LICENCE NO:	DIR145
LICENCE HOLDER:	Monsanto Australia Proprietary Limited
ACCREDITATION NO:	ACCR 034/2002

SUBMISSION:	2020 Annual Report for Commercial release of GM insect resistant and/or herbicide tolerant cotton lines
REPORTING PERIOD:	1 June 2019 – 1 June 2020 (covering 2019/20 cotton growing season)
DATE:	30 September 2020

PREPARED BY: [redacted]

SECTION 1. LICENCE HOLDER DETAILS

Name : Monsanto Australia Proprietary Limited
Address : Level 1, 8 Redfern Rd**, Hawthorn East, VIC 3123**
Telephone : **(**03) 9248 6888
Contact email : [redacted]
Accreditation Number : **ACCR 034/2002**

SCOPE OF THE REPORT

This report addresses the annual reporting condition and details compliance with conditions of Sections 2 to 3 of the DIR145 commercial licence as issued to Monsanto Australia Proprietary Limited by the Office of the Gene Technology Regulator on 20 December 2016.

This report covers the period from 1 June 2019 to 1 June 2020, including the 2019/20 cotton planting season.

SECTION 2. REPORTING REQUIREMENTS

a) During the reporting period, Monsanto Australia Pty Ltd did not become aware of any risks to the health and safety of people, or to the environment, associated with the dealings authorised under DIR145; or of any contraventions of the licence by a person covered by the licence; or any unintended effects of the dealings authorised by the licence. Monsanto acknowledges that should it be required to inform the regulator of additional information under these licence conditions it must do so without delay. At all times, Monsanto remained an accredited organization and complied with the Act and with its instrument of accreditation.
b) XtendFlex™ cotton was not grown for commercial purposes during the reporting period.
c) A total of 164.6 hectares of XtendFlex™ cotton was planted in the 2018/19 season for trial purposes.

2.1 Trial/Research Crop Volumes by State

State	Trial/Research XtendFlex™ Area (Ha)
NSW	163.2
QLD	1.4
Total Trial XtendFlex™ Area (Ha) planted	**164.6**

We create chemistry

BASF Australia Ltd
PO Box 4705 Melbourne Victoria 3001

Office of the Gene Technology Regulator
MDP 54
GPO Box 9848
CANBERRA ACT 2601

Monday, 30 September 2019
[redacted]

Sent to OGTR.M&C@health.gov.au via email

Attention: Application Entry Point

Dear Sir/Madam,

Annual Report for DIR143 for the year 1 July 2019 to 30 June 2020

I refer to the requirements of the above licence (*viz*. Condition No. 20), to provide the OGTR with an annual report by the end of September each year for the previous financial year.

This letter provides a consolidated report on activities under licence DIR143 for annual reporting purposes over the period 1 July 2019 to 30 June 2020.

No plantings of cotton containing the events approved under licence DIR143 were made over the designated period discussed above, and as a consequence no adverse impacts, unintended effects, or new information relating to risks to human health and safety or the environment caused by the GMOs or material from the GMOs is available to report.

Yours sincerely,

[redacted]
Regulatory Affairs Manager - Seeds - Australia & New Zealand
Phone: [redacted]
Postal Address: BASF Australia Ltd., [redacted]

SHORT, Andrew

From: WENZEL, Peter
Sent: Monday, 23 October 2017 10:01 AM
To: BERRY, Andrew
Subject: FW: Annual reporting under OGTR Licences held by Bayer [SEC=UNCLASSIFIED]

Importance: High

From: [redacted]
Sent: Monday, 24 July 2017 8:34 AM
To: WENZEL, Peter
Subject: Annual reporting under OGTR Licences held by Bayer [SEC=No Protective Marking]
Importance: High

Hi Peter,

I received your phone message this morning (I was out of the office last week).

I can supply information readily on DIR113, DIR133, DIR138 and DIR143 at this time. I am currently seeking information on DIR021/2002 and DIR108 which I will forward presently.

For DIR113 nothing has been planted under this Licence since planting season 2014/2015 for which all planting data were provided to OGTR. All sites have been signed off by OGTR as they were subsumed by DIR143.

For DIR133 nothing has been planted under this Licence since planting season 2015/2016 for which all planting data were provided to OGTR. All sites have been signed off by OGTR as they were subsumed by DIR143.

No plantings have been made under DIR138.

And no plantings have been made under DIR143 either at the present time.

As a consequence of inactivity under these Licences, no opportunities have arisen to observe adverse impacts or unintended effects from the GMOs approved under these Licences during this reporting period.

Best regards,

[redacted]
Regulatory Affairs Manager, Seeds, Australia and New Zealand
Reg. Affairs / Compliance

Bayer: Science For A Better Life

Crop Science Division
Bayer CropScience Pty Limited
BCS AU-BIO-BGA-BCRA, Reg. Affairs / Compliance
[redacted]
Web: http://www.bayer.com

LICENCE NO: DIR066

LICENCE HOLDER: Monsanto Australia Limited

ACCREDITATION NO: ACCR 034/2002

SUBMISSION: 2016 Annual Report for Commercial release of GM herbicide tolerant and/or insect resistant cotton lines

REPORTING PERIOD: 1 June 2015 – 1 June 2016
(covering 2015/16 cotton growing season)

DATE: 30 June 2016

PREPARED BY: [redacted]

Contents

SECTION 1. LICENCE HOLDER DETAILS

Name: Monsanto Australia Limited

Address: 600 St Kilda Rd, Melbourne 3004

PO Box 6051
St Kilda rd Central
Victoria, 8008

Telephone: (03)9522 7101

Facsimilie: (03)9522 6122

Contact email: [redacted]

Accreditation Number: **ACCR 034/2002**

SCOPE OF THE REPORT

This report addresses the annual reporting condition of the DIR066 commercial licence covering Roundup Ready® cotton, Roundup Ready Flex® cotton and the Bollgard II® trait issued to Monsanto Australia Limited by the Office of the Gene Technology Regulator.

