AMX

Next generation amino acids

For bio-stimulation and the efficient use of nutrients

AMX

NEXT GENERATION AMINO ACIDS FOR BIO-STIMULATION AND THE EFFICIENT USE OF NUTRIENTS

Because amino acids are such excellent bio-stimulants they are widely applied in agriculture. For example to stimulate growth, but also because of their wetting and sticking capacities. Amino acids' effectiveness depends on the way plants absorb nutrients, which in turn depends on the type of amino acids. AMX amino acids improve bio-availability of nutrients and stimulate growth processes. Thus improving crop's taste, health, strength and yield. AMX amino acids are obtained by a controlled process of enzymatic hydrolysis. Big advantage of this process is that the amino acids in AMX are defined as
L-amino acids that have a left orientated structure. This left orientated structure allows the plant a rapid and direct assimilation of the amino acids. In the AMX range L-amino-acids are combined with the essential nutrients N, P, K, Ca, Fe, Mg, Mn and Zn. These organo-mineral formulas have superior bio-availability and powerful effects on quality and yield.

AMX

- **Nutrients are plant-available**
  - Improved effectiveness of specific nutrients at specific plant development stages
  - Cost savings due to more efficient nutrient
  - Less leaching and environmental pollution
- **Stimulations of metabolic processes with a positive effect on quality, yield and strength**
  - Increased yield
  - Improved end product quality and taste
  - Strengthening of crops
- **Wetting and sticking agent**
  - Improved spreading, adhesion and penetration of foliar sprays
  - More effective foliar sprays, even at lower dosages

AMX CHARACTERISTICS

- Left turning (L) amino acids have superior reproducible bio-availability
- L-amino acids are essential for transport and absorption of nutrients
- Specific chains of L-amino acids optimize effectiveness of AMX products

PROVEN TECHNOLOGY

- Leading international research institutes confirm positive results
  - Extensively tested in field trials in different climate zones
- Customers agree:
  - AMX amino acids optimize the use of nutrients
  - AMX amino acids improve yield, quality, taste and strengthen crops
  - AMX amino acids are excellent wetting agents and stickers

AMINO ACIDS AND L-AMINO ACIDS

Amino acids are organic compounds and the building blocks of proteins. Proteins are important nutrients for crops, managing metabolism, structure, transport, communication and regulation on cellular level.
The AMX range of products consists of combinations of important amino acids: tryptophan, isoleucine, valine, leucine, lysine, histidine, asparagine, arginine, alanine, glutamic acid, proline en glycine.

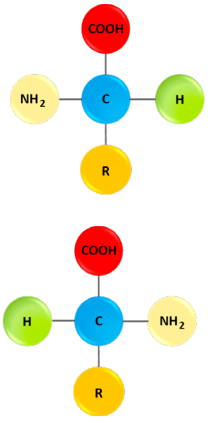
On molecular level amino acids are either left or right turning. Plants only absorb left turning amino acids to produce proteins, phytohormones and vitamins. Plants do not absorb right turning amino acids easily and will need extra energy to metabolise them. Whether amino acids are left or right turning depends on the production process. Right turning amino acids are mostly synthetically produced. Whereas controlled enzymatic processes to hydrolyse proteins are used to produce left turning amino acids. Through its protected production process, AMX L-amino acids are highly bio-available and thus easily absorbed by plants.

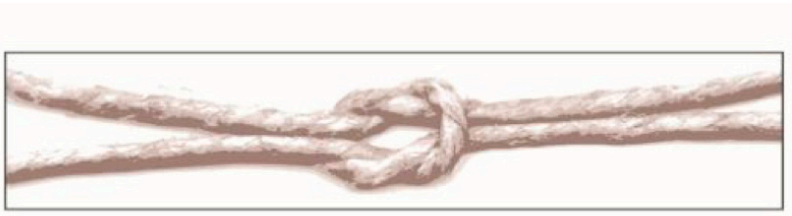
AMINO ACIDS AND OPTIMAL NUTRIENT USE

Depending on a crop's development phase (e.g. growth, blossom, fructification, maturation), plants prefer specific combinations of amino acids and nutrients. By combining L-amino acids and nutrients (N, P, K, Ca, Fe, Mg, Mn and Zn), AMX amino acids are customized for use. Depending on the growth phase and nutrient deficiencies, highly bio-available
L-amino acids transport nutrients in plants and stimulate growth. So plants easier absorb nutrients, enabling an optimal nutrient use.

APPLICATION SPECIFIC AMINO ACIDS

AMX amino acids' protected production process transforms proteins in L-amino acids, with different chain lengths, varying molecular weight, and specific function. For example Alpha chain takes care of bio-stimulation, Beta of nutrition, and Gamma of uptake facilitation. The L-amino acids have specific characteristics, depending on their way of application. For instance, foliar spraying requires adhesion and penetration, and drip irrigation bio-stimulation and osmo-regulation. Thus it is important to customize the amino acids depending on the application, in order to be effective and efficient.





AMX: L-Amino acids: Connected chains

Traditional amino acids: Broken chains

USING AMX AMINO ACIDS OPTIMIZES CROP NUTRITION PROGRAMS AND INCREASES YIELD, QUALITY AND CROP STRENGTH

1. AMX amino acids optimize nutrition programs
   - The combination of nutrients and specific amino acids facilitates better uptake and transport of nitrogen, phosphorus, potassium, calcium, magnesium and iron.

2. AMX amino acids increase yield and quality
   - Specific amino acids optimize crop's growth phases and improve yield, taste, brix, coloring, and extend shelf life.

3. AMX amino acids are excellent spreaders and stickers
   - Amino acids improve spreading, sticking and penetration of foliar spray products.

4. AMX amino acids increase crop's natural strength and resistance.
   - Amino acids increase crop's strength by production of phytohormons, strengthening of cell walls and activation of enzyme activity.

5. AMX amino acids have a minimal effect on EC and pH of the spray cocktail
   - Minimal increase in EC of spray cocktail: EC +1 to +4.
   - Acidification of spray cocktail: pH -1 to -3,5.

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