
ALGODARFEED –
SEAWEES-BASED
FEED ADDITIVE.
OPTIMAL CHOISE
FOR DAIRY FARMING
ARKHANGELSK
ALGAE
PROCESSING SINCE 1918

ARKHANGELSK ALGAE PROCESSING SINCE 1918

ALGODARFEED: NATURAL FEED ADDITIVES FROM THE DEPTH OF THE WHITE SEA

Algodarfeed feed additive is an organic bioactive additive suitable for cattle diet. It is made with the brown alga Fucus harvested in the White Sea. It contains the entire range of vitamins (A, B1, B2, B3, B12, C, D3, E, K, F, H), rare micro elements (iodine, selenium, barium, zinc, magnesium, sulfur, and others), folic and pantothenic acid, polysaccharides, amino acids, polyunsaturated acids like Omega-3.

Algodarfeed is a source of bioorganic compounds of micro- and ultra micro elements in combination with substances that have prebiotic, sedative and immunomodulatory effects on cattle body.

Over a quarter of Algodarfeed mass is represented by concentrated biologically active and mineral substances exclusively in bioorganic form. They are as follows:

1. a complex of bioorganic forms of macro- and microelements which are up to 5 times more potent than the ones from traditional mineral sources. This includes bioavailable compounds of such microelements as iodine, manganese, cobalt, copper, iron, zinc, ultra micro elements - bromine, chromium, silicon, nickel, selenium as well as macro elements - calcium, phosphorus, magnesium, sulfur;

2. structurally specific crude fiber (dietary fiber), which is not digested either by the cattle rumen microorganisms or by large intestine microorganisms. Thus it corrects digestion, improves nutrient absorption, inhibits development of pathogenic flora, increases bifidobacterium activity and growth;

3. specific carbohydrates (poly- and oligosaccharides) providing metabolic modification in rumen and intensifies synthesis of volatile fatty acids - milk precursors.

ARKHANGELSK ALGAE PROCESSING SINCE 1918

Indicator	Unit of measure	Method	Value
Physical and chemical indicators			
Mass fraction of humidity	%	GOST P 54951 - 2012	6,2
Mass fraction of crude protein	%	GOST 13496.4-93 п.2	6,21± 0,22
Mass fraction of crude fat	%	GOST 13496.15-2016	1,4± 0,44
Mass fraction of crude fiber	%	GOST 31675-2012 п.7	9,9±1,4
Mass fraction of crude ash	%	GOST 32933-2014	24,4
Calcium content	g/kg	GOST 26570- 95 п.2	1,39
Phosphorus content	g/kg	GOST 26657 - 97 п.4	0,03
Nutritional units in 1 kg	MJ	Computational method	9,24
Metabolizable energy	MJ/kg	Computational method	8,71
Nitrogen-free extract (NFE)	%	Computational method	51,93
Mass fraction of sodium chloride	%	GOST 13496.1- 98	1,8
Carotene content	mg/kg	GOST 13496.17 - 95	16
Vitamin content :			
Vitamin A	mg/kg	M- 02 - 1006 - 08	2,38±0,71
Vitamin A	IU/кг	Computational method	6918±2064
Microelements			
Iron	mg/kg	GOST 26573.2- 2014	137,00±32,33
Copper	mg/kg	МУ 08/47-224	2,55±0,84
Iodine	mg/kg	МУ 08/47-247	400±32
Cation content			
Potassium		M 04 - 65 - 2010	20,42±5,47
Sodium		M 04 - 65 - 2010	21,67± 4,33
Magnesium		M 04 - 65 - 2010	6,73±1,35

