



**BRANDT®**

# BRANDT® InVigo™ More than a Biostimulant

Bioactivator, osmoprotectant for horticultural  
crops, fruit trees, citrus and extensive farming

**BRANDT**  
**Manni-Plex**  
TECHNOLOGY





# BRANDT® InVigo

Specially formulated with active ingredients like AATC (N-Acetyl-thiazolidine-4-carboxylic acid), proline and polyols complexes (Manni-Plex) along with iron, manganese and zinc, this technology confers osmoprotectant and anti-stress functions to the product. BRANDT In-Vigo keeps plants' content of proline and glutathione at an optimum level. Both are used as reinforcing factors against several types of stress: frost, temperature changes, hydric stress, excessive salinity.

## Benefits

### AATC

- It increases levels of proline and glutathione content in plant cells.

### PROLINE

- It has osmoprotectant qualities.
- It behaves as stabilizer and buffer of intracellular pH.
- It restores potential redox in the case of oxidative stress.

### GLUTATHIONE

- It has an antioxidant effect.
- It has a scavenging effect against free radicals (ROS).
- It is an important osmolyte in case of drought and salinity.
- It constitutes reserves of carbon, sulphur and nitrogen.

PROLINE and GLUTATHIONE are used by the plant as defense elements against abiotic stress situations.

## Effect in Plants

### PROLINE

#### It Increases

- Cell walls thickness
- Resistance to frost
- Resistance to stress of transplantation
- Resistance mechanism to osmotic stress

#### It Prevents

- Hydric and saline stress
- Nematodes invasions
- It has a positive impact on germination
- It has an influence on enzymatic systems (endogenous hormonal activity)

#### Increases and Improves

- Fertilization and setting
- Fruit size
- Yield quality and quantity





## Composition

AATC (N-Acetyl-thiazolidine-4-carboxylic acid). . . . .	5%
PROLINE (Aminoacids) . . . . .	6%
Water-soluble IRON (Fe) . . . . .	2%
Water-soluble MANGANESE (Mn) . . . . .	0.5%
Water-soluble ZINC (Zn) . . . . .	0.5%

Density: 1,16 gr/l

PH: 3

## Polyols (sugar alcohols)

- They enhance the absorption of micro-elements and also their penetration and translocation through the phloem.
- There is an increase of the quantity of micro-elements delivered to fruits, inflorescences or reserves center (fruit and roots).
- They have the metabolic role of increasing the photosynthesis (in the form of photosynthates and metabolites; they enhance fruit development).
- They behave as osmoprotectant, forming osmolytes against salinity and drought.
- Protection against oxidative stress, antioxidant capacity.
- Adjuvant characteristics: humectant and surfactant.

## Application and Use

**DOSE:** 0.7-1 L/Ha (70-100 ml/100 L of water in applications with traditional volume)

(In greenhouse: 50-70 ml/100 liters of water)

**FERTIGATION:** 0.3-0.5 liters for 1000 m<sup>2</sup> divided in 3-4 applications.

- First vegetative phases: it improves root development and accelerates the formation of the vegetative structure.
- Pre-flowering: it increases fertilization and the number of fruits set.
- Setting: it improves cell division, reduces fruit drop and increases fruit growth.
- Beginning of fruit thickening: it increases the final fruit size.

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