



# EASY CAL

## Calcium Nitrate fertiliser solution

%N	%P	%K	%S
12.6	0	0	0

## ANALYSIS

### Nutrients

- Nitrogen (N) w/v as nitrate (126 g/L N) 12.6 %
- Calcium (Ca) w/v as nitrate (181 g/L Ca) 18.1 %

### Impurities

- Cadmium (Cd) 1 mg/kg Cd (max)
- Lead (Pb) 1 mg/kg Pb (max)
- Mercury (Hg) 0.2 mg/kg Hg (max)

### Specific gravity

EASY Cal has a specific gravity of 1.49 – 1.50. This gives EASY Cal an analysis on a weight/weight basis of:

- Nitrogen (N) w/w (84 g/kg N) 8.4 %
- Calcium (Ca) w/w (120 g/kg Ca) 12 %

## EASY CAL

EASY Cal is a solution of calcium nitrate. It is a clear to amber coloured liquid, with a slightly acidic to neutral pH (5 – 7). EASY Cal is used in horticultural crops as:

- A calcium fertiliser in fertigation programs and as a foliar spray. EASY Cal can be applied during critical growth stages to help prevent calcium deficiency in rapidly growing new plant tissue and fruit, e.g., “blossom-end rot” in tomatoes, “bitter-pit” in apples.
- A non-acidifying nitrogen fertiliser in fertigation programs, where soil acidification around fixed emitters is of concern. Other nitrogen fertilisers, such as urea and ammonium nitrate, may

cause the soil pH to gradually fall in the zone in which the fertiliser is applied through drip and trickle irrigation systems and under-tree sprinklers.

**NOTE:** Calcium deficiency is very difficult to correct if soil moisture is inadequate. Ensure horticultural crops are properly irrigated at all stages of growth.

## FOLIAR SPRAYS

Calcium is immobile in plants, i.e., it is not readily relocated from old to young leaves and developing plant parts. If plant root uptake is inadequate, calcium deficiency can be induced in new plant growth and fruit. In some crops, e.g., tomatoes, calcium deficiency may occur where calcium has been applied to the soil, e.g., as lime, or the soil is naturally high in calcium, particularly if the crop is moisture -stressed.

For these reasons, routine foliar sprays of calcium are often recommended in horticultural crops that are susceptible to calcium deficiency, to supplement plants during critical growth stages. Calcium deficiency should not be allowed to develop before commencing the spray program.

Calcium sprays should be directed at the plant parts affected by calcium deficiency. Foliar sprays are ineffective for hearting vegetables, e.g., lettuce, as the solution will not reach the young, enclosed leaves; nor are they recommended in tuber crops, e.g., potatoes.

A typical foliar application rate for EASY Cal in tree and vegetable crops is 5 L/ha. More detailed guidelines are provided in the table on the following page.

Concentrations are given in mL/100 L, as is the custom for crop protection sprays, on the assumption the same spray equipment will be used. These spray concentrations are based on a spray volume of around 1,000 L/ha. Lower volumes (at similar spray concentrations) are used in the early growth stages in vegetables. Spray concentrations can be reduced if higher volume spray equipment is used, and increased if low volume sprays are applied.

Foliar burn may occur at the concentrations shown in the table, particularly if other nutrients are applied at the same time, or water is of poor quality. If burn occurs or previous experience indicates it is likely, reduce the concentration, e.g., to half the above rates, and be prepared to spray on a more regular basis.

If applying EASY Cal for the first time, or applying to a new crop, or should application procedures and equipment change, test spray on a few plants or trees first, and observe for three to four days for signs of phytotoxicity, before spraying the rest of the crop. Some crops, e.g., strawberry, are more susceptible to fertiliser burn than others. Spray concentrations may need to be reduced in sensitive crops.

If urea (or EASY N<sup>®</sup>) is not being applied simultaneously to apply additional nitrogen, add urea to the spray mix at 500 g/100 L in vegetables, or 100 g/100 L in tree crops. Urea helps promote leaf uptake of other nutrients.

Add a wetting agent at label recommended rates.

Apply in the early morning or late afternoon. Avoid spraying in the heat of the day, or under hot, dry windy conditions.



Table 1: Suggested Foliar Spray Concentrations for EASY Cal in Horticultural Crops.

Crop	Concentration (ml/100 L)	Comments
Tomato & Capsicum	500 – 800	Apply weekly over the fruit development period, i.e., for 2 to 6 weeks from the time the first fruit set reach 20 mm in diameter. The fruit must be wetted. Where “blossom-end” rot is prevalent, spray twice a week.
Temperate fruit	500 – 800	Apply 3 or more sprays from early summer to within a few weeks of harvest. For green apple varieties, spray in December, January, and February (Qld). Calcium chloride is preferred on red apples, as excess nitrogen can affect fruit colour, and as a post-harvest dip for apples which are to be stored. In grapes, apply at pre-bunch closure.
Tropical fruit & nut crops	500	Direct spray at the fruit. In bananas, apply at 1 L/100 L to the leaves.

EASY Cal is often applied more frequently at lower concentrations, e.g., 250 mL/100 L at 1- to 2-week intervals, during the fruit-filling period in tree crops.

## FERTIGATION

EASY Cal can be injected directly into the irrigation lines without further dilution in water in the mixing tank. EASY Cal can be used as a calcium fertiliser, or as a nitrogen fertiliser.

### Use as a calcium fertiliser

Because calcium is immobile in plants, plants are dependent on a continuous supply of calcium. Fertigation is an effective way of supplying calcium in a soluble form that is readily available for plant uptake on a regular basis during critical growth stages.