This report details compliance with general and specific conditions of Sections 2 to 6 of the DIR066 licence as issued to Monsanto Australia Limited on 26 October 2006, and as varied 22 December 2006, 6 December 2007, 15 April 2009 and 20 June, 2013.

This report covers the period of time from 1 June 2015 to 1 June 2016, including the 2015/16 cotton planting season.

SECTION 2. LICENCE CONDITIONS

Condition 1. Duration of Licence

DIR066 has not been suspended, cancelled or surrendered.

Condition 2. Holder of Licence

Monsanto Australia Limited (Monsanto) remains the holder of the licence.

Conditions 3 and 4. Project Supervisor

The project supervisor is [redacted]

Condition 5. No dealings with GMOs except as authorized by this Licence

Persons covered by the licence did not deal with GMOs except as expressly permitted by the licence.

Conditions 6 and 7. Location

The licence allows for dealings with GMOs to be conducted anywhere in Australia. This licence supersedes any previous licences regarding location.

Conditions 8 and 9. Persons covered by this GMO Licence

Monsanto acknowledges that the persons covered by the licence are the licence holder and employees, agents or contractors of the licence holder and other persons who are, or have been, engaged to undertake any activity in connection with GMOs grown in a location pursuant to this licence.

Conditions 10 and 11. Informing people of their obligations

DIR066 was issued in October 2006, permitting dealings with the GMOs to be undertaken during the cotton growing seasons.

Monsanto Australia Limited informed all persons covered by the DIR066 licence of the obligations imposed on them as a result of the conditions of the licence. This was primarily achieved through the Monsanto accreditation program, which includes information on regulatory obligations as well as management of the crop.

Accreditation programs require all persons having management responsibility for Roundup Ready (no longer sold commercially), Roundup Ready Flex and Bollgard II cotton crops to undergo training.

Condition 12. Applicant to notify of circumstances that might affect suitability

During the reporting period, Monsanto Australia Ltd did not receive a relevant conviction occurring after the commencement of this licence; nor was there any revocation or suspension of a licence or permit held by Monsanto Australia Ltd under a law of the Australian Government, a State or foreign country, being a law relating to the health and safety of people or the environment; or any event or circumstance occurring after the commencement of this licence that would affect the capacity of Monsanto to meet the conditions of the DIR066 licence.

Condition 13. Licence holder must provide information on matters related to suitability

Monsanto acknowledges that it must provide information related to its ongoing suitability to hold a licence when requested to do so in writing by the Regulator and must provide information within a time period stipulated by the Regulator.

Condition 14. People dealing with the GMOs must allow auditing and monitoring if the dealing

Monsanto acknowledges that if a person authorized by this licence to deal with GMOs and a particular condition of this licence applies to the dealing by that person, the person must allow the Regulator, or a person authorized by the Regulator, to enter the premises where the dealing is being undertaken, for the purposes of auditing or monitoring the dealing.

Condition 15. Remaining an Accredited organization

At all times, Monsanto remained an accredited organization and complied with conditions of accreditation as set out in the OGTR Guidelines for Accreditation of Organisations.

Conditions 16 - 19 Additional information must be given to the Regulator

During the reporting period, Monsanto did not become aware of any additional information as to any risks to the health and safety of people, or to the environment, associated with the dealings authorized by this licence; or of any unintended effects of the dealings authorized by this licence.

Condition 20. Compliance Management Plan

A Compliance Management Plan was provided to the Regulator on issuance of the DIR066 licence.

SECTION 3. GROWING THE GMOS

3.1 GMOs covered by this licence

The only dealings with GMOs under this licence were those with the GMOs described in DIR066 Licence.

3.2 Permitted dealings

Sales and planting of the Roundup Ready Flex (RRF), Bollgard II (BGII) and Bollgard II stacked with Liberty Link® (BGIIwLL) were undertaken under a Technology User Agreement, which sets out the conditions for planting and growing a cotton crop containing RRF and BGII technology. Roundup Ready cotton has been removed from the market in Australia. In order to be eligible to sign such an agreement, a grower is required to attend an accreditation program and pass a test based on the material covered in the accreditation program.

3.3 Commercial Crop Locations and Volumes

Valley	BGII ha	RR ha	RRF ha	BGII w RR ha	BGII w RRF ha	BGII w LL ha	Total ha
Belyando	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bourke	0.00	0.00	287.45	0.00	2648.83	0.00	2936.28
Darling Downs	0.00	0.00	6381.13	0.00	37770.35	109.59	44261.07
Dawson/Callide	0.00	0.00	243.21	0.00	3103.34	0.00	3346.55
Dirranbandi	0.00	0.00	11.16	0.00	2441.55	0.00	2452.71
Emerald	0.00	0.00	40.34	0.00	14105.21	0.00	14145.55
Gwydir	0.00	0.00	2948.51	0.00	24245.42	0.00	27193.93
Lachlan	0.00	0.00	121.60	0.00	8898.01	0.00	9019.61
Lower Namoi	0.00	0.00	2345.64	0.00	22312.52	0.00	24658.16
MacIntyre	3.80	0.00	750.20	0.00	19214.23	0.00	19968.23
Macquarie	0.00	0.00	149.51	0.00	10282.26	0.00	10431.77
McKenzie River	0.00	0.00	0.00	0.00	355.8	0.00	355.8
Mungindi	0.00	0.00	136.32	0.00	3676.21	0.00	3812.53
Murray	0.00	0.00	9.75	0.00	1384.21	0.00	1393.96
Murrumbidgee	3.22	0.00	302.34	0.00	40987.03	0.00	41292.59
St George	0.00	0.00	506.07	0.00	10899.38	0.00	11405.45
Tandou	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Upper Namoi	0.00	0.00	2072.64	0.00	25990.18	0.00	28062.82
Walgett	0.00	0.00	373.82	0.00	6983.67	0.00	7357.49
Total ha	**7.02**	**0.00**	**166,79.69**	**0.00**	**235,298.20**	**109.59**	**252,094.5**

