

# OATS AS FEED



Oats cultivation and the use of oats for animal food have long traditions in Finland. Oats account for more than a quarter of all grain produced in Finland. Finland's clean soil and cool climate are well suited for oats cultivation. The short but light growing season, along with the right cultivars and good cultivation techniques, produce top-quality oats in terms of weight and kernel size, well suited for both human consumption and animal feed.

- High weight per hectolitre (hlw >58kg)
- Large kernel size
- Low hull content (23–30%)
- White colour
- Low content of weed and foreign material (< 2%)
- Low moisture (< 14%)
- Purity

The variety of oats cultivated in Finland is covered. The animal feed industry uses both covered and dehulled oats. Finnish oats are white in colour and are perfect for both milling and feed purposes. Oats are an important feed grain in Finland. Oats have been exported since the 1980s.

In 2011, the Finnish oats harvest totalled 1,043,000 tonnes. Of that, 326,000 tonnes were used as farm feed. Industry bought 200,000 tonnes of oats from farmers. Of that, 63,000 tonnes were used by the food industry and 137,000 tonnes by the animal feed industry. Oats exports accounted for 363,000 tonnes.

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Oats have a number of characteristics, which increase their feed value. The fatty acids content of oats is more favourable than that in other cereals, and oats have a high content of fat that is rich in oleic and linoleic acids. Oats contain vitamins B1, B2 and B6, and vitamins A, K and E. Oats also contain valuable minerals, micronutrients, antioxidants and sterols.

The high oil content increases the energy value of oats. Compared to barley or maize, oats have 1–3 percentage points more crude protein. Compared with other cereals, oats have a more balanced amino acid composition and a higher concentration of essential amino acids, such as lysine.

Oats can be used for both ruminants and monogastric animals. Oats are suitable for the feeding of pets, such as cats and dogs, and game animals, and can be added to animal feeds as a cereal ingredient. The fat content of oats increases the energy content of oats, which is an important attribute in horse feeds.

On average, hull accounts for 23–30% of an oat kernel. Dehulling oats or using naked oats significantly improves feed value and palatability. Naked oats are excellently suited for poultry, horses and, due to their high energy content, especially for piglets and lactating sows.

In pet foods, oats prevent allergies and do not irritate the intestine. Oats improve fur shine, reduce diarrhoea, and are well suited for the prevention of gluten absorption disorders.

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## FEED VALUES OF DIFFERENT CEREALS

	OATS	DEHULLED OATS	BARLEY	MAIZE	WHEAT
<b>g/kg DM</b>					
Ash	38	22	29	15	20
Crude protein	134	162	126	100	125
Crude fat	60	94	22	46	22
Crude fibre	103	22	49	24	23
Starch	460	650	600	710	680
<b>g/kg DM</b>					
Calcium	0,8	0,6	0,5	0,3	0,5
Magnesium	1,3	1,5	1,4	1,2	1,6
Sodium	0,2	0,1	0,1	0,1	0,1
Phosphorus	4	5,2	4,1	3,1	4,5
<b>MJ/kg DM</b>					
ME value cow	12,3	14,2	13,2	14,5	13,7
ME value horse	11	13	11,12	11,59	11,59
ME value chicken	12,8	16,7	13,1	15,9	14,7
ME value pig	9,8	13	10,7	11,9	11,4

Feed values of oats and dehulled oats compared to barley, maize and wheat.

## AMINO ACID CONTENT OF DIFFERENT CEREALS

	OATS	DEHULLED OATS	WHEAT	BARLEY	MAIZE
Lysine	4,2	4,3	2,8	3,4	2,8
Threonine	3,5	3,4	3	3,3	3,8
Methionine	1,7	2,8	1,6	1,7	2,3
Cysteine	2,8	2,9	2,2	2,5	2,1
Argenine	6	7,2	4,5	5	4,5
Histidine	2,2	2,4	2,3	2,4	2,6
Isoleucine	3,8	4	3,5	3,2	3,7
Leucine	7,1	7,6	6,6	6,8	11,5
Valine	5,4	5,4	4,5	5,1	5
Phenylalanine	5	4	4,5	5	4,5

The essential amino acid content of oats, wheat and barley, g/100 g crude protein.

FURTHER INFORMATION:  
[WWW.KAURAYHDISTYS.FI](http://WWW.KAURAYHDISTYS.FI)