

hrana produkt

Animal feed

LIDER

complete feed mixtures ● supplemental feed mixtures



hrana produkt

Animal feed



ABOUT US

HRANA PRODUKT LTD. is an animal feed factory with the seat in Salas Nocajski which has been in operation since 1992. It is a private company, registered as a limited liability company for production and trade.

The main activity is the production of ready-made animal feed. Since it has been founded until today the company's policy has primarily been investing in quality, production and storage capacities and knowledge. This resulted in two animal feed production plants; in Salas Nocajski and in Sremska Mitrovica.

The product range includes:

- complete feed and supplemental feed mixtures
- vitamin and mineral premixes
- soy bean products



Complete formula feed mixtures are produced in flourey form or as pellets made on an installed pellet machine with the capacity of 30 t/h. We also manufacture animal feed additives which contribute to better production results in growth and fattening. Four production lines for full-fat soybean meal, soy cake and soy oil, process 20,000 tons of soy beans per year. The total capacity of the factory silo is 26,000 tons. Raw materials are stored and preserved in accordance with the valid regulations and standards and can safely be used in production.

Analyses of raw materials are carried out in laboratories and their quality is checked before they are used in production. Good quality raw materials of controlled origin, optimisation and automation result in high product quality. Also, we offer drying and storing services of cereal grains and oilseeds.

Quality management system is in accordance with international standard requirements SRPS 9001:2015 and HACCP system implemented in 2006.

We have been awarded medals on many occasions at international fairs. HRANA PRODUKT products are distributed through our retail network, in wholesale and in direct cooperation with farms.



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Animal feed



HRANA PRODUKT – A factory in Salas Nocajski
Location 1



Chicken fattening farm Kovacarac



HRANA PRODUKT – A factory in Sremska Mitrovica
Location 2

Production of chickens for fattening is the most intensive type of animal husbandry. It is characterised by extremely fast growth, multiple increase of the chicks' initial body mass, little amount of feed, the biggest production per accommodation unit capacity. A very important fact is that poultry has the shortest generation interval and breeders have used that to improve the production features of their hybrids year after year: their growth, conversion, meatiness, egg yield...Progress made in genetics and selection has initiated the question of altered needs when it comes to nutrition. Success is guaranteed if this aspect is also at a high level.

HRANA PRODUKT LTD., as a leader in poultry feed production, chooses feed components and other nutritive additions with utmost care before using them in their ready-made and supplemental mixtures, as well as in vitamin and mineral premixes, with an aim to enable production hybrids to realise their full genetic potential. The proof of our success can be seen on the field in the results we achieve on our and our cooperatives' farms.

TECHNOLOGICAL PARAMETERS IN CHICKEN FATTENING

Basic guidelines for good production:

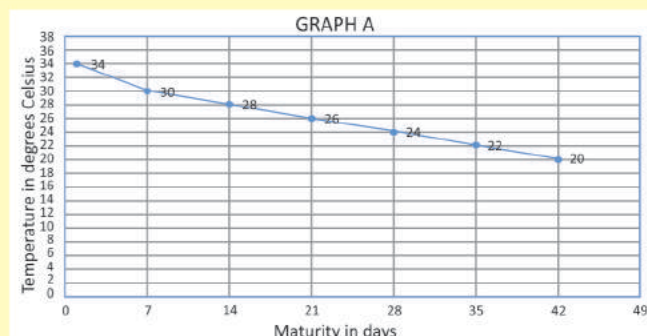
- In one building one type of hybrid of the same maturity should be kept. All in—all out system is recommended.
- Cleaning and washing the facilities as well as disinfection must be done regularly and according to technological requirements.

- The facilities must be empty between two turns (21 days is desirable).
- Employees at the farm must not be in touch with other poultry outside their work.
- Quick and safe removal of dead animals from the farm.
- Accommodation conditions and other paragenetic factors should be at the highest possible level.

ADMITTANCE OF CHICKENS TO THE FARM

In order to successfully admit one day old chicken for fattening the following conditions should be provided:

1. The building should be cleaned, washed and disinfected (the floor and the walls up to the height of 1m).
2. Floor covering (straw, saw dust) of appropriate thickness (5-15cm).
3. Operation and functionality of all devices, especially ventilation system, should be checked.
4. The building should be heated up to 34 degrees Celsius, with optimal humidity of 70%, at least 24h earlier. (Graph A)
5. Feeders and water holders should be prepared and adjusted, so that food and water are easily available to chicks. The temperature of the water in the beginning should be around 25 degrees Celsius, and later it can be lower.
6. After the admittance they should be immediately placed under the heaters.
7. Optimal density per square meter is 12 chicks.



As the chicks get older the temperature is decreased (until the end of the first week it goes down to 30 degrees, the second to 28 degrees, the third 26 degrees, the fourth 24 degrees, the fifth 22 degrees and the sixth 20 degrees). Relative humidity is decreased to 60%.

RECOMMENDATIONS FOR USE

The most important thing is to check chicks' health condition on daily basis, the temperature and the humidity, the ventilation system, food and water intake, death rate etc. Prophylactic veterinary measures are prescribed by the local veterinary facilities' programmes, which should be taken into account. Chickens for fattening have several feeding stages. In HRANA PRODUKT we apply two feeding concepts for chickens. Coccidiostats are the most significant tool in prevention of coccidiosis in broilers. Coccidiostats play a vital role when applied with a large number of chickens, since large populations of farm chickens increase the likelihood of coccidiosis spreading. They should be added to the feed for at least 28 days (4 weeks) since chicks are the most sensitive between weeks 2 and 4. With lower numbers of chickens the possibility of oocysts spreading is lower, so the likelihood of coccidiosis appearing is lower too.

FEEDING USING THREE MIXTURES	LIDER ŽB 1-22% (from day 1 to 21)	LIDER ŽB 2-19% (from day 22 to 28)	LIDER ŽB 3-17% (from day 29 until the end of fattening)
	LIDER ŽB 1-22% (from day 1 to 28)	LIDER ŽB 2-19% (from day 29 until the end of fattening)	



LIDER ŽB 1-22%

Complete feed mixture for chicken fattening I up to 21 or 28 days old, with coccidiostat (depending whether three or two mixture feeding system is applied)

A complete feed mixture is used to feed chickens for fattening up to 21 or 28 days old, with constant supply of fresh drinking water. This mixture ensures high daily growth and vitality in chickens, as well as low mortality.

Mixture type: Floury, crushed pellets

Packaging: 10 and 20kg

LIDER ŽB 2-19%

Complete feed mixture for chicken fattening II, from day 22 to 28 with coccidiostat

A complete feed mixture is used to feed chickens from 22 to 28 days old with constant supply of fresh drinking water. This mixture ensures that the chickens gain body mass equally and the food conversion is good. The mixture contains coccidiostat. After this mixture a mixture without coccidiostat must be used before slaughter.