Total Bollgard II ha planted	**235,414.81**
Total Roundup Ready Flex ha planted	**251,977.89**

Note *– Total Bollgard II figure includes Bollgard II, Bollgard II/Roundup Ready Flex and Bollgard II/Liberty Link. Total Roundup Ready Flex figure includes Roundup Ready Flex and Bollgard II/Roundup Ready Flex.*

3.4 Trial/Research Crop Locations and Volumes

Valley	BGII ha	RR ha	RRF ha	BGII w RR ha	BGII w RRF ha	BGII w LL ha	Total ha
Darling Downs	0.80	0.00	0.30	0.00	0.00	0.00	1.10
Dawson/Callide	0.10	0.00	0.00	0.00	0.00	0.00	0.10
Emerald	0.40	0.00	0.00	0.00	0.00	0.00	0.40
Flinders/Gilbert	86.00	0.00	11.00	0.00	0.00	0.00	97.00
Lower Namoi	50.42	0.00	38.89	0.00	0.00	0.00	89.31
Total ha	**137.72**	**0.00**	**50.19**	**0.00**	**0.00**	**0.00**	**187.91**

APPENDIX A -

Resistance Management Plan for Bollgard II® Cotton 2015/2016

Developed by Monsanto Australia Limited and the Transgenic and Insect Management Strategy (TIMS) Committee of Cotton Australia Ltd.

The resistance management plan is based on three basic principles: (1) minimising the exposure of *Helicoverpa* spp. to the *Bacillus thuringiensis* (Bt) proteins Cry 1Ac and Cry 2Ab; (2) providing a population of susceptible individuals that can mate with any resistant individuals, hence diluting any potential resistance; and (3) removing resistant individuals at the end of the cotton season. The three principles are supported through the implementation of 5 elements that are the key components of the Resistance Management Plan. These elements are:

1. Refuge crops
2. Planting window
3. Pupae busting/Trap crops
4. Control of volunteers and ratoon cotton and
5. Spray limitations.

Growers of Bollgard II cotton are required to practice preventative resistance management as set out below. Compliance with the Resistance Management Plan is required under the terms of the Bollgard II Technology User Agreement and under the conditions of registration (*Agricultural and Veterinary Chemicals Act 1994*).

Section 1 is applicable to all regions in New South Wales and Queensland that grow cotton while sections 2 and 3 detail specific requirements for New South Wales and Southern Queensland, and Central Queensland respectively.

SECTION 1: NEW SOUTH WALES, SOUTHERN QUEENSLAND & CENTRAL QUEENSLAND

1. **Refuges**

Growers planting Bollgard II cotton will also be required to grow a refuge crop that is capable of producing large numbers of *Helicoverpa* spp. moths which have not been exposed to selection with Bt proteins Cry 1Ac and Cry 2Ab. These unselected moths are expected to dominate matings with any survivors from Bollgard II crops and thus help to maintain resistance to Bt proteins Cry 1Ac and Cry 2Ab at low levels.

All refuge options are based on the requirement of a 10% unsprayed cotton refuge or its equivalent, as determined by the relative production of *Helicoverpa* spp. from each of the refuge types as described in Tables 1 and 2, for irrigated and dryland production scenarios respectively. Irrespective of the irrigation regime for the Bollgard II cotton, all pigeon pea refuges must be fully irrigated so that they are attractive to *Helicoverpa* spp. during the growing period of the Bollgard II cotton.

For each area of irrigated Bollgard II cotton planted, a grower is required to plant a minimum of one or a combination of the following:

Table 1. Irrigated Bollgard II cotton refuge options

Crop	**Conditions**	**% of Bollgard II**
Cotton	Irrigated, sprayed conventional cotton	100
	Irrigated, unsprayed conventional cotton	10
Pigeon pea	Fully irrigated, unsprayed	5

Table 2. Dryland Bollgard II cotton refuge options

Crop	**Conditions**	**% of Bollgard II**
Cotton	Dryland or irrigated, sprayed conventional cotton	100
	Dryland or irrigated, unsprayed conventional cotton	10
Pigeon pea	Fully irrigated, unsprayed	5

No other refuge options are approved for dryland Bollgard II.

Note: Unsprayed means not sprayed with any insecticide that targets any life stage of *Helicoverpa* spp.

Bt products must not be applied to any refuge (including sprayed cotton).

If the viability of an unsprayed conventional cotton refuge is at risk due to early season pressure by *Helicoverpa* spp., and with prior approval from the Monsanto Compliance and Stewardship Manager, a non-Bt heliocide can be applied. An unsprayed refuge should not be planted in the same field as any crop sprayed with a rate of insecticide that is registered for *Helicoverpa* spp, with the exception of Bollgard II. Sprayed crops and unsprayed refuges that are planted in

adjacent fields must be separated by sufficient distance to *minimise the likelihood of insecticide drift onto the unsprayed refuge*.

For the purposes of this Resistance Management Plan, conventional cotton includes any cotton varieties that do not have Bt proteins in the plant that control *Helicoverpa* spp. larvae.

General conditions for all refuges:

(a) Refuge crops are to be planted and managed so that they are attractive to *Helicoverpa* spp. during the growing period of the Bollgard II cotton varieties.

Irrigated: It is preferable that all refuge is planted within the 2 week period prior to planting Bollgard II. If this is not possible, refuge planting must be completed within 3 weeks of the first day of sowing of Bollgard II. At this time, sufficient refuge must have been planted to cover all of the Bollgard II cotton proposed to be planted for the season (including Bollgard II already planted and any that remains unplanted). Should additional Bollgard II planting be made after this date, which is not already covered by refuge, additional refuge must be planted as soon as possible and no more than 2 weeks after sowing of the additional Bollgard II.

Dryland: A dryland refuge must be planted within the 2 week period prior to the first day of planting Bollgard II cotton.

(b) Pigeon pea refuges should not be planted until the soil temperature reaches 17°C, which is a requirement for germination, and should also be planted into moisture to ensure successful germination. If soil temperatures are not suitable to allow germination of pigeon peas in line with condition (a), an alternative refuge must be planted in its place within the prescribed period (under (a) above).

