EDAGUM®

LIQUID HUMIC FERTILIZER

NATURAL PLANT GROWTH AND DEVELOPMENT
REGULATOR, ANTISTRESS AGENT, IMMUNOMODIFIER, ADAPTOGEN

EDAGUM®SM

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Edagum®SM - biologically active miracle of nature!

EDAGUM®SM CONTENTS

EDAGUM®SM is a new-generation natural humic fertilizer. EDAGUM®SM is manufactured in Russia from environmentally friendly plant raw materials and may be used both in organic farming and in traditional farming together with mineral fertilizers and pesticides.

The efficiency of the fertilizer has been certified by studies conducted in more then 30 of the specialized research institutions in Russia and abroad as applied to all main crops: wheat, rice, soya, corn, cotton plant, potato, tomatoes, apple trees and others.

EDAGUM®SM contains the whole range of substances created by nature itself:

- humic and fulvic acids (40–50 g/l);
- a complex of amino acids, carboxylic acids and vitamins;
- a complex of macro- and microelements: N, P, K, Si, Cu, Mg, Mn, Zn, Fe, Co, etc.;
- valuable natural microbiology: associations of ammonifying, amylolytic, denitrifying and other microorganisms producing auxins, actinomycetes, gibberellins, cytokinins and other growth ferments.

EDAGUM®SM contains most of know macro- and microelements vital for plant development, because in its original condition it was a living, breathing plant.

Thanks to unique composition, in terms of efficiency, EDAGUM®SM has a superior level not only to humic, but specialized microbiological preparations, having better physiological and biological effects and a wide range of impact.

+7 (495) 66 05 222

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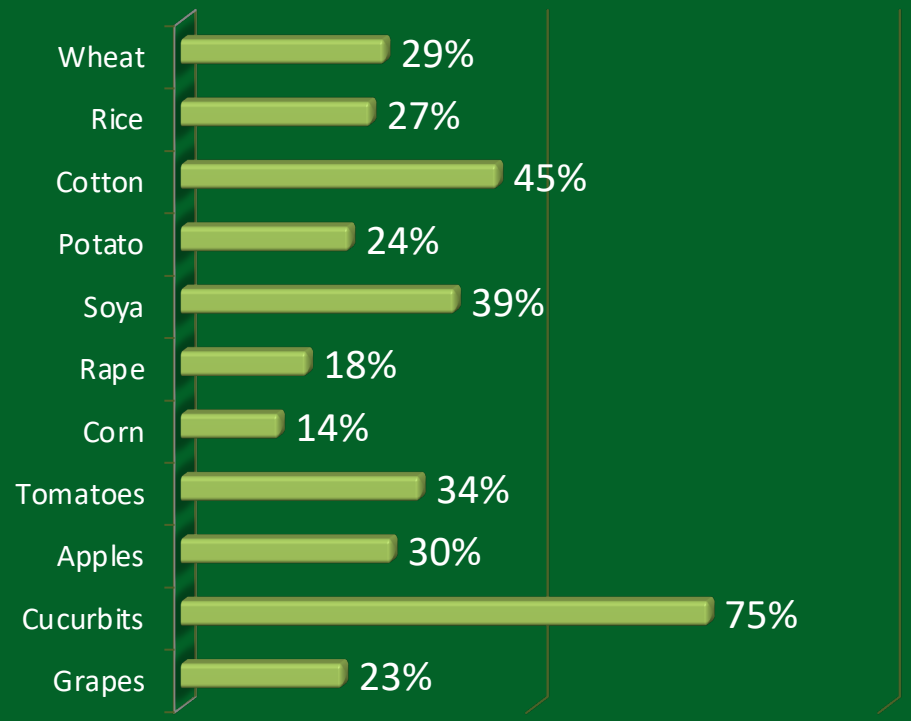
EDAGUM®SM IN CROP PRODUCTION:

- increases yield of various crops from 10 to 50 % and more;
- helps reduce the amounts of applied mineral fertilizers and pesticides from 20 to 50 %;
- increases plant resistance against bacterial and fungous diseases: root rots, bacterioses, smuts, fusariosis, wilt, mildew, etc.;
- increases resistance of plants to draught, excessive moisturizing, frost;
- increases the quality and helps to produce green products;
- restores soil fertility;
- cleans the soil from residual pesticides, heavy metals and other toxicants.