Anion content			
Chlorine		M 04 -73-2011	34,21± 5,47
Sulfate		M 04 -73-2011	58,11±9,30
Sulphates in terms of elementary medium		M 04 -73-2011	19,41
Amino acids content			
lysine	g/kg	M-02-902-142-07	3,58±0,47
Methionine	g/kg	M-02-902-142-07	1,53±0,18
Cystine	g/kg	M-02-902-142-07	0,53±0,07
Methionine + cystine	g/kg	Computational method	2,06±0,25
Threonine	g/kg	M-02-902-142-07	2,06±0,25
Tryptophan	g/kg	ГОСТ 13496.21-2015	0,34±0,03
Arginine	g/kg	M-02 -902 -142-07	4,19± 0,59
Valine	g/kg	M-02 -902 -142-07	4,56±0,55
Histidine	g/kg	M-02 -902 -142-07	2,69±0,32
Glycine	g/kg	M-02 -902 -142-07	3,39±0,41
Isoleucine	g/kg	M-02 -902 -142-07	3,30±0,40
Leucine	g/kg	M-02 -902 -142-07	4,52±0,54
Phenylalanine	g/kg	M-02 -902 -142-07	3,73± 0,45
Tyrosine	g/kg	M-02 -902 -142-07	2,15±0,26
Phenylalanine + Tyrosine	g/kg	Computational method	5,88±0,71
Alanin	g/kg	M-02 -902 -142-07	4,27± 0,51
Aspartic acid	g/kg	M-02 -902 -142-07	16,81±2,19
Glutamic acid	g/kg	M-02 -902 -142-07	19,56±2,35
Serine	g/kg	M-02 -902 -142-07	3,42±0,41

Test results according to protocol No. 02-1138 dated 04/13/2020, provided by the testing laboratory of Premix by order of Arkhangelsk Seaweed Plant

ARKHANGELSK ALGAE PROCESSING SINCE 1918

ALGODARFEED IN CATTLE NUTRITION: RESULTS

Up 6 months
productive longevity extended

By 6-8%
milk yield increased

By up to 12%
Somatic cells count decreased

By up to 35%
Pregnancy rate increased

ARKHANGELSK ALGAE PROCESSING SINCE 1918

EFFECT ON CATTLE REPRODUCTIVE HEALTH

Indicator	Standard diet	Standard diet +Algodarfeed
Heat detection rate, %	52	62
Conception rate, %	48	56
Pregnancy rate, %	25	35

Impact on pregnancy rate

Algodarfeed increases the probability of successful pregnancy by improving mineral and vitamin balance in cattle diet.

Prevention of enlargement of thyroid gland

Thanks to its high content of organic iodine, Algodarfeed prevents enlargement of thyroid gland especially after calving.

ARKHANGELSK ALGAE PROCESSING SINCE 1918

ACTIVE SUBSTANCES

Bioorganic forms of microelements in Algodarfeed are compounds of microelements with amino acids and polypeptides that are absolutely chemically inert. They do not interact with any nutrient and biologically active substances of cattle compound feed during its preparation, storage and consumption by cattle. These compounds are digested by the cattle body to the maximum.

As a result, the input of chemical salts of microelements into the premix is reduced by 1/4, and the use of highly reactive iodide salts is excluded altogether.

As a result of the eliminated chemical interactions of macro- and microelements in the premix, its effectiveness increases by 1.5 times.

Iodine

Iodine is required for the synthesis of thyroid hormones that affect productivity. Algodarfeed provides high quantities of iodine in an easily digestible organic form. It completely covers the iodine requirement of cattle body.

Chromium

Chromium is an ultra micro element that regulates the flow of insulin and glucose from the blood into the cells of the body by controlling the permeability of the cell walls.

Folic acid

Folic acid is involved in the regulation of oxidation-reduction processes, protein metabolism; it also stimulates hematopoiesis.

Bromine

Bromine is an effective and absolutely safe sedative substance that compensates for any stress caused by cattle farming technology. While sedating, bromine does not affect the level of feed intake; the level of physical activity remains normal, and the productivity increases considerably.

Nickel

Algodarfeed contains a significant dose of nickel that is sufficient for activating hematopoiesis and improving the supply of oxygen to the cells. This ultra micro element preserves cell membranes during heat-caused stress and also balances the aggressive effect of the adrenaline hormone secreted in response to any stress kind. Acting in synergy with bromine, nickel effectively sedates and reduces stress in cattle.

