



agrichem



DUAL-ACTION

BUD[®] MATE



with



SUN-PROTECTION TECHNOLOGY



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Innovation

For 25-years Agrichem has been recognised as the pioneering market leader in the field of fluid-fertilisers, specialty crop-protection products and application technologies.

Agrichem's enduring commitment to fundamental research in the area of nutritional plant-physiology has consistently rewarded Agrichem with significant scientific breakthroughs. These technological advances combined with Agrichem's dedication to conducting intensive international field-trials allow Agrichem to frequently launch a range of innovative products.

Our Promise

- to provide a range of quality, innovative and cost-effective products to global agribusiness.
- to enlighten all our stakeholders on the importance of efficient fertilisation
- to continue to invest in the knowledge of the communities we operate in.
- To maximise the sustainability of our operations and those of our stakeholders.

Seal of Quality

In 2006 Agrichem was the first in the industry to achieve ISO9000 quality accreditation for its manufacturing facilities, further formalising Agrichem's commitment to quality. Agrichem's team of chemists in Australia and internationally oversee the manufacturing of every batch of product conducting a series of quality tests, including the following 10 tests.

1. pH - testing of final formulation
2. Rheology - testing of formulation flowability
3. Clarity - testing formulation for contaminants
4. Shelf life - testing for formulation stability
5. Particle sizing - analysis of final formulation
6. Dispersion - analysis of formulation
7. Pantone colour - profile adjustment
8. Odour - analysis of final formulation
9. Centrifuge - analysis of sedimentation
10. Certificate of Analysis following the manufacturing process, each batch of products is subjected to a series of Quality-Assurance tests. Only once the analysis is confirmed to be consistent with specification, is the Certificate of Analysis issued.



Your NUTRITION Mate – from bud to fruit

Budmate is a high-analysis suspension fertiliser high in Calcium, Zinc, Magnesium, Nitrogen and Boron, the ideal ratio of nutrients for crops from early flowering where Boron and Zinc are very important right through to fruit-fill where the Calcium and Magnesium are more important. Budmate has an excellent nutrient uptake and safety profile.

| Analysis | (w/v%) |
|----------------|--------|
| Calcium (Ca) | 22.2% |
| Zinc (Zn) | 4.8% |
| Magnesium (Mg) | 4.8% |
| Nitrogen (N) | 4.8% |
| Boron (B) | 0.14% |

Benefits of BUD MATE

- contains five essential nutrients suitable for fruit and vegetable crops
- is a high-analysis slow-release suspension fertiliser
- is safe to apply at any growth stage without the risk of burning
- application is suitable from flowering through to fruit-fill stages
- is suitable for foliar application in a wide range of crops
- can be used as a post-harvest application in a range of perennial crops

Optimal ratio of Nutrients

BUDMATE contains the optimal ratio of essential nutrients that are critical during the flowering, fruit set and fruit fill stages.

Nutritional benefits of BUD MATE

- Pre-bud nutrition that improves pollination and fruit set
- High CALCIUM strengthens actively developing tissue and improves quality, firmness and disease resistance through improved cell strength and structure
- Added MAGNESIUM to improve chlorophyll production, especially in young leaves
- Provides essential ZINC that improves pollination as well as enhancing the production of plant growth hormones
- BORON assists pollen tube development as well as the pollination process and enhances calcium absorption

Foliar Uptake Technology

BUD MATE incorporates Agrichem's foliar uptake technologies including

- Superior particle sizing with finer and more uniform composition
- Addition of a range of proprietary adjuvants including penetrants and dispersal agents
- Produced in ISO9000 accredited production facilities

BUD MATE is suitable in a wide range of crops

BUD MATE has been proven to be highly effective in improving:

- sun-protection
- pollination and fruit-set
- fruit quality

In a wide range of fruit, vegetable, nut, berry and ornamental crops.



Plum - flowering



Blueberry - fruit fill

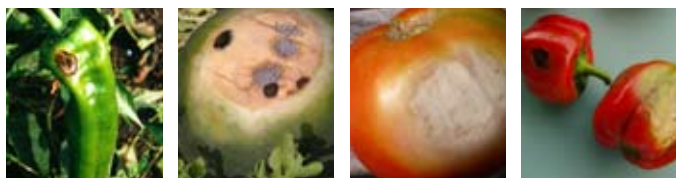


Apple - fruit maturation



Peach - fruit maturation

Your SUN-PROTECTION Mate – from seedling to harvest



Green-Chilli

Watermelon

Tomato

Capsicum

It is estimated that at least 15% of all horticultural crop production in Australia is lost through direct sunburn damage and in particularly susceptible crops such as Pome and Stone fruit production, this statistic may be upto 50%.

