



STOLLER AUSTRALIA'S STRATEGIES FOR COTTON

INCREASING COTTON YIELD AND PROFITABILITY



Stoller
Unleashing The Power Of Plants



**HEALTHIER PLANTS,
HIGHER YIELDS,
HIGHER RETURNS**

Stoller Australia have a full range of products for cotton – from planting through to fruiting – to promote healthy root and top growth, strong flowering and fruit set as well as increase yields.

At Stoller Australia we rigorously test all of our products and programs under field conditions in Australia as well as worldwide so you can be sure that you are getting a high quality, proven and consistent product.



STOLLER AUSTRALIA'S STRATEGIES FOR COTTON



Stoller Australia's crop knowledge, unique technology and rigorous product testing is the foundation of Stoller Australia's cotton program. Stoller has five key products – Stoller's Clear Start 22KZ, Action 5, Bio-Forge, Cropping Zinc Chelate and N-Phos Enhanced. These products support cotton crops throughout the season, from starter fertilisers in-furrow, to foliar applications at the first fruiting branch and right through to boll maturation.

Stoller Australia's products help cotton plants to establish quickly and strongly, developing efficient and deep root systems for optimal uptake of nutrients and water. Developing a large, robust and vigorous root system right from the start helps increase access to nutrients and moisture, balance plant growth and maximise yield. The Stoller range for cotton also includes products designed to help crops recover from stressful events like extreme temperatures or water logging.

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Stoller's ClearStart 22KZ

Product profile

Analysis w/v

Nitrogen 1.8%

Phosphorus 22.0%

Potassium 7.5%

Zinc 1.0%

Cobalt 0.07%

Molybdenum 0.07%



Key benefits

- Immediate response
- Phosphorus that is less prone to soil tie up
- Rapid and efficient root growth for better crop establishment
- Highly efficient compared to traditional MAP fertilisers
- Easy to handle, apply and store

Good crop establishment is essential to maximising the yield potential of a crop. Stoller's ClearStart 22KZ is an easy-to-use liquid starter fertiliser that has been developed with unique Stoller technology to optimise phosphorus and nitrogen availability at key growth stages. Stoller's ClearStart 22KZ promotes vigorous and early root growth leading to bigger and healthier root systems. A bigger root system helps crops to access more nutrients and water and make better use of all fertilisers applied. The phosphorus in Stoller's ClearStart 22KZ is less prone to soil tie-up – more fertiliser is available to your crop, making it highly cost-effective compared to granular fertilisers. The liquid formulation of Stoller's ClearStart 22KZ also makes it easier to handle and apply at a consistent rate. All of the nutrients are already in solution, so it will not settle out in the tank and has an unlimited shelf life. Minimal agitation is needed and you don't have to worry about blocked nozzles.

Stoller's Action 5

Product profile

Analysis w/v

Calcium (Ca) 5.0%, as soluble calcium

Formulated with Stoller's proprietary Co-Factors

Key benefits

- Improves seedling vigour and stronger plant establishment
- Builds strong cells and promotes healthy growth
- Helps maintain root tip establishment

A healthy root system is essential to efficient nutrient uptake and root and shoot growth. Stoller's Action 5 contains highly available calcium which builds strong cells and promotes healthy growth. A vigorous and healthy root systems improves shoot growth, photosynthesis and the hormone balance in crops, helping to maximise yield and productivity.

When used as part of a good nutritional program, Stoller's Action 5 provides an extra boost for root growth, helping crops to overcome the stress caused by extreme temperatures drought, flooding, wind damage, insects or disease.



Stoller's Bio-Forge

Product profile

Analysis w/v

Nitrogen 2.5%

Potassium 3.0%

Cobalt 0.25%

Molybdenum 0.35%

Formulated with Stoller's proprietary Co-Factors

Key benefits

- Better resistance to and recovery from stress
- Maintains yield potential even when under stress
- Increases sugar transport from leaves to developing buds and seeds

Stoller's Bio-Forge is a specialty product made using a patented active called di-formyl urea (Australian patent). This special form of nitrogen helps the product to behave as an anti-oxidant, reducing the impact of stress and up-regulating a number of positive crop traits.

