



AN EASIER WAY TO GROW COTTON

Bollgard[®] 3 is the next generation technology that reduces the need to spray for Helicoverpa, the main cotton pest for Australian farmers.



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THREE MODES OF ACTION

Each of the three proteins in Bollgard 3 – Cry1Ac, Cry2Ab and Vip3A – has a different mode of action or 'kill' the larvae in a different way. This allows growers to effectively control *H. armigera* and *H. punctigera* for most of the cotton season.

REDUCED NEED FOR BROAD-SPECTRUM PESTICIDE SPRAYS

Bollgard 3 significantly reduces the need for the application of broad-spectrum pesticides, giving other insects, including beneficials, the chance to develop as well as reducing water, soil and air contamination.

GREATER FIRST POSITION FRUIT RETENTION

In comparison with conventional cotton plants, Bollgard 3 plants have significantly higher first position retention on the bottom five fruiting branches. Loss of first-position fruit can result in a significant yield penalty.

What is the difference between Bollgard II® and Bollgard 3?

There are three key changes between the Bollgard II and Bollgard 3 Resistance Management Plans:



1. Greater planting opportunity

- » Less restrictive planting windows offer greater opportunity to take advantage of rainfall.
- » Bollgard 3 crops can be planted anytime between August 1 and December 31.
 - » Central Queensland: Planting after October 31, through until December 31, is possible with the requirement of 10% unsprayed cotton or 5% Pigeon Pea refuge.



2. Reduced refuge requirements

- » Decreased refuge area requirements meaning area and resources can potentially be dedicated to profitable crops.
- » Unsprayed cotton refuge is now 5% of the Bollgard 3 area.
- » Unsprayed Pigeon Pea is 2.5% of the Bollgard 3 area.
- » Addition of Pigeon Pea as a refuge option for dryland Bollgard 3 (contact your Regional Business Manager).



3. More flexible pupae busting requirements

- » You have greater opportunity to preserve soil moisture for following crops, with reduced pupae busting requirements.
- » Pupae busting is only mandatory for fields where first defoliation occurs after March 31.
- » In select regions including Lachlan, Murrumbidgee, Menindee and Murray valleys pupae busting can occur up to August 31.
- » Pupae busting to a depth of 10cm is only required 30cm either side of the plant line.



“ With Bollgard 3, the reduced refuge area will save us on a lot of costs, water and inputs. It will give us back another 2.5% area to grow Bollgard 3/ Roundup Ready Flex cotton, there’s a lot of benefit there. ”

Peter Tuohy, Daisy Lodge, Carrathool, NSW

HAVE YOU COMPLETED YOUR BOLLGARD 3 ACCREDITATION?

You must complete a Bollgard 3 accreditation before taking delivery of seed. To complete your accreditation contact your Technology Service Provider or Monsanto Regional Business Manager.

MATCH YOUR COTTON CHOICES™ WITH YOUR YIELD FOR EACH FIELD

With Cotton Choices™ you can opt for a flat, up-front discount on your technology fee or delay your decision

until you can get a better understanding of your expected yields and pay on a per-hectare or per-bale basis. If you select Cotton Choices™ 2: Late Crop Removal or Cotton Choices™ 3: End Point Royalty you have until 17 February 2017 to switch between them.

Bollgard 3/Roundup Ready Flex has been launched this year at a special introductory price – the same as Bollgard II/Roundup Ready Flex.

MANAGING BOLLGARD II AND BOLLGARD 3 ON THE SAME FARM

In the 2016/17 cotton season, growers will have the ability to plant Bollgard II and Bollgard 3 on the same farm unit. In this situation, it is critical to remember that each technology has a specific Resistance Management Plan (RMP) that must be complied with. As a condition of the Technology User Agreement (TUA), growers must read and understand the RMP for the technology that is being planted, be it Bollgard II, Bollgard 3, or both.

Growers with Bollgard II and Bollgard 3 on farm must follow the relevant RMP for each technology.

There are three main areas where the Bollgard II RMP and the Bollgard 3 RMP differ.