Mixture type: Floury, pelleted

Packaging: 10 and 20kg



LIDER ŽB 2-19%

Complete feed mixture II from day 29 until the end of the fattening. Without coccidiostat.

A complete feed mixture is used to feed chickens for fattening with constant supply of fresh drinking water. This mixture ensures that the chickens gain body mass equally and the food conversion is good. The mixture does not contain coccidiostat.

Mixture type: Floury, pelleted

Packaging: 10 and 20kg

LIDER ŽB 3-17%

Complete mixture for chicken fattening III, the final stage

A complete mixture is used to feed chickens in the final stage of fattening (the last 5 days) with constant supply of fresh drinking water. This mixture prepares chickens for the slaughter process giving them time to get coccidiostat residues out of their bodies.

Mixture type: Floury, pelleted

Packaging: 10 and 20 kg

LIDER ŽB 40%

Complete mixture for chicken fattening III, the final stage

A complete mixture is used to feed chickens in the final stage of fattening (the last 5 days) with constant supply of fresh drinking water. This mixture prepares chickens for the slaughter process giving them time to get coccidiostat residues out of their bodies.

Mixture type: Floury, pelleted

Packaging: 10 and 20 kg



Recommendations for the preparation of 100kg of complete feed mixture:

Chickens for fattening over 21 days old	I	II
LIDER ŽB-40%	34	33
Barley	-	7
Corn	66	60
TOTAL	100	100

Add 18 kg of corn groats to 10kg of supplemental mixture



TECHNOLOGICAL PARAMETERS IN PRODUCTION OF LAYER HENS

TABLE EGGS

Basic recommendations for good production

1. In one building only one type of hybrid of the same maturity should be bred. All in - all out system is recommended.
2. Visitors should not be allowed.
3. Cleaning and washing the facilities as well as disinfection must be performed regularly in accordance with technological requirements.
4. Employees at the farm must wear protective clothing that they wear only at the farm and must not be in touch with other poultry outside the farm.
5. Facilities should be protected from birds or other animals which can transmit diseases.
6. Dead animals should be removed from the farm quickly and safely.
7. Accommodation and other paragenetic factors should be at the highest possible level.
8. The lighting programme which is technologically prescribed should be respected.
9. Laying hens should always have clean water available since it is equally important as food. Water intake is directly and positively related to food intake. When the temperature is normal the ratio is 1.8-2 parts of water: 1 part of food.
10. Density per square meter is 6-8 hens per square meter on the floor, while in cages it is 470-540 square centimetres per hen.

LIDER ŽKN 16.5%

Complete feed mixture for layer hens

Table eggs

A complete feed mixture is used for table eggs layer hens (46-65 weeks). This mixture entirely meets the needs of layer hens in the second stage of laying, primarily when it comes to minerals (calcium) and having eggs with high quality yolk, hard and smooth shell. At this stage daily food intake is about 115-120 grams. Hens must always have fresh drinking water available.

Mixture type: Floury

Packaging: 10 and 20kg



LIDER ŽKN 15%

Complete mixture for layer hens

Table eggs

A complete mixture is used for table eggs layer hens (from week 65 until the end of exploitation). This mixture meets the needs of layer hens in the final laying stage when it comes to micro and macro elements, proteins and vitamins. Hens must always have fresh drinking water at their disposal.

Mixture type: Floury

Packaging: 10kg

LIDER ŽKN 30%

Supplemental mixture for layer hens

Table eggs

A supplemental mixture contains proteins of high biological value, macro and micro elements, vitamins, as well as permitted additives which together with high energy feeds make an optimal and balanced meal that layer hens need.

Packaging 10kg



Recommendations for the preparation of 100kg of complete feed mixture:

Feed	Layer hens from 18-35 weeks		Layer hens over 35 weeks	
LIDER ŽKN - 30%	36	38	33	35
Barley	14	-	20	65
Corn	50	62	47	-
Total	100	100	100	100

Add 18 kg of corn groats to 10kg of supplemental mixture



TECHNOLOGICAL PARAMETERS IN TURKEY FATTENING

- Homogenous and healthy flock during fattening
- Excellent production results, low mortality
- A peaceful flock not prone to pecking

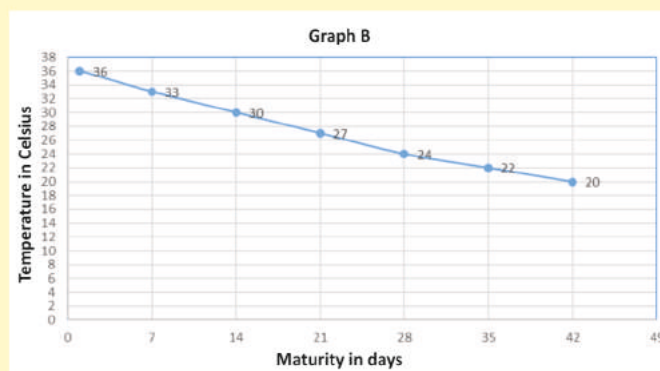
These are aims of any turkey producer, and to achieve them it is important to obey the following recommendations:

1. In one building only one type of hybrid of the same maturity should be bred. All in - all out system is recommended.
2. Visitors should not be allowed.
3. Cleaning and washing the facilities as well as disinfection must be performed regularly in accordance with technological requirements.
4. Employees at the farm must wear protective clothing that they wear only at the farm and must not be in touch with other poultry outside the farm.

It is considered that intensive turkey fattening is up to 16 weeks maximum when they weigh 11kg (females) and 15-16kg (males). Naturally, fattening can be prolonged in a traditional way up to 8-9 months when males can reach even 30kg. The temperature inside the building where they are admitted should be 36 degrees Celsius. Poult should be closely monitored to make sure they can take water and food. The weaker ones that are not able to do that must have their beaks placed in water and feed until they start eating. Heating must last for about 5 weeks and each week the temperature is lowered by 3 degrees, so in week 6 it drops to 20 degrees (room temperature) (Graph B).

Relative humidity in the building should be between 65% and 75%. High humidity leads to respiratory diseases, while low leads to creation of dust. Providing appropriate floor and bedding is very important for success in turkey fattening. It is recommended that before the end of week 4 there should be about 12 poult per square metre, and at the end of fattening process 34kg per square metre. Average optimal habitation density is 6-7 turkeys per square metre. Insufficient space causes moist and sticky bedding, too high temperature and humidity in the object, high level of harmful gasses, which all results in bad production results, stratification, cannibalism and death. Ventilation is of utmost importance since the level of harmful gasses, water steam and dust in the building quickly increases. Ventilation norms are the following: for one day old poult, 3 cubic metres of air per hour are needed for 10 poult. For poult weighing 1kg it is 5-7.5 cubic metres per hour.

