Fertilizers

FOLI ZINC

Liquid Amino Acid Chelate for Foliar Application

76g/kg Zn 95g/L Zn
Approx. S.G @ 20^0C = 1.25

Fertilizer Group 2

Reg. No. B5423 Act 36 of 1947

Ground Up Fertilizers cc
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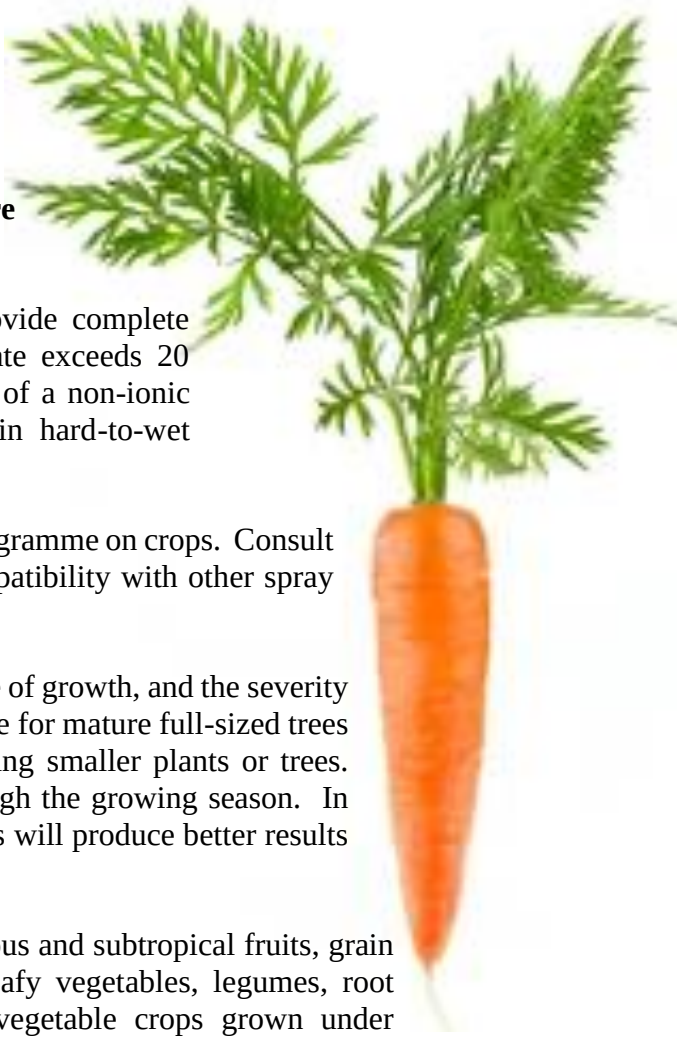
GENERAL DIRECTIONS

Amino acid chelate Foli Zinc is designed for foliar applications on plants to prevent or correct micronutrient deficiencies that may limit crop growth and yields. It is water soluble and non-toxic to plants when applied as directed. For best results apply Foli Zinc according to recommendations based on plant or soil analyses.



DIRECTIONS
Shake well before use. Keep from freezing and store in a cool place. Do Not Apply Undiluted

Apply as a foliar spray using sufficient water to provide complete coverage of the plant and ensure that the solution rate exceeds 20 volumes of water for each volume of Foli Zinc. Use of a non-ionic wetting agent may improve spray coverage of certain hard-to-wet plants.

Foli Zinc can be included in a regular pesticide spray programme on crops. Consult with a representative of Ground Up Fertilizers on compatibility with other spray materials.

The rate of application will depend on the crop, the stage of growth, and the severity of the deficiency. The maximum recommended rates are for mature full-sized trees or plants. Reduce the rate proportionally when spraying smaller plants or trees. Applications may be repeated two or more times through the growing season. In general more frequent applications at lower dosage rates will produce better results than fewer applications at higher dosage rates.

Foli Zinc may be used on cole crops, cucurbits, deciduous and subtropical fruits, grain crops, grapes, herbaceous and woody ornamentals, leafy vegetables, legumes, root crops and many other crops including flower and vegetable crops grown under protection.

APPLICATION RATES

Crop	Rate per 100 L	Timing of Application	Total Application per ha
Apples and pears			
For maintenance of healthy zinc status in the tree	15 – 25 ml	At first expanded leaf after green tip. Seven Days later Early November Mid to late November	1.2 – 2.0 L
For correction of marked zinc deficiency	30 – 50 ml	At the first expanded leaf after green tip Seven days later Early November Mid to late November	2.4 – 3.2 L
To encourage lateral bud development in Spring	70 – 100 ml	At first expanded leaf after green tip	1.0 – 1.5 L
Avocados			
For maintenance of healthy zinc status in the tree	100 – 150 ml	When the first leaves of the spring flush reach 80 to 100mm in length. Variation between trees with regard to the rate at which new flush is produced may necessitate more than one pass through the orchard during which individual trees are sprayed.	2.0 – 3.0 L
Citrus			
For maintenance of a healthy zinc status in the tree	50 – 75 ml	Apply as a light cover spray (approx 2000 L/ha) at the appearance of the first fully expanded leaf of the spring flush. A repeat spray in late October before the November drop may be beneficial under conditions of more severe zinc deficiency.	1.0 – 3.0 L
Coffee			
For maintenance of a healthy zinc status in the tree	50 – 100 ml	At the start of the spring growth flush. Repeat sprays at two to four week intervals through the growing season may be required.	1.0 – 3.0 L

