



ECO-PLON

VOLCANIC MINERALS®

THE ERUPTION OF YOUR CROPS



**PRODUKT
POLSKI**

SouthSafe


AINEG-POL



ALL ABOUT VOLCANIC SOILS

1 The soils are very fertile and willingly used in agriculture.

-they have beneficial chemical and physical properties –a high richness of nutrients, high porosity, water capacity and sorption capacity make the crops rich, the fruits, vegetables, and crops have a good colouring and are tasty and rich in macro and microelements.

2 About 80% of the area is occupied by agriculture, including half within a tropical climate. Sugarcane, tobacco, sweet potatoes, tea, wheat, vegetables, and fruit trees are grown there.

3 In Africa, coffee, cocoa, and bananas cultivation is common.

4 In Europe, volcanic soils occur in Italy, where, among others, grapes, tomatoes, olives and oranges are grown.

5 In Western Europe, it is common to use homogeneous basalt meals.



THE INFLUENCE OF MINERALS ON PLANTS DEVELOPMENT

1 Volcanic minerals are a special type of product improving soil properties. They are used in agriculture, vegetable growing, gardening, floriculture and green areas cultivation.

2 It is a natural mineral fertilizer.

- It is best absorbed when crushed into form of microns. It soaks with water until reaching its own volume and retains the water.
- The contained minerals in the form of macro and micronutrients create optimal conditions for the proper growth of root crops, cereals, trees and shrubs.
- It causes a quick and healthy growth of seedlings in nurseries.
- It has a great influence on soils pH adjustment.
- It contains 26 ppm/lanthanum/La, a rare earth mineral, considered by the Chinese as a promoter of plants growth.



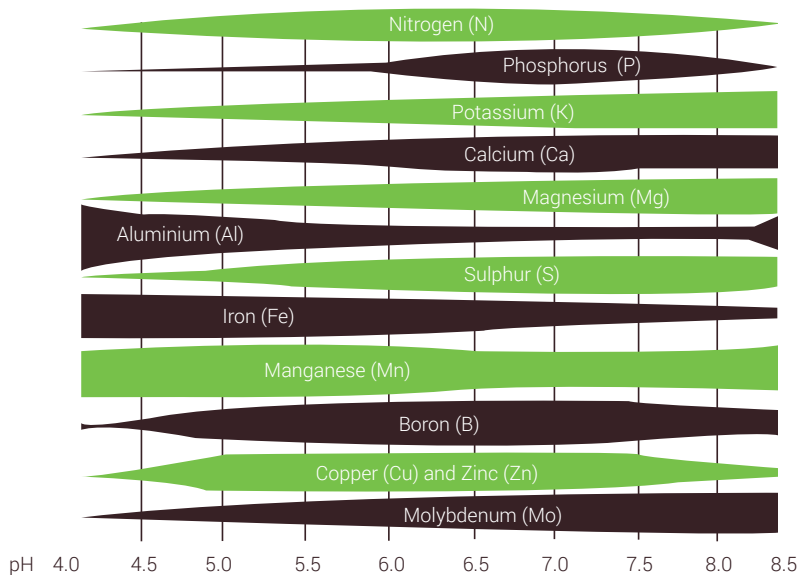


THE DEPENDENCE OF THE NUTRIENTS AVAILABILITY ON THE SOIL PH.

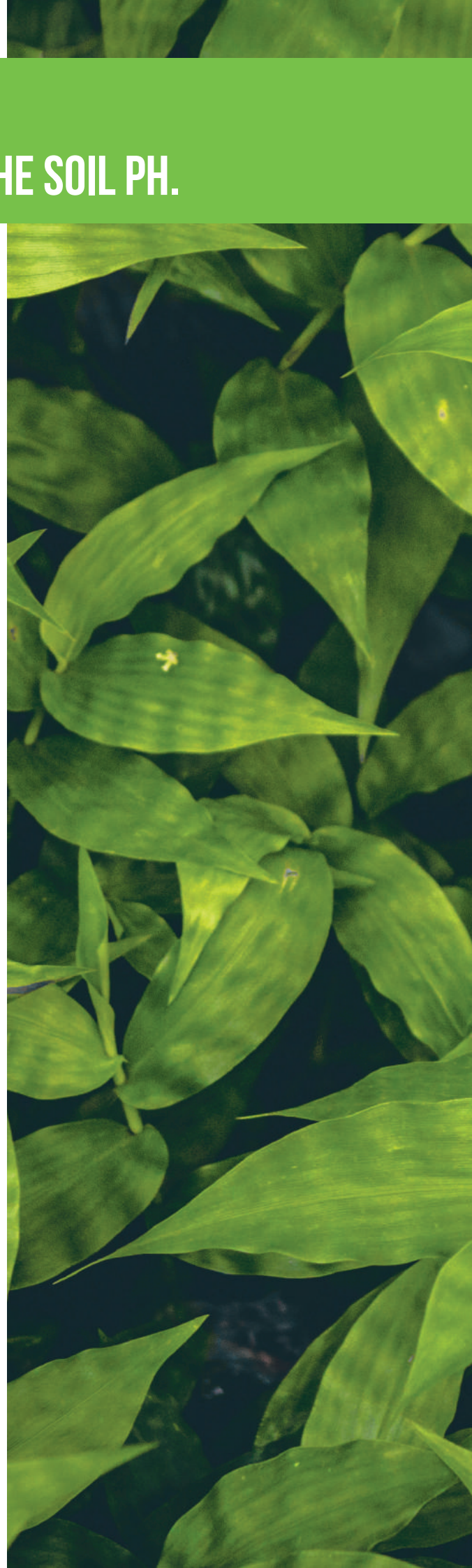
1 Nutrients deficits appear when there are not enough of nutrients in the plants tissues for proper metabolism.