5. Facilities should be protected from birds or other animals which can transmit diseases.
6. Dead animals should be removed from the farm quickly and safely.
7. Accommodation and other paragenetic factors should be at the highest possible level.
8. Poult are much clumsier than chicks and must be taught to eat and drink, stress should be avoided at all costs.
9. Special attention should be paid during the brooding period when their immunity decreases.



Within first three days poult should be provided with light during 24 hours, afterwards the programme is adjusted. The light programme of 16h of light and 8h of darkness is recommended. Bedding should consist of soft wood saw dust, wheat or rye straw or similar materials that absorb moisture should be used. Bedding should be between 10 and 15cm thick. It is common to use 8.5kg of saw dust or straw per one square metre of floor surface. Fresh, clean and hygienically adequate water must always be available to poult.

TURKEY FEEDING	
FEED	MATURITY IN WEEKS
LIDER ĆU 1-28%	up to 4
LIDER ĆU 2-24%	5 - 8
LIDER ĆU 3-20%	9 - 12
LIDER ĆU 4-16%	after 12



LIDER ĆU 1-28%

Complete feed mixture for turkey feeding from 1 to 4 weeks old - **With coccidiostat**

A complete feed mixture is used to feed growing turkeys from 1 to 4 weeks old. The mixture is completely adjusted to this type of poultry when it comes nutrients, primarily proteins and energy. Proteins in this feed are of exceptionally high quality and easily digestible. Fresh drinking water must always be available alongside with the mixture.

Mixture type: Crushed

Packaging: 10 and 20kg

LIDER ĆU 2-24%

Complete feed mixture for turkey fattening II from week 5 to 8 - **With coccidiostat**

A complete feed mixture is used to feed turkeys from week 5 to 8. The mixture contains optimal level of vitamins and minerals, amino acids, as well as enzymes which ensure better utilisation of the feed for fast growth until reaching the desired weight, this decreases stratification of the flock. Fresh drinking water must always be available alongside with the mixture.

Mixture type: Pelleted

Packaging: 10 and 20kg



LIDER ĆU 3-20%

Complete feed mixture for turkey fattening III from week 9 to 12

A complete feed mixture is used to feed turkeys between weeks 9 and 12. This mixture contains all needed nutrients important at this fattening stage when poults achieve intense growth. It is recommended to combine this mixture with ĆU 4-16%, starting from week 10, to gradually move to another mixture. Fresh drinking water must always be available alongside with the mixture.

Mixture type: Pelleted

Packaging: 10 and 20kg

LIDER ĆU 4-16%

Complete feed mixture for fattening turkeys IV, after week 12

A complete feed mixture is used at the final stage in turkey fattening, after week 12. This mixture is fed to turkeys until they reach the desired weight and at the same time quality of meat is excellent. Fresh drinking water must always be available alongside with the mixture.

Mixture type: Pelleted

Packaging: 10 and 20kg



TECHNOLOGICAL PARAMETRES IN PIGEON FEEDING

Hygiene and disinfection (also disinsection) of the accommodation capacities for keeping and raising pigeons is of utmost importance for health condition of these birds.

1. Mechanical removal of impurities is performed and then chemical treatment which can be done only if there are no birds in cages. Based on their structure and purpose cages are divided into cages for ornamental pigeons and cages for pigeons grown for sport.

Cages for pigeons grown for sport (e.g, high flyers) consists of several parts:

1. A part for the original flock
2. A part for male flyers

3. A part for female flyers

4. A part for young birds

5. A wire trap for adjustment, start and return

6. A wire porch for feeding, bathing and sunbathing

2. Not only cages are different, but also feeding of ornamental and pigeons grown for sport. There are also differences in young pigeons and during break time (in winter). Primarily, they differ in demands and energy.

3. Common feature in pigeon feeding is that it is based on carbohydrates (cereals, seeds, legumes).

4. An important fact is that starch turns into glucose in the final stage.

5. Pigeon liver produces around 50% fat for their bodies, turning glucose into fatty acids.

LIDER G - 18%

Complete feed mixture for feeding young pigeons

A complete feed mixture is suitable for raising young birds, pigeons in moulting phase, as well as for pigeons that train. The mixture contains optimal level of minerals which help digesting grainy feed. Fresh drinking water must always be available alongside with the mixture.

Mixture type: Pelleted

Packaging: 10kg

LIDER G - 15%

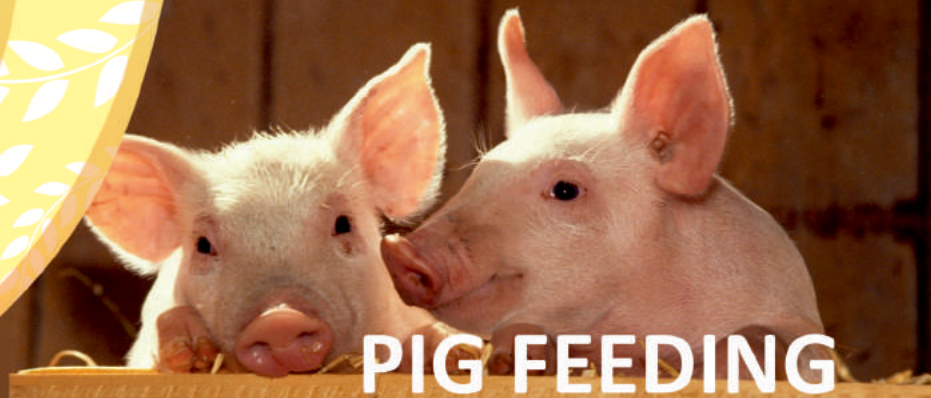
Complete feed mixture for pigeon feeding

A complete feed mixture is nutritionally balanced and composed of quality feeds suitable for all races of pigeons. Fresh drinking water must always be available alongside with the mixture.

Mixture type: Pelleted

Packaging: 10kg



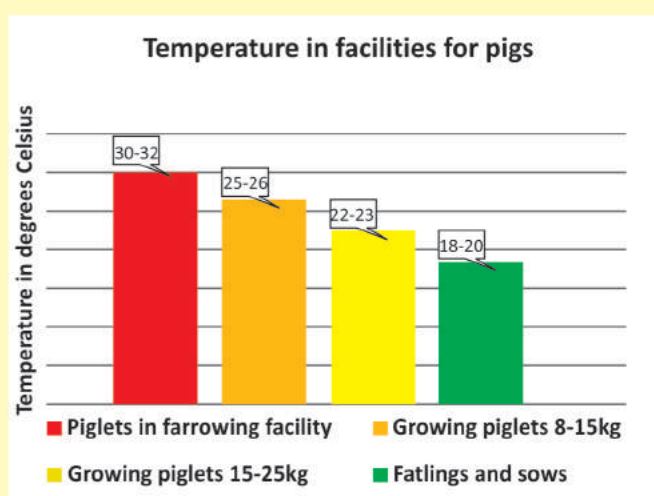


PIG FEEDING

Keeping and feeding pigs has very long and rich tradition in this area. Especially in Macva and Srem regions. A large number of breeders today can boast that their ancestors were pig breeders for generations. That is why this production is extremely important. We have tradition, interested producers, good quality natural material is easily available, as well as technological solutions for farms, and the whole production cycle, and we are here to offer them top solutions in pig feeding. Our aim is to ensure that full genetic potential of our farmers' livestock will be realised by using optimally balanced food, which means the highest growth with the least feed needed to achieve it. Naturally, quality comes first, together with economical production, which is a common goal for farmers and us.