Dietary fiber

Dietary fiber in Algodarfeed acts as a powerful prebiotic and multiplies the effect of probiotics, organic acids supplements, enzyme preparations by about 1.2-1.5 times. This is due to the fact that the fiber acts as a substrate for the biochemical reactions and increases the contact area between substrate and additive and thus enhances and accelerates their effect.

Besides, the dietary fiber normalizes motility in the forestomach and intestine. This intensifies and accelerates fermentation in rumen and promotes evacuation of rumen content into abomasum. This, in turn, reduces acidification of rumen and prevents acidosis in cows. In addition to this, fucus carbohydrates enhance the parietal digestion and absorption of nutrients and also inhibit development of pathogens in intestines.

Polysaccharides

The specific carbohydrates of the feed additive include alginates, fucoidans, mannitol and others. They have pronounced immunostimulatory effects on intestines and stimulate muscle contractility and thus improve resistance to pathogens in cow's reproductive system. This accelerates the process of involution of uterus and reproductive tracts, shortens service period and increases the frequency of fertilization.

Alginates have a strong thickening and water-binding properties; they also offer the immunostimulating effect.

Fucoidans are a group of sulfated polysaccharides known in particular for their anti-inflammatory and immunostimulating properties.
Mannitol is a polysaccharide with pronounced osmotic properties that promotes diuresis and enhances the excretion of urate salts from the kidneys and ureters.

ARKHANGELSK ALGAE PROCESSING SINCE 1918

ECONOMIC EFFECT OF USING ALGODARFEED

Indicator	Standard diet	Standard diet + Algodarfeed
Head count	100	100
Average daily milk yield per cow, kg	30,5	32,7
Additional daily milk yield per cow, kg	-	2,2
Cost of mixed feed, roubles per kg	20,80	24,99
Cost of Algodarfeed in 1 kg f mixed feed, rouble	-	4,19
Average milk selling price, roubles per kg	27,57	27,57
Additional daily profit per cow, roubles	-	27,13

ARKHANGELSK ALGAE PROCESSING SINCE 1918

CALF GROWTH AND DEVELOPMENT IMPROVEMENT

Transfer from animal to plant-based diet

The difficult and often painful transition from an animal to a plant-based diet (voluminous feed and concentrates) in calves is often accompanied by a change in the ratio of stomach sections in terms of volume and weight and a significant modification of the composition and functions of stomach contents. During that time, calves become acutely vulnerable to pathogenic flora which inevitably comes with feed and liquids. This is the main reason for high morbidity in young ruminants and acute intestinal disorders which account for almost 80% mortality cases and calf culling.

Algodarfeed helps solve this problem. The frequency and severity of gastrointestinal disorders can be significantly reduced if from the first portions of the starter compound feed calves constantly receive Algodarfeed. Algodarfeed can accelerate the formation of a stable microbial community typical for adult animals.

Improvement of digestion

Due to the content of alginates, Algodarfeed has a strong thickening and immunostimulating effect in the gastrointestinal tract of calves. It improves the speed of movement of feed in the digestive tract and the digestion process in the abomasum and intestines, which significantly increases the effectiveness of feed utilisation in the body of calves.

Due to its water-retaining properties, Algodarfeed helps the calf body to resist dehydration and maintain healthy tissue turgor under any unfavorable conditions: during summer heat, lack of water for drinking and any other pathological dehydration conditions. The slow movement of alginates through the calf's developing rumen irritates its walls and accelerates the formation of the absorbing surface.

Anti-inflammatory effect of Algodarfeed on calf body

Algodarfeed contains fucoidans – sulfated polysaccharides, with fucose being the most prominent one. Fucise is a part of cow's milk that predominantly determines its bactericidal properties. Therefore, fucose in Algodarfeed helps maintain the bactericidal effect when reducing the amount of milk in calves' feed. Algal fucose is able to replace and preserve the much needed bactericidal effect of milk. This has a positive effect on calves' digestive tract and reduces the risk of diarrhea.

