African Organic Agriculture Manual Booklet Series

No. 11 | Animal Husbandry

HOW DO I BEST KEEP ANIMALS ?

FiBL

What do farm animals need?

Keeping animal types in good living conditions promotes animal welfare and keeps animals healthy without the need for chemical treatments.

Providing a species appropriate environment

The main goal of organic animal husbandry is to keep animals in a natural and friendly way to promote good animal health and productivity and high quality food without a lot of chemical treatments and additional feed.

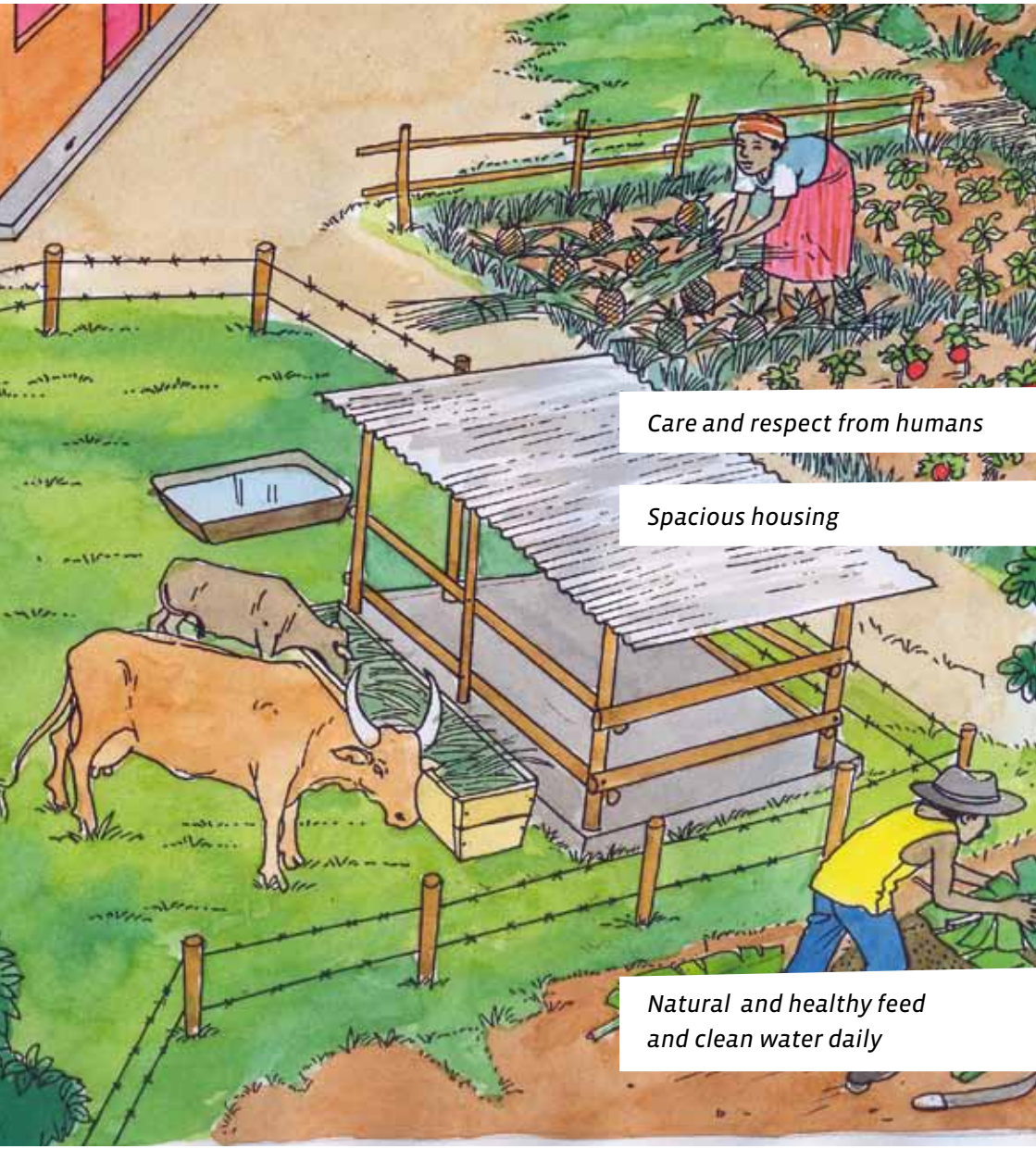
As a farmer you must be aware of the species-specific features of animals to provide the appropriate environment and feed.

The susceptibility to parasite and disease infections increases with any environmental condition that is not appropriate. The higher the animals' production is, the lower their ability is to adapt to inappropriate or changing environments.

What conditions do you provide to livestock on your farm? Is the environment you provide favourable to their health?