Placing the calcium into wetted soil where the roots are most active maximises utilization and uptake and is usually more effective than applying calcium nitrate or other calcium fertilisers dry to the soil.

Suggested EASY Cal application rates, if used primarily as a calcium fertiliser, are detailed below.

- For trickle irrigation in **tomatoes** in warm weather when and where blossom-end rot may be a problem, apply EASY Cal at 65 L/ha once a week, or at 30 L/ha twice a week from first fruit set onwards.
- In other **vegetable crops**, a suggested application rate is 20 - 50 L/ha per week for the first three to four weeks after transplanting for leaf vegetables, from the on-set of flowering for fruit, and after tuber initiation in potatoes.

The rate at which any other nitrogen fertiliser is applied should be adjusted, taking into consideration how much nitrogen is applied as EASY Cal (12.6% N w/v), to apply the correct rate of nitrogen.

## Use as a non-acidifying nitrogen fertiliser

Nitrogen fertilisers, such as urea, ammonium nitrate and urea ammonium nitrate solutions (EASY N), may cause the soil pH to gradually fall in the zone in which the fertiliser is applied. This may be of concern where drip, trickle and under-tree sprinklers systems are used in perennial crops, and remedial action needs to be taken to prevent long term acidification around the emitters.

One method of managing localised soil acidification around irrigation emitters is to apply all the nitrogen in the nitrate form. Calcium Nitrate can be used for this purpose. If EASY Cal is used as a non-acidifying nitrogen fertiliser, application rates will be dictated by the required rate of nitrogen.

**NOTE:** While calcium nitrate will prevent acidification, it will not correct existing soil acidity related disorders. Lime is necessary on such soils.

## COMPATIBILITY

EASY Cal is compatible with EASY N (Urea Ammonium Nitrate) Solution.

EASY Cal is incompatible with and should not be mixed with EASY NP, EASY PK, EASY ATS or EASY KS.

EASY Cal can be added to solutions containing urea, ammonium nitrate, potassium chloride, potassium nitrate, or metallic chelates.

**DO NOT** mix EASY Cal with phosphate, sulphate, boron or molybdenum fertilisers, as insoluble precipitate will form.

EASY Cal adds to the hardness of water. This may affect its compatibility with agricultural chemicals in foliar sprays. Check the labels of all agricultural chemicals with which EASY Cal (calcium nitrate) is to be mixed before use.

If EASY Cal is to be applied in combination with crop protection sprays, the chemicals should be added to the spray tank first, followed by the fertilisers. Crop protection product labels should be checked for information on compatibility with fertilisers prior to use. If such information is not available, mix a small batch in a glass jar, and observe for signs of stability (settling or phase separation). It may also be necessary to spray a few plants and wait a few days to observe for signs of phytotoxicity and/or efficacy, before spraying the entire crop.

Agritopics on Nitrogen, Calcium, Fertigation and Foliar Fertilisers are available if required, and should be read in conjunction with these “Use Directions”.

## DELIVERY

EASY Cal is available from selected Incitec Pivot Agents and Dealers in true bulk (full tanker loads) or in 1,000 L independent bulk containers (IBCs). After use, the IBC is returned to the Dealer.

## CARE OF EQUIPMENT

Fertilisers can be corrosive to metals. Flush spray and fertigation equipment after use. Where applied through fixed irrigation lines, discontinue use towards the end of the shift, to flush fertiliser from the lines and off crop foliage. This minimises corrosion and the risk of leaf and fruit burn.



## FURTHER READING

Agritopics on Nitrogen, Calcium, Fertigation and Foliar Fertilisers are available if required, and should be read in conjunction with these “Use Directions”.

## SAFETY DIRECTIONS

Refer to the Safety Data Sheet (SDS) for more detailed safety advice. Before use, read the Product Label and the SDS. Use safe work practices and avoid contact with the eyes and skin. Avoid ingestion and inhaling dust. Protective clothing, eyewear and dust masks should always be used when dealing with this product. Observe good personal hygiene, including washing hands after use. Avoid loss of fertiliser to waterways.

## WARNING

This document contains information of a general nature. Before using fertiliser seek independent agronomic advice. Fertiliser programs may need to be varied depending on the plants being grown, climatic and soil conditions, application methods, irrigation, agricultural and livestock management practices, the soil's fertility, and cultural practices. ('Unforeseen Elements')

Fertiliser may burn and/or damage crop roots or foliage. Foliar burn to the leaves, fruit or other plant parts is most likely to occur when fertilisers are foliar applied at high concentrations and/or on a regular basis, different products are mixed and sprayed together at cumulatively high rates, the water is of poor quality, or the spray is applied under hot dry conditions, e.g. in the heat of the day.

Fertiliser and supplements may affect animal health. Seek independent advice before using any supplements in livestock rations.

## DISCLAIMER

As Unforeseen Elements are beyond the control of Incitec Pivot Limited, in no event Incitec Pivot Limited and its related bodies corporate be liable or accept any responsibility whatsoever for any direct, indirect, punitive, incidental, special or consequential damages (including but not limited to loss of revenue, crops and livestock), in respect of the illness, injury or death of a person, damage to property (including of a third party), or any other loss whatsoever arising out of or connected with the use or misuse of this fertiliser, or its transport, storage, handling or application. Where Incitec Pivot Limited and its related bodies corporate's liability cannot be lawfully excused, it and its related bodies corporate's liability shall be limited to the replacement of, or cost of the fertiliser supplied. The buyer accepts and uses this product subject to these conditions.

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