Fucoidans contained in Algodarfeed are one of the most powerful known antioxidants in feed, capable of destroying formed free radicals and inhibiting the synthesis of new ones. They are sometimes referred to as "free radical scavengers". This means that fucoidans in Algodarfeed can stop inflammatory processes of any etiology in the calf body and eliminate the development of oxidative stress.

Algodarfeed has a proven high antibacterial activity on Escherichia coli, Staphylococcus aureus and Helicobacteria. It also supports lactic acid flora and bifidobacteria of the large intestine. This makes Algodarfeed indispensable for improvement of the functions of the gastrointestinal tract and intestinal flora in calves during the transition period from dairy to vegetable nutrition.

Many Algodarfeed's effects substitute antibiotic effects, so Algodarfeed can reduce the antibiotic load on the calf body to a minimum.

Antitoxic effect

Algodarfeed has an anti-toxic effect on liver tissue damaged by mycotoxins, bacterial toxins and harmful chemical toxic substances (including heavy metals). Therefore, Algodarfeed can be used to reduce the mycotic effect on the body in the absence of special sorbents or in case they do not produce sufficient sorption effect.

Stimulating collagen synthesis

Algodarfeed stimulates collagen synthesis, thus helping to strengthen calf skin, ligaments and tendons. This ensures a strong body composition in calves and allows to grow a full-fledged replacement young cattle of future dairy cows.

ARKHANGELSK ALGAE PROCESSING SINCE 1918

USING ALGODARFEED IN CALF NUTRITION

Calves up to 6 months old

The optimal prophylactic dose of Algodarfeed in the starter compound feed for calves is 0.15-2% of feed's weight. This dosage is recommended from the calf's first feed and up to 6 months of age. It helps reduce the frequency of diarrhea in animals by 2-3 times, increase the average daily weight gain by 5-12%, reduce mortality and culling of livestock to a minimum (less than 2%) and reach maximum conversion of nutrients into growth productivity. At the same time, the level of drug load on the animal is reduced by 1.5-2 times, which not only creates a powerful ecological effect, but also fully covers the costs of purchasing and introducing the Algodarfeed additive into feed.

6-15 months old calves

For calves 6-15 months old, the dosage can be reduced to 0.05-0.1% of total compound feed weight or 20-25 g per calf per day while still offering distinctive benefits. It will maintain and even slightly increase the gained rates of high growth productivity, produce young animals with excellent exterior qualities, better prepare heifers for the first successful insemination and reduce the frequency of repeat breeding.

