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C E R T I F I C A T E

1 PRODUCT DETAILS

1.1 Trade name

AGROSTEMIN®

1.2 Category and type of product

Plant origin nutrient

Allowed to be used in certified organic farming

1.3 Classification

Mixture of organic compounds derived by physically treatment, mixing and extracting of raw materials natural (plant) origin

1.4 Harmonized Tariff Schedule

HTS Number: 3101.00 00 00 (plant origin)

1.5 Contents of product, name and contents

a) *Pure active substance*

AGROSTEMIN – *dry extract of vegetative origin mixture of dusty raw materials derived by physically treatment Corn cockle powder (Agrostemma githago L.) and other plants, which contain free amino–acids (tryptophan, up to 0.25%, glutamine acid up to 0.5% and others), organic acids and their derivatives (cordianine up to 2% and other)*

Content: *4.00%*

b) *Indifferent substances (carriers)*

Talcum (Mg_2SiO_4), up to 100.00%

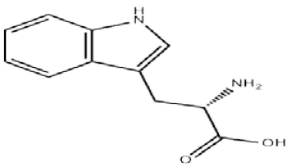
2 PHYSICAL AND CHEMICAL PROPERTIES OF THE NUTRIENT

2.1 Name and the nutrient content

a) *Free amino–acids:*

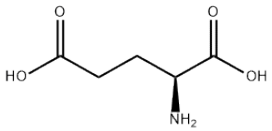
TRYPTOPHAN

IUPAC Name: *(2S)–2–amino–3–(1H–indol–3–yl) propanoic acid*

Content:	*≤ 0.25%*	*Chemical Formula:*	*$C_{11}H_{12}N_2O_2$*
Origin:	*plant origin*	*Molecular Weight:*	*204.22518 [g/mol]*
CAS:	*73–22–3*	*Melting point:*	*289–290 °C*
CID:	*6305*	*Figure formula:*	

GLUTAMIC ACID

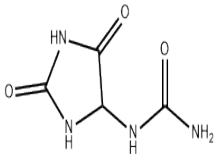
IUPAC Name: (2S)–2–aminopentanedioic acid

Content:	*≤ 0.5%*	*Chemical Formula:*	*$C_5H_9NO_4$*
Origin:	*plant origin*	*Molecular Weight:*	*147.12926 [g/mol]*
CAS:	*56–86–0*	*Melting point:*	*199 °C*
CID:	*33032*	*Figure formula:*	

b) *Organic acids and their derivatives:*

CORDIANINE

IUPAC Name: 2,5–dioxoimidazolidin–4–yl)urea

Content:	*≤ 2%*	*Chemical Formula:*	*$C_4H_6N_4O_3$*
Origin:	*plant origin*	*Molecular Weight:*	*158.11544 [g/mol]*
CAS:	*97–59–6*	*Melting point:*	*225 °C*
CID:	*204*	*Figure formula:*	

2.2 Physical properties:

Color:	*white–grayish powder*	*Bulk volume:*	*0.660 ± 0.005 g/cm^3*
Odor:	*odorless*	*pH value:*	*8.5 ± 0.01*
Formulation:	*wettable powder (WP)*	*Grain size:*	*1.00% > 44µm*
Moisture content:	*1.5 %*	*Suspensions stability:*	*66%*

Storing stability: It is thermostable at the temperatures of 4–120°C and on the pressure of 1–3 bar.

3 APPLICATION PURPOSE

Plant origin nutrient AGROSTEMIN® ("profi") *is used for vegetables, berry fruits and other kinds of fruit, grapevine, flowers, then all farming and industrial plant crops, as well as for other grown and useful plants on all types of soil.*

4 APPLICATION

4.1 Recommended rate

The quantity of 30 g/ha is sufficient for one treatment of majority of cultured plants. It is possible to apply it together with the seeds in the following proportion: 30 g of preparation on the quantity of seeds sufficient to seed one hectare. For seedlings, cuttings or vine–shoots

or for vegetables during the period of seed soaking ("swelling") or transplanting, it is applied in such a manner that the recommended quantity of preparation is mixed with the solution already prepared for the original purpose.

