

Emergency response for cattle, goats and sheep

Feeding: Food, water, and related health issues

What a ruminant needs in its feed

All animals need nutrients in their food in order to stay healthy, have energy, grow and reproduce. A good feed should include five main nutrients: carbohydrates, proteins, fats, vitamins and minerals. Fresh green grass provides ruminants all required nutrients.

Types of feed

Though healthy green grass provides ruminants all the nutrients they need, in the dry season grass contains little protein and few vitamins. During the dry season, supplementary feed is needed in order to prevent weight loss, maintain high milk production, and ensure growth and reproduction. It may also be necessary to provide minerals. Some feeds have only small amounts of nutrients and are of little use to the animal. For example, old straw provides little energy as the majority of it cannot be digested and passes out of the animal as dung.

Daily ration

The daily ration is the amount of food an animal needs every day. A good ration meets the animal's nutrient requirements. The amount of feed an animal will eat in a day is determined by many factors.

- Availability and quality of feed
- Availability and quality of water
- Animal status (whether it is pregnant, milking, gaining weight or losing weight)
- Amount of milk the animal is producing
- Breed of the animal
- Amount of supplementary feed given
- Environment and climate where the animal is being raised

Table 1: Dry matter intake

ANIMAL	DRY MATTER INTAKE* AS A % OF BODYWEIGHT
Cattle	2.5%
goat	4%
sheep	3.5%

*Dry matter intake is the weight of oven dried feed that an animal will eat.

Table 2: Food and nutrients

TYPE	USE	EXAMPLES
Carbohydrates	Burned in the body to give energy.	Cassava, maize, sorghum, wheat, breadfruit, rice, barley, sweet potato, grass.
Protein	Forms the building blocks of the body. It is needed to produce the muscles.	Meat meal, fish meal, legumes, coconut meal, grass.
Fats	Used in the body to give energy, they are broken down into carbohydrates and water. Animals and humans store energy as fat in the body.	Coconut meal, tallow, palm kernel cake, grass.



Minerals	Needed to form the bones and for the brain, nerves and blood.	Plants take in minerals from the soil and are a good source of minerals for animals.
Vitamins	Various uses in the body and essential for bodily functions	Plants are a good source of vitamins.

Storing feed

In the dry season, grass becomes scarce and is low in nutrients. When grass is plentiful in the wet growing season, you can cut it and store it until it is needed in the dry season. The grass can be kept as hay or silage.

- **Hay** is dried grass. The best hay is prepared from young grasses. Cut the grass and leave it to dry in the sun for several days, turning it over to make sure it is completely dry. Do not try to make hay during periods of heavy rain.
- **Silage** is grass or other plants that were cut while green and stored without air. To make silage, you need an airtight container. The airtight container or pit is known as a **silo**.

Supplementary feeds and when to use them

Supplementary feed is given when the grass is poor and dry or when an animal is pregnant, giving milk or working. The best supplementary feed is meal or **cake**. The cheapest supplementary feed in the Pacific is waste material from the processing of coconuts and palm oil. Use whatever is locally available.

Water

In order to get the most out of ruminants, they must always have enough **clean water**, in addition to good food. Ruminants need plenty of fresh clean water every day. Their water needs will vary according to the feed they eat and the weather. Milking animals need to drink a lot of water.

- Always give water before feeding ruminants and allow them to drink at least three times a day.

A pinch of salt added to the drinking water is a good way to provide minerals.

- Do not allow ruminants to stand in the water they drink. This can cause disease to spread.

WARNING

- Take care not to spread disease through feed and water.
- Keep water and feed troughs clean.
- Do not allow ruminants to eat old or musty feed.
- **Change feeds slowly** - Take special care when introducing fresh green feed. It can cause digestive upsets when animals have not had access to fresh green feeds for some time.

Pasture rotation

Pasture rotation is necessary to give pastures the chance to grow fresh grass. Fences or hedges can be used to make **enclosures** or **paddocks**. This will allow animals to be confined to one area of pasture while the neighbouring pasture is rested. In this way, land can be grazed for a few days and then rested for several weeks.

WARNING

A grazing ruminant will eat many things that can hurt or kill it.

Wire and nails can pass through the wall of the rumen into the heart and kill the animal. They can also injure the animal's feet.

- Plastic bags can choke a ruminant or block the stomach.
- Tin cans and glass can cut the mouth or feet.

Who can farmers contact for further information?

Farmers may contact staff of the local Ministry of Agriculture or SPC Land Resources Division staff. For additional technical assistance, contact the SPC Land Resources Division at: gibsons@spc.int