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Oat

Oat plants are a widely grown crop with lengthy stems and long plumed cereals. Where the stems find their use as a fodder, the kernels have a broad use in both feed- and human applications. Due to the fibrous seedcoat, which makes up for about 25 percent of the oat's weight, oats provide a different palette of nutritional value than other cereals. As a food, oats are commonly used as a breakfast cereals, as a porridge or as a thickening agent in cooking, whereas being unsuitable for making bread, oats are gluten-free.

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As **oats** are a lighter cereal with relatively lower nutritional value compared to barley or wheat, and weighing higher on transport, oats are generally consumed in the countries wherein they are grown. Considering the very low requirement for growth, oats are suitable for no-till production systems, wherein no added tillage, such as fertilisers is required. Being very competitive to weeds due to growth strength and speed, oats require less herbicides.

Oats are available in different varieties of which the darker version is known to have a higher fibre digestibility and to contain less saturated fats, higher antioxidant levels and less carbohydrates than the white or yellow variety, which is considered the standard.

Upon harvest, oats are generally dried to a moisture content of about 12 percent, after which they are convenient to be handled and able to be stored for at least one year without nutritional reduction. Aside from protection of the kernel, the sturdy hulls provide a high fibre content to the oats. Together with a high oil, starch and protein content, oats are an energy rich addition in feed rations.

The energy source of oats is mainly attributed to a high level of starch in the seed's kernel and the oil content which is of a much higher concentration than in other cereal grains. The oil content of around six percent is found in the kernel's endosperm and consists of a large amount of unsaturated fatty acids, which for 90 percent consist of linoleic, oleic and palmitic acid. Whereas protein tends to be lower in oats than in other cereals, oats have a balanced amino acid profile, wherein lysine, threonine and tryptophane are well represented.

Where oats are nutritionally less rich than other cereals or corn, they provide a bigger and lighter mass consisting of hull and fibres, which is excellent for starting cattle or getting older cattle accustomed with grain consumption in a safe manner and rumen development. Ideally, oats can be included in diets up to 30 percent of dry mass intake without any adverse effects. Inclusion of oats in feed rations shows lower emission of methane than rations with barley, corn or wheat whereas the high presence of hulls and fibre reduces the risk of acidosis. Due to their high fat content, oats support increased milk production in dairy cows.

Oats

Oats are the benchmark feed for horses and are often making up for the bulk of any horse ration. Most predominant reason for this is the overall starch digestibility of oats in horses, which amounts to around 90 percent, compared to about 30 and 35 percent for corn and barley, respectively. Aside from digestibility, the very soft kernel, compared to that of other cereals, makes oats easier to chew on and allowing for a very palatable feed with a positive effect on overall intake. The light and fibrous nature of oats makes them more safe to feed than other cereals as there is less likeliness of overfeeding or to cause digestive problems due to the sharp hulls sweeping the intestine system.

Although oats contain a high amount of fibre, which would on first notice seem detrimental for overall feed intake in pig diets, inclusion of oats in the ration are actually very practical, enhancing overall animal health. Studies show that feeding oats to pigs is a natural way of controlling parasites. Due to the sharp hull of the oat passing through the digestive tract, it causes disrupts the parasite build up there, minimising the risk on diarrhoea. Along with this soothing aspect, oats are highly palatable and provide a pack of starch and amino acids such as lysine and threonine which are generally lacking in pig diets. Oats could be the only cereal in pig diets. However, inclusion levels should not exceed ten percent to warrant sufficient overall energy availability.

Due to their high digestible starch, in poultry diets, oats are mainly serving as a source of energy and could be a direct replacement of barley without any detrimental effects on egg production. The higher oil content and presence of fatty acids in oats attribute to a moderate increases in fat stability in poultry meat.

Specifications

Moisture	Abt. 12,0%	Sugar	Abt. 1,5%
Protein	Abt. 10,0%	Fat	Abt. 7,0%
Starch	Abt. 40,0%	Ash	Abt. 2,0%
Fibre	Abt. 12,5%	Metabolizable energy	19,0 MJ/kg

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