ORGANIC
CROP PROTECTANTS PTY LTD

Aminogro

Amino Acid-based Plant & Soil Food

What is Aminogro?

Aminogro is a complete plant food in the form of amino acid-based nutrients, fortified with essential trace elements.

What are amino acids and why are they important to plants?

Plants assimilate nitrogen in amine (NH^2+) form. Amines are moved around plants attached to amino acids such as Glutamic and Aspartic acid. Amino acids are also the building blocks of plant proteins and regulators of essential plant functions such as photosynthesis, respiration and ultimately crop yield. Plants survive and thrive because of the way amino acids are created, transformed and mobilized in plants.

Aminogro and nutrition

In most cases conventional fertilizers must be converted into a form that can be assimilated by plants. Microbial communities in the soil and enzymes in plants must use energy to do this. This conversion is inefficient and losses occur. The nutrients in Aminogro however, have already been converted so they are mobilized in the plant immediately with minimal energy loss.

Hidden nutritional problems or disorders arising from a lack of micro-nutrients, can have serious yield limiting implications. Micro-nutrients help plants regulate against stress arising from changes in growing conditions. The ability of plants to cope with and recover from stress is the key to producing more uniform, high-yielding crops. Aminogro provides all the essential nutrients needed by plants for optimum growth and development under stressful conditions.

Aminogro and glyphosate residues

It is now known that when glyphosate is used around trees, it can be taken up by tree roots and bio-accumulate in plant tissue. Sub-lethal glyphosate residues can starve plants of micro-nutrients, causing serious physiological conditions such as bark cracking and susceptablity to disease. The use of Aminogro on crops where glyphosate has been used frequently or continues to be used, will offer some reversal of crop damage and decline in yield associated with this condition. It has also been suggested that Aminogro makes an excellent tank mix with glyphosate and other knock-down herbicides as it may hasten dead plant material to dissipate.

Other benefits of Aminogro

Pollination and fruit-set
Successful pollination and fruit set can be a challenge in some seasons. Amino acids such as Glutamic acid, Tyrosine and Proline have been linked with successful pollen germination and pollen tube development. These amino acids are present in Aminogro. Growers have also observed that Aminogro attracts pollinators including flies, which can add another level of pollination success.

CHITIN - pest and diseases
The crustacean wastes used in Aminogro contain a protein called chitin. Chitin is a major protein found in insect exoskeletons and fungal cell walls. It is understood that plants have evolved to identify chitin invasion and respond with the production of an enzyme called chitinase. Chitinase production can be likened to an internal acid attack that dissolves any invading chitin proteins. It has been suggested that the foliar application of Aminogro may trigger chitinase enzyme production in plants. If true, Aminogro could be applied as a preventative measure to reduce the incidence and severity of pest and disease attack.

Soil application

Aminogro should be applied or injected into an irrigation system towards the end of watering.

Annual Crops – Apply to bedding soil before planting @ 40L/ha with Synertrol Horti Oil @ 1L/ha. Good results can be achieved when applied with pre-emergent or other non-selective herbicides prior to ground preparation.
Aminogro will help speed up the breakdown of trash and weeds.

Perennial Crops – Apply at 40L/ha just prior to budswell, fruit set and vegetative flushing.

Soil application rates can be halved when combined with Acadian SSE or Stimplex.

Compatibility

Aminogro can be mixed with most horticultural sprays due to its acidity. The performance of some however may be affected by the suspended solids in Aminogro, so that they become either non-effective or phytotoxic. Always check pesticide labels for compatibility with foliar fertilizers, or test the mixture on a small area before widespread application.

Nutrient analysis (w/v)

Molybdenum (Mo) 29ppm, Boron (B) 300 ppm, Zinc (Zn) 282ppm, Magnesium (Mg) 278ppm, Manganese (Mn) 53 ppm, Iron (Fe) 97 ppm, Copper (Cu) 42 ppm, Minimum Total Solids 30.65% w/v. Vitamins: A, B12, C, D, E and K	Nitrogen (N) 2.7% Phosphorous (P) 0.4% Potassium (K) 0.7% Calcium (Ca) 0.2% Sulphur (S) 0.2% Heavy metals: Mercury<0.005ppm, Cadmium 0.11ppm, Lead (not detected)

