LIQUID FERTILIZER
FOR FOLIAR FEEDING
"PANACEA - SPACE"
(anti-stress plant stimulator)
EC FERTILIZER

The liquid fertilizer for foliar feeding "PANACEA - SPACE" (PS) is based on an unique aerospace technology developed and applied at biological experiments for the development of plant species in space at the ORBITAL STATION "MIR" and is a powerful anti-stress plant stimulator (APS) with distinct Anti-blight properties.

For more than 20 years the APS-PS is being finding broad application with all types of crops on Earth increasing crop yields from 30 to 60%! APS-PS is developed on the grounds of a combination of micro and macro-elements that are inseparable part of biochemical processes in the development of plants – germination, rootholding, sprouting, formation of leaves, blooming, formation of seeds, fruits, photosynthesis, metabolism –feeding.

The combination of micro-elements such as copper, iron, manganese, magnesium and zinc that are IDHA-CHELATED (a complex – polycarboxylic acids) and boron-ethanolamine used to form the APS-PS foliar fertilizer in line with the elements nitrogen, phosphorus, potassium, calcium, sodium, sulfur, cobalt and molybdenum (each of such elements not exceeding 1%) contributes to the activation of the Kreps cycle at a higher energy level – by speeding plant's metabolism!!!

APS-PS stimulates and activates plants' (plants that are agricultural crops) immune system without any loss of additional inner energy by making them more adaptive to the quickly changing external factors – humidity, heat, light, atmospheric pressure. The product is completely absorbed by plants' leaves and as a result there is no environmental pollution to soil and water! APS-PS boosts plant protection products' efficiency by supplying such products to plant cells as cells "recognize" it as their own organic matter! Once the cause of the respective disease is destroyed, a "SELF-CLEANING" process at cellular level is activated to clean cells and intercellular space from the "Corpse residue" of the cause and the harmful components of plant protection products! The same effect is monitored with plants grown on soils "Polluted" with RADIOACTIVE and CHEMICAL WASTE!

Within 15 to 20 days APS-PS is decomposed to components that become part of plants' chain of nutrition thus contributing to the production of ECOLOGICALLY pure BIO PRODUCTS! Production's NUTRITIONAL QUALITIES AND APPEARANCE are boosted thus resulting in crops higher profitability and competitiveness at the market with relatively low costs incurred with respect to APS-PS!

When crops are treated with APS-PS, depending on the scheme of treatment (number and amount of doses of APS-PS), the CONTROLLED VEGETATION effect is achieved as follows:

- Acceleration in germination, rootholding, blooming, formation of leaves, formation of seeds;
- Increase in the content of: sugars, gluten, vitamins, micro-elements in organic form, organic acids, chlorophyll in leaf vegetables;
- Fruits reach full maturity with high taste and appearance;
- Increase in resistance to bacterial, fungal and etc. diseases (mildew, chlorosis, rotting …);
- Reduction or increase in crop yields terms with 10 to 25 days;
- Increase in crop shelf life (seeds, fruits, vegetables) with 10 to 25% compared to crop grown traditionally without using APS-PS;
- Seeds, fruits and vegetables are with optimal size and are often larger with 10 to 15% than seeds, fruits and vegetables that are not treated with APS-PS; chlorophyll is boosted with up to 15%;
- The form of seeds and fruits is regular without any faults;
- Orchards – apples, pears, plums, apricots and so on, scabbing or rotting during maturation is almost no longer observed after 1 year of treatment. Pear fire blight is reduced with 20 to 30%. The final treatment SHALL be done in August during betting of new buds!;
- Cherries – brown rotting and cocomycosis is reduced with 50 to 60%;
- Increase in efficiency of used plant protection products and fertilizers;
- The product does not substitute feeding with NPK and other types of fertilizers but increases the absorption rate with over 60%;
- **Plants' biological and genetic features are not changed!**

GUIDELINES FOR DOSAGE AND STORAGE:

- Add 10 to 50 ml of APS-PS into 10 to 30 l ready-to-use water solution of plant protection product (fungicide or insecticide) per da (all according to the respective crop dosage table), provided that in case of drought or diseases the dosage shall be increased with 50%.