Favourable environment with species appropriate temperature, humidity, sun and fresh air

Enough opportunities to perform natural behaviour and maintain good contact with other animals


Care and respect from humans
Spacious housing
Natural and healthy feed
and clean water daily

Which animals shall I use for breeding?

Selection of well adapted breeds and animals

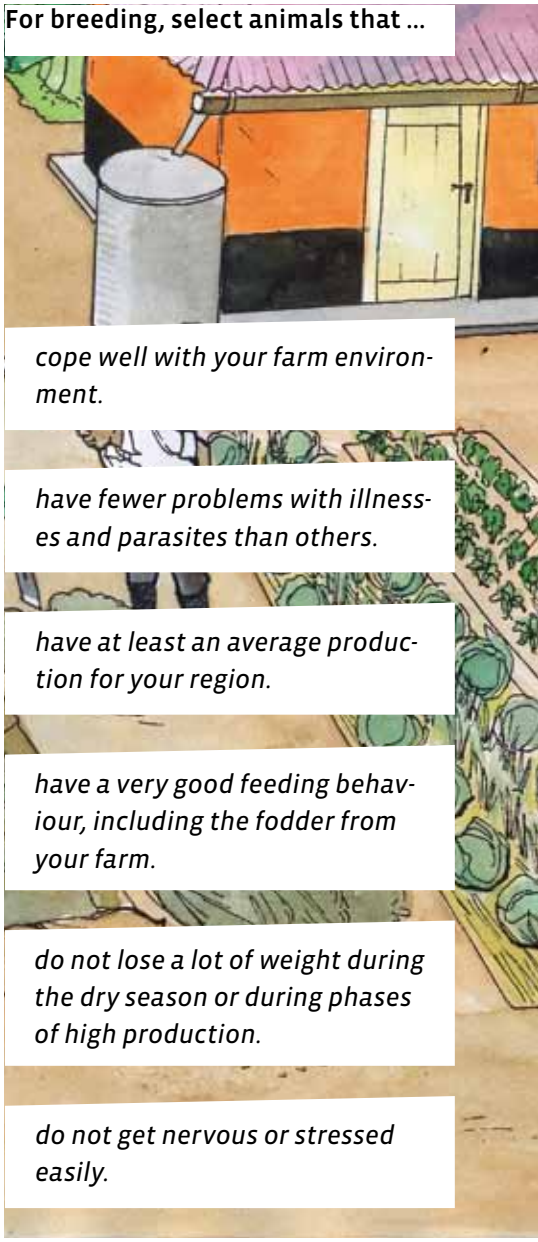
In organic farming, the only breeds recommended are those well adapted to local conditions. Most exotic breeds do not fit into African environments and are highly susceptible to diseases.

To select breeding animals, observe them for the features listed on the right. Particularly male animals have to come from lines showing these characteristics.

For organic breeding, the following rules should be applied:

- Use healthy animals that produce well using local feed.
- Animals should mate naturally.
- Properly select breeding males. Males not used for breeding need to be slaughtered, sold or castrated.
- Exchange breeding males regularly to avoid inbreeding. In general, avoid animals mate with their own daughters or sons.
- When artificially inseminating cattle, choose semen from bulls of adapted breeds with good health traits and with complete health information available.
- Do not use sexed semen or semen from ET-bulls.

For breeding, select animals that ...



cope well with your farm environment.

have fewer problems with illnesses and parasites than others.

have at least an average production for your region.

have a very good feeding behaviour, including the fodder from your farm.

do not lose a lot of weight during the dry season or during phases of high production.

do not get nervous or stressed easily.

Have you considered these features and rules in animal breeding?

Which housing is appropriate?

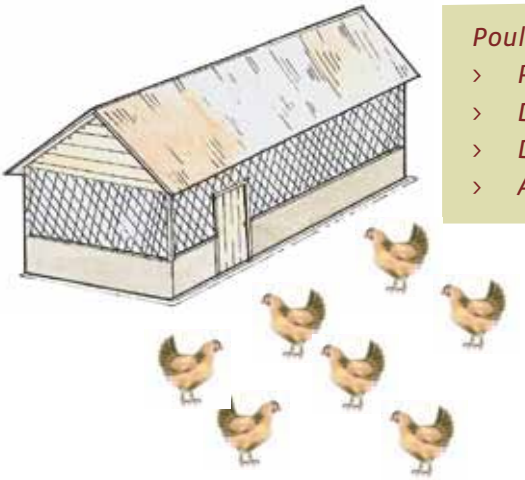
Suitable housing structures and primary housing requirements of the main species

If housing is necessary, animal housing should offer protection from predators, heat, rain and theft and allow for as much flexible movement as possible. To prevent animal diseases and to promote animal welfare, it is essential that animals are provided with adequate space, fresh air and natural light, dry and natural bedding material as well as clean water and clean feeding troughs. The housing should allow for easy removal of bedding material and excrement.

