SOIL HEALTH

Fol-Up

Foliar fertiliser uptake enhancer

Compatible with a wide range of liquid fertilisers.

Most effective when used with foliar fertilisers.

Fol-Up contains fulvic acid which is suitable for use directly as a foliar fertiliser or combined with other water-soluble NPK fertilisers. OFS Fol-Up bonds with most plant nutrients and makes them readily available for uptake by plants through foliar sprays, via overhead irrigation or hydroponic systems.

Fulvic Acids are essential for plants to obtain their complete nutrition.

Fulvic Acids are created by soil-based micro-organisms to make minerals and other nutrients assimilable by plants.

Few Australian soils have adequate microbial life combined with enough soil organic matter to produce adequate amounts of fulvic acid.

Fulvic acids in OFS Fol-Up are widely known for their ability to:

- Improve the uptake of nutrients by plants in foliar applications
- Bond with plant nutrients to reduce their immobilisation in the soil
- Promote quicker seed germination and faster root and shoot growth
- Provide a valuable source of carbon for soil micro-organisms
- Improve the efficacy of many non-selective herbicides
- Offer drought protection due to improved water storage

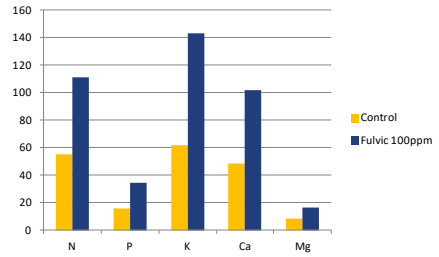
We recommend using Fol-Up in foliar sprays to get the multiple benefits of fulvic acid cost-effectively.

Research - Fulvates improve the uptake of nutrients and minerals by plants (multiple research)

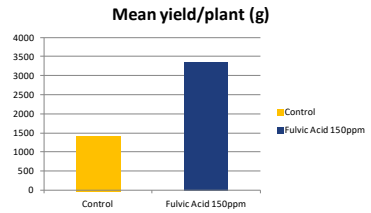
How - Fulvic acids are the most effective carbon containing chelating compounds known with a CEC of 1400 meq/100g (which is a result of more caboxyl groups - COOH, and about twice CEC of humic acid). (Yazdani 2014)

Fulvic Acid is especially active in dissolving nutrients and minerals when they are in solution with water. Nutrients and minerals simply dissolve into the fulvic structure and become bio-chemically reactive and mobile. (Kamel 2014)

As fulvic acid molecules are relatively small they readily enter plant roots, stems and leaves and carry trace minerals and nutrients from plant surfaces into plant tissues. Increasing the plant growth processes within the leaves increases the carbohydrate content of the leaves and stems. These carbohydrates are transported down the stems into the roots where they are released as root exudates to provide nutrients for soil microorganisms. The microorganisms in turn release acids and other organic compounds to increase the availability of plant nutrients. (Kamel 2014)



100ppm fulvic acid increased the total content (mg/plants) of nutrients in cucumbers (Rauthan 1981)



150ppm fulvic significantly increased growth parameters including plant height, leaf number,yield.

Plus FA increased activity of soil microorganisms, the enzymes dehydrogenase and nitrogenase and chlorophyll content in fresh plants. FA also reduced downy mildew and powdery mildew disease. (Kamel 2014)

Corrects nutrient deficiencies

WHY FOLIAR SPRAYS OF FULVIC

Fulvic acid enhances nutrient uptake and plant growth at 10 - 300ppm in the soil or in foliar sprays (multiple references). As plants grow, expand and develop their root system it is not always practical to maintain these levels in the soil. Foliar applied fulvic acids can be a more convenient way to promote growth when plants develop a full canopy.

Following early bloom when fruit begins to size, crops daily nutrient demand can outstrip the ability of the soil to supply nutrients. Fulvic acid can provide extra help to the plants by improving nutrient availability and uptake during such critical growth stages.

TYPICAL ANALYSIS:

Contain 10% Potassium Fulvate

PACK SIZES:

20L, 200L, 1,000L

DIRECTIONS FOR USE:

Always agitate drum contents before use.

APPLICATION RATES:

Foliar Spray

0.5% of tank mix; up to 2-3L/ha.

Fertigation Blends

Mix Fol- Up with liquid fertilisers at 0.5% of total mix (1 part of Fol-Up to 200 parts water or fertiliser solution) before application; up to 2-3L/ha.

Hydroponics

1-3L per 10,000L water (re-circulating system).

Broad-acre

Used to buffer nitrogen and improve uptake; reduces leaf damage from applications of UAN, Urea and other ammonium fertilisers.

For UAN scorch

Apply 1L-3L/ha Fol-Up in 100L mix, or 1L Fol-Up per 30L UAN.

COMPATIBILITY:

Dissolves in alkaline and acid solutions.

Physically compatible with a wide range of commonly used products. Always mix a small quantity (jar test) and check for physical compatibility before combining with other ingredients.

Used with NPK fertilisers as natural chelating agent.

CLEAN UP PROCEDURE:

Use all mixture in spray and irrigation tanks; purge tanks and lines with clean water; flush irrigation lines. Do not return mix to original drums.

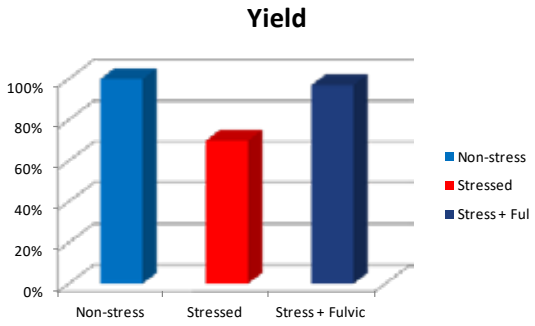
STORAGE:

Store in original container away from direct sunlight.

FULVATES - VALUABLE EXTRAS!

Due to their diverse functional groups fulvates have a lot more to offer including drought protection due to improved water storage.

How - Multiple mechanisms including higher water and chlorophyll content in plants and enhanced antioxidant enzyme activities that destroy ROS (reactive oxygen species toxicity). (Lofti 2015, Xudan 1989)



Wheat yield under water stress.

Fulvic acid increased the yield of water stressed plants to 97% of irrigated control. (Xudan 1989)

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