(c) Once Bollgard II cotton begins to flower the corresponding refuge should not be cultivated.

(d) Insecticide preparations containing Bt may be used on Bollgard II cotton throughout the season BUT NOT on any refuge crops.

(e) All refuges are to be planted within the farm unit growing Bollgard II cotton. Subject to clause (f) below, all reasonable effort should be taken to plant the refuge either on one side of, or next to a Bollgard II cotton field and all Bollgard II fields must be no more than 2 km from the nearest associated Bollgard II refuge.

(f) To minimise the possibility of refuge attractiveness being affected by herbicide drift, non-herbicide tolerant refuges should be separated from herbicide tolerant Bollgard II cotton crops by a sufficient distance to minimise such drift, but no more than 2km from the Bollgard II cotton.

(g) To account for possible insecticide drift, the options for the width of refuge crops vary according to spray regime. If any sprayed conventional cotton is grown on the same farm unit, Bollgard II refuge crops must be at least 48 metres wide and each refuge area must be a minimum of 2 hectares. If no sprayed conventional cotton is grown on the same farm unit, Bollgard II refuge crops must be at least 24 metres wide and 24 metres long. Different unsprayed refuge options may be planted in the same field as a single unit; however a sprayed conventional cotton refuge must not be planted in a field that is also planted to an unsprayed refuge type.

(h) In all regions, destruction of refuges should only be carried out after Bollgard II cotton lint removal has been completed.

(i) Refuges for dryland Bollgard II cotton crops must be planted in the same row configuration as the Bollgard II crop unless the refuge is irrigated. If an irrigated option is utilised for a dryland Bollgard II crop, then that refuge may be planted in a solid configuration. Dryland cotton is measured as green hectares (calculated as defined in the Technology User Agreement).

2. Control of volunteer and ratoon cotton

Volunteer and ratoon cotton may impose additional selection pressure on *Helicoverpa* spp. to develop resistance to the Bt Cry 1Ac and Cry 2Ab proteins produced by Bollgard II cotton.

Growers must make all reasonable efforts to remove volunteer and ratoon plants, as soon as possible from all fields, including fallow areas, Bollgard II crops, conventional cotton crops and all refuges. **The presence of Bollgard II volunteers/ratoon cotton in any refuge will diminish the value of the refuge and must be removed as soon as possible.**

Note: The refuge should preferably be planted into fallow or rotation fields that have not been planted to cotton in the previous season.

3. Post-harvest crop destruction

As soon as practical after harvest, Bollgard II cotton crops must be destroyed by cultivation or herbicide so that they do not continue to act as hosts for *Helicoverpa* spp.

SECTION 2: NEW SOUTH WALES AND SOUTHERN QUEENSLAND ONLY

1. Planting windows

All Bollgard II crops are to be planted into moisture or watered-up by 15 November, unless otherwise advised by a Bollgard II Planting Window Variation Notice.

2. Pupae destruction

In Bollgard II cotton fields, each grower will be required to undertake *Helicoverpa* spp. pupae destruction after harvest according to the following key guidelines:

- Bollgard II crops should be slashed or mulched and fields cultivated for pupae control within 4 weeks of harvesting. All pupae busting must be completed by July 31.
- Ensure disturbance of the whole soil surface to a depth of 10 cm.
- All fields that are sown to any winter crop following a Bollgard II crop must be inspected by the Technology Service Provider before sowing commences in order to ensure that pupae busting has occurred.

In Refuge crops:

In New South Wales and Southern Queensland, to ensure maximum emergence of late pupae from associated refuges, soil disturbance of refuge crops should not be undertaken until after the pupae busting in Bollgard II cotton crops on the farm unit is complete. All unsprayed refuges, should preferably be left uncultivated until the following October.

3. Failed crops

Bollgard II crops that will not be grown through to harvest for various reasons and are declared to, and verified by, Monsanto as failed must be destroyed within two weeks after verification, in such a way that prevents regrowth. Crops abandoned before February 28 do not require pupae busting. Crops abandoned on February 28 or later must be pupae busted.

NB: If any grower encounters problems in complying with the Resistance Management Plan please contact your local Monsanto Regional Business Manager.

SECTION 3: CENTRAL QUEENSLAND ONLY

1. Planting Windows

Emerald: All Bollgard II crops are to be planted into moisture or watered-up in the period between September 15 and October 26, unless advised otherwise by a Bollgard II Planting Window Variation Notice.

Dawson Callide Valleys: All Bollgard II crops are to be planted into moisture or watered-up in the period between September 15 and October 26, unless advised otherwise by a Bollgard II Planting Window Variation Notice.

Belyando - Clermont: All Bollgard II crops are to be planted into moisture or watered-up in the period between November 4 and Decmber 15, unless advised otherwise by a Bollgard II Planting Window Variation Notice.

Mackenzie: All Bollgard II crops are to be planted into moisture or watered-up in the period between November 4 and Decmber 15, unless advised otherwise by a Bollgard II Planting Window Variation Notice.

2. Refuges

Pigeon Pea refuge should preferably be planted into a fallow or rotation field that has not been planted to cotton in the previous season to avoid volunteer and ratoon cotton.

In Central Queensland soil disturbance of refuge crops can only occur 2 weeks after final defoliation of the Bollgard II cotton.

3. Late summer pigeon pea trap crop

A late summer trap crop (pigeon pea) must be planted for all Bollgard II cotton grown in Central Queensland. The planting configuration of the trap crop should be the same as that of the Bollgard II crop. Irrigated Bollgard II must have an irrigated trap crop. Table 3 shows the requirements for the late summer pigeon pea trap crop. Dryland Bollgard II growers who do not have any irrigated cotton on their farm should contact their Monsanto Regional Business Manager for alternative options.

Refuge and late summer trap crops have different purposes and, if pigeon pea is selected for both, two separate plantings may be required. However, where a pigeon pea refuge is utilised as a trap crop the full 5% pigeon pea refuge area must be managed to become the late summer trap crop and must adhere to the requirements in Table 3 below.

