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AgNote

WUXAL® Xtra Uptake

Nutrition to the point

Calcium

A proven suspension concentrate formulation containing nitrogen, calcium, magnesium and trace elements, specifically designed for foliar application to crops for the prevention of calcium deficiency.

The Xtra Uptake technology offers an advanced penetrant and surfactant, enhancing rapid foliar nutrient absorption which increases efficiency, especially on plants with hard-to-wet foliage and under suboptimal weather conditions.

The Product

Wuxal® Calcium Xtra Uptake is recommended for the control of physiological conditions caused by calcium deficiency in a range of crops, such as tip burn in lettuce.

Tip Burn in Lettuce

Tip burn in lettuce is characterised by a breakdown (blackening) of leaf tissue, typically seen on leaf margins. Tip burn of the internal heart leaves of lettuce is of major concern, as it can reduce the shelf life of harvested produce. This disorder is linked to a deficiency of calcium in the leaves.

Background

In plants, 60% of the calcium is associated with the cell wall, 7% with membranes and 33% with the soluble fraction inside the cell. Hence calcium plays a key role in membrane stability and cell integrity. Low levels of calcium mean leaky membranes and materials can be lost from inside the cell.

Factors

- Growth rate of the crop. Fast growing crops may be unable to keep up with the calcium requirements of inner, heart, older leaves versus outer, rapidly growing, young leaves. Warm temperatures, excessive fertiliser use and increased light intensity increase crop growth rates.
- Head formation in lettuce reduces transpiration in the inner leaves. Inner leaves of head or leaf lettuces transpire less than outer leaves and are more likely to develop tip burn.
- Low evapotranspiration (ET) due to weather conditions like fog reduces transpiration in crops.
- Varietal differences. Choice of the least susceptible variety is important.
- Irrigation practice. Calcium moves in the water stream of the plant and so water stress will reduce calcium uptake.

Control

Apply calcium sprays throughout the growing season to ensure adequate calcium levels in leaves. Early applications in the season or when the plant is growing quickly are most important.

Effects of Wuxal Calcium† on Internal Tip Burn in Chinese Cabbage

		% PLANTS WITH NECROSIS			
		RATING			
VARIETY	TREATMENT	0	1	2	3
		No internal tip burn	Occasional appearance	Strong necrosis	Plants without heads
Nagaoka Spring A1	Control	0	10	25	65
	Wuxal Ca	40	35	15	10
Hi-Mark	Control	55	35	10	0
	Wuxal Ca	90	10	0	0
Pride	Control	0	40	30	30
	Wuxal Ca	40	40	20	0

†This trial used the original formulation of Wuxal Calcium

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Which Calcium Spray do I Use?

There are numerous calcium sprays on the market, from binary salts such as calcium chloride and calcium nitrate to formulated products such as Wuxal Calcium Xtra Uptake.

The main advantage of formulated products is their ability to improve the uptake of calcium via stickers and spreaders when compared with simple binary salts.

Wuxal Calcium Xtra Uptake

- Highly concentrated foliar fertiliser with a significantly higher calcium uptake efficiency than binary salt sprays. This improves application efficacy and so less applications are required compared to binary salt sprays, reducing freight and handling costs.
- Contains stickers, surfactants, humectants and anti-evaporants which improve the application efficacy and plant uptake, reducing wastage and improving plant performance.
- Has superior crop safety compared to binary salt sprays, which may cause phytotoxicity.
- Has a pH of approximately 5–6. Its buffering capability can make mixing easier and cheaper. Expensive buffering solutions may not be needed with Wuxal Calcium Xtra Uptake and it is compatible with most commonly used fungicides and insecticides (except lime sulphur and Bordeaux mixtures).
- Can be applied with high or low volume equipment.

ACTIVE CONSTITUENTS			
% w/v			**g/L**
16.4	N	Total Nitrogen 2.13% as amide 0.33% as ammonium 13.94% as nitrate	164 21.3 3.3 139.4
17.5	Ca	Calcium (present as calcium nitrate)	175
1.9	Mg	Magnesium (present as chloride)	19
TRACE ELEMENTS			
% w/v			**mg/L**
0.0820	B	Boron water-soluble	820
0.0016	Mo	Molybdenum water-soluble	16
As EDTA complex:			
0.0650	Cu	Copper water-soluble	650
0.0820	Fe	Iron water-soluble	820
0.1640	Mn	Manganese water-soluble	1640
0.0320	Zn	Zinc water-soluble	320
0.05		Maximum level of biuret	500
This product contains:			**% w/w**
Water			21.5
Total solids			78.5

When storing the product, temperatures below +5°C and above +40°C as well as frequent temperature fluctuations should be avoided.

Directions for Use Table

The following is an extract of the product label and does not constitute the complete directions for use.
The product label should be read thoroughly before opening the packaging.

CROP	SITUATION	STATE	RATE			CRITICAL COMMENTS
			L/HA	L/HA/ SPRAY	L/HA /SEASON	
All crops	Regular fertiliser	All states	6	–	–	Apply regularly in a tankmix with all normal crop sprays.
Apples (All varieties)	Bitter pit control	Qld, NSW, SA, WA only	–	6	24–42	First post-blossom cover spray, then every second cover spray.
		Tas only	–	6	26–36	First post-blossom cover spray and each subsequent spray.
			–	8 or 12	26–36	Last 2 pre-harvest sprays where potential for bitter pit is high.
Jonathan	Bitter pit control	Vic only	–	8	32	Commence with first post-blossom cover. Spray approximately 2 weeks after petal fall.
Red Delicious Golden Delicious	Bitter pit control	Vic only	–	8	40	Commence with first post-blossom cover. Spray approximately 2 weeks after petal fall.
Granny Smith	Bitter pit control	Vic only	–	8	48	Commence with first post-blossom cover. Spray approximately 2 weeks after petal fall.
Brassicas	Internal browning control	NSW, Vic, Tas, SA, WA only	6	–	–	Apply monthly or with normal crop sprays.
Lettuce	Tip burn control	All States	3	–	–	Apply prior to head formation.
Mangoes	Soft nose control	All States	6	–	–	Apply monthly or with normal crop sprays.
Poppies		Tas only	3–5	–	–	Apply 1–2 times prior to flowering.
Tomatoes	Blossom end rot control	All States	3	–	–	Tankmix with every normal crop spray.
Viticulture		All States	5	–	–	Apply from the beginning of fruit set until harvesting in an interval of 14-days. Joint applications with all normal crop sprays, are possible.

For more information scan the QR code or contact your local Area Sales Manager

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