For example, animals can spend the day freely feeding outside and be housed during the night. If livestock is partially kept in a stable, it is easier to collect dung and urine. Health treatments such as deworming and external parasite control and observations of animal behaviour can also be carried out easier.

If housing is not necessary, provide shade and shelter to goats and cows on the pasture.

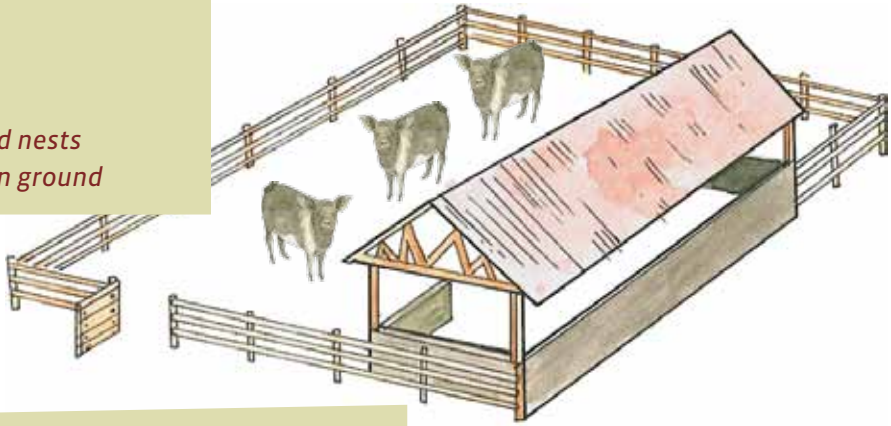
Do you see any potential for improving animal housing on your farm?



Poul
- *›*
- *›*
- *›*
- *›*

Goats
- *› Different feeding and bedding areas at different heights*

try
Perching rails
Dust baths
Dark, secluded nests
Access to open ground



Pigs

- *Separate areas for resting, feeding and relieving*
- *Access to a muddy, wet area*
- *Stable wall for brushing*
- *Natural materials to play with*

Cows

- *Enough space, so animals can feed and lay down at simultaneously*
- *Sloping floor for drainage of urine*

Which feed is best for the animals?

The higher the productivity of the animals is, the higher their feeding requirements are.

Nutritional sources including by-products for different livestock species

Organic farmers aim to produce most of the animal feed on their farms themselves. They ensure that there is enough land for the animals to graze and enough space to grow feed, including having feed available in the dry season. Storing feed reduces costs and ensures appropriate feeding during all seasons.

Growth promoters and hormones used as feeding supplements are not allowed on organic farms. Concentrates should only be fed in very small amounts to ruminants, because they are roughage eaters.

Fodder for ruminants can be produced from grass or leguminous plants that are grown as cover crops within perennial crops or on soil erosion control bands, from hedges, shrubs and shade and support trees. Crop residues are an additional source of fodder. But the most natural and efficient way to feed ruminants is by pasture grazing.

Species	Carbohydrates
Poultry 	› Cereal grains › Tubers and their industrial by-products
Pigs 	› Cereal grains › Tubers and their industrial by-products like bran › Kitchen food waste
Goats & Sheep 	› Forages › Pasture › Crop residues
Cattle 	› Forages › Pasture › Crop residues

Proteins	Fats	Vitamins	Minerals
› Insects and worms › Legume seeds and plants › Fish meal	› Cotton seed › Sunflower, sesame or peanut cakes (by-products of oil production)	› Leafy greens › Pepper › Fruit and vege-table wastes › Berries	› Oyster shell › Grit/stones › Bone meal
› Leguminous fodder and grains › Kitchen food waste › Fish meal	› Cotton seed, sunflower, sesame or peanut cakes (by-products of oil production)	› Fruit peels and kitchen food waste › Roots	› Mineral licks › Dried leaves
› Leguminous fodder › Young grass	› Not necessary to feed fat	› Green pasture › Fresh or dried leaves	› Mineral licks › Dried leaves › Bark › Herbage › Shrubs
› Leguminous fodder › Young grass	› Not necessary to feed fat	› Green pasture › Fresh or dried leaves	› Mineral licks › Dried leaves › Herbage › Shrubs

What rules shall I follow for grazing?

Appropriate grazing contributes to maintenance of productive pastures and minimizing parasite problems.