To produce such food it is essential to choose nutritive components for our products carefully and check their quality, which we constantly do.

Pigs are animals which need adequate environment and accommodation to achieve production results provided by their genetic makeup. The most demanding are suckling pigs, i.e. the farrowing facility. That is to be expected since suckling piglets weigh between 1.2 and 1.5kg when they are born, they cannot regulate their temperature and are directly exposed to influences from the outside. They need temperature close to the body temperature, which is most easily gained with heated panels. As their body mass and maturity increases their need for warmer environment decreases, which can be seen on the graph. Optimal humidity for all categories and facilities is between 60 and 70%. Also, circulation of fresh air is crucial, as well as quick removal of harmful gasses which are a by-product of pigs' metabolism and faeces decay (methane and ammoniac).



The first period is supplemental feeding of suckling piglets when their primary food is mother's milk and when their enzyme system is not developed and unprepared for digesting anything else but sow's milk. At that point it is necessary to gradually prepare them to digest starch (amylase) and protein from the feed (protease). The piglet feed at this stage is the most demanding and of the highest quality. It consists of good quality carbohydrates, proteins and fats which are added from the most suitable feeds, enzymes, probiotics, vitamins, minerals in their most absorbable form, essential amino acids in optimal quantities and ratios, energy supplements, rich in fibre and acidifiers that create adequate pH environment not suitable for development of harmful bacteria that can harm a young suckling piglet's organism.

The second period starts after weaning (piglets weighing 7-8kg) until piglets weigh 15kg. This is a stressful period for piglets because they are separated from their mothers and their enzyme system is still not completely functional, nor is their thermoregulation system, so they are extremely sensitive then (especially in the first 7 days of weaning). The feed produced for this period of breeding is of outstanding quality characterised by optimal balance of protein and energy nutritive components, high level of lysine, maximum coordination of vitamins and minerals appropriate at this stage of development. Everything is accompanied by necessary additives, enzymes, probiotics etc.

The third feeding period starts when piglets weigh 15kg, and lasts until they reach 25kg and commonly even 40kg. This period is important because piglets achieve immense growth, characterised by development of muscular and skeletal tissue, which happens with excellent food conversion. Piglets at this stage accumulate necessary nutrients which prepares them for the fattening stage when the results which determine the economy of pig fattening are achieved. The composition of piglet feed at this stage is characterised by nutritive components of high biological value, both carbohydrates and proteins, which are easily absorbed by piglets.



LIDER PRE-STARTER

Complete feed mixture for supplemental feeding of suckling piglets

A complete mixture is used to supplement feeding of suckling piglets. The needed quantity of this mixture per piglet ranges from 0.5 up to 1kg. This mixture contains highly digestible proteins and extruded products which provide better absorption in piglets at the stage when they are adapting to solid food. This mixture is given with constant supply of fresh drinking water (one of the most important goals in this period is to get piglets to drink water)!

Mixture type: Crushed

Packaging: 10kg

LIDER START PIGLET

Complete feed mixture for piglets up to 15kg (weaning period)

A complete feed mixture is used for weaning piglets. It consists of nutritive elements and additives of high quality, as well as milk replacement that ensure getting equal and healthy piglets without diarrhoea. Needed quantity of the feed at this stage is about 10kg per piglet. This mixture is given with constant supply of fresh drinking water.

Packaging: 10kg



LIDER SG - 20

Complete mixture for piglets I from 7kg to 15kg

A complete feed mixture is used to feed piglets from 7kg to 15kg after weaning. The mixture contains optimal level of vitamins and minerals as well as needed enzymes which ensure better digestion and adequate development of the digestive system. This mixture is given with constant supply of fresh drinking water

Mixture type: Pelleted

Packaging: 10 and 20kg

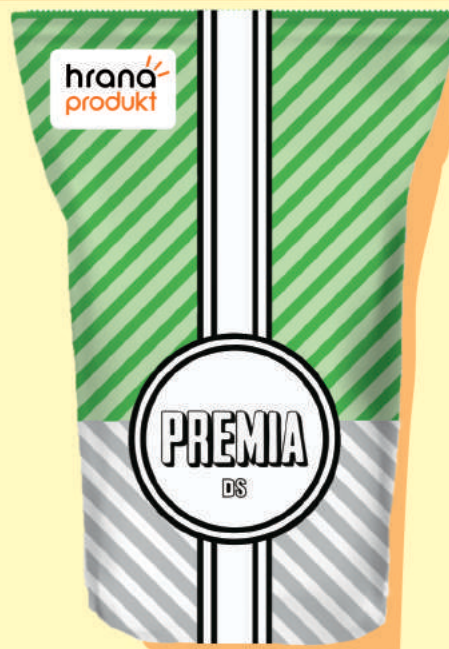
PREMIA SUPER STARTER

Supplemental feed mixture for piglets from 7kg to 15kg

A supplemental feed mixture is used to prepare complete feed mixtures for feeding piglets from 7kg to 15kg (weeks 3-4, after weaning). It contains high level of digestible proteins, all needed vitamins and minerals, as well as additives against diarrhoea. When mixed with cereals it provides a complete feed mixture which satisfies all piglets' needs in this sensitive period.

Packaging: 10kg

	PIGLETS FROM 7 TO 15KG	
PREMIA SUPER STARTER	25	25
CORN	70	60
WHEAT/BARLEY	5	15
TOTAL KG	100	100





LIDER SG - 18%

Complete feed mixture for piglets II from 15kg to 25kg

A complete feed mixture is used for piglets from 15kg to 25kg. It completely meets the needs of growing piglets in creation of their body muscles and prepares them for the fattening stage. The mixture is given with constant supply of fresh drinking water.

Mixture type: Flouxy

Packaging: 10 and 20kg



LIDER GROVER FOR PIGLETS

Complete feed mixture for piglets II from 15kg to 25kg

A complete feed mixture is used to feed piglets from 15kg to 25kg. The mixture contains optimal level of amino acids, vitamins and minerals which ensure fast growth in piglets with adequate preparation for the fattening stage. This mixture is given with constant supply of fresh drinking water.