2 There is an ion imbalance that leads to:

- a reduction of yields
- a deterioration of the quality of the crops



The pH influence on the absorption of nutrients by plants.



SOIL MICROORGANISMS THEIR LACK CAUSES:

- 1 MICROBIOLOGICAL BALANCE DISORDERS**
- 2 A LARGE REDUCTION OF MICROORGANISMS IN THE SOIL**
- 3 A SOIL DEPLETION - LACK OF MICROORGANISMS - LACK OF MATTER CIRCULATION IN THE SOIL - NO MACRO AND MICRONUTRIENTS NECESSARY FOR PLANTS DEVELOPMENT**

ECO-PLON VOLVANIC MINERALS CAUSES:

- 1 CREATING PROPER CONDITIONS FOR THE DEVELOPMENT OF MICROORGANISMS ENABLES CONDITIONS FOR THE DOMINANCE OF BENEFICIAL MICROORGANISMS AND BY ADAPTING NEUTRAL MICROORGANISMS MUTUALLY, PUTREFACTION PROCESSES ARE CONTROLLED.**
- 2 ENHANCING SOIL FERTILITY**
- 3 CREATION OF SOIL CRUMBLING - AERATES THE SOIL**
- 4 BETTER QUALITY AND QUANTITY OF CROPS**
- 5 THE COMFORT OF GROWTH, BETTER QUALITY AND GREATER YIELDING**

A MINERAL, NATURAL PRODUCT. INTENDED FOR FERTILISING PURPOSES.

ECO-PLON Volcanic Minerals® was assessed on the basis of the collected documentation and the opinions of the Institute of Horticulture in Skierniewice, the opinions and the researches of the New Chemical Synthesis Institute in Puławy and the decision of the Minister of Agriculture and Rural Development, admitting ECO-PLON Volcanic Minerals® to trade.

The product consists only of natural compositions that are extracted from volcanic and sedimentary rocks, without additional artificial components

This product has all the authorizations for use in organic farming:

- 1 Certificate No NE/370/2017**, included on the national list, published by the Institute of Soil Science and Plant cultivation in Puławy- as a list of mineral, natural and soil properties improving products for use in organic farming.
- 2 European Green Certificate** - license number **WA-23082017-EZC-014**
- 3 EU Certificate - European Guarantee of The Highest Quality** - license number **WA-23082017-EGNJ-1287**

BENEFITS OF ECO- PLON VOLCANIC MINERALS®

- supports yielding,
- changes the sorption properties of soils and improves the structure of light soils,
- stabilizes pH, especially of the acidic soils,
- the ingredients of the product are released gradually- providing to plants a long-term supply with nutrients,
- supplements the mineralogical composition of soils, especially light soils,
- a slow pace of activation of necessary elements for plants, limits the possibility of overfertilization,
- friendly to the natural environment, from which it comes itself,
- in a powdered form, it is used as a mechanical insecticide, after use of which, there is no need to maintain a waiting period.

Due to its properties, it is recommended to use in organic farming, providing the safety of the product derived from these cultivations.

The evaluation included the scientific opinions from the Wrocław University of Environmental and Life Sciences, The Faculty of Life Sciences and Technology, Department of Plant Nutrition (Prof. Dr. hab. Z. Spiak Eng., K. Gediga EngD) "Poltegor – Instytut" Institute of Open Cast Mining (K Grabas PhD Eng.)



SORPTION PROPERTIES OF ECO-PLON VOLCANIC MINERALS

In recent years, we have been observing difficult growing seasons which are caused by various periods of drought brought by lack of rainfall. It is difficult to start field works related to harvesting and sowing on time. Soils become excessively dessicated. The resulting conditions make it impossible to cultivate soils.