Crop	Rate per 100 L	Timing of Application	Total Application per ha
Non-bearing fruit trees For maintenance of healthy zinc status	250 – 500 ml	Apply at the start of the growing season and repeat 2 to 3 times at monthly intervals. Use the higher spray concentration on newly planted trees (low spray volume per tree) and decrease the spray concentration as the canopy volume increases (higher spray volume per tree).	1.0 – 2.0 L
Pecans Pecan trees are very sensitive to zinc deficiencies though symptom expression is strongly influenced by soil condition and cultivar. This guide is based on experience in the Lower Orange River. Other areas may require less intensive programmes	60 – 75 ml	Apply when new shoots are approximately 50mm long. Repeat sprays at 14 day intervals and apply four sprays to mid December. Two further sprays may be required on late growth (in mid February and early March). Spray volumes will vary with age of tree and may be as low as 200lt per ha on one-year-old trees, increasing to 1500L on 6-year-old trees and to 2500 – 3000 L on mature trees. The cultivar Kiowa is very sensitive and is likely to require sprays at the higher dosage. Less sensitive cultivars in the same orchard can be accommodated by omitting them from certain sprays but all trees should be receive at least the first three sprays.	Three yr old trees 1.5 – 2.5 L Six yr old trees 5.0 – 6.0 L Mature trees 9.0 - 12.0 L

Crop	Rate per 100 L	Timing of Application	Total Application per ha
Stone Fruit			
For maintenance of healthy zinc status in the plant	25 – 35 ml	At 90% petal fall Repeat twice at 14 day intervals	1.0 – 1.5 L
For correction of marked zinc deficiency	50 – 70 ml	At 90% petal fall Repeat twice at 14 day intervals	2.0 – 3.0 L
Table and wine Grapes			
For the maintenance of a healthy zinc status	50 ml	Before Blossom Repeat after berry set	1 L
For correction of marked zinc deficiency. On certain high pH soils zinc deficiency can be persistent and a programme of intensive sprays may be required	50 – 70 ml	Before blossom Repeat after berry set and maintain a programme of fortnightly sprays until veraison.	3.0 – 5.0 L
Vegetable and Ornamental Crops			
For maintenance of a healthy status	15 – 100 ml (Depending on spray volume)	Apply 250ml Foli Zinc per ha 3-4 weeks after transplanting. Repeat application two to three times at 14-day intervals. Under conditions of more severe deficiency the dosage applied in later sprays (i.e. when greater leaf mass is present) can be increased to 500 ml per ha spray.	1.0 – 2.0 L

COMPATIBILITY

Foli Zinc generally has good compatibility properties and can therefore usually be incorporated in a regular pesticide spray programme. Amino acid chelates however will increase the rate of uptake of systemic and contact fungicides and pesticides. Some phytotoxic effects may be observed when combining Foli formulations with products that have a narrow safety margin. For this reason combinations with heavy metal products (e.g. copper, tin, antimony) are not recommended. In cereals amino acid chelates will increase the rate of absorption of foliar applied herbicides. This effect will not only cause a more rapid weed kill, but may also increase any effects the herbicides may have on the crop. Few adverse effects have been observed in tank mixes with bromoxynil and/or chlorophenoxy herbicides. Sulphonylurea herbicides are sensitive to acid hydrolysis.

This means that the low pH buffering capacity of the amino acid chelates will cause a slow breakdown of these herbicides in a tank mix. Storage of these solutions for any length of time is therefore not recommended. Mixtures of amino acid chelates with grass herbicides will need to be very carefully tested before used on a commercial basis. Mixtures with pendimetholin are not recommended.

Though the above principles are likely to apply generally, it is advisable to confirm the suitability of mixtures locally by conducting small-scale tests before applying Metalosate™ Zinc blends across large areas.

GUIDELINE FOR MIXING WITH COMPATIBLE MATERIALS IN THE SPRAY TANK

The spray tank should first be filled to at least one half capacity with clean water and start agitation. Add the total amount of Foli Zinc to the tank and allow it to completely dissolve in the water. Then add the chemicals in the following order:

i) Wettable powders
ii) Flowables
iii) Emulsifiable concentrates
iv) Oils
v) Surfactants and other spray adjuvants.

Allow each chemical to completely disperse in the solution with good agitation before adding the next one. Finally finish filling the tank and immediately spray the crop while maintaining agitation.