Mixture type: Pelleted

Packaging: 20kg

PREMIA SUPER - GROVER

Supplemental feed mixture for growing piglets and fattening from 15kg to 40kg

A supplemental feed mixture is used for making complete feed mixtures from 15-40kg. The mixture contains ideal ratio of amino acids, enzymes, as well as additives which make the complete feed mixture tasty (when mixed with cereals), easily digestible and that increases consumption. The supplemental feed mixture can be used until the end of the fattening stage with coordinated share increase.

Packaging: 20kg



LIDER SP - 40

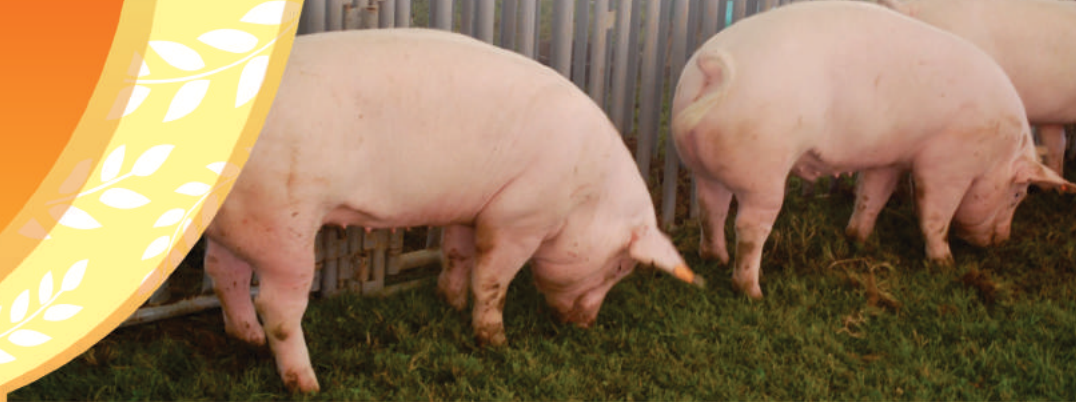
Complete feed mixture for piglets

A complete feed mixture is a universal super mixture, primarily because of its vitamin and mineral content, so except for making complete feed mixtures for piglets (from 15 to 40kg) it can be used for fattening pigs and breeding sows.

Packaging: 10kg

FEED	Piglets up to 40 kg	Fattening pigs
LIDER SP-40%	25	20
CORN	65	65
BARLEY	10	15
TOTAL	100	100

PIGLETS FROM 15 TO 40KG		
PREMIA SUPER GROVER	25	25
CORN	75	60
BARLEY	/	15
TOTAL	100	100



FATTENING PIGS

The fattening stage is the most peaceful stage when it comes to sensitivity, since animals are much more resistant than when they were piglets. The "battle" is fought for daily growth and food conversion. These parameters are directly correlated with production economy. Since much more food is consumed at the stage after 40kg until the end of fattening than in the earlier stages, the importance of feed quality has another dimension. In large numbers of fattening pigs even the slightest improvement in food conversion can easily be noticed in growth. Having all these facts in mind in HRANA PRODUKT we pay special attention to quality of raw materials and optimisation of meals. The goal of HRANA PRODUKT is to achieve over 800g growth daily and conversion under 3kg, most commonly 2.8kg.

LIDER ST 1-16%

Complete feed mixture for growing and fattening pigs from 25-60kg

A complete feed mixture is used in feeding fattening and growing pigs. The mixture contains optimal level of vitamins and minerals, as well as synthetic amino acids which enable fast initial growth in fattening which is important for maximum realisation of genetic potential of a fattening pig. The mixture should be given with constant supply of fresh drinking water.

Mixture type: Flourey

Packaging: 20kg

LIDER ST 2-14%

Complete feed mixture for fattening pigs from 60-100kg

A complete feed mixture is used for fattening pigs from 60 to 100kg. All nutrients in this mixture are well balanced to ensure optimal growth with economical feed consumption. The mixture is given with constant supply of fresh drinking water.

Mixture type: Flourey

Packaging: 20kg

LIDER ST 3

Complete feed mixture for fattening pigs over 100kg

A complete feed mixture is used for fattening pigs over 100kg. The mixture completely meets the needs of fattening pigs at this stage and contributes to getting good quality meat with very good food conversion. The mixture is given with constant supply of fresh drinking water.

Mixture type: Flourey

Packaging: 20kg





PREMIA SUPER FINISHER

Supplemental feed mixture for fattening pigs over 40kg
A supplemental feed mixture is used to prepare complete feed mixtures for fattening pigs over 40kg. The mixture contains all needed enzymes, ideal ratio of amino acids as well as highly digestible ingredients which when mixed with cereals provide good quality complete feed mixture for intensive fattening that ensures high growth with optimal feed consumption.

Packaging: 20kg

FEED	Fattening pigs over 40kg	
	I	II
PREMIA SUPER FINISHER	20	20
Barley	/	20
Corn	80	60
Total	100	100



LIDER ST - 35

Supplemental mixture for fattening pigs

A supplemental mixture is used to prepare complete feed mixtures for fattening pigs. The mixture contains all needed and adequately balanced raw materials that ensure fast growth with low feed consumption and good health:

Packaging: 10kg

FEED	Fattening pigs up to 60kg		Fattening pigs over 60kg	
	I	II	I	II
Lider ST – 35	25	25	20	20
Barley	/	20	/	25
Corn	75	55	80	55
Total	100	100	100	100





FEEDING BREEDING LIVESTOCK (SOWS AND BOARS)

Feeding breeding livestock is very specific since its task is to positively influence several set goals unlike feeding piglets and fattening pigs when primary goals are growth and food conversion.

- Feeding boars is designed in such way that the priorities are good health condition, excellent breeding fitness and good sperm mobility. So, in this category the goal is to daily consume less food (2-2.5kg), all nutrients, vitamins, minerals and other nutritive additives which are beneficial to the abovementioned feeding goals.

- Feeding pregnant sows and gilts has also got a number of goals, and the most important are: good breeding fitness and good health condition of the gestating animal, high ovulation value and a high percentage of conception, proper embryo development and a large number of live born piglets. Also, with little daily feed intake (2-2.5kg) during their gestation these goals should be achieved. It goes without saying that gestating sow's meal must have all the necessary nutrients, vitamins, minerals and other nutritive additives optimally balanced.

- Feeding breastfeeding sows is especially demanding, and the needs of this category are great, since apart from their own, they must meet the growing needs of suckling pigs, which are even greater. Apart from physical fitness and health condition, sows must be provided with sufficient nutrients through their meals, especially energy to produce sufficient amount of milk for suckling piglets. At the end of lactation a sow must be physically fit to reinstate its fertile and reproductive cycle again, since that it is the key to production profitability of a sow. Lactating sows consume from 5 to 8kg of feed a day.