We can retain water in the soil by:

- ☛ the proper choice of agrotechnical practices:
 - as soon as possible, after harvesting, the treatments preventing the evaporation of water from the soil need to be done - get rid of stubble.
- ☛ on the day of ploughing we do the sowing, or ploughing in the evening and sowing on the next morning,
- ☛ Avoid actions causing water loss
 - resignation from ploughing,
 - The ability to store water in the soil, by limiting the mineralization of organic matter and stimulation of decomposition of plant residues.

Proper delivery of nutrients to plants right at the beginning of the growing period, especially in autumn, is significant in case of the plants are exposed to stress caused by an inadequate amount of water in the soil. Providing the right nutrients before sowing, contribute to growth of well-developed and deeply-rooted plant root system. This results in the proper supply of plants with nutrients, and thus better yields in the future.

ECO-PLON VOLCANIC MINERALS HAS SORPTION PROPERTIES

- 1** It has an ability to retain water from the soil, through its absorption- water uptake from the soil up to the size of its own molecules. Thanks to such abilities the product supplies the plant with water.
- 2** The nutrients in the form of easily absorbed macro and microelements give the possibility of rich plant supply with essential component - contributing to proper development.
- 3** Silicon contained in plants supports the plant's resistance to biotic and abiotic stress.
- 4** The ECO-PLON VOLCANIC MINERALS dose depends on
 - ☛ the content of humus in the soil
 - ☛ soil pH
 - ☛ soil type

ECO-PLON VOLCANIC MINERALS

MINERALS ADJUSTED TO:

- the content of humus in the soil
- soil pH
- plant needs for proper growth

THE COMPOSITIONS MAY CONTAIN:

MACRONUTRIENTS **easily absorbed**

the percentage amount of ingredients content depends on:

**the type of composition and cultivation
which it is destined for**

P_2O_5	do	12%
K_2O	do	5%
CaO	do	15%
MgO	do	12%
SO_3	do	5%
Na_2O	do	3%
Cl	do	0,5%
NO_3	do	3%
NH_4	do	0,5%

MICRONUTRIENTS

Mn_2O_3	do	0,5%
TiO_2	do	1,4%
Fe_2O_3	do	14,6% / assimilable forms 3-5%/
Al_2O_3	do	14% /assimilable forms 3-5%/
SiO_2	do	72% /assimilable forms 5-8%/
CuO	do	0,05%

trace amounts /sufficient for plants /

**zinc, nickel, niobium, hafnium, molybdenum,
zirconium, vanadium, lithium, chromium,
strontium, selenium**



DOSAGE

- 1 1 T — 5 T / 1 HECTARE***
- 2 10 KG — 50 KG / 100 M²**
- 3 5 KG — 10 KG / 100 KG OF COMPOST**
- 4 1 KG — 5 KG / 10 M²**

The product can also be used in aqueous solutions considering the above dosage or as an addition to manure or animal dung.

* depending on the level of soil sterilization





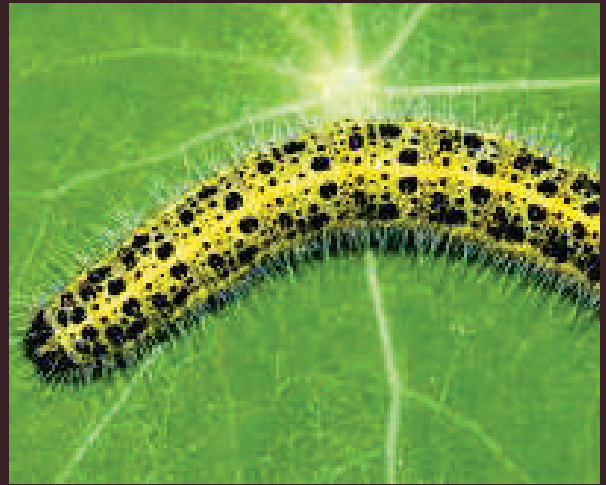
ECO-PLON MINERALS IN POWDERED FORM 0,020 MICRONS TO 0,085 MICRON PARTS

WORKS AS AN INSECTICIDE ON:

APHIDS



CATERPILLARS



BEETLES



POTATO BEETLES



Insects and snails are combated mechanically.

The dusty form of the mineral fertilizer clogs the insects' spiracles which causes their death. The process should be repeated after a few days if necessary as it does not work on insects' eggs, due to its chitin casing.

GREENHOUSE WHITEFLY



VEGETABLE WHITEFLY



SPIKER MITE



SNAILS



The product is non-toxic.

It does not require a waiting period.

After dusting, a part of the insecticide which falls down, becomes a fertilizer that enriches the soil.