Yield increase crop-wise:



1 USD OF EDAGUM®SM COST GIVES MORE THAN 30-50 USD OF PROFIT!

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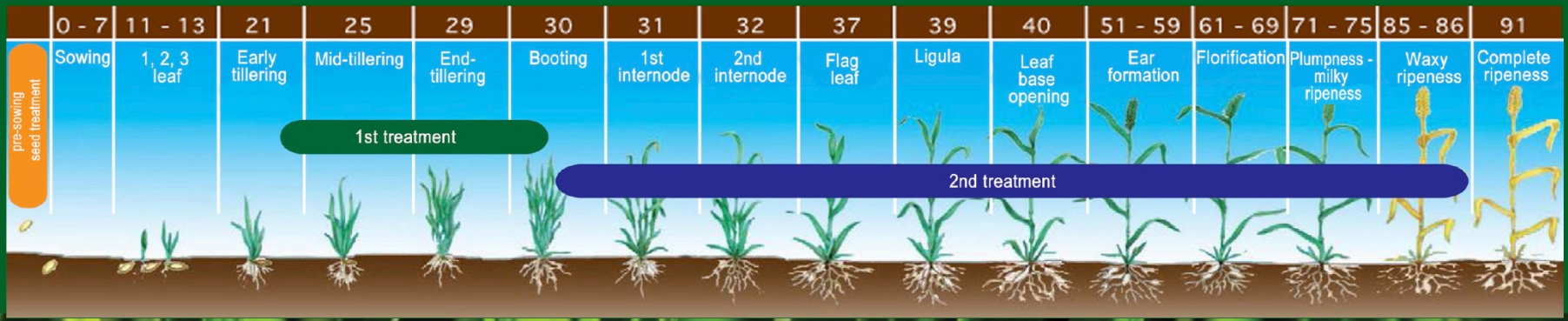
APPLICATION

PLANT TREATMENT DURING THE VEGETATIVE GROWTH STAGE

EDAGUM®SM is used as an effective solution.
The consumption rate during the vegetative growth stage is

400-800 ml EDAGUM®SM + 300 liters of water per 1 ha.

The product can be used separately or in one tank mixture with chemical fertilizers or pesticides, while removing chemical stress from plants.
In case of mixing the dose of chemicals can be reduced.



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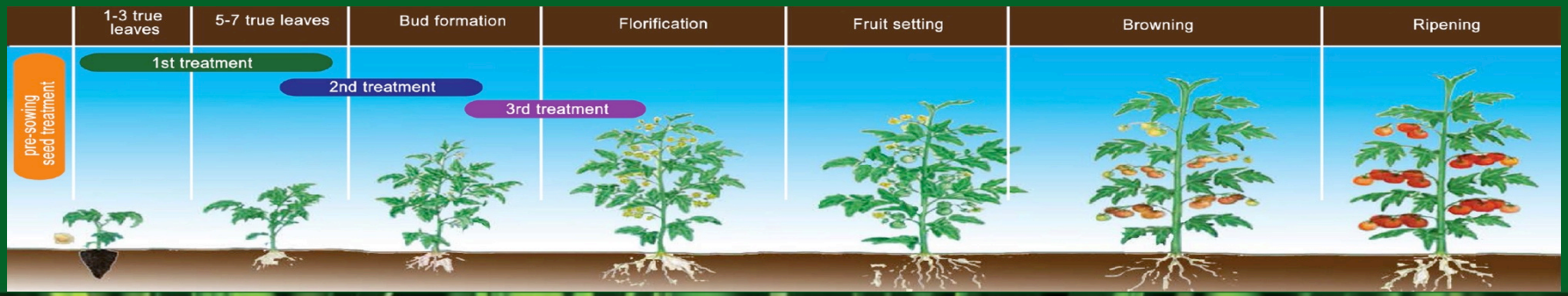

EDAGUM®SM'S ROLE IN REDUCING PLANT DISEASES

EDAGUM®SM has pronounced properties of a biopesticide and powerful means of biocontrol due to the presence of *Bacillus Subtilis* bacterial strains inside, which produce a significant amount of biologically active metabolites, including polypeptide, phospholipid and polyene antibiotics, as well as silicon, which inhibits pathogen enzymes.

The results of more then 10-year period of application on farms and scientific studies show that treatment of seeds and vegetative plants with EDAGUM®SM reducing the incidence from 25 to 75 % against the root rot, Fusarium blight, wilt, powdery mildew, bacterioses and other diseases. The maximum effect is achieved by a comprehensive treatment, including the treatment of the soil, seeds and plants.

