

# Poly-Amin

## Growth promoter - foliar amino-acid preparation

Under natural growth conditions, plants use nutrients from the soil, water and solar energy to produce all the compounds needed for vegetative and productive development. However, unfavorable weather conditions, poor soil fertility, pest attacks or diseases may impair the complicated metabolic processes of the plant, resulting in retarded development and reduced yields. Intensive crop production deviate from the natural balance of soil and crop, which makes the natural growth processes even more prone to interferences.

### What is Poly-Amin

Poly-Amin is a natural bio-stimulant, specially designed for foliar application. It contains amino acids and low molecular weight peptides that act synergistically to catalyze growth processes and to support the metabolism of the plant. Poly-Amin helps the plant to overcome adverse environmental conditions.

Poly-Amin is absorbed by the leaves quickly and efficiently without scorching.

All the components of Poly-Amin are 100% natural, so they easily integrate with the plant's metabolism.

### How Poly-Amin works

Poly-Amin promotes plant growth in three principal ways:

- The plant uses the amino acids and the "short" peptides from Poly-Amin as building blocks for the synthesis of enzymes and other essential peptides.
- Certain ingredients in Poly-Amin directly activate enzymatic reactions in the plant.
- Poly-Amin has chelating activity enhancing the uptake of the nutrient naturally present into the soil or supplied with fertilizers

### The advantages of Poly-Amin

- Optimal combination of components with bio-stimulating activity
- High concentration of free amino acids
- Stable organic material
- Free of toxic elements
- Clear solution, free of precipitates and suspended particles
- Optimal pH of 6.5
- Compatible and suitable for tank mixing with a wide range of foliar preparations

### When to use

It is recommended to use Poly-Amin in the following cases:

- **Stressed crops:** Poly-Amin helps the plant to overcome the metabolic retardation associated with stress situations. Furthermore, application of Poly-Amin to healthy crops helps preventing stresses.
- **Intensive, highly yielding crop production:** Poly-Amin helps the plant to produce enough metabolites and enzymes to reach the maximum yield potential.
- **In combination with soluble fertilizers:** Poly-Amin improves plant uptake and use efficiency of mineral nutrients.
- **In combination with herbicides and fungicides:** Poly-Amin acts as a carrier, facilitating the activity of these agents.

Poly-Amin is available in 3 kg tanks (30 cardboard boxes, 6 tanks in each, per pallet) or 12 kg tanks (75 tanks per pallet).



# Poly-Amin

## Product Analysis

N total	8.5%	CaO	0.25%
N organic nitrogen	8.0%	MgO	0.002%
N Alpha-amino	4.0%	Fe	0.003%
N-NH <sub>4</sub>	0.5%	Viscosity (20°C)	500 cP
Amino acids and enzymatic polypeptides	50.0%	Dry matter	65%
Organic carbon (C) from biological origin	26%	Density (20°C)	1.28 g/cm <sup>3</sup>
C/N ratio	3.25%	pH 10% solution	6.5
P <sub>2</sub> O <sub>5</sub>	0.03%	Mean molecular weight	300 dalton
K <sub>2</sub> O	1.0%		

## Amino Acid content in Poly-Amin

Alanine	12.4%	Histidine	0.6%	Proline	12.3%
Arginine	0.8%	Hydroxyproline	0.7%	Serine	0.1%
Asparagine	0.5%	Isoleucine	1.4%	Threonine	0.1%
Aspartic acid	5.7%	Leucine	5.6%	Tryptophan	0.1%
Cysteine	0.2%	Lysine	12.9%	Thyrosine	1.0%
Glutamic acid	16.9%	Methionine	2.1%	Valine	4.0%
Glycine	19.9%	Phenylalanine	2.7%		

## Application recommendations

It is recommended to apply Poly-Amin during the initial growth stages and during phases of intensive development. Additional applications are recommended if stress occurs, or if the crop shows retarded development for any reason.

- **Wine and Table Grape:** At the beginning of vegetative growthstart, and from flower-bud formation till the complete development of berries
- **Apple, Pear, Kiwifruit:** At flower-bud formation and from the end of bloom till before exfoliation
- **Peach, Apricot, Prune, Cherry:** from the end of bloom till before exfoliation
- **Citrus:** during vegetative development
- **Olive:** From flower-bud formation till the complete development of stone-fruits
- **Strawberry:** During rooting and from shooting to harvest
- **Tomato, Eggplant, Pepper, Cucumber, Zucchini:** after planting and at the beginning of fruit-setting
- **Melon, Watermelon:** All through the season
- **Leaf vegetables:** from planting or shooting to the complete leaf development.
- **Vegetables:** 2-3 treatments during vegetative growth
- **Sugarbeet:** From shooting to the complete leaf development. May be combined with herbicides
- **Potato:** From shooting to complete tuber development
- **Wheat, Barley:** From emergence to earing and during booting. May be combined with herbicides.

## Application rates and general instructions

**To promote growth and to enrich plant nutrieion:** apply every 10-15 days at concentration of 0.15 - 0.25%

The lower rate applies to protected crops. The higher rate applies to crops in open field or stressed plants.

**To enhance the activity of fungicide:** tank mix at 0.1-0.15%

**As a carrier for herbicides:** 0.5-2 kg/ha

Always spray during the cooler and more humid parts of the day. After spraying wash thoroughly the sprayer and all is parts with fresh water.

## Storage and tank-mix preparation

- Storage temperature must exceed 8°C
- Lightly shake the tank before use.
- Poly-Amin can be mixed with all foliar fertilizers and agrochemicals, except oils. Do not mix Poly-Amin with highly-concentrated solutions.
- Poly-Amin may react to yield toxic compounds copper. Do not apply on fruit-trees (except olives) or copper-sensitive crops in combination with products containing copper or just after the application of sch products.
- Do not exceed the dose of 100 ml/hl if in combination with sulphur on sensitive crops or during temperature changes. During stockage keep it away from persistent cold. Lightly shake the tank before use.
- Concentratin must not exceed 0.1%l if combined with sulfur on sensitive crops or during temperature changes