Rotational grazing

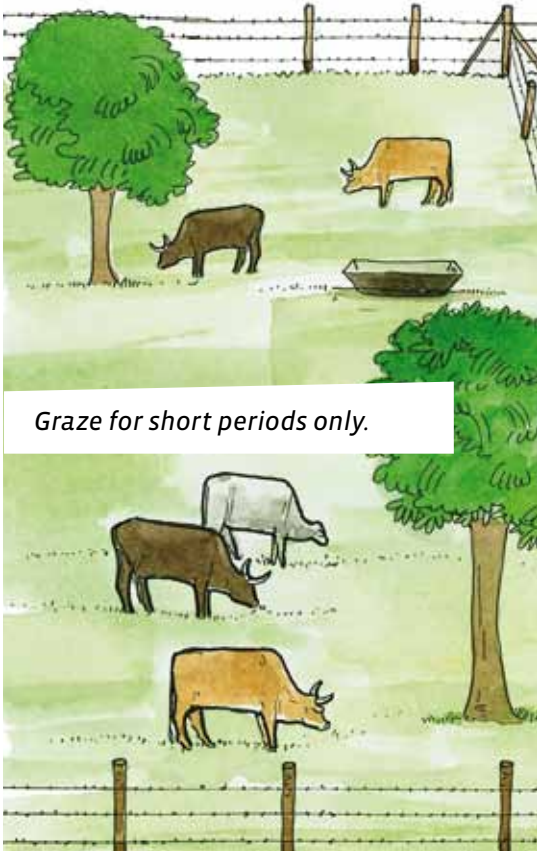
Controlled rotational grazing ensures that diverse, dense and useful pastures are maintained.

In rotational grazing, pastures are subdivided into paddocks and an appropriate number of animals are transferred from one paddock to the next to avoid overgrazing as well as undergrazing and buildup of parasites.

Trampling of many hoofs provides a good environment for germination of grass seeds and pressing of plant residues into the ground to nourish soil microorganisms. Rapid movement also helps to prevent pastures from parasite invasions and illnesses.

Basic rules for grazing animals:

- Allow animals to graze in one paddock for a short period of time with a high density of animals.
- When the plants have been grazed, transfer the animals to another paddock where regrowth has occured.
- Do not bring animals to a paddock until the plants have recovered and reached appropriate maturity before flowering.
- The most efficient and complementary way to use dry pas-

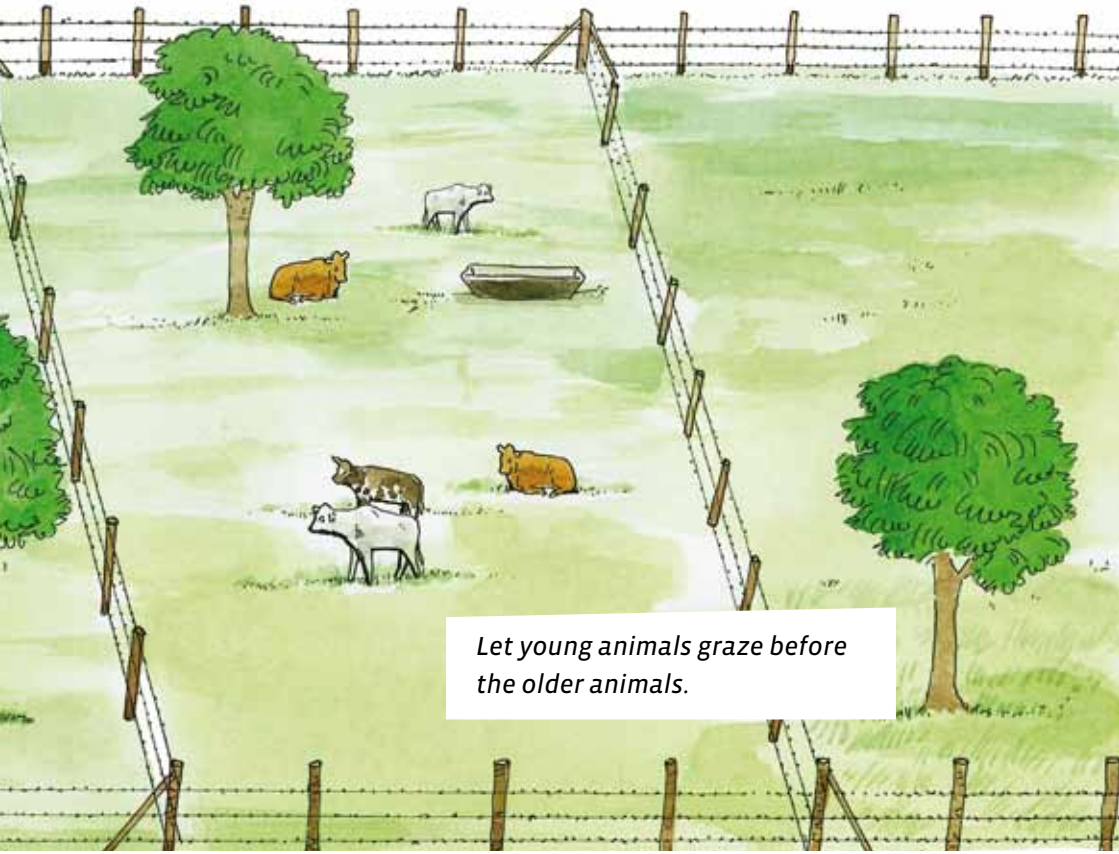


Graze for short periods only.

tures, is to keep grass eating species (e.g. cattle) and species feeding on shrubs and bushes also (e.g. goats and sheep) together.