Test results on peaches (Abkhazia, 2008):

Confirmed by the research:

- The Research Institute of Agriculture of Abkhazia (2008)
- Uzbek Cotton Research Institute (2010)
- Russian Research Institute of Gardening n.a. I.V. Michurin (2008)
- Turkmen Agricultural University n.a. S.A.Niyazov (2009-2014)
- Russian Research Institute for Agricultural Microbiology (2014)

EDAGUM®SM IN DROUGHT CONDITIONS

Three-year tests conducted by scientists from Islamic Azad University (Ardabil branch, Iran) in 2008-2010 on 6 wheat genotypes showed the high efficiency of EDAGUM®SM in drought conditions.

According to the test results, the drought resistance of wheat increased by 20%, the economic and biological yield increased by 0.7 and 1.6 tons per hectare relatively.

The test reports are published in the authoritative international scientific periodical magazine “Advances in Environmental Biology”, 5 (1): p. 162-165, 2011.

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EDAGUM®SM AND SPECIALIZED BIOFERTILIZERS

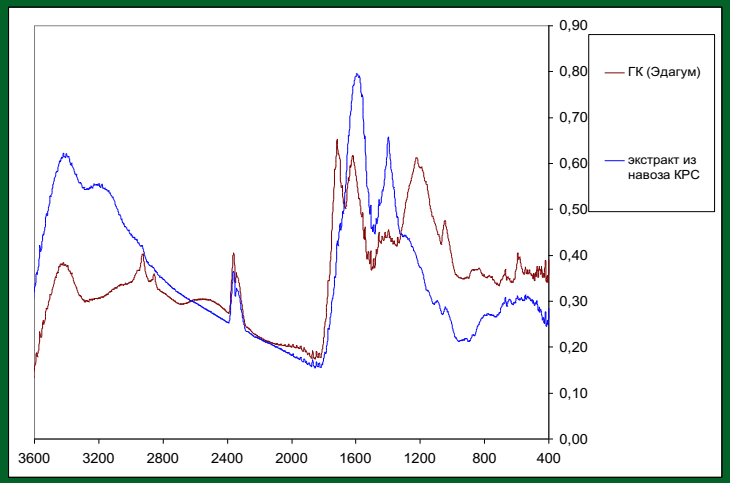
According to the researches of The Lomonosov Moscow State University's biologists in 2007 the native bacterial complex interacts with humic acids 4-times more intensely than pure cultures of bacteria and under the certain conditions up to 10-times more intense.
EDAGUM®SM contains up to 15 species of beneficial soil bacteria: representatives of the genera *Bacillus, Pseudomonas, Actinomyces,* etc., which actively participating in soil processes.

Three-year research by scientists of The Kursk State Agricultural Academy (2006-2008) showed the superior level of EDAGUM®SM over specialized biofertilizers almost in all tested indicators:

1) microbiological activity of the soil
2) nutrient regime of the soil
3) available moisture reserves
4) the density of the soil
5) the number of earthworms in soil
6) phytosanitary condition of crops
7) plant growth and development
8) barley yield and grain quality
9) the content of heavy metals in soil and plants
10) energy and economic efficiency

EDAGUM®SM AND FERTILIZER OF ANIMAL ORIGIN

A comparative 4-year analysis of IR spectra of humic substances of EDAGUM®SM and cow manure cured shows their high similarity in the nature of functional groups, but humic acids separated from the preparation contain lots of carboxyl and phenol groups, amines important for physiological activity. Moreover, the content of humic substances in EDAGUM®SM is twice higher than in manure.



In addition, EDAGUM®SM lacks the disadvantages of manure: containing no seeds of weeds, helminth eggs, pathogenic flora, and easier way of use.

EDAGUM®SM AND FERTILIZER OF ANIMAL ORIGIN

Comparative studies on using the EDAGUM®SM fertilizer on wheat conducted by scientists of The Soil Sciences Faculty of The Lomonosov Moscow State University in 2015 showed the following results:

1 liter of fertilizer EDAGUM®SM per 1 ha of soil and seeds before sowing as equivalent to the treatment of 9-10 tons of manure, gives a yield increase by 31.5%.

The governments of large number of developed countries have already adopted programs to reduce using of the mineral fertilizers and replace them with the organic ones, but the fertilizers of animal origin are in short supply, so

EDAGUM®SM IS A WORTHY EQUIVALENT!