Table 3. Late summer pigeon pea trap crop requirements in Central Queensland

Criterion	**Trap crop***
Minimum area & dimension (Requirement)	A minimum trap crop of 1% of planted Bollgard II cotton crop is required. If sprayed conventional cotton is grown on that farm unit: the trap crop must be at least 48m x 48m. If no sprayed conventional cotton is grown on that farm unit: the trap crop must be at least 24m x 24m.
Planting time	The trap crop should preferably be planted between November 1 and November 30 Note: if growers choose to plant their trap crop to coincide with the planting of pigeon pea refuges they must manage the trap crop in such a way that it remains attractive to *Helicoverpa* spp. 2-4 weeks after final defoliation.
Planting rate **	35kg/ha (recommended establishment greater than 4 plants per metre)
Insect control	The trap crop can be sprayed with virus after flowering; while avoiding insecticide spray drift, except where a pigeon pea refuge is converted to a trap crop. In this case the full 5% pigeon pea refuge area managed to become the late summer trap crop can only be sprayed with virus after the first defoliation of Bollgard II cotton.
Irrigation	The trap crop must be planted into an area where it can receive the additional irrigation required to keep the trap crop attractive to *Helicoverpa* spp. until after the cotton is defoliated.
Weed control	The trap crop should be kept free of weeds and particularly volunteer Bollgard II cotton. When using the full 5% pigeon pea trap crop option, weed control must not be carried out by cultivation once flowering of the associated Bollgard II cotton crop has commenced

Crop destruction	The trap crop must be destroyed 2-4 weeks (but not before 2 weeks) after final defoliation of the Bollgard II cotton crop, (slash and pupae bust – full soil disturbance to a depth of 10cm across the entire trap crop area). All Bollgard II and associated trap crops must be destroyed by July 31.

* A pigeon pea trap crop is to be planted so that it is attractive (flowering) to *Helicoverpa* spp. after the cotton crop has cut out, and as any survivors from the Bollgard II crop emerge. Planting pigeon pea too early (e.g. before November) or too late (e.g. mid December) is not adequate for cotton crops planted during September through to October.

** The planting rate is a recommendation based on a minimum of 85% seed germination.

NB: **<u>If any grower encounters problems in complying with the resistance management plan, please contact your Monsanto Regional Business Manager.</u>**

For further background information on the various components of this plan see the ”Preamble to the Resistance Management Plan for Bollgard II” in the current Cotton Pest Management Guide.

APPENDIX B

Resistance Management Plan for Bollgard II® cotton 2015/2016 - Ord River Irrigation and Burdekin Bowen Basin Areas

Ord River Irrigation, Burdekin Bowen Basin and Richmond Areas
Developed by Monsanto Australia Limited and the Transgenic and Insect Management Strategy (TIMS) Committee of Cotton Australia Limited.
The resistance management plan is based on three basic principles: (1) minimising the exposure of *Helicoverpa* spp. to the *Bacillus thuringiensis* (Bt) proteins Cry 1Ac and Cry 2Ab; (2) providing a population of susceptible individuals that can mate with any resistant individuals, hence diluting any potential resistance; and (3) removing resistant individuals at the end of the cotton season. The three principles are supported through the implementation of 5 elements that are the key components of the Resistance Management Plan. These elements are:

1. Refuge crops
2. Planting window
3. Pupae busting/Trap crops
4. Control of volunteers and ratoon cotton and
5. Spray limitations.

Growers of Bollgard II cotton are required to practice preventative resistance management as set out below. Compliance with the Resistance Management Plan is required under the terms of the Bollgard II Technology User Agreement and under the conditions of registration (*Agricultural and Veterinary Chemicals Act, 1994*).

This RMP is for the following areas:

- **Ord River Irrigation Area**, Western Australia
- **Burdekin Bowen Basin Area,** Queensland
- **Richmond Area, Queensland**

1. Refuges

Growers planting Bollgard II cotton will also be required to grow a refuge crop that is capable of producing large numbers of *Helicoverpa* spp. moths which have not been exposed to selection with Bt proteins Cry 1Ac and Cry 2Ab. These unselected moths are expected to dominate matings with any survivors from Bollgard II crops and thus help to maintain resistance to Bt proteins Cry 1Ac and Cry 2Ab at low levels.
All refuge options are based on the requirement of a 10% unsprayed cotton refuge or its equivalent as determined by the relative production of *Helicoverpa* spp. from each of the refuge types as described in the tables below.
For each area of irrigated Bollgard II cotton planted, a grower is required to plant a minimum of one, or a combination of, the following:

Table 1. Irrigated Bollgard II cotton refuge options

Crop	Conditions	% of Bollgard II	Regions permitted
Conventional Cotton	Irrigated, unsprayed conventional cotton	10	All Regions
Pigeon pea	Fully irrigated, unsprayed	5	All Regions

Note: Unsprayed means not sprayed with insecticides that target any life stage of *Helicoverpa* spp.
Bt products must not be applied to any refuge.
If the viability of an unsprayed refuge is at risk due to early or late season pressure by *Helicoverpa* spp., or any other caterpillar species, contact Monsanto immediately. With prior approval from the Monsanto Compliance and Stewardship Manager, a non-Bt heliocide can be applied.
An unsprayed refuge should not be planted in the same field as any crop sprayed with a rate of insecticide that is registered for Helicoverpa spp, with the exception of Bollgard II unless a sufficient buffer is in place to prevent insecticide drift.

Sprayed crops and unsprayed refuges that are planted in adjacent fields must also be separated by sufficient distance to *minimise the likelihood of insecticide drift onto the unsprayed refuge*.
For the purposes of this Resistance Management Plan, conventional cotton includes any cotton varieties that do not have Bt proteins in the plant that control *Helicoverpa* spp. larvae.
General conditions for all refuges:
(a) Refuge crops are to be planted and managed so that they are attractive to *Helicoverpa* spp. during the growing period of the Bollgard II cotton varieties.