LIDER SKD - 16%

Complete feed mixture for breastfeeding sows and boars

A complete feed mixture is used to feed breastfeeding sows and boars. This mixture ensures a sow will produce enough milk, have good basal metabolism and good breeding fitness which ensures a regular reproductive cycle. For boars it ensures they have good health condition, good semen quality and breeding fitness. The mixture is given with constant supply of fresh drinking water.

Packaging: 20kg

Mixture type: Floury



LIDER SPK - 35%

Supplemental feed mixture for breeding pigs

A supplemental feed mixture for breeding pigs is used to prepare complete feed mixtures for breeding pigs and is mixed with cereals. With this super mixture excellent complete feed mixtures are made, which enable sows to realise their full potential, have good health condition and excellent reproductive results.

Packaging: 10kg



FEED	Lactating sows		Gestating sows	
	I	II	I	II
LIDER SPK-35	25	25	20	20
BARLEY	-	23	-	25
CORN	60	40	65	40
WHEAT FLOUR for animal feed	15	12	15	15
TOTAL	100	100	100	100

The main feature of feeding ruminants, unlike monogastric animals, is combining forage and concentrated food. This type of feeding is a consequence of specific food digestion in ruminants which is twofold: direct (influenced by enzymes created in the body) and indirect (influenced by microorganisms in rumens). The digestive system itself consists of a stomach which has 4 parts: the rumen, the reticulum, the omasum and the abomasum (the real stomach) and the system of small and large intestine. Having all these special features in mind, HRANA PRODUKT LTD., being one of the leaders in animal feed production, has designed products that enable maximum realisation of genetic predispositions of ruminants at each stage of development and adequate development of their special microflora.

FEEDING CALVES

After calves are born the most important thing is that they consume colostrum milk in the first days, since it is rich in protein, minerals, vitamins and especially immunoprotective substances gamma globulins. Apart from the protective effect colostrum has a task to clean calf's digestive tract. In the first days a calf consumes 6-8kg of milk. On modern farms after birth a calf is taken to a separate section, where it spends the first 7 days until it sucks all the necessary colostrum, afterwards it moves to a section where calves are kept in groups. After 5-7 days calves can gradually move to feed that replaces milk, and after 10 days calves gradually start taking other food, first top quality alfalfa and starter feed for early weaned calves. After three weeks quantities of offered dry feed increase. For calves, as well as for all other ruminants, the rule stands that transitions to animal feed is done gradually and carefully, so as not cause serious digestive disorders. Since forage feed for calves should be of the highest quality, the quantity of ready-made feed which is given in the last stage of calf husbandry is 2-2.5kg. It is a rule that rumen develops well if at an early feeding stage calves start getting used to solid feed. In this way we produce calves that are ready to achieve excellent results at the fattening stage, without digestive problems, which are common with calves that consumed milk for too long.

LIDER GT - 18%

Complete feed mixture for calves from 50-100kg

A complete feed mixture is used to feed calves weighing from 50-100kg. In its composition it contains carefully selected raw materials which enable digestive system to easily adapt to solid feed. A high level of digestible proteins and minerals makes calves healthy and adequately prepared for further growth. The mixture is used in combination with high quality forage with constant supply of fresh drinking water. The quantity of mixture which a calf consumes at this stage is up to 1-5kg a day.

Mixture type: Floury

Packaging: 20kg



LIDER GT - 16%

Complete feed mixture for calves from 100-250kg

A complete feed mixture is used to feed calves weighing from 100 to 250kg. The mixture satisfies all calves' needs when it comes to both proteins and energy, which together with optimally balanced ratio of vitamins and minerals provides excellent growth with adequate forage part of meals. The mixture is given with constant supply of fresh drinking water. Calves weighing over 100kg should be given 1.5-2kg of this mixture and gradually increase up to 5kg a day, until they weigh 250kg.

Mixture type: Floury

Packaging: 20kg

LIDER GT - 35%

Supplemental feed mixture for calves

A supplemental feed mixture is used for preparation of complete feed mixtures for calves weighing from 100 to 250kg. The mixture contains high quality proteins as well as high level of vitamins important for vitality and resilience of calves. 30% should be added to the mixtures for calves. There is an option with phytobiotic.

Packaging: 10kg



Feed	calves weighing from 100-250kg
LIDER GT - 35%	30
Corn	55
Wheat flour for animal feed	15
TOTAL KG	100



FEEDING BEEF CATTLE

In our country fattening of beef cattle usually lasts until they weigh 500-600kg. Feeding involves mixtures with more energy. In the flatland areas stable fattening is predominant, and silage is mostly used as forage. Hay is also added, while concentrates modify the needs of beef cattle to achieve high level growth, 1200-1400gr. Concentrated food is given ground or crushed, pelleted or as grains. Feeding during fattening can be limited or at will. When limited, it is usually a two meal system. Unlimited feeding (at will) is applied when high level of consumption needs to be kept up at all costs. In that case feed consumption is greater by 5%. Good fattening results greatly depend on the quality and concentration of energy and nutritive substances in both concentrates and forage. This way of fattening is preferable in male animals, weighing about 150, up to 200kg, in good health condition and which consume concentrated feed and forage well, since they were reared properly at an early stage. Their digestive system and rumen are well developed. Fattening has two stages: preparatory fattening stage (pre-fattening) and finishing phase. The first stage lasts until animals weigh around 250-300kg. At this stage concentrated feed is the most important with increasing share of forage and at this stage animals use their capacity to create muscles to the maximum. At the final stage of fattening, silage is given at will and the concentrate is added 2-4kg a day, to fulfil all feeding needs of beef cattle and achieve good growth of 1300-1400g a day. This type of fattening lasts for 10-12 months.

LIDER GJ - 14% Plus

Complete feed mixture for fattening beef cattle from 250-350kg

A complete feed mixture is used for beef cattle weighing 250-350kg. This mixture provides adequate level of protein, vitamin and minerals which enhances immune system of beef cattle with good food consumption and fast growth. The mixture should be given with forage with constant supply of fresh drinking water. The quantity of mixture given to beef cattle is from 1.5 to 1.75kg per 100kg of body mass.

Mixture type: Flourey

Packaging: 20 and 40kg



LIDER GJ - 12%

Complete feed mixture for beef cattle fattening over 350kg

A complete feed mixture is used for beef cattle over 350kg. The mixture contains high energy level and optimal ratio of vitamins and minerals for high daily growth and excellent conversion. The mixture should be given with forage with constant supply of fresh drinking water. The quantity of mixture given to beef cattle at this stage is 2kg per 100kg of body mass.

Mixture type: Flourey

Packaging: 20 and 40kg

LIDER GJ - 30%

Supplemental feed mixture for fattening beef cattle

A supplemental feed mixture for fattening beef cattle is used to prepare complete feed mixtures with cereals and flour for animal feed. The mixture contains high level of digestible protein which enable fast and efficient growth. With high level of minerals skeletal system is strengthened which is important for support of developed muscular mass.

