

# Buystar Extra Acid

Acidifying fertigators to improve production



+ Safety



+ Production



+ Quality

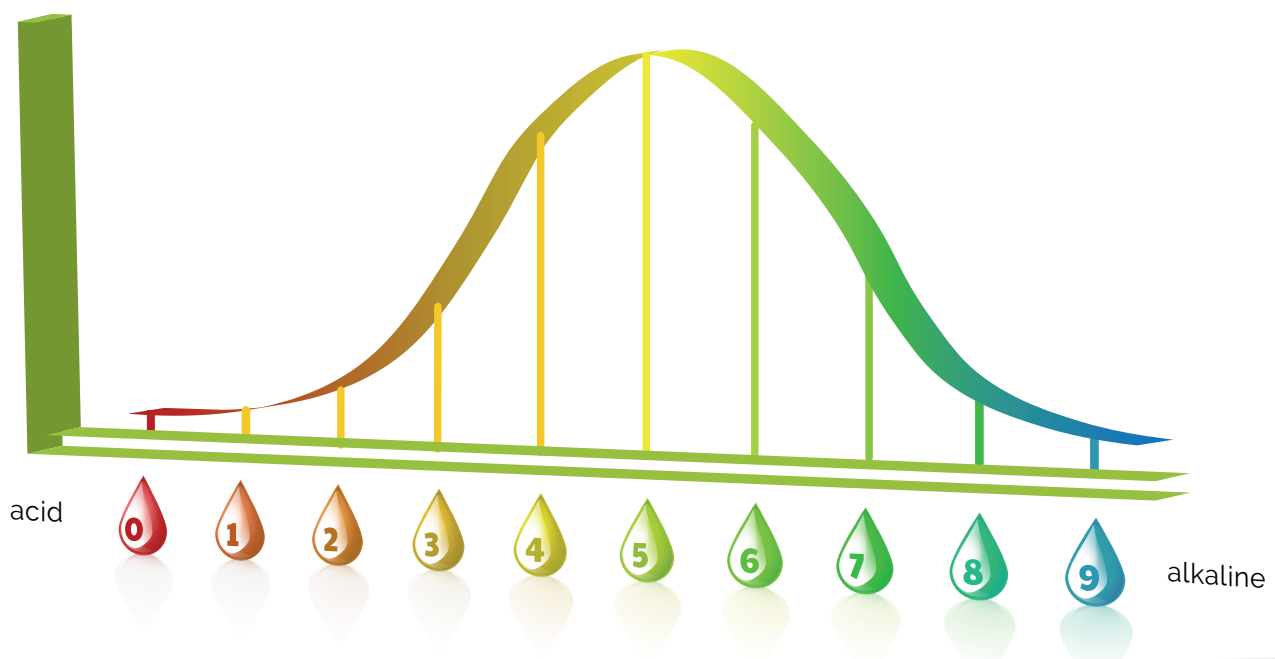
## The importance of acidifying water for fertigation

In soilless crops, the management of fertigation is a crucial aspect for the maximum production yield of crops, both from a qualitative and quantitative point of view. In fact, in soilless crops, the soil is replaced by various substrates and the nutrient needs of the crop are met using fertigators. For plants, the ideal pH of a nutrient solution must be between 5.5 and 6.5 since, outside this range, nutrients are not bio-available. Thus, the acidification of the nutrient solution is an essential practice for:

- ★ optimize nutrient solubility;
- ★ improve plant nutrient availability;
- ★ safeguard the implants from any occlusions.

In fact, as can be seen in the graph below, the nutrients are characterized by a range of pH within which their availability for the plant is maximum.

### The assimilability curve of the nutrients with respect to pH variations.



The maximum availability for plant uptake of most of the essential nutrients is possible in a pH range between 5.5 and 6.5.

## The problem of water with bicarbonates

Water for irrigation contains substances of various kinds. In particular, carbonates or bicarbonates (of calcium and magnesium) determine the buffer power of water, that is, the ability to withstand pH variations. **The neutralization of bicarbonates** in excess is a method of lowering pH by acidifying the nutrient solution. For this purpose, mineral acids that neutralize bicarbonate ions in water and carbon dioxide can be used, or next-generation nutrition products that allow you to reach and maintain a pH between 5.5 and 6.5.

# Buystar Extra ACID line

Buystar Extra ACID is the innovative line of fertigators that come from an accurate and constant research for solutions to the demands of the market, increasingly attentive to the quality of the formulates and environmental sustainability.

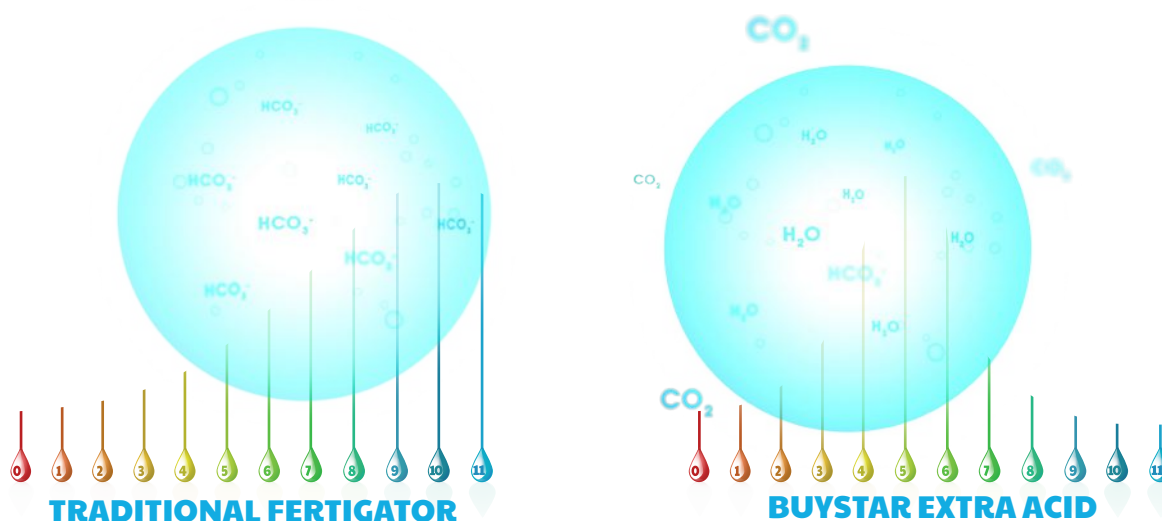
The products of the Buystar Extra ACID line are characterized by raw materials of **extreme purity** and **acid pH**. In addition, they are distinguished by the ability to **reduce** the amount of bicarbonate ions present in the nutrient solution and to exponentially increase the amount of nutrients absorbed by the crop.