Ord River Irrigation Area
It is preferable that all refuge is planted within the 2 week period prior to planting Bollgard II. If this is not possible, refuge planting must be completed within 3 weeks of the first day of sowing of Bollgard II. At this time, sufficient refuge must have been planted to cover all of the Bollgard II cotton proposed to be planted for the season (including Bollgard II already planted and any that remains unplanted). Should additional Bollgard II planting be made after this date, which is not already covered by refuge, additional refuge must be planted as soon as possible and no more than 2 weeks after sowing of the additional Bollgard II.
Burdekin Bowen and Richmond Areas
Refuges must be sown within the 2 weeks prior to planting any Bollgard II. This timing attempts to mitigate wet season planting risks.
(b) Group J legume innoculant should be used to treat pigeon pea planting seed just prior to sowing to ensure effective root zone colonisation by nitrogen fixing rhizobium bacteria
(c) Once the Bollgard II cotton begins to flower the corresponding refuge must not be cultivated.
(d) Insecticide preparations containing Bt may be used on Bollgard II cotton throughout the season BUT NOT on any refuge crops.
(e) All refuges are to be planted within the farm unit growing Bollgard II cotton. Subject to clause (f) below, all reasonable effort should be taken to plant the refuge either on one side of, or next to, a Bollgard II cotton field, and all Bollgard II fields must be no more than 2 km from the nearest Bollgard II refuge.

(f) To minimise the possibility of refuge attractiveness being affected by herbicide drift, non-herbicide tolerant refuges should be separated from herbicide tolerant Bollgard II cotton crops by a sufficient distance to minimise such drift, but no more than 2km from the Bollgard II cotton.
(g) To account for possible insecticide drift, Bollgard II refuge crops must be at least 24 metres wide and 24 metres long. Different unsprayed refuge options may be planted in the same field as a single unit.
(h) Slashing of plants within the refuge should only be carried out after Bollgard II cotton lint removal has been completed. Soil disturbance of refuge crops can only occur 2 weeks after Bollgard II cotton plants have been harvested.
(i) Refuges for Bollgard II crops must be planted in the same row configuration as the Bollgard II crop.

2. Control of volunteer and ratoon cotton

Volunteer and ratoon cotton may impose additional selection pressure on *Helicoverpa* spp. to develop resistance to the Bt proteins Cry 1Ac and Cry 2Ab produced by Bollgard II cotton.
Growers must make all reasonable efforts to remove volunteer and ratoon plants as soon as possible from all fields - including fallow areas, Bollgard II crops, conventional cotton crops and all refuges. **The presence of Bollgard II volunteers/ratoon cotton in any refuge will diminish the value of the refuge and must be removed as soon as possible.**
Note: The refuge should preferably be planted into fallow or rotation fields that have not been planted to cotton in the previous season.

3. Post-harvest crop destruction

As soon as practical after harvest, Bollgard II cotton crops must be destroyed by cultivation or herbicide so that they do not continue to act as hosts for *Helicoverpa* spp. Unsprayed refuges must be left uncultivated for two weeks after harvest to allow emergence of any pupating *Helicoverpa* spp.

4. Planting windows

All Bollgard II crops and cotton refuges are to be planted into moisture or watered-up in a five week window. In each region, the start date of the planting window will be determined by TIMS in consultation with local growers and reflected in a regionally amended “Bollgard II Planting Window Variation Notice”.
The planting window will occur within the following periods:
Ord River Irrigation Area: March 1 and May 1.
Burdekin Bowen Basin Area: December 1 and April 1.
Richmond Area: December 1 and April 1.

5. Refuge

Unsprayed Pigeon Pea refuge should preferably be planted into a fallow or rotation field that has not been planted to cotton in the previous season.

6. End of season chick pea trap crop

An end of season chick pea trap crop must be planted. The planting configuration of the trap crop should be the same as that of the Bollgard II crop. Table 2 shows the requirements for the chick pea trap crop.

Table 2. End of season chick pea trap crop requirements Criterion	**End of season chick pea trap crop**
Minimum area & dimensions	A trap crop of 1% of planted Bollgard II crop area is required. This planting must be at least 24 m x 24m wide.

Planting time	In April for Burdekin Bowen Area. In July/August for Ord area. The trap crop is to be planted such that it is attractive to *Helicoverpa* spp. from 2 weeks before defoliation of the Bollgard II cotton. It must remain attractive to *Helicoverpa* spp. until at least 2 weeks after defoliation of the Bollgard II cotton.
Insect control	The trap crop should be monitored and sprayed with insecticide if the larval pressure threatens the viability of the crop.
Irrigation	The trap crop is to remain attractive to *Helicoverpa* spp. until after defoliation of cotton. In some cases this may require one additional irrigation after the cotton is defoliated. The trap crop must be planted into an area where it can receive the additional irrigation required to ensure the trap crop remains attractive to Helicoverpa spp.
Weed control	The trap crop should be kept free of weeds and particularly volunteer Bollgard II cotton.
Crop destruction	The trap crop must be destroyed 2-4 weeks after defoliation of the Bollgard II cotton crop, but not before 3 weeks (slash and pupae bust – full soil disturbance to a depth of 10 cm across the entire trap crop area). All Bollgard II cotton and associated trap crops must be destroyed by: Burdekin Bowen Basin/Richmond Area – August 31 Ord River Irrigation Area – December 10

NB: If any grower encounters problems in complying with the resistance management plan, please contact your Monsanto Regional Business Manager.

For further background information on the various components of this plan see the ”Preamble to the Resistance Management Plan for Bollgard II” in the current Cotton Pest Management Guide.

[redacted]
Syngenta Australia Pty Limited
[redacted]

30 October 2018
Attention Brien Weir
Office of the Gene Technology Regulator
Moinitoring and Compliance
OGTR.M&C@health.gov.au

Subject: Annual Report 2018 - DIR 157

To Whom it May Concern

In accordance to the licence conditions pertaining to DIR-157 conditon 20, for the commercial release of GM cotton -COT102, Syngenta must provide the following information for the purpose of the annual report.

