



Nature Enhanced



Biostimulants **AminoStymulanit** **AminoSelenit**

– a way to grow, a way to protect



AminoStymulanit

AminoStymulanit – an innovative growth stimulant from the Arkop FoliarLab series of specialized products intended for application in field, orchard and vegetable cultivation.

Owing to the proprietary technology based on the use of amino acids and other active components, AminoStymulanit provides effective stimuli to the plant, acting concurrently at the following three levels: Stress Protection, Molecular Action and Growth Stimulation.

Effects of application:

1. Stress Protection:

- increased tolerance to biotic stress (pests, bacteria and fungi)
- increased tolerance to abiotic stress (frost, drought, UV radiation)

2. Molecular Action:

- regulating enzyme activities and protein syntheses
- increasing sugar content in plants
- stimulating immunity

3. Growth Stimulation:

- enhancing the effectiveness of the pollination process
- accelerating growth and development of the plant
- accelerating fruit ripening
- enhancing a high shoot and root elongation rate
- improving root biomass
- increasing leaf area and yield quality





AminoSelenit

AminoSelenit – an innovative growth stimulant from the Arkop

FoliarLab series of specialized products intended for application in field, orchard and vegetable cultivation.

Owing to the proprietary technology based on the use of amino acids, selenium and other active components, AminoSelenit Bio provides effective stimulation of the plant, acting concurrently at the following three levels: Stress Protection Tech, Molecular Action and Growth Stimulation.

Effects of application:

1. Stress Protection:

- increased tolerance to biotic stress (pests, bacteria and fungi)
- increased tolerance to abiotic stress (frost, drought, UV radiation)

2. Molecular Action:

- regulating enzyme activities and protein syntheses
- increasing sugar content in plants
- stimulating immunity
- better use of nutrients; improved assimilation and transport of minerals
- antioxidative action
- protection against the penetration of toxic metals such as Pb and Cd

3. Growth Stimulation:

- enhancing the effectiveness of the pollination process
- accelerating growth and development of the plant
- accelerating fruit ripening
- enhancing a high shoot and root elongation rate
- enlarging root architecture
- increasing leaf area and yield quality
- improving biomass accumulation





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Role of selenium in the mineral homeostasis of plants .

Even though selenium has not yet been classified as a chemical element essential in the nutrition of plants, its favorable effects have already been confirmed. In studies carried out in recent years on cereals and other species of crop plants (including the cabbage, head lettuce, cucumber and soybean), it has been proven that plant supplementation with fertilizers containing Se may contribute to their growth rate and biomass accumulation (El-Ramady et al., 2015)². Selenium as a cofactor of antioxidant enzymes is also essential for the neutralization of harmful free radicals. The antioxidative effects of selenium contribute to hindering the senescence of plant organs (Djanaguiraman et al., 2005)³. Selenium also acts as a regulator, enabling the proper functioning of the immune system. Recent studies have also demonstrated the involvement of selenium in plant reactions to abiotic stress factors such as cold, drought, intense light, flooding, salinity and exposure to heavy metals (Feng et al., 2013)¹.

¹Feng, R., Wei, C., & Tu, S. (2013). The roles of selenium in protecting plants against abiotic stresses. *Environmental and Experimental Botany*, 87, 58-68.

²El-Ramady, H., Abdalla, N., Alshaal, T., El-Henawy, A., Salah, E. D. F., Shams, M. S. & Sztrik, A. (2015). Selenium and its role in higher plants. In *Pollutants in Buildings, Water and Living Organisms* (pp. 235-296). Springer International Publishing.

³Djanaguiraman, M., Devi, D. D., Shanker, A. K., Sheeba, J. A., & Bangarusamy, U. (2005). Selenium-an antioxidative protectant in soybean during senescence. *Plant and Soil*, 272(1), 77-86.



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We have been building our experience in the fertilizer industry since 1992. Our goal is to manufacture fertilizers making it possible to derive the very best nature has to offer... For this reason, our extensive product range entails the latest developments in biotechnology, in particular top grade chelates (chelation level confirmed by PCBC (Polish Center for Testing and Certification)). As a result of our close long-term cooperation with scientific institutes and universities, we have manufactured proven and effective products. We constantly monitor our production process and incorporate the requisite modifications in striving to continue improving our offer and aligning it to meet customer needs and expectations. The Arkop brand name is synonymous with high quality because of both our close cooperation with scientific institutes and universities and the innovative technology we have launched based on proprietary research and experience. As a result, all our products adhere to the highest standards of quality and environmental protection adopted in the European Union. We apply and constantly develop our integrated food quality and safety management system ISO 22000 (HACCP) and ISO 9001. We proudly cooperate with customers from across the world.