The products of the Buystar Extra ACID line are characterized by the presence of **RyZea**, exclusive production technology that Agriges has developed for the extraction of *phytostimulating* compounds from three algae: *Ascophyllum*, *Fucus spp.* and *Laminaria spp.* The mining process involves several phases: micronization, filtering and extraction, and the extraction process:

- ★ is extremely "delicate" so as not to alter the stability of phytostimulating algal molecules,
- ★ does not use chemical extractive agents in order to obtain a more acidic pH;
- ★ provides for the application of pressure differentials and the resulting filtering, in order to create a safe product for field application.



## Comparison of TRADITIONAL FERTIGATOR and BUYSTAR EXTRA ACID



## COMPOSITION OF THE MAIN TITLES

	N tot	N amm	N nit	N ureico	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	CaO	SO <sub>3</sub>
Buystar extra NPK 13-8-21 + 9 CaO	13,0	-	11,0	2,0	8,0	21,0	9,0	-
Buystar extra NPK 8-24-16+10 CaO	8,0	-	8,0	-	24,0	16,0	10,0	-
Buystar extra NPK 13-9-35 acid	13,0	-	10,0	3,0	9,0	35,0	-	-
Buystar extra NPK 12-30-20 acid	12,0	5,0	6,0	1,0	30,0	20,0	-	-
Buystar Extra NPK 12-11-30 + Micro <sup>1</sup>	12,0	3,0	9,0	-	11,0	30,0	-	4,5 *
Buystar extra NPK 16-8-24+2 MgO + Micro <sup>2</sup>	16,0	-	7,0	9,0	8,0	24,0	-	4,5 *

<sup>1 - 2</sup> Tables of microelements on the next page

\* This is not labeled

**Buystar Extra NPK 12-11-30 + Micro**

Boron (B) total	0,03 %	Iron (Fe) chelate EDTA	0,06 %	Molybdenum (Mo) water-soluble	0,006 %
Copper (Cu) water-soluble	0,007 %	Iron (Fe) chelate EDDHA	0,02 %	Zinc (Zn) water-soluble	0,09 %
Copper (Cu) chelate EDTA	0,007 %	Manganese (Mn) water-soluble	0,07 %	Zinc (Zn) chelate EDTA	0,09 %
Iron (Fe) total	0,08 %	Manganese (Mn) chelate EDTA	0,07 %		

Stability range of the chelating fractions: from 1,5 to 8

**Buystar Extra NPK 16-8-24+2MgO + Micro**

Magnesium oxide (MgO) water-soluble	2,0%	Iron (Fe) total	0,08 %	Manganese (Mn) chelate EDTA	0,06 %
Boron (B) total	0,02 %	Iron (Fe) chelate EDTA	0,06 %	Molybdenum (Mo) water-soluble	0,006 %
Copper (Cu) water-soluble	0,006 %	Iron (Fe) chelate EDDHA	0,02 %	Zinc (Zn) water-soluble	0,05 %
Copper (Cu) chelate EDTA	0,006 %	Manganese (Mn) water-soluble	0,06 %	Zinc (Zn) chelate EDTA	0,05 %

Stability range of the fraction chelated: pH from 1,5 to 8.

**Doses and administration**

Crops	Application in Fertigation
All the crops	Throughout the development cycle, 25-50 kg/ha
Soilless and hydroponics	Use the product to prepare a mother solution at a maximum concentration of 20% and dilute in irrigation water in the expected proportion for the crop.

The above doses are indicative and may vary in relation to the pedoclimatic characteristics of each area.

**Chemical-physical properties**

Buystar extra NPK	Formulation	Packs	pH (sol. 6%):	Conductivity (sol. 10%):	Bicarbonate reduction value
13-8-21 + 9 CaO	soluble powder	10-25 kg	1,9	68,6 dS/m	aprox. 24 mg/l HCO <sub>3</sub>
8-24-16+10 CaO	soluble powder	10-25 kg	2,5	52,7 dS/m	aprox. 24 mg/l HCO <sub>3</sub>
13-9-35 acid	soluble powder	10-25 kg	1,8	78,4 dS/m	aprox. 24 mg/l HCO <sub>3</sub>
12-30-20 acid	soluble powder	10-25 kg	2,9	60,0 dS/m	aprox. 24 mg/l HCO <sub>3</sub>
12-11-30 + Micro	soluble powder	10-25 kg	4,9	79,8 dS/m	aprox. 24 mg/l HCO <sub>3</sub>
16-8-24+2 MgO + Micro	soluble powder	10-25 kg	1,9	66,8 dS/m	aprox. 24 mg/l HCO <sub>3</sub>



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