1. **Syngenta does not cultivate COT102- as a stand alone or stacked event in any volume, for commercial or research purposes in Australia.**

2. Syngenta is not aware of any new information on any adverse impacts, unintended effects, or other information related to the risks, to human health and safety or the environment caused by the GMO or material from the GMO. All information(s) in the original application provided to OGTR are still relevant.

3. COT102 is used in stacked events licensed by other companies such as DIR124 , and it is expected any information related to points (a)-(c) will be raised in that companies annual report to the OGTR
   a) Information about any adverse impacts, unintended effects, or new information relating to risks, to human health and safety or the environment caused by the GMO or material from the GMO;
   b) information about the volumes of the GMO grown for commercial purposes, including seed increase operations, in each State and Territory for each growing season in the preceding financial year;
   c) information about the volumes of the GMO grown for non-commercial (e.g. research) purposes in each State and Territory for each growing season in the preceding financial year.

If you require further information, please contact me directly at [redacted].

Thank you
Yours sincerely,

[redacted]

Licence Number	DIR118
Licence Holder	Monsanto Australia Ltd
Accreditation Number	ACCR 034/2002
Submission	2017 Annual Report for the Commercial Release of GM herbicide tolerant (Roundup Ready Flex® MON 88913) pima cotton in Australia
Reporting Period	1 June 2016 – 1 June 2017
Date	30 June, 2017
Prepared By	[redacted]

Contents

Section 1 – Licence Holder Details

Name	Monsanto Australia Limited
Address	Level 12 600 St Kilda Rd Melbourne Victoria 3004
Telephone	(03)9522 7101
Facsimile	(03)9522 6101
Contact email	[redacted]
Accreditation Number	ACR 034/2002

Scope of the Report –

This report addresses the annual reporting conditions of the DIR118 commercial licence for the release of GM herbicide tolerant (Roundup Ready Flex® MON 88913) pima cotton in Australia, issued to Monsanto Australia Limited by the Office of the Gene Technology Regulator (OGTR).

This report details compliance with the general and specific conditions of sections 2 and 3 of the DIR118 licence as issued to Monsanto on the 16 August 2013.

This report covers the period of time between the 1 July 2016 and 30 June 2017, which includes the 2016/17 cotton growing season.

Section 2 – General Conditions

Duration of the Licence

DIR118 has not been cancelled, suspended or surrendered.

Holder of the Licence

Monsanto Australia Limited (Monsanto) is the holder of the licence.

Project Supervisor

[redacted] is the project supervisor.

Persons covered by this licence

All persons covered by this licence are all persons in Australia.

Informing people of their obligations

Monsanto Australia Limited informs all GM herbicide tolerant (Roundup Ready Flex® MON 88913) pima cotton growers covered by the DIR118 licence of the obligations imposed on them as a result of the conditions of this licence. This is primarily achieved through Monsanto grower training which includes information on regulatory obligations.

Licence holder to notify of circumstances that might affect suitability

During the reporting period, Monsanto Australia did not receive a relevant conviction occurring after the commencement of this licence; nor was there any revocation or suspension of a licence or permit held by Monsanto Australia Ltd under a law of the Australian Government, a state or a foreign country, being law relating to the health and safety of people or the environment; or any event or circumstance occurring after the commencement of the licence that would affect the capacity of Monsanto to meet the conditions of the DIR118 licence.

Monsanto acknowledges that it must provide information related to their ongoing suitability to hold a licence when requested to do so in writing by the regulator and must provide the information within a time frame stipulated by the regulator.

People dealing with the GMO must allow auditing and monitoring of the dealing

Monsanto acknowledges that if a person is authorized by this licence to deal with GMOs and a particular condition of this licence applies to the dealing by that person, the person must allow the Regulator to enter premises where the dealing is being undertaken for the purposes of auditing or monitoring the dealing.

Remaining an accredited organization

At all times, Monsanto remained an accredited organization and complied with the conditions of the accreditation as set out in the OGTR guidelines for accreditation of organizations.

Additional Information given to the Regulator

During the reporting period, Monsanto did not become aware of additional information as to any risks to the health and safety of people, or to the environment, associated with the dealings authorized by the licence; or of any unintended effects of the dealings authorized by the licence.

Monsanto was not requested by the Regulator, during the reporting period, to collect or provide additional information about any matter to do with the progress of the dealings authorised by DIR118.

Section 3 – Growing the GMO

3.1 GMOs covered by this Licence

The only dealings with GMOs under this licence were those with the GMO described in attachment A of the DIR118 licence

3.2 Permitted Dealings

During the period of this report, only dealings with the GMO authorized were permitted

3.3 Commercial Volumes of GM herbicide tolerant (Roundup Ready Flex® MON 88913) pima cotton grown in each State and Territory

3.3.1 Total commercial GM herbicide tolerant (Roundup Ready Flex® MON 88913) pima cotton grown in the period 1 July 2016 to 30 June 2017 – Summary

STATE	Total ha
Victoria	0
New South Wales	0
Western Australia	0
Queensland	0
Total ha	**0**

3.4 Trial Volumes of GM herbicide tolerant (Roundup Ready Flex® MON 88913) pima cotton grown in each State and Territory

3.4.1 Total trial GM herbicide tolerant (Roundup Ready Flex® MON 88913) pima cotton planted in the period 1 July 2016 to 30 June 2017 – Summary

STATE	Total ha
Victoria	0
New South Wales	0
Western Australia	0
Queensland	0
Total ha	**0**

3.5 Annual Surveys

No other information on the progress of the release of the GMO, including annual surveys, was required to be submitted during this annual reporting period under specific condition 17(d) of DIR118.