Stoller's Bio-Forge contains a range of key nutrients to give cotton crops the boost they need at fruit set or to kick start new vegetative and root growth after stressful periods. When plants are under stress from extreme temperatures, drought, flooding, pests or diseases, they can overproduce ethylene leading to premature cell death and crop damage. Stoller's Bio-Forge suppresses excessive ethylene production (sometimes called stress ethylene), reducing damage to crops and helping them recover faster and maintain yield potential.



Stoller's Cropping Zinc Chelate

Product profile

Analysis w/v

Zinc 11.0%

Sulphur (S) 5.0%

Key benefits

- Proven phenolic acid chelate
- Highly-efficient and readily-absorbed form of zinc
- Will not become tied-up in soil
- Helps crops recover quicker from stress

Proven worldwide, Stoller's Cropping Zinc Chelate is a phenolic acid chelate with a highly efficient and readily-absorbed form of zinc that can help crops recover from stress and promote healthy growth and development.

Zinc is critical for the production of auxin, a plant hormone that is essential for growth and development of plants. Zinc can also help crops tolerate environmental stress. Stoller's Cropping Zinc Chelate is made using a specific process that is unique to the Stoller range and is designed for peak performance in soil or foliar application. This stable and plant-available form of zinc will not become tied-up in the soil.



Stoller's N-Phos Enhanced

Product profile

Analysis w/v

Nitrogen 10%

Phosphorous 9%

Potassium 3%

Zinc 1.5%, Manganese 0.4%, Magnesium 1%, Sulphur 0.40%, Iron 0.10%, Boron, 0.20%, Copper 0.15% Cobalt 0.07%, Molybdenum 0.01%

Formulated with Stoller's proprietary Co-Factors

Key benefits

- High quality, well-balanced, complete fertiliser
- Promotes root development
- Can aid in stress recovery

Stoller's N-Phos Enhanced is a high quality balanced fertiliser with Stoller's Co-Factors designed to prevent nutrient deficiencies and help root development, especially in poorer soils. Stoller's N-Phos Enhanced starts working immediately. The nutrients are rapidly taken up through leaves, helping to supplement soil applied fertilisers during flower and fruit development and enhancing yield.

Stoller's N-Phos Enhanced can also help minimise potential yield loss when crops are under stress, stimulating recovery and getting crops back on track.



PUTTING STOLLER AUSTRALIA'S PRODUCTS TO THE TEST

Replicated trials

Stoller Australia's products were tested in replicated trials conducted by Kalyx at Narrabri, NSW in the 2014–15 season.

Stoller's Action 5 & ClearStart 22KZ significantly increased boll numbers (Figure 1) and subsequent yield (Figure 2) when applied in furrow at planting.

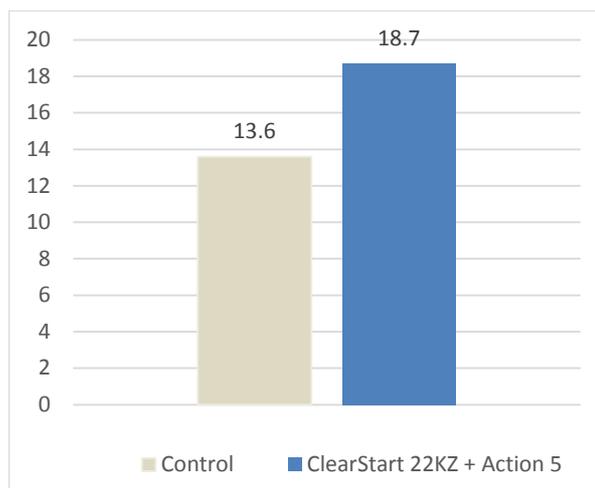


Figure 1: Green bolls per plant, March 2015

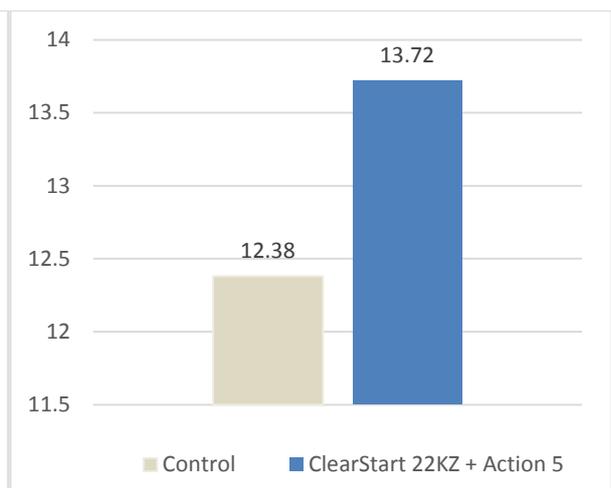


Figure 2: Lint yield, Bales/Ha

The results shown in figure 2 with an increase of 1.34 bales/ha equates to a gross income increase of \$603.00 per hectare (\$450 per bale). The combination of ClearStart 22KZ at 15 litres/ha and Action 5 at 500ml/ha applied in furrow resulted in a potential net return to the grower of \$533.00 per hectare or a return on investment of \$8.60:1.