EFFECT OF EDAGUM®SM ON SOIL

The MSU scientists have proved the complex positive effect of EDAGUM®SM on both the physical and agronomic properties of soil and its structure. 1 liter of EDAGUM®SM per 1 ha of soil shows the following results:

- increasing in the total by 14.5% and inter-aggregate by 24,8% porosity of the soil;
- reduction in soil bulk density by 14.2%;
- acceleration of soil moisture speed (filtration coefficient increased by 23%);
- increasing the amount of water-resistant and **agronomically valuable** aggregates in soil by 21%;
- acceleration and intensification of formation processes of the so-called **"younger humus"** (humic substances and non-specific organic compounds).

EFFECT OF EDAGUM®SM ON SOIL

The studies, conducted by the Russian Research Institute of Agricultural Microbiology of the Russian Academy of Agricultural Sciences in 2013 shows that supply of nutrients to the soil improves after using of EDAGUM®SM:

- increasing the activity of microorganisms – the breathing increases by 28.8%, which accelerates the decomposition of organic nitrogen and phosphorus compounds and makes them available to plants;
- the amount of nutrients in the soil increases for ammonia nitrogen by 7.4%, mobile form of phosphorus and potassium by 22.0% and 10.5% relatively;
- activating the soil microflora, increasing the number of ammonifying, amylolytic and denitrifying bacteria and, as a result, phytohormones and growthstimulants: auxins, cytokinins, gibberellins, etc.

PROTECTIVE PROPERTIES OF EDAGUM®SM

The studies conducted in 2015 in the MSU on lawn grass in megalopolises conditions have shown the humic fertilizer EDAGUM®SM as a strong activator for plants' immune systems and has high protection properties, i.e. it is able to actively bind different pollutants: heavy metals, radionuclides, residues of pesticides, petroleum products and other toxic compounds.

PROTECTIVE PROPERTIES OF EDAGUM®SM

Integrated soil pollution with chlorides, diesel fuel, and heavy metals caused the death of all seeds on the test plot:

The treatment of grass seeds and sprouts with the humic fertilizer EDAGUM®SM as result gives a healthy lawn on the same polluted soil without any color "spots" or voids. The plant biomass increased up to **98.5%** of the unpolluted control:

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RESOURCE-SAVING TECHNOLOGIES

All the factors mentioned above allow using the EDAGUM®SM fertilizer in resource-saving technologies.
Combined use of EDAGUM®SM with chemical fertilizers and pesticides allows to reduce the doses of chemicals by 20-50% while the chemical stress of plants is reducing.
At the same time the yield increases and the quality of products improves.

For the best effect achieved with the complete processing scheme of EDAGUM®SM:
the treatment of seeds and vegetative plants and
soil treatment in 2-4 weeks before sowing
at the rate of 1 to 3 liters of EDAGUM®SM + 500-1000 liters of water per hectare.

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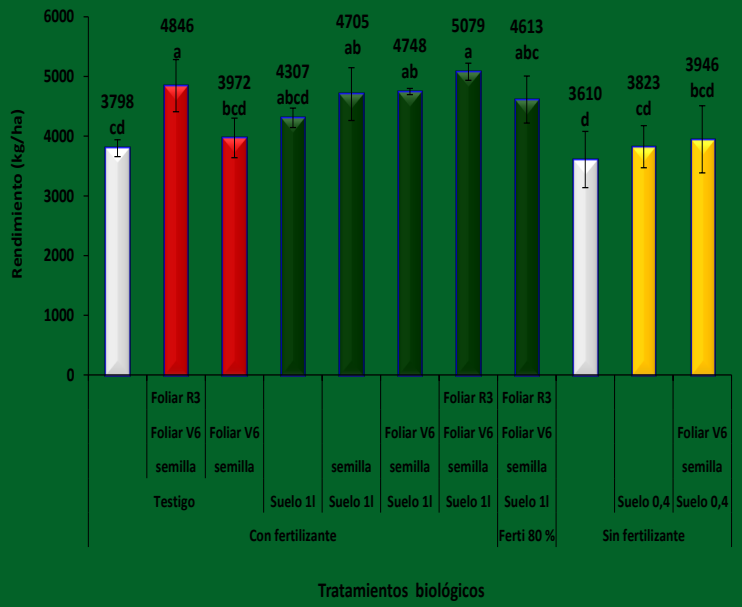
RESOURCE-SAVING TECHNOLOGIES