› In order to minimise transfer of parasites, graze with different species in rotation. With cattle allow the younger animals to graze ahead of the others.

Discuss advantages and challenges of rotational grazing with other farmers.



Let young animals graze before the older animals.

How do I preserve fodder?

The dry season can be very difficult, especially on longer ruminants. If you stay in one place with your animals and cannot move to other pastures you have to harvest and store fodder during periods of surplus to ensure proper feeding of the animals during the dry season.

Whether you make hay or silage, make sure you harvest leguminous fodder plants at the flowering stage and grasses before flowering, when nutrients and green matter are at their maximum.

Making of hay

Hay is fodder that is preserved by drying it in the sun. Ideally, hay is made from leafy plants with thin stems.

To make hay, harvest the fodder during sunny days to prevent mould development, as mould is extremely harmful to animals and

How to make hay

1. *Harvest during sunny days.*

2. *Repeatedly turn the drying grass.*

3. *Tie the dry grass tightly into bundles.*

4. *Store in a granary-like structure avoiding water and rodents.*

humans. The dried fodder should still be greenish in colour. If it has turned brown in colour, it is over-dried and has lost nutrients.

Making of silage

Silage is the product of controlled fermentation of green fodder retaining high moisture content.

The fresh fodder material is filled into about 1.5 meter deep pits or silos under anaerobic conditions. The anaerobic environment is created by lining the pit with a plastic sheet at the bottom and on the sides, by repeatedly stamping on the fodder and covering it with another plastic sheet.

The material will remain preserved as long as it remains air tight. The quality of the ensiled product will depend on the quality of the material ensiled and on the fermentation process.

How to make silage

1.

Harvest the fresh fodder material.

2.

Chop and fill the material into pits lined with a plastic sheet.

3.

Stamp on the material to press out most of the air.

4.

Line the top with plastic, cover it with soil and stamp on it.

How do I keep my animals healthy?

The aim of organic animal health management is to minimize direct treatments by optimizing the preventive measures.

The health and well-being of animals is strongly affected by housing conditions, feeding, handling by humans, hygienic conditions, and direct exposure to parasites and disease pathogens. Therefore, organic animal health management first aims at enhancing natural immunity and resistance to infections, and preventing introduction and multiplication of infections.

Optimizing preventive measures and minimizing direct treatments saves on costs and prevents possible negative impacts of some treatments on the animals and the farm ecosystem.

On a practical level organic animal health management can be divided into three steps, the first two steps building the foundation for the third one:

1st Keeping locally adapted breeds

2nd Providing good living and feeding conditions for the animals and preventing introduction and multiplication of infections

3rd If necessary, application of direct treatments to diminish the occurrences of parasites and disease causing organisms

Selection of suitable breeds

Selection of appropriate animal breeds builds the starting point for successful organic animal health management.

The 3-step approach to animal health management

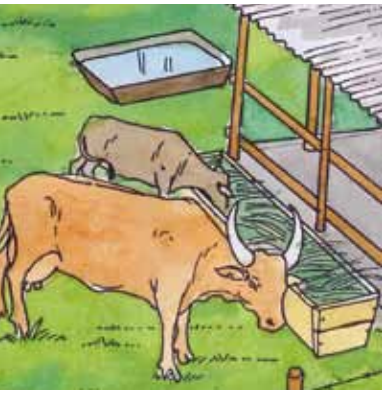
1st spep: Keeping locally adapted breeds

Choosing breeds adapted to local feed and weather and tolerance to common parasites and diseases, minimises the cost of management as well as the risk of losses due to deaths.

Enhancement of natural immunity
Newborn livestock must be allowed to suckle colostrum from the mother's udder within the first 6 hours of their life to take up antibodies and help increase resistance to diseases.

Regular cleaning of the animal housing units and feeding and watering troughs reduces health risks.

Proper grazing is important to avoid buildup of pasture borne internal parasites. Deworming with fodder plants is highly advantageous because the animals are properly fed and treated at the same time.



2nd step: Providing good living conditions and feed, and preventing introduction and multiplication of infections

3rd step: Treatment of animals in case of desease

Feeding *sericea lespedeza* to sheep or goats can substantially reduce internal parasites.

