



FACT SHEET
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FOLIAR FERTILIZERS SPRAY GUIDE

Foliar sprays are a convenient way to apply additional nutrients to plants, supplementing those taken up from the soil.

For some nutrients in some crops, foliar sprays are the most effective way to apply the nutrient, e.g. some micronutrients, and calcium sprays in some fruit crops.

Foliar sprays also provide a quick means to help overcome an existing nutrient deficiency.

Leaf and fruit burn can occur if the rate of nutrient sprayed on the foliage is too high. On the other hand, if the concentration is too low, plant demands for the nutrient may not be adequately met.

In general, crop demands for micronutrients (trace elements), which are taken up by plants in small amounts, can be met through foliar sprays.

However, it is impossible to completely meet the demand for the macronutrients, e.g. nitrogen and potassium, through foliar sprays in most crops.

The following table has been prepared as a guide and a quick reference to application rates and spray concentrations for commonly applied foliar fertilizers. Lower rates may be required in sensitive crops, e.g. strawberry.

Cotton is one of the most tolerant crops, followed by cereals. Among the vegetable crops, brassicas and cucurbits are reasonably tolerant, while beans are among the most susceptible crops.

The incidence of fertilizer burn is influenced by many factors, including the prevailing weather conditions and water quality.

Unless instructed otherwise, avoid spraying during flowering, as fruit, nut and seed set may be reduced.

Where two or more fertilizers are to be foliar-applied simultaneously, the individual application rates may need to be reduced. Repeat sprays may be required to make up for the shortfall. Check that the fertilizers are compatible in solution before they are mixed.

As a rule of thumb, micronutrients are applied as 1 % solutions (1 kg/100 L) in low volume sprays (< 100 L/ha) in field crops, and as 0.1 % sprays (100 g/100 L) in high volume sprays in horticultural crops.

Macronutrients are applied at higher concentrations, typically in the range of 5 – 10 % w/v in field crops (5 – 10 kg/100 L), 1 – 2 % in vegetables (1 – 2 kg/100 L), and 0.5 % in tree crops (500 g/100L).

Typical spray volumes in horticulture, wetting the leaves to the point of run-off, are 500 – 800 L/ha in vegetable crops, and 1 500 L/ha in tree crops.

Before preparing spray solutions, refer to the “Use Directions” for Incitec products, label information for other products, and the Incitec Pivot Agritopic on “Foliar Fertilizers” for more detailed instructions. These can be obtained from your Incitec Pivot Agent or Dealer.

Test spray before use, to check for signs of crop damage.

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Products	Rate kg/ha per spray	Typical Spray Volume (L/ha) & Spray Concentration (kg/100 L)			Comments
		Grain & Field Crops 50 L/ha	Vegetables 500 L/ha	Trees, Vines, Flowers. 1 500 L/ha	
* Denotes products not marketed by Incitec Pivot Limited.					
Liquifert N Liquifert Lo-Bi	10	10 - 20	1 - 2	0.5	Up to 30 kg/ha (20 – 30% solution at 100 L/ha) can be used in winter cereals at mid-tillering.
Liquifert P Liquifert MKP	2.5 - 5	-	0.5 – 1.5	0.25 – 0.5	As phosphorus is important in the early stages of plant growth, the complete crop requirement are normally applied as a basal soil dressing. Foliar phosphorus sprays are not commonly used.
Liquifert K Nitrate	5 - 10	Cotton Ground 5% Air 10–20 %	0.5 - 2	0.5 - 1	Up to 20 kg/ha of potassium nitrate may be used in a single spray in tolerant tree and field crops, e.g. cotton. Liquifert K Spray (potassium sulfate) may also be used to foliar apply potassium, but it is less soluble, and therefore not recommended for use through low volume spray equipment.
Hydro Calcinit	5	-	0.8	0.5	Regular, e.g. weekly, sprays are required during the fruit filling period as calcium is immobile in plants. EASY Cal (calcium nitrate solution) can be used in place of Hydro Calcinit if desired.
Liquifert Mag	2 - 5	2 - 5	0.25 - 1	0.25 - 0.5	Some authorities recommend 1 % (1 kg/100 L) sprays in horticultural crops. Fortnightly sprays are often required during critical growth stages.
Solubor	0.5 – 2.5	1 - 2	0.2 – 0.5	0.1 – 0.25	Two or more sprays during critical growth stages, to apply 1 – 7.5 kg/ha in total through the growing season or per annum. The lower rates are used on sensitive and low boron demanding crops. Cumulative foliar rates may approach those recommended for soil application.
Bluestone *	0.5 - 1	1	0.05 – 0.1	0.05 – 0.1	One or two sprays in early growth stages; one spray to spring flush in tree crops. In cereals, a late spray prior to pollination may be required.
Iron Sulfate *	1		0.1	0.05 – 0.1	Iron is immobile in plants. Three or four sprays may be required during the growing season.
<i>Manganese Sulfate</i> *	1 - 2	1	0.1 – 0.5	0.1 – 0.2	One or two sprays early in growing season, or to the spring flush. Higher rates, two sprays at up to 3.5 kg/ha at 6 - 8 and 12 - 14 weeks after seeding are recommended in grain crops on calcareous soils in South Australia.
Liquifert Zinc	1	1 - 2	0.2 – 0.25	0.1	Two sprays after emergence or transplanting; One spray to spring flush in tree crops.
<i>Sodium Molybdate</i> *	50 g		0.05 – 0.1		One or two sprays at seedling stage at 30 – 100L/ha, enough to wet foliage.

Warning: Before using fertilizer seek appropriate agronomic advice. Fertilizer may burn and/or damage crop foliage. Foliar burn to the leaves, fruit or other plant parts is most likely to occur when fertilizers 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, eg. in the heat of the day. Because conditions of use, suitability of product and application conditions are beyond our control, Incitec Pivot Limited hereby expressly disclaims liability to any person, property or thing in respect of any of the consequences of anything done or omitted to be done by any person in reliance, whether wholly or in part, upon the whole or any part of the contents of this article.