EXPERIMENTS

Experiments carried out on plants during their growing and yielding period, before and after using ECO-PLON VOLCANIC MINERALS®

1 CULTIVATIONS OF HERBS/ GARDEN R.L. WOLĘCIN

Before the use of ECO-PLON VOLCANIC MINERALS®	After the use of ECO-PLON VOLCANIC MINERALS®
harvest twice a season	harvest three times in a season
moderate plant growth	harvests increased by 50%
green colour	intense colour
good rooting	intense root growth, better adhesion to the ground and greater nutrient uptake
plant growth average	better growth, despite unfavorable climatic conditions
plants are attacked by pests	thanks to enhancing plant resistance, the vulnerability to diseases and pests has decreased



2 PUMPKIN CULTIVATION, GROUND AND PROTECTED CUCUMBERS, TOMATOES / GARDEN R.L. WOLĘCIN, GARDEN J.W. TCZEW, GARDEN Z.P. CHORZÓW /

Before the use of ECO-PLON VOLCANIC MINERALS®	After the use of ECO-PLON VOLCANIC MINERALS®
medium harvest volume	harvest increased by 50%
green colour	intense green colour
thicker peel	thin and shiny peel
good flavour	very good flavour, tasty cucumber salad and cucumber preserves
sensitive to weather conditions, short harvest season	resistant to weather conditions, the yield period is prolonged by 2 to 3 weeks
medium sized cucumbers	the amount and weight of cucumbers and cucurbits greater by 50%
moderate resistance to disease	increased resistance to fungal diseases and temperature differences



EXPERIMENTS

Experiments carried out on plants during their growing and yielding period, before and after using ECO-PLON VOLCANIC MINERALS®

3 GROWING VEGETABLES / CARROTS, BEETS, PARSLEY, LEEKS, CELERY, PAPRIKA / BRASSICAS, LEGUMES, FENNEL, ONIONS, RHUBARB, SPINACH, SORREL. / GARDEN R.L. WOLĘCIN, GARDEN Z.P CHORZÓW /

Before the use of ECO-PLON VOLCANIC MINERALS®	After the use of ECO-PLON VOLCANIC MINERALS®
good rooting	rooting increased by 100%
a good growth of aboveground part and the root	growth of above-ground part and roots increase by 80%
good flavour	intensive and aromatic flavour
good harvest	harvest increased by 60%
pesticides were used	with no use of pesticides
moderate resistance to diseases and pests	resistant to diseases and pests



4 GROWING GARDEN FLOWERS RHODODENDRON, ROSES, GREEN AREAS. GARDEN R. R. WOLĘCIN, GARDEN B. I. KATOWICE, GARDEN M. C. POCZESNA, GREEN AREAS CHORZÓW, GREEN AREAS STRZELIN /

Before the use of ECO-PLON VOLCANIC MINERALS®	After the use of ECO-PLON VOLCANIC MINERALS®
a good growth of flowers and grass	growth of inflorescences and grass increased by 80%
good rooting	very good rooting- increased by 50%
good color	deep and intense color of flowers and green parts
flowering dependent on climatic conditions	intensive flowering, independent of weather conditions, longer flowering period
plants and grasses are destroyed, poor regeneration	plants regenerate quickly, turf becomes compact, it grows fast and ripe



ECONOMIC AND ECOLOGICAL BENEFITS FROM THE USE OF ECO-PLON VOLCANIC MINERALS®

- GREATER YIELDS, ADDITIONAL PROFIT
- MADE OF NATURAL MINERALES
- ECO-FRIENDLY
- FRIENDLY TO BEES
- ALONG WITH PLANTS, VEGETABLES, FRUITS THE NECESSARY MINERALES ARE PROVIDED FOR PEOPLE AND ANIMALS
- THE PRODUCT IS NOT LEACHED INTO THE GROUND WATER
- NO POSSIBILITY OF OVER-FERTILIZATION
- NO GRACE PERIOD, NON-TOXIC

THE POLLUTION VALUES OF ECO-PLON VOLCANIC MINERALS

types of pollutants	results of examination	the permissible values of pollutants
Arsenic (As)	7,78 mg/ kg of mass	50 mg/kg of mass
Cadmium (Cd)	<1mg/kg of mass	50 mg/kg of mass
Lead (Pb)	33,5 mg/kg of mass	140 mg/kg of mass
Mercury (Hg)	0,006 mg/kg of mass	2 mg/kg of mass



OUR PRODUCTS

1 KG



3 KG



5 KG



CONTACT

The logo for SouthSafe, featuring the company name in white text on a blue rectangular background with a thin white border.

SouthSafe

ECO-PLON Volcanic Minerals®

johnny@eco-plon.no +47 93466404 / +47 46806404

Supplier: SouthSafe AS Org.nr.: NO 998 552 729 MVA

Postbox 578 (Mobile office) 4302 Sandnes, Norway

Manufacturer: Aineg-Pol sp. z.o.o. 43-100 Poland