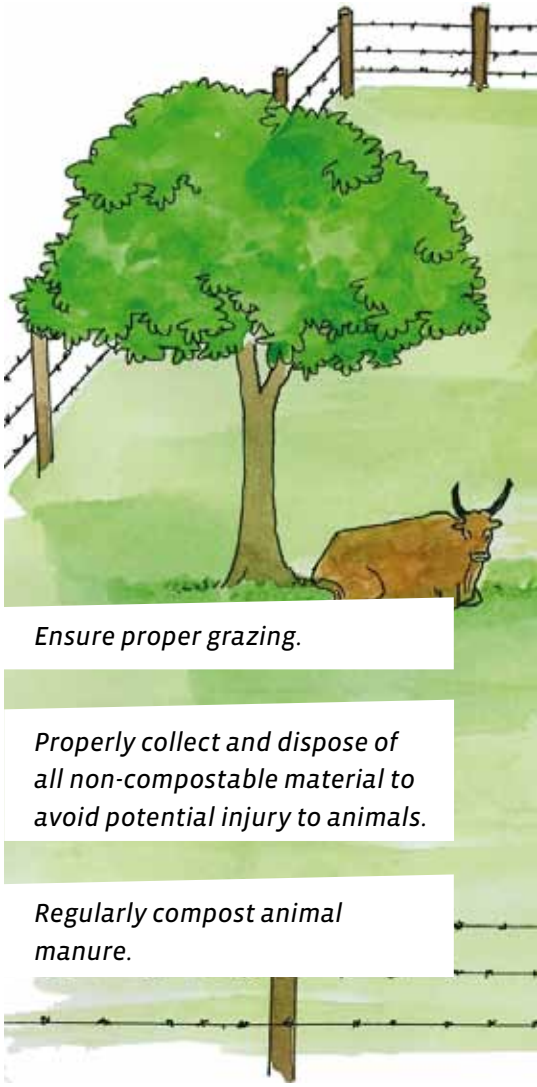
Organic farmers also aim to minimize physical and psychological stress caused by confinement, inflexible tethering, separation, lack of shade, or lack of access to enough food and water, as such conditions weaken the bodies of animals rendering them susceptible to infections. Gentle handling leads to tame, calm and healthy animals.

Prevention of introduction of infections

When introducing new animals onto the farm they should be isolated for a while to allow for closer monitoring of their health status. Heavily infested animals should always be separated from others.

Animals should be vaccinated against diseases that are difficult or impossible to cure and cause great losses. Routine use of vaccines is, however not recommended.

Have you considered optimizing preventive measures to maintain your livestock healthy?



Ensure proper grazing.

Properly collect and dispose of all non-compostable material to avoid potential injury to animals.

Regularly compost animal manure.

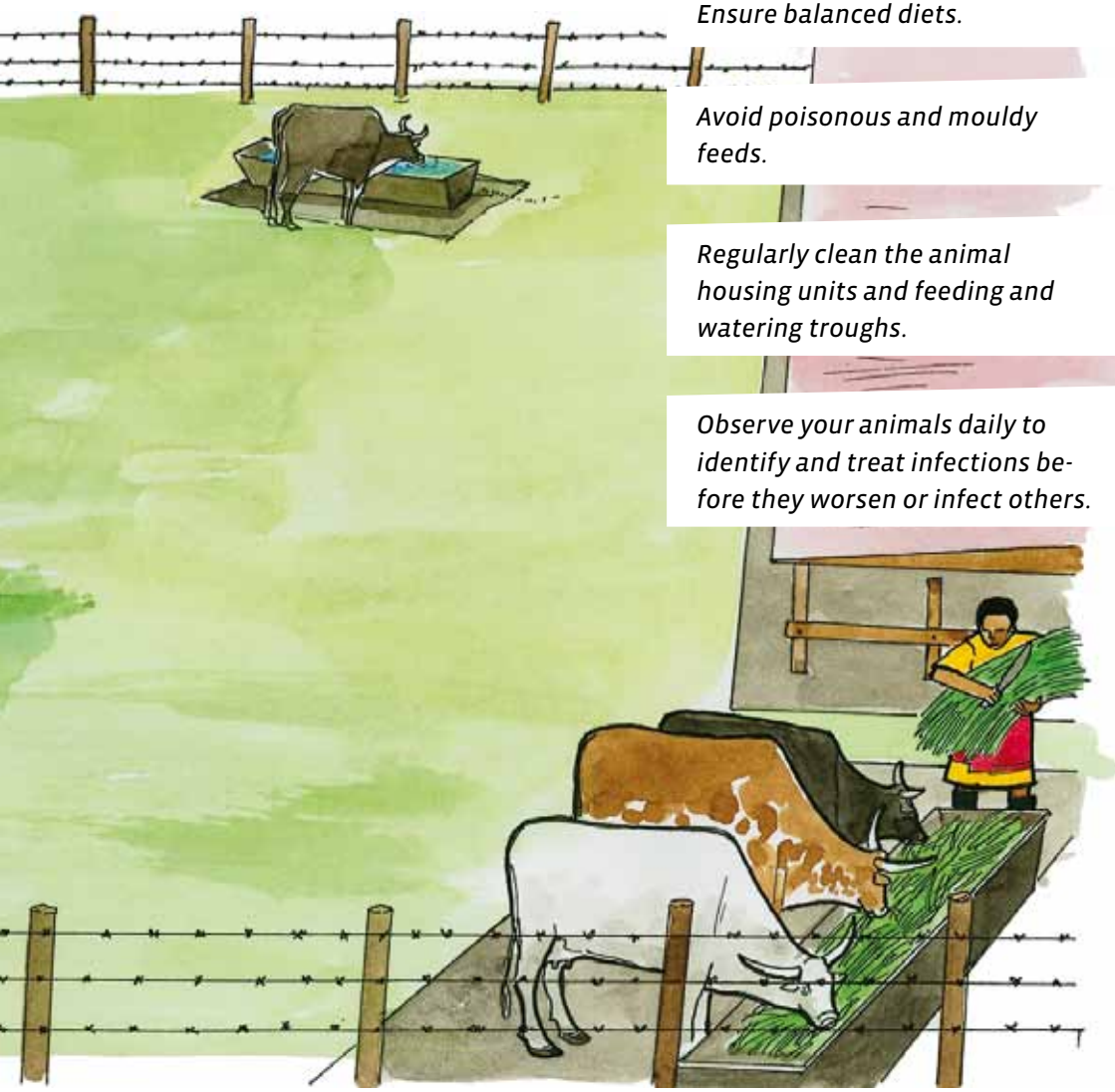
Handle animals gently.