Aminogro

Amino Acid-based Plant & Soil Food

Aminogro Application

Tree Crop	Rate	Foliar Application Timing (1. = 1st spray 2. = 2nd spray etc)	
Pome Fruit	5ml/L max 10L/ha	1. Green tip to tight cluster 2. Open cluster to pink 3. 1st cover to 4th cover	4. 1 wk post petal fall 5. Every 2-3 wks up until harvest 6. Tank mix with calcium spray
Stone Fruit	5ml/L max 10L/ha	1. At petal fall 2. Every 10-14 days	3. Post harvest – drip x 2 apps
Nuts	5ml/L max 10L/ha	1. At petal fall 2. Every 10-14 days	3. Post harvest – drip x 2 apps
Vine Crop	**Rate**	**Foliar Application Timing**	
Table grapes	5ml/L max 10L/ha	1. 10-15 cm canes 2. 25-35 cm canes 3. Berry set	4. 7 days later 5. 7 days later 6. Post harvest – drip x 2 apps
Wine grapes	5ml/L max 10L/ha	1. 2-5 cm bunch 2. 14 days later (at least 14 days prior to first bloom) 3. Pre-bloom	4. Berry set 5. Verasion 6. Post harvest – drip x 2 apps
Kiwi fruit	5ml/L max 10L/ha	1. 10-15 cm canes 2. 25-35 cm canes 3. Fruit set	4. Every 2wks up till 2wks before harvest 5. Post harvest – drip x 2 apps
Professional Turf	**Rate**	**Application Timing**	
Greens & Tees	200ml/100m^2	Renovation 2 days before and immediately after renovation	
Greens & Tees	200ml/100m^2	Grow-in Once at sowing and sodding, then use maintenance rate below	
Greens & Tees	100ml/100m^2	Maintenance Once every 1-4 weeks depending on plant stress levels	
Fairways	10L/ha	Once a month or when required	
Field Vegetables	**Rate**	**Application Timing**	
Lettuce	5L/ha	1. Seed treatment 2. 4 leaf stage	3. Every 14 days until harvest
Carrots, Onions, Leeks, Turnips	5L/ha	1. 2 weeks after emergence 2. At root enlargement	3. Every 10-14 days until harvest
Brassica, Crucifer	5L/ha	1. 4-6 true leaf stage 2. 10-14 days later	3. At head initiation
Bean & Peas	5L/ha	1. 4-6 true leaf stage 2. At first bloom	3. At first pod
Potatoes, Yam, Taro	5L/ha	1. (Seed treatment optional) 2. At tuber set	3. 10-14 days later 4. Early bloom
Sweet corn	5L/ha	1. 2-6 true leaf stage 2. 50-75cm growth	3. Just prior to tasselling
Protected Crops	**Rate**	**Application Timing**	
Run to waste-drip Cucumbers, Tomatoes	10L/2000	1. 15-20 cm 2. First pre-bloom	3. 7 days later 4 .Within 48 hours of each pick
Run to waste – drip Capsicums, Egg plants	10L/2000	1. 4 true leaf 2. Pre-bloom	3. First fruit set 4. Within 48 hours of each pick
Run to waste – drip Melons, Squash	10L/2000	1. 4-6 true leaf stage 2. 10 -14 days later	3. At head initiation
Run to waste – drip Herbs - Basil	10L/5000	1. At transplanting 2. At 15 cm	3. Immediately after each pick
Hydroponic NFT All crops	5L/10,000L	Every two weeks	
Cutflowers	Drip & Foliar	Every 2nd week @ 5L/2000 plants as a drip and 5ml/L as foliar every week	
Nursery Stock	Foliar	Every week @ 5ml/L with Synertrol Horti Oil @ 2.5ml/L	

61 Turrella St Turrella NSW 2205
A.C.N. 003 149 719
TOLL FREE 1800 634 204

Ph: 02 9810 4566
Fax: 02 9810 4674
Email: info@ocp.com.au

Website: www.ocp.com.au
facebook: OCP Pty Ltd
twitter: OCP_AUS

BFA ALLOWED INPUT 222AI
CERTIFIED PRODUCT FOR ORGANIC FARMS

Aminogro

Amino Acid-based Plant & Soil Food

Amino acids contained in Aminogro

The production of Aminogro involves the bacteria enzyme digestion of marine wastes (fish frames, crab & prawn shells) into L-form amino acids. Bacterial enzyme digestion is the most efficient way of producing L-form amino acids. L-form amino acids are readily assimilated through stems, foliage and roots providing NH^2+ nitrogen in a highly efficient form.

The amino acids in Aminogro are also very effective chelating agents. Glycine for example is one of the major amino acids used in high quality foliar fertilizers for chelating immobile nutrients such as Zinc and Boron.

The remaining amino acids found in Aminogro are known to regulate plant responses that help them adapt to prevailing environmental conditions. The table below lists the amino acids in Aminogro and their function in plants.

Amino acid	mg/L	%	Function in Plants
Arginine	3149	8%	Salt stress tolerance, Root development enhancement
Aspartic Acid	3287	8%	Seed germination stimulant
Glutamic Acid	5327	13%	Chlorophyll production, Seed germination
Alanine	3729	9%	Chlorophyll production
Serine	1743	4%	Chlorophyll production, Stomata regulation for plant water use Pollination
Glycine	6867	17%	Chelate action for better uptake of other nutrients
Histidine	882	2%	Stomata regulation for better drought stress
Threonine	1331	3%	Drought stress tolerance
Proline	3285	8%	Salt stress, Drought stress tolerance, Pollen germination
Tyrosine	637	2%	Drought stress tolerance, Pollination, Pollen germination
Valine	1499	4%	Drought stress tolerance, Seed germination, Pollination
Methionine	1011	2%	Ripening, Stomata opening regulation for better plant water use
Isoleucine	1109	3%	Salt stress tolerance, Pollen germination, Pollination
Leucine	2123	5%	Salt stress tolerance, Pollen germination
Phenylalaline	1208	3%	Humic compound, Pollination, Lignine production for stronger cell walls
Lysine	2687	7%	Stomata regulation, Chlorophyll synthesis, Pollen germination
Taurine	868	2%	Drought and Saline stress tolerance