OBLIGATORY CONDITION – ALL COPMONENTS OF THE SOLUTION SHALL BE WATER DILUTED IN ADVANCED ONE BY ONE!!! The components – water diluted in advance, shall be blended by adding and mixing them one by one. APS-PS shall be added at the end of the already prepared SOLUTION! The SOLUTION shall not be left for the next day!!! If the solution touches skin, it is enough to have skin copiously washed out with pure water. Please use personal protection equipment when handling plant protection products;

- APS-PS is well compatible with all plant protection products used and permitted in the EU and therefore it is not necessary to apply APS-PS separately, thus saving time and money. We only do not recommend the mixture of APS-PS with HERBICIDES! APS-PS shall be applied 10 days after such herbicides have been applied!
- For the majority of crops 5 to 6 applications between 10 to 22 days are enough; there is no QUARANTINE PERIOD when APS-PS is applied alone!;
- The QUARANTINE PERIOD depends on the fungicide or the insecticide in the solution!!!;
- APS-PS's LD_{50} exceeds 2000 mg/kg live weight. It is safe for people, animals, bees and fish!; The first treatment shall be carried out when plants are at 3-4 leaf stage at ambient temperatures above $10^{o}C$!
- The temperature range of autumn and other crop and perennials - all species: vineyard, apples, pears, plums, cherries, sour cherries, peaches, apricots, blackcurrants, raspberries, aronia, blueberries, strawberries, oil roses, decorative plants and bushes, lawns and etc, is expanded. Plants' temperature resistance is boosted:- another $+(4\div5)^{o}C$ are added to the positive range and another $-(3\div4)^{o}C$ are added to the negative range!;
- Storage:-to be stored in well ventilated and dark rooms at temperatures between $5^{o}C$ and $25^{o}C$;
- Shelf life: - up to 3 years from the date of manufacturing.

APS-PS IS APPROPRIATE FOR TREATMENT OF ALL TYPES OF CROPS such as:

- Barley, oats, wheat, triticale, corn, alfalfa, rise, peas, beans;
- Linen, millet, sunflower, soya, peanuts, rape, tobacco, spices;
- Field and greenhouse vegetables – cucumbers, tomatoes, eggplants, peppers, cauliflower, lettuce;
- Water melons, melons, pumpkins, zucchini;
- Potatoes, sugar beet, celery, turnip, onion, garlic, leek, broccoli, spinach, cabbage;
- Strawberries, raspberries, blackcurrants, aronia, blueberries, goji berries, blackberries, rose hip;
- All types of flowers, herbs, oil rose, lavender, mint, fennel, aniseed, spices;
- All types of vineyard, fruit, citrus, oil, deciduous and coniferous trees, decorative bushes and plants, lawns and etc.

ECONOMIC BENEFIT:

When using APS-PS the profit ratio of invested money is up to 1:20 depending on the crop (higher values refer to greenhouse farming). Climate conditions have weaker effect on CROP!

ENVIRONMENTAL PROTECTION

The APS-PS's synthesis technology is WASTE-FREE! Crop for production of alternative bio-fuels on lands with prevailing salted or "polluted" or dry soils can be grown with low production costs. Plants "generate" up to 20% more OXYGEN due to boosted metabolism!!!

The use of APS "PANACEA-SPACE" guarantees: high crop yields, high nutritional qualities and appearance of produced agricultural crop, very low production costs and high profitability and at the same time guarantees production of ECOLOGICALLY pure BIO PRODUCTION without polluting the environment!

SELECT THE MADE-IN-BULGARIA!

COMPOSITION:

1. Elements content in %:

Nitrogen	/N/	-5,00% - total nitrogen
Boron	/B/	-0,10% - water soluble
Molibden	/Mo/	-0,10% - water soluble
Magnesium	/Mg/	-0,11% - chelated by IDHA

2.Micro-elements as chelate in %:

Copper	/Cu/-0,12% - chelated by IDHA
Iron	/Fe/-0,15% - chelated by IDHA
Manganese	/Mn/-0,10% - chelated by IDHA
Zinc	/Zn/-0,15% - chelated by IDHA

Company "RAIT - AEROSPACE" Ltd
Would like to thank you for your interest in our product!
For contacts: e-mail: rait_aerospace@abv.bg;
www.rait-aerospace.com

DOSAGES UPON TREATMENT WITH LIQUID FERTILIZER "PANACEA - SPACE" is carried out according to the following Table:

Agricultural crop	Dose in ml/da	Additional yield kg/da
Wheat	0,4-1,5ml /kg seeds +30+45+[50]	70-120 [150]kg /da
Barley	0,4-1,5ml /kg seeds +30+45+[50]	60-100 [130] kg/da
Sunflower	3,0ml /kg seeds +30+45+[45]	40-85 [105] kg/da
Corn	2,0ml /kg seeds +30+45+[50]	100-180 [300] kg/da
Cole seed, tobacco	5,0ml /kg seeds +25+35+[40]	28-45 [65] kg/da
Bean, peanuts, soya, peas	2,0ml /kg seeds +20+30+45+50	30-70 kg/da
Lucerne, millet	7,5ml /kg seeds +25+35+25	14-28 kg/da
Field-grown cucumbers	195ml [30+45+45+45+30]	250-550 kg/da
Greenhouse cucumbers	230ml [30+45+45+45+35+30]	500-1200 kg/da
Gherkins	195ml [30+45+45+45+30]	200-500 kg/ da
Field-grown tomatoes	210ml [30+45+45+45+45]	250-500 kg/da
Greenhouse tomatoes	240ml [30+45+45+45+45+30]	400-850 kg/da
Aubergines	170ml [20+30+45+45+30]	200-450 kg/da
Pepper	290ml [15+25+(5 times x 50)]	250-500 kg/da
Spinach, broccoli, cabbage, asperses	130ml [20+30+35+45]	100-350 kg/da
Carrots, sugar beet, turnip	15ml /kg seeds +20+30+35+35	180-600 kg/da
pumpkin, zucchini	125ml [20+30+35+40]	80-200 kg/da
Potatoes	125ml [20+25+35+45]	250-500 kg/da
Watermelons, melons	170ml [20+30+30+45+45]	280-500 kg/da
Onion, garlic, leek	120ml [15+30+45+30]	50-350 kg/da
Vineyards	230ml [25+30+45+50+50+30]	250-650 kg/da
Fruit trees - apples, pears, cherries, plums, apricots, peaches	250ml [25+35+50+50+50+40]	150-500 kg/da
Lavender, oil rose, peppermint,	240ml [30 +45+50+50+30+35]	+15-30 %/da
Blackberry, aronia, figs, blueberry, rose raspberry, strawberry, gojiberry	145ml [20+25+45+30+25]	+20-30 %/da
Citrus plantations: lemons, oranges, mandarins	240ml [25+30+45+55+35]	80-120 kg/da
Flowers, roses, herbs, anise	145ml [15+25+30+45+30]	+15-30 %/da

At planting, vines, fruit trees and flower bulbs shall be treated with a solution of 10 ml APS-PS into 10 l of water. Roots and bulbs shall be immersed into the solution for some 10 to 15 seconds and shall be planted thereafter. The super-yields shown in the brackets refer to crops treated by means of aviation or broad-spraying equipment (over 20 meters) at the grain maturation stage! The final autumn treatment of orchards SHALL be carried out in August at the time of betting new buds, thus increasing plants' cold resistance with some extra –(3÷4)^{o}C added to the negative range!!! The dosage for perennials' treatment during the 1st year shall be increased with another 5 ml.

Treatment shall be carried out in intervals of 10 to 22 days at the same time with other chemical treatments of the respective crop. Vines, orchards and citruses shall be subject to two extra treatments – after harvest and before blooming.

[1] ***da = 0,1 ha = 1000 m²***

APS "PANACEA-SPACE" has unique qualities related to stimulation of plants and respectively crops. Due to the combination of IDHA-chelated macro- and micro-elements optimal features of plants' biochemical processes (Kreps cycle) and immune system are secured, thus keeping vegetation processes within nominal limits of 70 to 80% of the Maximum even at extreme temperatures above +30°C (or below +10°C), without plants collapsing / withering! The midday heat "saved time" is 3 to 5 hours and represents 30% time added to vegetation – plants' life every day! This leads to increase in crop yields with up to 30%! The quality and trade features of crop – production is increased! These features of the APS-PS product make it unique – without worldwide analogue! The product may be applied in a broad range of temperatures, altitudes, geographic latitudes and regions! After its aerospace mission in the 90s and its adaptation on Earth, for the last 20 years APS-PS has been excellently coping with its assigned mission on EARTH – to increase crop yields and quality when producing biologically pure agricultural production without polluting the environment!