The scientific studies conducted in 2014-2016 in different countries show the following results in an additional yield of:

- **soybeans - 815 kg/ha (21.5% compared to the control) when simultaneously reducing mineral fertilizers by 20% and pesticides by 10% (National Agricultural Technology Institute INTA, Argentina);**
- **wheat - 1290 kg/ha (39.4% compared to the control) when simultaneously reducing mineral fertilizers by 30% and pesticides by 10% (Don State Agrarian University, Russia);**
- **cotton - 320 kg/ha (12.1% compared to the control) when simultaneously reducing mineral fertilizers by 20% and pesticides by 10% (Scientific research Institute of agriculture, Turkmenistan).**



and the reduction of chemical impacts on the soil. Thus, a regular annual treatment of acreage with the EDAGUM®SM fertilizer is the first step on the way of restoration of both fertility and environmental parameters of agrocenosis.

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APPLICATION OF EDAGUM®SM IN THE WORLD

Since 2006, the EDAGUM®SM humic fertilizer has been successfully applied in Russia, CIS, Europe, Central and South-East Asia, Africa, North and South America.

In Turkmenistan the EDAGUM®SM fertilizer was applied for the first time on a national basis. Since 2010, it is being treated to the crops, supervised by the state: wheat, cotton, rice etc. The "SM" Group of companies was awarded the honorary diploma for the outstanding contribution to the development of agriculture in Turkmenistan at the 2012 innovation exhibition in Ashgabat, conducted by the Science Academy and the Chamber of Commerce of Turkmenistan.

Currently, projects for introduction of innovative technologies in agriculture using the EDAGUM®SM fertilizer have been under control of the Russian-Indian, Russian-Pakistani and Russian-Vietnamese Intergovernmental commissions.

CERTIFICATES

Voluntary Certification System "ROSSMKSTANDART"
System registration number in the unified register
OF THE FEDERAL AGENCY ON TECHNICAL REGULATING AND METROLOGY
№ РОСС RU.31911.04PMK0

ROSSMKSTANDART

CERTIFICATE OF CONFORMITY

Registration number РОСС RU.31911.04PMK0.OC31.001.AB.160
Valid from 16.03.2020 to 15.03.2023

0175899

CERTIFYING BODY
No. РОСС RU.31911.04PMK0.OC31.001
Limited Liability Company "Regiontest"
308023, Belgorod City, Studenchеskaya Str., house 23
phone number: +7 (4722) 21-95-88, email: regtest31@bk.ru

ISSUED TO

Limited Liability Company
"Edagum SM Rus"

TIN (INN) 7711093679

Address: 125475, City of Moscow, Petrozavodskaya Str., house 28, building 4, office VI, floor 1, room 3

THIS CERTIFICATE CERTIFIES THAT
QUALITY MANAGEMENT SYSTEM

in relation to the works according to the attachment No. 1 to this certificate

COMPLIES WITH REQUIREMENTS OF THE STANDARD

ISO 9001:2016

This Certificate was granted by virtue of Decision of Expert Committee, record No. РОСС RU.31911.04PMK0.OC31.001.AB.16011 as of 11.03.2020

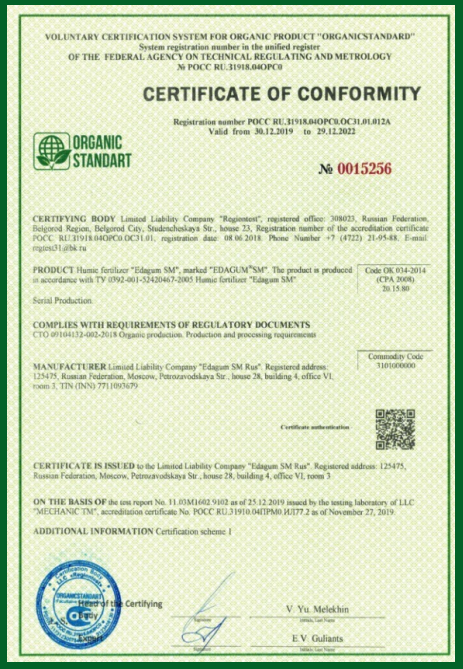
Certificate of Conformity authentication

Head of the Certifying Body — V. Yu. Melekhin

Expert — E.V. Guliants

Approved by
ECOCERT
INPUTS

Personal Link:
https://bp.ecocert.com/intranet/fournisseur.php?l=en&recherche_produit=&id=24 43&recherche_categorie=0&recherche_statut=1_0_0_0_0_0