1. PLANTING WINDOWS

AREA	BOLLGARD II REQUIREMENTS	BOLLGARD 3 REQUIREMENTS
NSW & SOUTHERN QLD	Planted into moisture or watered up by November 15	Planted into moisture or watered up between August 1 and December 31
CENTRAL QLD	Planted into moisture or watered up within the RMP window, unless otherwise notified by a Planting Window Variation Notice. Central Highlands and Dawson Callide: September 15 – October 26 Belyando-Clermont and Mackenzie: November 4 – December 15	Planted into moisture or watered up between August 1 and October 31 Can be planted between November 1 and December 31 with a 10% unsprayed cotton equivalent refuge (see refuge requirements).

2. REFUGE REQUIREMENTS

If growers have both Bollgard II and Bollgard 3 on farm, two refuges are not necessary. Growers must plant enough refuge to cover the requirements for Bollgard II and Bollgard 3. For further information, consult your TSP or use the refuge calculator at www.bollgard3.com.au

	Cotton Sprayed conventional	Cotton Unsprayed conventional	Pigeon Pea Unsprayed
	Irrigated & Dryland		Irrigated Only
% BOLLGARD II – All Areas	100	10	5
	Irrigated & Dryland		
% BOLLGARD 3 – NSW, Southern QLD, Central QLD if planted between August 1 – October 31	100	5	2.5
% BOLLGARD 3 – Central QLD if planted between November 1 – December 31	100	10	5

3. PUPAE BUSTING

Bollgard II NSW & Southern QLD

All Bollgard II fields must be pupae busted to a depth of 10cm across the soil surface by July 31.

Bollgard 3 NSW & Southern QLD

All Bollgard 3 fields that receive an application of a registered rate of defoliant prior to March 31 do not need to be pupae busted.

For fields defoliated after March 31, pupae busting must be completed to a depth of 10cm, 30cm on either side of the plant line.

Where required, all pupae busting must be completed by July 31, with the exception of the Lachlan, Murrumbidgee, Menindee and Murray Valleys, where pupae busting must be completed by August 31.

FREQUENTLY ASKED QUESTIONS

Here are some answers to questions we've been asked about Bollgard 3. If your question isn't listed below please get in touch.

WHAT IS THE REGULATORY STATUS OF BOLLGARD 3?

Monsanto has received all domestic approvals for Bollgard 3.

- Office of the Gene Technology Regulator (OGTR) approved Bollgard 3 for commercial release
- Food Standards Australia New Zealand (FSANZ) has approved Bollgard 3 for human consumption
- Australian Pesticides & Veterinary Medicines Authority (APVMA) has approved the Bollgard 3 product and proposed Resistance Management Plan.

WILL GROWERS NEED TO COMPLETE AN ACCREDITATION?

The accreditation program has formed a strong pillar of Monsanto's stewardship program over many years and across a number of products, including Bollgard II.

With the introduction of Bollgard 3 the accreditation program will be a valuable resource to growers and the wider industry in transitioning to a new Resistance Management Plan (RMP) and to help you get the most from this new technology.

Accreditations commenced in early 2016. Sign up for the latest updates on Bollgard 3 at bollgard3.com.au

WHAT DOES THE BOLLGARD 3 RESISTANCE MANAGEMENT PLAN INCLUDE?

The RMP for Bollgard 3 has been endorsed by the TIMS Committee and approved by the APVMA. It is based on robust data generated through years of research.

The key elements include a wider planting opportunity, reduced refuge area requirements, and changes in pupae busting requirements to make pupae busting better fit with farming systems without compromising resistance management.

As part of Monsanto's accreditation process in 2016 you will have the opportunity to find out more about the new RMP and how the changes will apply to your farm.

WILL WE STILL EXPERIENCE SURVIVORS WITH BOLLGARD 3?

Although having very strong performance in the field, Bollgard 3, like Bollgard II, will not be "Helicoverpa proof."

External stressors on the plant such as moisture or nutrition issues may still affect gene expression.

Regular crop scouting is still recommended. Monsanto's technical staff are always available to answer any questions you may have about performance in your fields.

WHEN WILL BOLLGARD II BE PHASED OUT?

With the additional benefits from the new RMP and varieties from CSD we expect demand for Bollgard 3 to be very strong. Based on grower feedback to date and CSD seed availability we expect the transition to Bollgard 3 will occur quickly.