Sunburn damage is responsible for significant losses in harvestable premium yield in Mangoes, Melons, Citrus and mixed Vegetable production in the 'Top-End' of Northern Australia. Sunburn damage however is not limited to these crops.

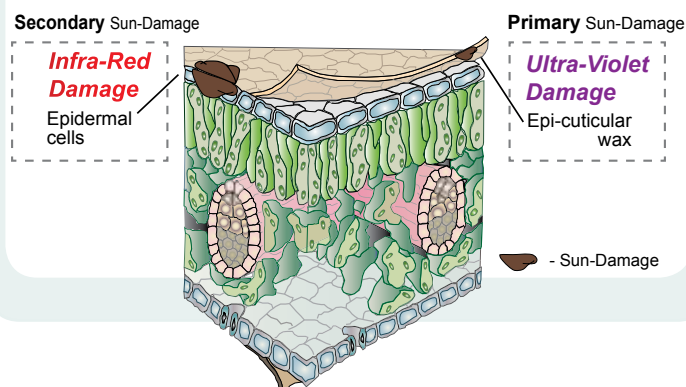
Sunburn is also responsible for major crop losses in Tomato, Lettuce, Onion, Capsicum, Olive, Cucumber production amongst other major crops in the Southern states across Australia.

In addition to the direct primary crop losses resulting from sunburn, secondary fungal and bacterial diseases are often associated with sunburned fruit compounding sunburn damage.

The process of Sunburn damage

The damaging process of Sunburn damage in crops is typically a result of;

- **Ultra-Violet** radiation penetrating and destroying the epicuticular waxes on the leaf-surface
- **Infra-Red** radiation is responsible for secondary epidermal damage
- **Infra-Red** radiation is also responsible for over-heating of fruit and resultant damage
- Infection by secondary bacterial and fungal diseases is common in sunburned crops



How does Agrichem's SSRD Sun-Protection technology work?

Dual-action

BUD MATE with



Most simple 'plant sunscreens' rely on a single homogenous layer for sun protection which generally protect from either UV or IR radiation but generally also blocks most of the light required for photosynthesis. In contrast, **Agrichem's SSRD technology** is carefully engineered to form a Zinc Oxide and Calcium Carbonate Crystalline Matrix with a Magnesium base.

The Zinc and Calcium components in SSRD-Technology combine to block the majority of harmful Ultra-Violet and Infra-Red radiation, whilst the Magnesium actively boosts Chlorophyll production increasing the plants resistance to sunburn damage, but also improving the photosynthetic efficiency of the sprayed plant.

All of the SSRD components breakdown into a highly active plant fertiliser.

Independent Laboratory Tests

Independent laboratory tests by the Australian Photobiology Testing Facility (APTF) at the University of Sydney recently demonstrated that **BUD MATE with SSRD technology** is a highly effective sunscreen in both the Ultra-Violet and Infra-Red regions.

Budmate is more flowable, easier to use and more cost-effective than all other sunscreen products, in addition provides a range of very significant nutritional benefits.

Application Information

When to Apply?

Although **BUD MATE** can be applied from flowering onwards to enhance pollination and early fruit development sunburn damage is usually most common at more mature fruit stages. For maximum sun protection **BUD MATE** should be applied from early fruit-development right through to within 14-days of harvest.

Application Rate

Application rates depend on crop type, planting density and frequency of application. General application rates nutritional rates vary from 2 - 7L/Ha, however for increased sun-protection rates of 8 - 10L/Ha are recommended. For crops that are particularly prone to sunburn damage in high risk areas, rates may be increased up to 12L/Ha.

Application Frequency

For optimal sun protection, **BUD MATE** should be applied every 14 - 21 days. In areas with very high solar exposure application frequency can be increased to 10 - 14 days.

How to Apply

Although **BUD MATE** may be fertigated for nutritional applications, for sun protection purposes **BUDMATE** needs to be applied as a foliar application.

"**BUD MATE** is more effective, easier to use and more cost-effective than all other sunscreen products, in addition **BUD MATE** provides a range of significant nutritional benefits essential for flowering and fruiting plants."

Because NUTRITION and SUN-PROTECTION are directly connected