Ensure balanced diets.

Avoid poisonous and mouldy feeds.

Regularly clean the animal housing units and feeding and watering troughs.

Observe your animals daily to identify and treat infections before they worsen or infect others.



Treatment of animals

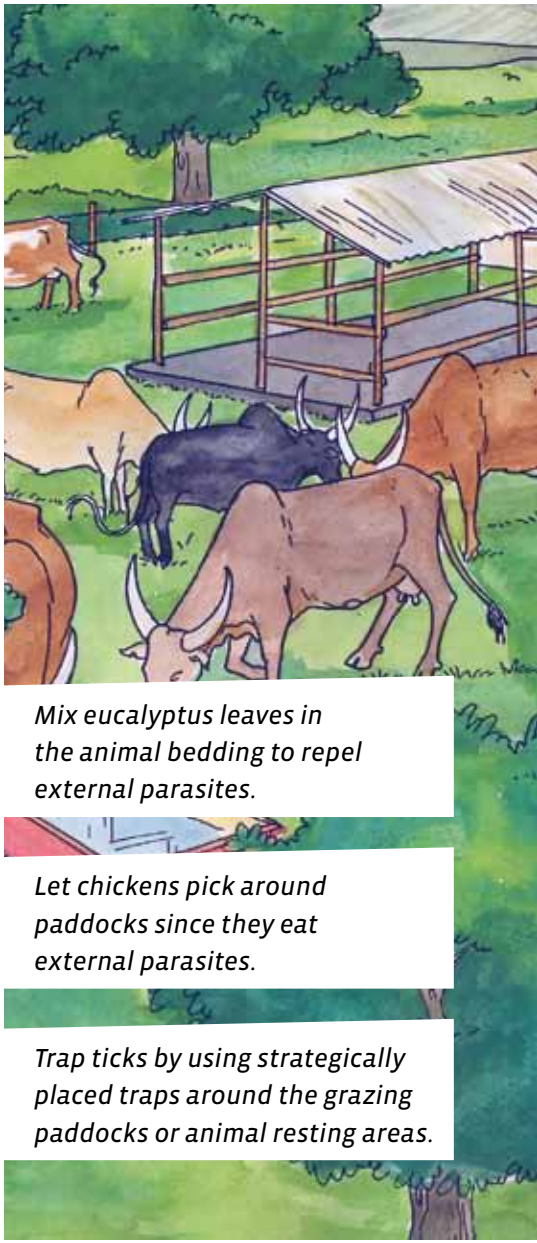
If preventive practices do not help to maintain animal health, specific treatment is necessary to prevent animals from suffering or dying.

Treatments such as natural herbal remedies and traditional treatments are preferred in organic animal husbandry because their potential negative impact on animals, humans and the environment is generally lower. But chemical drugs and antibiotics may be applied in organic agriculture, too, if natural remedies are not effective.