4.2 Time (Phases) of application

a) Prior to sowing / planting:

For all plant species applying to the seeds, during final processing of the seeds or by immersion of graft, cuttings or roots of grapevine scion, fruit seedling and vegetable replanation.

b) Foliar application:

1. *For small grains in the phase between tillering and panicles formation;*
2. *For corn and soy at the growth of 2–6 leaves;*
3. *For sunflower at the growth of 2–4 leaves;*
4. *For sugar–beet at the growth of 6–12 leaves and after "closing" the lines;*
5. *For tobacco early upon planting and at the growth of 9–11 leaves;*
6. *For tomato, pepper, cucumber, egg plant prior to transplant of seedlings, then 10 days before flowering time and following the first, second and third picking;*
7. *For string beans, peas and beans in the phase prior to flowering;*
8. *For potatoes at the growth of 2–3 leaves and prior to flowering;*
9. *For carrots, red beet, parsley and radish at the growth of 2–3 leaves and 30 days after;*
10. *For onion and garlic at the growth of 2–3 leaves and in the period of bulb formation;*
11. *For brassicas vegetables prior to seedling transplant and in the phase of rosette formation;*
12. *For lettuce, Swiss chard and spinach at the growth of 2–3 leaves and in the phase of rosette formation;*
13. *For berry fruits prior and following the flowering, as well as after the first and second picking;*
14. *For pomaceous fruit during the phase of sprouting leaf buds, before and after flowering, as well as before color appears on fruit;*
15. *For nuts before and after flowering, as well as before color appears on fruit;*
16. *For table and selected varieties of grape 10 days prior and following the flowering time, as well as 10 days before coloring of the berry.*

4.3 Number of treatments

The total number of treatments during one vegetative season depends on the individual plant species. For the majority of species it is applied at least twice, but it can be applied more (for instance for fruit), if necessary. As a rule, it is first applied during sowing, and later on also/or foliar during the corresponding stage of the plant growth. The right time for this is for instance during or after transplanting, before and after flowering time, before (for fruit) and after consecutive picking (for vegetable).

4.4 Guidelines:

It is applied either as powder or water dispersion, in other words, by dusting, spraying or immersing. It is applied on: the seeds by seed finishing devices; for seedlings, cuttings or

shoots and vegetable seedlings by immersion and on the soil or foliar by all types of manual and tractor sprinklers and atomizers with water consumption of 250–400 l/ha for agricultural and vegetable crops and 600–1000 l/ha for fruit cultures.

It can be mixed with all water–based dispersion products which are used in agriculture.

5 HANDLING AND STORING

The preparation should be kept in original packaging in a dry place.

6 VALIDITY PERIOD

The product can be used for ten year starting from the production date.

7 REGISTRATION

REPUBLIC OF SERBIA
Ministry of agriculture, forestry and water management
Department for plant protection.

Decision no 321–01–02214/2019–11 dated 10/02/2020

UNIVERSITY OF MARIBOR – EU
Faculty of Agriculture and Life Sciences, Institute for Organic Agriculture

Confirmation of Adequacy of Product to Use in Europe Union Organic Production
EU Certificate No: 002/2021AN

8 PRODUCER

«Agrostemin» l.l.c.
Kralja Milutina 26
11000 Belgrade
S E R B I A

AGROSTEMIN d.o.o. BEOGRAD

For «Agrostemin» l.l.c.
Product Manager

Goran R Gajić
MSc in Aeronautical Engineering

COMPLETELY HARMLESS FOR PEOPLE, ANIMALS (INCLUDING BEES) AND ENVIRONMENT; IT DOES NOT REQUIRE SPECIAL SAFETY MEASURES OF HYGIENIC AND TECHNICAL PROTECTION*

Agrostemin is produced in accordance with Dr Danica Gajic's patent act №. 32749 of Yugoslav Federal Patent Office

* Decision №.3/2–08–9291/02 from 13/01/03 of Ministry of Labor, healthcare and social welfare