Field trials

Stoller Australia's products were trialled in commercial cotton crops at Mungindi, Queensland in the 2012–13 and 2013–14 seasons.

In 2012–13, Stoller's Action 5 (1 L/ha) and ClearStart 22KZ (20 L/ha) increased the number of bales per hectare by almost 10 per cent when applied in-furrow. When each of these products were applied alone, yield increased by 9.2 per cent (Figure 1).

In 2013–14, the number of bales per hectare increased by 8.1 per cent and 11.1 per cent when Stoller's Action 5 (0.38 L/ha) was applied in-furrow and Stoller's Bio-Forge (1.2 L/ha) was applied at planting and again at squaring (Figure).

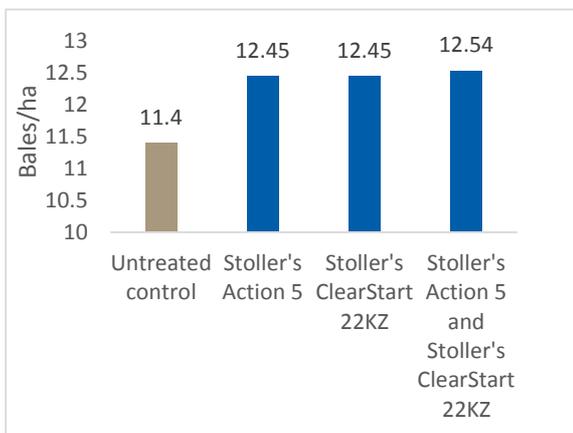


Figure 1 Cotton yield (bales/ha) when Stoller's Action 5 (1 L/ha) and ClearStart 22KZ (20 L/ha) were applied in-furrow at planting, Mungindi, Queensland 2012–13.



Figure 2 Cotton yield (bales/ha) when Stoller's Action 5 (380mL/ha) plus Stoller's ClearStart 22KZ (20 L/ha) was applied in-furrow at planting or Stoller's Bio-Forge (1.2 L/ha) plus Stoller's ClearStart 22KZ (20 L/ha) was applied at planting and again at squaring, Mungindi, Queensland 2013-14.



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STOLLER AUSTRALIA'S STRATEGIES FOR COTTON

Stoller Australia's unique knowledge of cotton, proprietary product range and rigorous field testing are the basis of its successful strategy for cotton. Starting at planting and continuing through flowering and fruit set to peak fruiting, Stoller Australia's proven and cost-efficient products help to establish and maintain strong, vigorous root systems and healthy plants that are better able to cope with stressful conditions and reach their yield potential.

Product	Planting	Squaring	Flowering	Peak fruiting	Stress events	Comments
Stoller's ClearStart 22KZ	10–30 L/ha					
Stoller's Action 5	0.6–1 L/ha					
Stoller's Bio Forge	0.6 L/ha	0.6 L/ha			1.2 L/ha	1.2 L/ha total
Stoller's Cropping Zinc Chelate		2 L/ha				
Stoller's N Phos Enhanced			2.5 L/ha	2.5 L/ha		5 L/ha total

Quality products – quality results

Optimising fertiliser efficiency is critical to getting the most out of your fertiliser and your crop. Healthier, more vigorous, well-balanced plants with bigger root systems are able to take full advantage of all available nutrients, helping to optimise efficiency for all fertilisers applied.

Stoller Australia's quality liquid fertiliser range is proven under Australian conditions as well as worldwide. Programs can be tailored based on soil tests. Talk to your Stoller Australia representative or local authorised dealer about tailoring liquid fertiliser strategies for your cotton crops. Stoller Australia has a full range of liquid trace elements available to support the main program.

Achieve healthier root and fruit growth, better fertiliser efficiency, higher yields and better returns with Stoller Australia.



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