Ideally, before treating an animal, especially with chemical drugs, the necessity of a treatment should be verified by a veterinarian. He or she should select the appropriate treatment also.

The use of chemical treatments does not result in the loss of organic certification status. But it does require the products of treated animals to be withheld from sale for a period two times the legal withholding period of the substance in question.

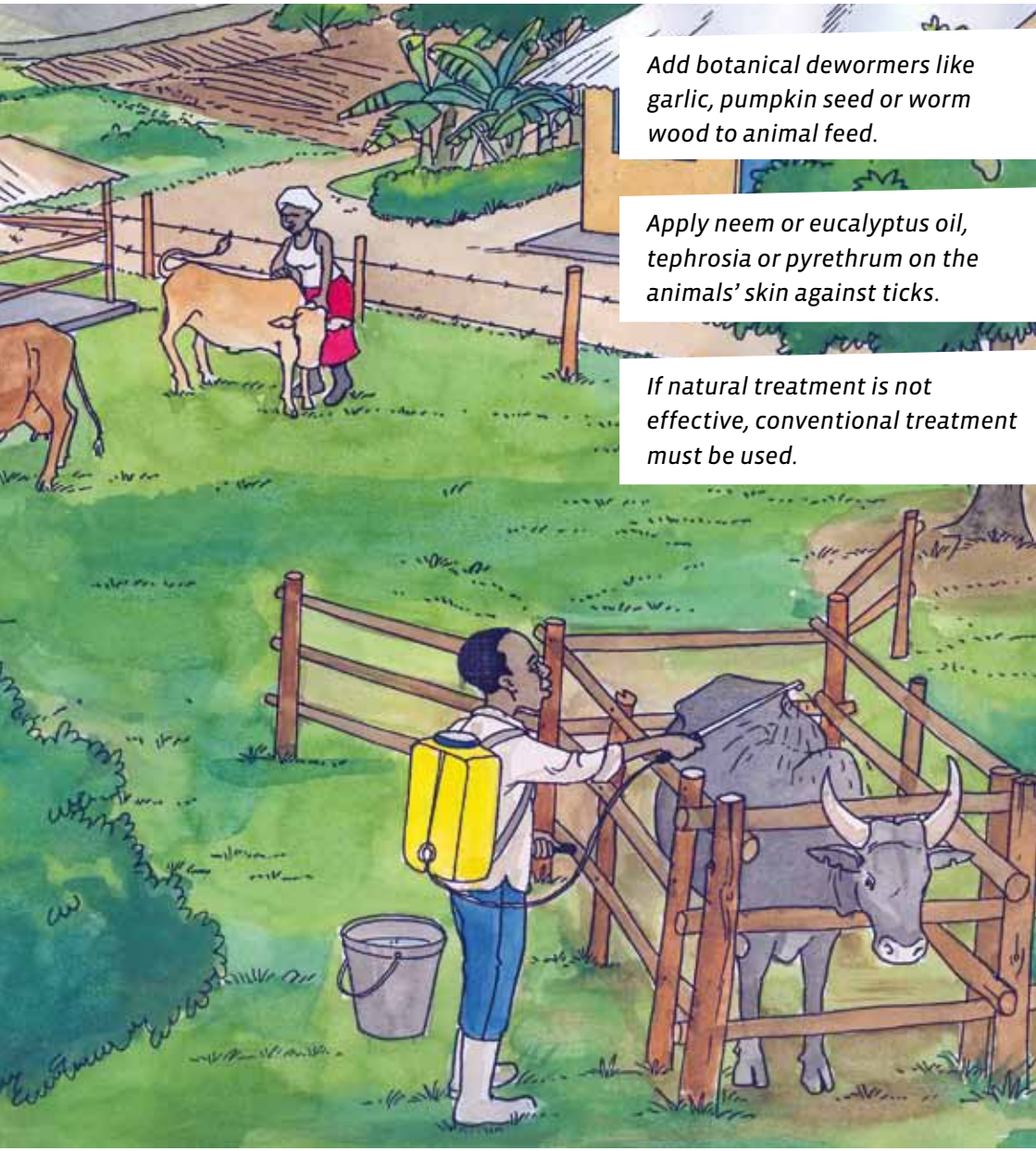
Have you tried out natural herbal remedies and traditional treatments on your animals?



Mix eucalyptus leaves in the animal bedding to repel external parasites.

Let chickens pick around paddocks since they eat external parasites.

Trap ticks by using strategically placed traps around the grazing paddocks or animal resting areas.



Add botanical dewormers like garlic, pumpkin seed or worm wood to animal feed.

Apply neem or eucalyptus oil, tephrosia or pyrethrum on the animals' skin against ticks.

If natural treatment is not effective, conventional treatment must be used.

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