Packaging: 10kg

Feed	Fattening beef cattle from 250-300kg		Fattening beef cattle over 350kg	
LIDER GJ-30%	25	25	20	20
BARLEY	40	/	30	/
CORN	20	45	35	50
WHEAT FLOUR for animal feed	15	30	15	30
TOTAL KG	100	100	100	100





FEEDING DAIRY COWS

High milk yielding dairy cows can realise their genetic potential for milk production only if their nourishment is provided in necessary forms and quantities of nutritive substances. Higher milk yield in cows demands greater food consumption, i.e. solid matter. A cow which produces 6000l of milk in 305 days of lactation, excretes around 200kg of protein, 260kg of milk fat, 8kg of calcium, 6kg of phosphorus and other substances in smaller quantities. This is achieved by consuming feed of very high quality and more importantly which is consumed continuously without interruptions. This feed primarily needs to be highly digestible. Research has shown that digestibility of organic matter is directly correlated to the amount of raw fibre. On the other hand excessive overload of digestive system with food can lead to numerous diseases. This means it is important to create optimal balance of quantities, quality and time when the food is taken. The most important thing is to establish appropriate intake of hay, juicy and concentrated feed. If milk yield in cows is greater, they need greater quantities of good quality concentrated feed. A meal must be sufficient in quantity, well balanced, tasty and without harmful additions. Forage is the main source of energy and if they are of better quality than less concentrated feed is needed. The most important forage is alfalfa hay and corn silage. If the hay is of good quality, a cow needs 2kg per 100kg of body mass a day. The amount of corn silage in a meal may be 8kg per 100kg of body mass. In calculations 1kg of alfalfa hay is by its value equal to 2-2.5kg of corn silage.



Dairy cow feeding has several stages:

- **The initial stage of lactation** (the first three months) is the most critical period of feeding, especially with high yielding cows. After 6-8 weeks cows achieve maximum milk production, while food consumption reaches maximum only after the tenth week of lactation, this leads to loss of the body mass. At this stage best quality forage is used, together with concentrated feeds.
- **The middle stage of lactation** (4-7 months) is a period when cows achieve positive energy level and it is possible to influence the quantity and composition of milk through food.
- The final stage of lactation (from the seventh month until dry up) is characterised by a significant drop in milk yield, cows consume more than production demands and one should be careful not to lead to excessive accumulation of body fat.
- **The dry up period** should approximately last for 6-8 weeks. At this stage feeding must be carefully controlled to reduce chances of metabolic disorders.



LIDER GKM - 12%

Complete feed mixture for dairy cows

A complete feed mixture is used for dairy cows which do not give high yield. The mixture contains an optimal level of vitamins and minerals that influence functioning of the basal metabolism in cows and average production. The mixture should be given in combination with forage with constant supply of fresh drinking water.

Mixture type: Flourey/pelleted

Packaging: 20 and 40kg

LIDER GKM - 15% Plus

Complete feed mixture for dairy cows up to 20l of milk a day

A complete feed mixture is used for dairy cows which give 20l of milk a day. The mixture consists of high quality raw materials which are a good source of energy, protein, vitamins and organically bound micro minerals in ideal proportion, which positively influence cows' immune system. The mixture should be given in combination with forage and constant supply of fresh drinking water.

Mixture type: Flourey/pelleted

Packaging: 20 and 40kg

LIDER GKM - 18% Plus

Complete feed mixture for dairy cows, over 20l of milk a day

A complete feed mixture is used for dairy cows that give over 20l of milk a day. The mixture consists of high quality raw materials and optimally balanced ratio of vitamins and micro elements which completely meet the metabolic needs of highly productive cattle. This mixture ensures high milk yield and good reproductive results. The mixture should be given in combination with forage with constant supply of fresh drinking water.

Mixture type: Flourey, pelleted

Packaging: 20 and 40kg

LIDER GKM - 20%

Complete feed mixture for dairy cows, over 30l of milk a day

A complete feed mixture is used for feeding dairy cows that give over 30l of milk a day. The mixture consists of high quality raw materials which completely meet cows' high demands for energy and protein when they are so greatly productive. This mixture positively influences milk yield, reduces somatic cells, decreases occurrence of mastitis, and contributes to reproduction and longevity. The mixture is used for highly productive dairy cows (red. Black, Holstein). The mixture should be given in combination with forage with constant supply of fresh drinking water.

Mixture type: pelleted

Packaging: 40kg



Recommendation for the mixture

	Early lactation up to 70 days	The middle of lactation 70-140 days	The end of lactation 140-170 days	The first phase of dry up 60-20 days	Second phase of dry up, 20 days before giving birth
Silage kg/day	25 - 30	20 - 25	25 - 30	10	4 - 5
Hay kg/day	4 - 5	4 - 5	4 - 5	8	6
Concentrate g / kg milk	300 - 400	300 - 400	300	2 kg	3 - 4 kg
Recommendation for the mixture	LIDER GKM - 20%	LIDER GKM - 18% Plus	LIDER GKM - 18% Plus	LIDER GKM - 15% Plus	LIDER GKM - 12%



LIDER GKM - 30%

Supplemental feed mixture for dairy cows

A supplemental feed mixture is used for preparation of complete feed mixtures for dairy cows and is mixed with cereals. The mixture contains an optimal level of vitamins and minerals as well as highly digestible raw materials which positively influence milk yield with high level of fat and protein, cows' health condition as well as good fertility.

Packaging: 10kg

FEED	Dairy cows up to 20l of milk a day		Dairy cows over 20l of milk a day	
	I	II	I	II
LIDER GKM-30%	30	30	35	35
Corn	50	20	15	35
Barley	/	30	30	/
WHEAT FLOUR for animal feed	20	20	20	30
TOTAL KG	100	100	100	100

LIDER GKM - 35%

Supplemental feed mixture for dairy cows

A supplemental feed mixture is used for preparation of complete feed mixtures for dairy cows and is mixed with cereals. The mixture contains high quality protein substances which enable maintenance of high milk yield in cows. With a high level of vitamins and minerals it positively influences reproduction and immune system of dairy cows, avoiding occurrence of metabolic disorders.

Packaging: 10kg

FEED	Dairy cows up to 20l of milk a day		Dairy cows over 20l of milk a day	
LIDER GKM-35%	30	30	35	35
Corn	50	20	15	35
Barley	/	30	30	/
WHEAT FLOUR for animal feed	20	20	20	30
TOTAL KG	100	100	100	100





FEEDING SHEEP

Feeding sheep is divided into several specific phases:

Feeding gestating sheep – in three stages:

- **During the first stage**, while the foetus is still small and is growing, the need for food is small. It is important that the level of feeding does not drop suddenly because it can negatively affect the survival of the embryo. Good nutrition at this stage influences fitness level and creation of body reserves for later.
- **During the middle stage** sheep use food well, even if it is of a lower quality.
- **During the later stage** of pregnancy, as the foetus grows the needs grow too and then feeding with concentrated feed begins (2 months before lambing) in order to satisfy the growing needs.