АРХАНГЕЛЬСКИЕ ВОДОРОСЛИ ПЕРЕРАБОТКА С 1918

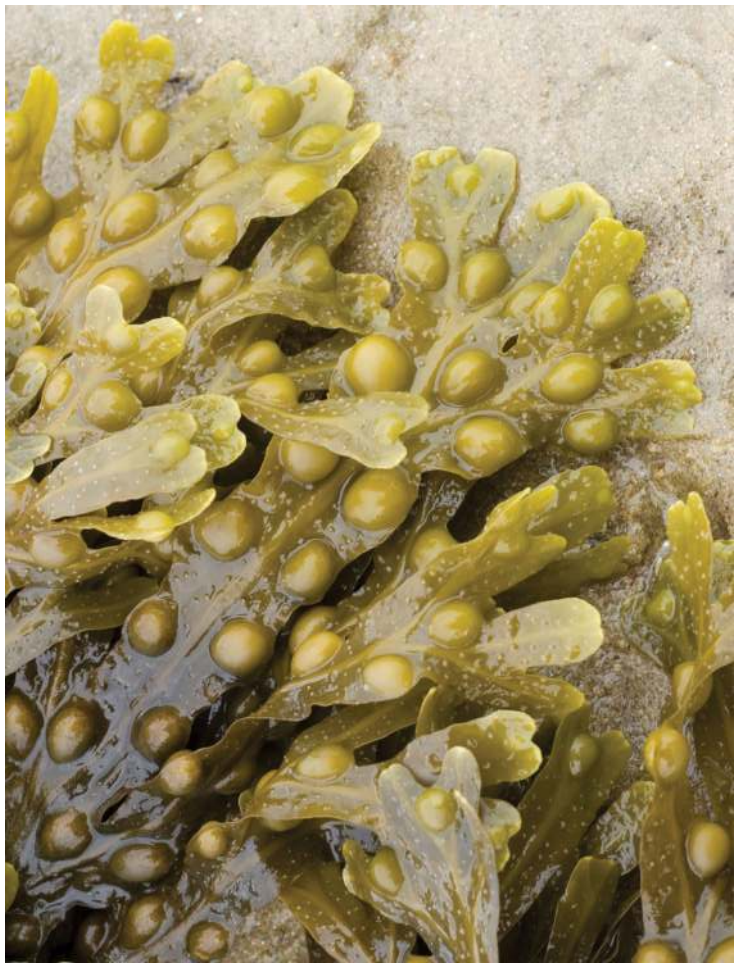
RECOMMENDED USE

- Algodarfeed can be used as a self-sufficient feed additive for milking cows at a dosage of 40-50 g per cow daily during inter lactation period and in the first and the second phase of lactation. In the third phase of lactation, the dosage can be reduced to 20-30 g per cow daily. This will improve cattle physiological state in the inter lactation period.

- At a dosage of 40-50 g per cow daily during the transit phase in the inter lactation period (3 week before calving), Algodarfeed improves acidic and anionic balance to the level of 100 mEq without additional chemical additives. Algodarfeed considerably eases calving, prevents parturient paresis and accelerates recovery of genital system in the new reproductive cycle.

- When added to a premix for cattle, Algodarfeed considerably contributes to the microelement content and reduces the need for inorganic forms of microelements. Depending on the type of premix and dosage, Algodarfeed covers 20% of zinc, cobalt, copper and manganese and 100% of potassium iodide input norm. While adding Algodarfeed into the premix, one should bear in mind that 1 kg of Algodarfeed contains 140 mg of iodine. The usual recommended dosage for cattle is 2-4% of Algodarfeed in the total premix weight.

- Algodarfeed improves physical and mechanical properties of the premix: it eliminates its stratification and terminates chemical interactions of its constituent active components. It also increases the efficiency of the premix by 10-15% and controls and even reduces its



ARKHANGELSK ALGAE PROCESSING SINCE 1918

WE OFFER TWO TYPES OF ALGODARFEED

«Algodarfeed 1.2»

Production form: particles up to 2 mm

Mass fraction of crude protein 5,5%
Mass fraction of crude fiber 5,3%
Mass fraction of crude ash 19,6%

«Algodarfeed 1.4»

Production form: powder

Mass fraction of crude protein 5,4%
Mass fraction of crude fiber 5,5%
Mass fraction of crude ash 21,7%

ARKHANGELSK ALGAE PROCESSING SINCE 1918

Name		Net weight	Weight per pack	Price per kg	Storage conditions and shelf life
Algodarfeed 1.2		1 kg	25 kg	3,5 $	At a temperature between 5°C and 25°C, without exposure to direct sunlight. Shelf life: 18 months
Algodarfeed 1.4		1 kg	25 kg	7,5 $	At a temperature between 5°C and 25°C, without exposure to direct sunlight. Shelf life: 18 months

ARKHANGELSK ALGAE PROCESSING SINCE 1918

WE LOOK FORWARD TO OUR COOPERATION

Commercial department: +7 (8182) 45-70-29
hotline: +7 (800) 302-44-94

vodoroslionline.ru, algodar.ru

commerc@av1918.ru

163030 Arkhangelsk
328, Leningradsky Ave.