**.



Centurion
UNIVERSITY
*Shaping Lives...
Empowering Communities...*

Methods of hay conditioning

There are two methods of hay conditioning





Centurion
UNIVERSITY

*Shaping Lives...
Empowering Communities...*

Traditional method

Cut the crops, when they easy to hand.

Dry the crop under sunlight in the field.

Turn the forage before sunset or sunrise to avoid shattering of leaves.

Then hang with a rope.

Stack it by using 3 bamboos.





Centurion
UNIVERSITY

*Shaping Lives...
Empowering Communities...*

1. mowing



For cutting of the grasses a machine is used which is called as mower. It is the first step of making of hay.

Mowing is done in the morning. It can be at the end of the day when grass is dried.

So that it can increase the energy level of the forage by capturing some of the sugars.



Centurion
UNIVERSITY
Shaping Lives...
Empowering Communities...

2. tedding



For spreading of hay tedding is done.

Hay tedders have several orbital wheels that lift hay by turn.

tedding is immediately after mowing to spread the swath.

It may requires a second tedding the next day to speed up the drying process.

More tedding can shatter leaves of alfalfa.



Centurion
UNIVERSITY
Shaping Lives...
Empowering Communities...

3.raking



To collect the hay, hay rake is used.

When the hay has tedded and nearly dry, it is ready to rake.

Raking turns the hay one more time to ready to be baled.

Hay is gathered loose and stacked without being baled first.

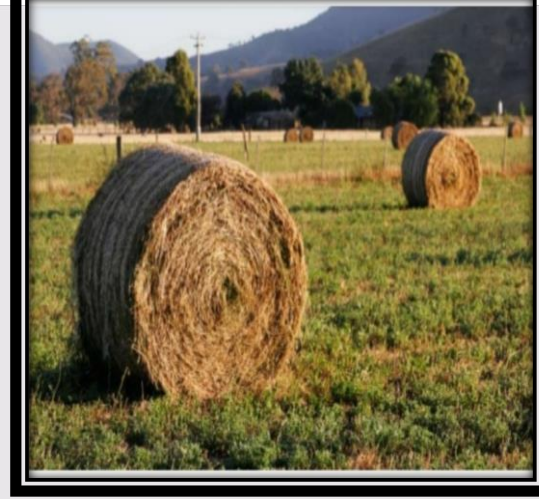
Spontaneous combustion wet while in storage.



Centurion
UNIVERSITY

*Shaping Lives...
Empowering Communities...*

4. Baling



A baler is a machine that coiled the cut hay in to round shape.

After cutting, drying and raking, baling is done.

Then should be hauled to a central location for storage.

It depend on geography, region and climate.

in this process hay is usually gathered in the form of bales.