It is important to gradually increase intake of ready-made concentrated feed, starting with 0.2kg up to 0.5kg a day. The concentrated part of a meal is a supplemental part consisting of good quality leguminous and meadow hay. One part of the hay can be replaced by silage. In winter time sheep should be in pasture when grass is covered by frost and take care that sheep do not eat frosty or mouldy food. Several days before lambing meals are reduced in size and only good quality meadow hay is given together with fresh clean water.

FEEDING SHEEP DURING LACTATION

Sheep are fed with best quality forage. Alongside best hay, sheep may be given straw (oat, barley, less commonly wheat), juicy feeds like fodder beet, carrots, a complete feed mixture for lactating sheep. It is estimated that a medium size sheep (45-55kg) needs about 1.5-2kg of hay and 250 up to 300 grams of complete feed mixture a day. If a sheep is expecting twins, the concentrated part of a meal is doubled. During the first two months of lactation, when sheep produce the greatest amount of milk they can consume 4-6kg of silage, 0.6kg of hay and some straw, with 0.3kg of complete feed mixture for sheep. In winter time lactating sheep must feed evenly, without great and sudden changes. They should be fed three times a day, in the morning, at noon and in the evening. Transition from winter feeding regime to pasture also must be done gradually and carefully. During vegetation period sheep can satisfy all their needs in rich pastures.

FEEDING SHEEP DURING FERTILISATION PERIOD

During this period feeding must be of good quality so that sheep can regain optimal body fitness lost during lactation. Improved feeding influences better ovulation value as well, and the embryo survival rate (more twins). Improved feeding should start 3-6 weeks (depending on physical fitness) before expected mating. During 4 or 5 weeks on this feeding programme sheep that had poor breeding fitness can gain 6-7kg. This feeding manner means that apart from good quality pasture and other voluminous feeds a complete ready-made feed mixture should be added, 400 grams per sheep a day.

LIDER OV - 16%

Complete feed mixture for lactating sheep

A complete feed mixture is used for lactating sheep. The mixture consists of good quality feeds that completely satisfy the needs of sheep at this stage and facilitate unhindered milk production of milk, at the same time preserving good health. The mixture should be given with good quality forage and constant supply of fresh drinking water.

Mixture type: Pelleted

Packaging: 20kg



LIDER OV - 14%

Complete feed mixture for newly pregnant sheep and ewe lambs

A complete feed mixture is used for feeding newly pregnant sheep and ewe lambs. The mixture contains optimal level of protein and energy, as well as vitamins and minerals in ideal ratio, which enable proper foetus growth and positively influence sheep's general condition. The mixture should be given together with good quality forage and constant supply of fresh drinking water.

Mixture type: Pelleted

Packaging: 20kg



FEEDING LAMBS

Lambs are born with an average weight of 3 to 6kg. Losses in lambing on our farms go up to 20% or more, especially because lambing mostly occurs in winter. Farmers should take a lamb after it is born, clean its nasal passages and mouth from mucus and help it suck on colostrum as soon as possible. Death rate is also influenced by the conditions sheep and lambs are kept in, at this stage, which are usually below optimal on our farms. Sheep do not take humid air well, and in cramped buildings, badly insulated and without ventilation, the air is exactly like that. Daily changes of temperature in buildings that are greater than 10 degrees Celsius increase lamb mortality, as well as the temperature below 0 degrees. Optimal temperature is between 6 and 18 degrees Celsius, with air humidity of 75%. Optimal floor surface per sheep and lamb is 1.5m², and with two lambs it is 1.75m². Bedding for lambs must be dry. Sheep that are physically fit are ready to produce colostrum immediately after lambing, while those that were not fed as well, only after 12 hours. Apart from providing lambs with substances for immunity, colostrum has a task to clean their bowels from meconium (resin in the bowels). One week after they are born lambs start consuming the best quality hay together with milk, and after ten days concentrated feed as well. The quantity of concentrated feed should be increased gradually. As the time passes concentrated feed and hay should be given to lambs at will. By the end of the second month the quantity of the complete feed mixture for lambs that they consume can reach up to 300 g per lamb a day. Depending on the type of production and the purpose lambs are reared for, there is early weaning (not before they weigh 12kg) and late weaning, when they are 3 months old or even older. This process lasts for about 30 days and is characterised by gradual reduction of breastfeeding in a day. Early weaning enables sheep milking and production of products for human consumption and also by using exogenous hormones sheep can lamb twice in a year or three times in two years. Weaned lambs consume hay, silage and other forage with concentrates and minimal daily growth at this stage should not be lower than 250-300 grams. When they weigh 50kg fattening is over and should not last for more than 120 days.

LIDER OJ - 16%

Complete feed mixture for growing and fattening lambs from 15kg to 30kg

A complete feed mixture is used for lambs weighing between 15 and 30kg. This mixture ensures fast progress and good daily growth of lambs, primarily because of its protein and energy composition. Vitamins and minerals in this mixture provide good immunity in animals. The mixture should be given with high quality forage with constant supply of fresh drinking water. Lambs can daily consume up to 300g of this mixture, and also achieve the greatest growth.

Mixture type: Pelleted

Packaging: 10kg and 20kg



LIDER OJ - 18% Plus

Complete feed mixture for growing and fattening lambs from up to 15kg

A complete feed mixture is used for lambs weighing up to 15kg. The mixture is completely nutritionally balanced and consists of highest quality feed which enables proper and fast growth of lambs, which then easily move to the fattening stage. The mixture should be given together with the highest quality forage with constant supply of fresh drinking water. The quantity of this mixture which lambs initially consume is about 30 grams a day, and as their weight and maturity increases, the concentrated part of the meal increases as well. This mixture contains phytobiotic.

Mixture type: Pelleted

Packaging: 10kg and 20kg

FEED	Lambs up to 15kg	Lambs over 15kg
LIDER OJ-35%	33	25
Corn	52	60
Wheat flour for animal feed	15	15
TOTAL KG	100	100



LIDER OJ - 35%

Supplemental feed mixture for lambs

A supplemental feed mixture is used for preparing complete feed mixtures for growing and fattening lambs and is mixed with cereals. The mixture consists of high quality nutritive substances which are a high quality source of protein with optimally balanced vitamin and mineral complex. It also prepares lambs to easily adapt to concentrated feed with fast and adequate growth and good health condition. There is also an option with phytobiotic.

LIDER OJ 35% Plus

Packaging: 10kg



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