Feeding has a direct impact on the growth rate, production capacity and health status of the animal. Feeding is key for a profitable and sustainable farming.

The cost of feeding has long been recognised as the major cost and the largest cash expense in animal production. It has a direct impact on the growth rate and health status of the animal as well as on the animal’s product quality. In addition to this, it also has effects on the environment.

Therefore, knowledge on animal nutrition is key for a profitable and sustainable farming.

Animal nutrition focuses on studying the dietary needs of the animals. These dietary needs consist of nutrients, which are the components present in the feed that animals can digest and utilise. Hence, when feeding a diet, it is important to first test its nutrient content.

If the feed is an acquired commercial product (concentrate, lick etc.)
the nutritional value must appear in the label of the product. On the other hand, if the feed is done with \textit{in-farm available feedstuffs} (fodder crops, crop residues, grains...) their nutritional values should be tested by sending it for laboratory analyses. Testing the nutritional value of made in-farm feeds and of forages is a must, especially in the dry season when their \textit{protein content} and \textit{energy} can be extremely low.

Animals know how to auto regulate and they stop eating once they feel satisfied. However, if the nutrient content of the feed is very low, the consumed feed will not be enough to meet their requirements and they can suffer from \textit{malnutrition}, even if fed ad libitum. Some farmers reported cases of animals fed ad libitum that were extremely weak, sick and that even died.

These events may not be necessarily related to a toxic diet, but they could be due to the shortage of nutrients. If this was the case, it could have been avoided by correcting the diet. Tip: always test the feed!

Animals’ \textit{nutrient requirements} can vary among different species (swine, poultry, cattle etc.) but also among the same species in different status (pregnant cow, lactating cow, growing calves etc.) or under different conditions (external temperature, external stress etc.).

For example, a lactating cow will need more energy, water and calcium than a dry cow, pregnant sows need extra fibre... Furthermore, the production purpose also plays a role when designing a diet: feedlot, maintenance, organic farming, etc... all of them have different requirements.
Animal nutrition: the importance of feeding a balanced diet

Sections on animal feeding

Farm4Trade aims to explain the needs of the different farm animals under different circumstances as well as to optimise the available feed resources to provide the best possible balanced diet. For this reason, articles will be grouped in the following sections:

**Balanced diets**: it will focus on the needs of the different animals under different conditions. It will enable farmers to understand lab analyses results, work out their own diets and develop a deeper insight of the topic.

**Organic farming**: guidelines to have a certified organic production, including what is allowed to feed, how to get certified, etc.

**Nutrition related illnesses**: lack of nutrients but also excess of nutrients can cause severe problems. In this section the most common nutrition related illnesses will be explained as well as how to detect, overcome and avoid them.

**Sustainable farming**: how to optimize a diet with the local available feeds and supplements (drought resistant fodder crops, treatments to improve the nutrient content of straws, etc.). The nutritional values of different local plant species and how to grow them will be presented, innovative animal feeding strategies such as insects or a synergic approach mushroom-livestock production will be explained.

**Queries**: this section will address the most important and most common questions presented by farmers and it will try to explain the science behind some common myths (urea poisoning, tannin poisoning, etc.).
Animal nutrition: the importance of feeding a balanced diet

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