

Fulvic Acid



Advance Fulvic Acid solution is a 30% concentrated natural Fulvic Acid solution derived from lignite ore. Fulvic acid carries a number of benefits for plant and soil health and enhances the efficacy of many foliar applications by enhancing the uptake by the plant. Fulvic acid is a natural complexing agent and carries the product directly into the leaf.



Humic substances are split into 3 different types; humins, humic acids and fulvic acids. Fulvic acids are the smallest of the humic fractions and are also the most soluble. They have an oxygen content twice that of humic acids with many carboxyl (COOH) and hydroxyl (COH) groups and are therefore more chemically reactive – the exchange capacity is more than double that of humic acid due to the total number of carboxyl groups.

Small size and high exchange capacity gives fulvic acid two key benefits when mixed with other foliar-targeted liquids. They are able to form a complex/chelate with nutrients and also fungicides/herbicides which can then be carried into the plant more effectively. Unlike standard adjuvants, fulvic acid delivers further benefits to plant health once it has carried the liquid into the plant/soil and independent research has found the following advantages:

- It aids the movement of vitamins, coenzymes, auxins and hormones around the plant. During times of stress this can mean plants function at closer to their maximum capacity while still under stress conditions.
- Increased oxygen absorption and increased growth has been recorded when compared to control plants.
- Stimulates metabolism.
- Appear to enhance the genetic mechanism of plants. It has been concluded that when plant cells are exposed to fulvic acid they can improve their growth

Product	Pack Size	Rate	Water Volume
Fulvic Acid	10 litres	5-20 litres/ha	200-600 l/ha

Usage Period												
Product	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Fulvic Acid	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

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- Improved CEC and soil structure.
- Soil microbial growth stimulant.
- Improved seed germination.
- A source of organic carbon, sulphur and potassium necessary for healthy plants.
- Increased leaf chlorophyll content.
- Increased growth under low light conditions.
- Increased root exudates which acts as a food source for the soil microbial population.



- **Although Advance Fulvic Acid will mix successfully with the majority of products, always carry out a jar test to check compatibility of products before tank mixing.**
- **Advance Fulvic Acid should be used alongside a nutritional programme to improve rootzone nutrient retention and plant utilization. Fulvic acid has a detoxifying effect on soil contaminants such as pesticide residues and heavy metals. High molecular weight humates alter the physical, chemical and biological properties of the soil leading to improved plant growth, micronutrient uptake and an increased plant metabolism.**

Issue	Suggested Solutions
Applying foliar products such as liquid feeds, selective herbicides and fungicides.	Add 5l/ha of Advance Fulvic Acid Solution to the spray tank to complex the product and for greater efficacy.
Low soil CEC, limited growth, grass often looks 'hungry' even after foliar feeding.	Apply Advance Fulvic Acid Solution at 20l/ha on a monthly programme throughout the growing season. Applications can be combined with liquid feeds or fungicides if required.
Limited growth on shaded turf on golf greens, sports pitches or in sports stadiums in spring, winter and autumn.	Apply 5-20l/ha of Advance Fulvic Acid Solution on a 2-4 week interval during periods of low light and limited growth. Combine with liquid feeds and other foliar-applied products where required.

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