VOLUNTARY CERTIFICATION SYSTEM FOR ORGANIC PRODUCT "ORGANICSTANDARD"
System registration number in the unified register
OF THE FEDERAL AGENCY ON TECHNICAL REGULATING AND METROLOGY
№ РОСС RU.31918.04OPC0

CERTIFICATE OF CONFORMITY

Registration number РОСС RU.31918.04OPC0.OC31.01.012A
Valid from 30.12.2019 to 29.12.2022

ORGANIC STANDART

№ 0015256

CERTIFYING BODY Limited Liability Company "Regiontest", registered office: 308023, Russian Federation, Belgorod Region, Belgorod City, Studenchеskaya Str., house 23, Registration number of the accreditation certificate РОСС RU.31918.04OPC0.OC31.01, registration date: 08.06.2018. Phone Number +7 (4722) 21-95-88. E-mail: regtest31@bk.ru

PRODUCT Humic fertilizer "Edagum SM", marked "EDAGUM SM". The product is produced in accordance with TV 0392-001-52420467-2005 Humic fertilizer "Edagum SM"

Code OK 034-2014 (CPA 2008) 20.15.80

Serial Production

COMPLIES WITH REQUIREMENTS OF REGULATORY DOCUMENTS
CTO 09104132-002-2018 Organic production. Production and processing requirements

Commodity Code 3101000000

MANUFACTURER Limited Liability Company "Edagum SM Rus". Registered address: 125475, Russian Federation, Moscow, Petrozavodskaya Str., house 28, building 4, office VI, room 3. TIN (INN) 7711093679

Certificate authentication

CERTIFICATE IS ISSUED to the Limited Liability Company "Edagum SM Rus". Registered address: 125475, Russian Federation, Moscow, Petrozavodskaya Str., house 28, building 4, office VI, room 3

ON THE BASIS OF the test report No. 11.03M1602.9102 as of 25.12.2019 issued by the testing laboratory of LLC "MECHANIC TM", accreditation certificate No. РОСС RU.3191.0.04IPM0.HJ779.2 as of November 27, 2019

ADDITIONAL INFORMATION Certification scheme 1

Head of the Certifying — V. Yu. Melekhin

E.V. Guliants

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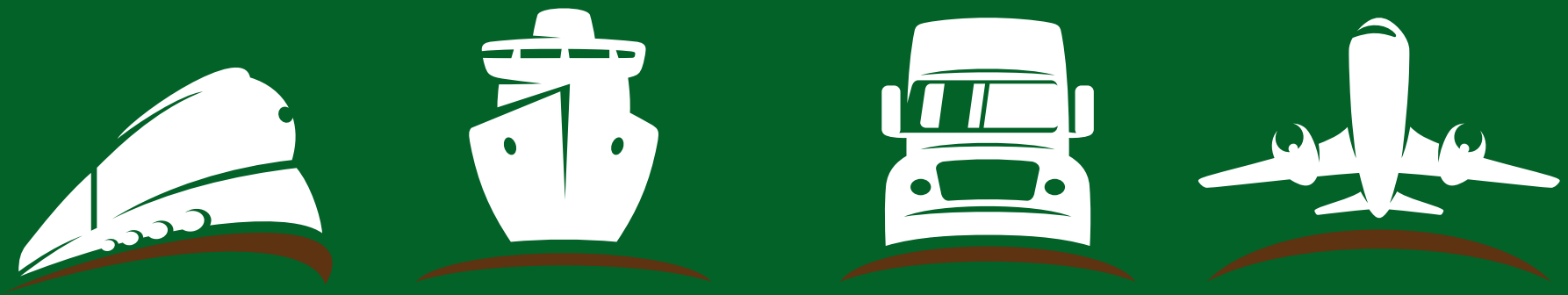
TERMS OF SUPPLY

EDAGUM®SM is supplied in 1 L and 10 L canisters, drums, and in 1 t IBC containers by all means of transportation.



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STATEWIDE USE
of EDAGUM®SM FERTILIZER
in addition to the
SOLUTION OF FOOD ISSUES
makes
PEOPLE HEALTHIER!

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EDAGUM SM RUS, LLC

SM Group of companies

Moscow, Russia

info@edagum-sm.ru

THANK YOU FOR ATTANTION!