DOES BOLLGARD 3 HAVE ACTIVITY AGAINST OTHER PESTS?

No. Bollgard 3 will provide a more robust resistance management tool for Australia cotton growers.

It has the same Bt proteins contained in Bollgard II – Cry1Ac and Cry2Ab – but will also include a third Bt protein Vip3A, which increases the longevity of the technology. Each of these proteins has a different mode of action or 'kill' larvae in a different way.

2016/2017 BOLLGARD 3 PRICING

Bollgard 3/Roundup Ready Flex has been launched this year at a special introductory price – the same as Bollgard II/ Roundup Ready Flex pricing.

PRICES EXCLUDE GST	BOLLGARD 3 / ROUNDUP READY FLEX	PAYMENT DATE
COTTON CHOICES™ 1: PRICE DISCOUNT	\$370/hectare [^]	28 February 2017
COTTON CHOICES™ 2: LATE CROP REMOVAL & EXTENDED TERMS	\$401/hectare ^{**}	31 July 2017
COTTON CHOICES™ 3: END POINT ROYALTY FOR COTTON	\$50 /bale ^{††}	30 Days from end of month of invoice[^]

For more information on the Cotton Choices™ program and for Bollgard II/Roundup Ready Flex, Roundup Ready Flex and refuge pricing visit www.cottonchoices.com.au

[^] Price excludes GST. Discount does not apply to Roundup Ready Flex unsprayed cotton refuges over 10% of the Bollgard II area or 5% of the Bollgard 3 area (as per the trait's RMP requirements), or to sprayed

^{**} Prices exclude GST. If for any reason your crop fails (hail, flood, sand storm, drought, herbicide drift etc) and is removed on or before 20 March 2017 (Central Queensland) or 20 April 2017 (Southern Queensland and New South Wales), Monsanto will waive 100% of the technology fee on the hectares affected. Crop Removal must be reported to Monsanto by no later than 21 March 2017 (Central Queensland) or 21 April 2017 (Southern Queensland and New South Wales). This offer does not apply to Roundup Ready Flex unsprayed cotton refuges over 10% of the Bollgard II area or 5% of the Bollgard 3 area (as per the trait's RMP requirements), or to sprayed Roundup Ready Flex, as nominated in the planting audit.

^{^^} Prices exclude GST. [^]Payment date is 30 days after the end of the month of the invoice date (ie. the date on the invoice given to your TSP).
[†]Standard 227 kg bale of cotton lint. This offer does not apply to Roundup Ready Flex unsprayed cotton refuges over 10% of the Bollgard II area or 5% of the Bollgard 3 area (as per the trait's RMP requirements), or to sprayed Roundup Ready Flex, as nominated in the planting audit.



QUESTIONS?

Visit bollgard3.com.au, cottonchoices.com.au or contact your Technology Service Provider or Monsanto Regional Business Manager.


Rohan Sippel

Regional Business Manager
Central Queensland & Dawson/Callide
0400 299 985
rohan.sippel@monsanto.com


Luke Sampson

Regional Business Manager
Lachlan, Macquarie, Bourke & Sthn NSW
0427 701 986
luke.sampson@monsanto.com


Mick Fing

Regional Business Manager
Darling Downs & St George/Dirranbandi
0417 305 717
michael.fing@monsanto.com


Mark Dawson

Rowcrop Sales Lead
0428 106 090
mark.m.dawson@monsanto.com


Tom Luff

Regional Business Manager
Gwydir, Macintyre & Mungindi
0400 491 902
thomas.bernard.luff@monsanto.com


Keryn McLean

Commercial Lead
0409 536 446
keryn.mclean@monsanto.com


Paul Brady

Regional Business Manager
Namoi & Walgett
0409 935 513
paul.1.brady@monsanto.com

Bollgard³

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Monsanto Australia Ltd A.B.N. 86 006 725 560 12th Floor, 600 St Kilda Road, Melbourne VIC 3004,
Postal Address: PO Box 6051, St Kilda Road Central, VIC 8008, Australia Phone: 61 3 9522 7122
General Fax: 61 3 9522 6122 www.monsanto.com

Insect control technology incorporated into these seeds is commercialised under a license from Syngenta Crop Protection AG.