Level 9, 67 Albert Ave, Chatswood N.S.W. 2067 Australia
Telephone: 61 + 2 9474 7300 Fax: 61 + 2 9474 7344 Toll Free +1800 700 096
Postal Address: Locked Bag 2002, Chatswood N.S.W. 2057 Australia

25th February 2020

Office of the Gene Technology Regulator
(MDP54)
GPO Box 9848
Canberra ACT 2601

DIR091 ANNUAL REPORT 2019

Since the issuing of Licence No.: DIR 091 by the OGTR on the 25 November 2009, Dow AgroSciences Australia Ltd has had nil dealings with WideStrike™ Insect Protection Cotton in Australia.

As per licence condition 32, the following statements are made:

(a) No adverse impacts, unintended effects or new information relating to risks to human health and safety or the environment have been caused by or found in relation to WideStrike™ Insect Protection Cotton

(b) WideStrike™ Insect Protection Cotton has not been produced commercially in any state or territory in Australia since the issuing of Licence No.: DIR 091 by the OGTR on the 25th November 2009.

(c) WideStrike™ Insect Protection Cotton has not been produced for experimental purposes in any state or territory in Australia since the issuing of Licence No.: DIR 091 by the OGTR on the 25th November 2009.

(d) Nil WideStrike™ Insect Protection Cotton has been fed to livestock north of latitude 22° South in Australia.

(e) No research of the effects of WideStrike™ Insect Protection Cotton on non-target insect(s) has been conducted.

(f) No research on volunteer incidence of WideStrike™ Insect Protection Cotton in areas north of latitude 22° South after livestock feeding has been conducted.

Yours sincerely,

[redacted]

Regulatory and Stewardship Manager ANZ
Corteva Agriscience

Dow AgroSciences

Dow AgroSciences Australia Ltd
Level 5, 20 Rodborough Road, Frenchs Forest NSW 2086, Australia
www.dowagrosciences.com.au
ABN 24 003 771 659
Tel: +61 2 9776 3400 Fax: +61 2 9776 3435 Toll Free: 1800 700 096
Postal: Locked Bag 502, Frerichs Forest NSW 2086, Australia

14 February 2017

Office of the Gene Technology Regulator
(MDP54)
GPO Box 9848
Canberra ACT 2601

DIR091 ANNUAL REPORT 2016

Since the issuing of Licence No.: DIR 091 by the OGTR on the 25 November 2009, Dow AgroSciences Australia Ltd has had nil dealings with WideStrikeTM Insect Protection Cotton in Australia.

As per licence condition 32, the following statements are made:

(a) No adverse impacts, unintended effects or new information relating to risks to human health and safety or the environment have been caused by or found in relation to WideStrikeTM Insect Protection Cotton

(b) WideStrikeTM Insect Protection Cotton has not been produced commercially in any state or territory in Australia since the issuing of Licence No.: DIR 091 by the OGTR on the 2 5th November 2009

(c) WideStrikeTM Insect Protection Cotton has not been produced for experimental purposes in any state or territory in Australia since the issuing of Licence No.: DIR 091 by the OGTR on the 25th November 2009.

(d) Nil WideStrikeTM Insect Protection Cotton has been fed to livestock north of latitude 22° South in Australia.

(e) No research of the effects of WideStrikeTM Insect Protection Cotton on non-target insect(s) has been conducted.

(f) No research on volunteer incidence of WideStrike™ Insect Protection Cotton in areas north of latitude 22° South after livestock feeding has been conducted.

Regards,

[redacted] ANZ Product Stewardship Leader
M: [redacted] E: [redacted]

Dow AgroSciences Australia Ltd
Locked Bag 502, Frenchs Forest NSW 2086

www.dowagrosciences.com.au

Licence Number	DIR118
Licence Holder	Monsanto Australia Ltd
Accreditation Number	ACCR 034/2002
Submission	2018 Annual Report for the Commercial Release of GM herbicide tolerant (Roundup Ready Flex® MON 88913) pima cotton in Australia
Reporting Period	1 June 2017 – 1 June 2018
Date	30 June, 2018
Prepared By	[redacted]

Contents

Section 1 – Licence Holder Details

Name	Monsanto Australia Limited
Address	Level 12 600 St Kilda Rd Melbourne Victoria 3004
Telephone	(03)9522 7101
Facsimile	(03)9522 6101
Contact email	[redacted]
Accreditation Number	ACR 034/2002

Scope of the Report –

This report addresses the annual reporting conditions of the DIR118 commercial licence for the release of GM herbicide tolerant (Roundup Ready Flex® MON 88913) pima cotton in Australia, issued to Monsanto Australia Limited by the Office of the Gene Technology Regulator (OGTR).

This report details compliance with the general and specific conditions of sections 2 and 3 of the DIR118 licence as issued to Monsanto on the 16 August 2013.

This report covers the period of time between the 1 July 2017 and 30 June 2018, which includes the 2017/18 cotton growing season.

Section 2 – General Conditions

Duration of the Licence

DIR118 has not been cancelled, suspended or surrendered.

Holder of the Licence

Monsanto Australia Limited (Monsanto) is the holder of the licence.

Project Supervisor

[redacted] is the project supervisor.

Persons covered by this licence

All persons covered by this licence are all persons in Australia.

Informing people of their obligations

Monsanto Australia Limited informs all GM herbicide tolerant (Roundup Ready Flex® MON 88913) pima cotton growers covered by the DIR118 licence of the obligations imposed on them as a result of the conditions of this licence. This is primarily achieved through Monsanto grower training which includes information on regulatory obligations.

Licence holder to notify of circumstances that might affect suitability

During the reporting period, Monsanto Australia did not receive a relevant conviction occurring after the commencement of this licence; nor was there any revocation or suspension of a licence or permit held by Monsanto Australia Ltd under a law of the Australian Government, a state or a foreign country, being law relating to the health and safety of people or the environment; or any event or circumstance occurring after the commencement of the licence that would affect the capacity of Monsanto to meet the conditions of the DIR118 licence.

Monsanto acknowledges that it must provide information related to their ongoing suitability to hold a licence when requested to do so in writing by the regulator and must provide the information within a time frame stipulated by the regulator.

People dealing with the GMO must allow auditing and monitoring of the dealing

Monsanto acknowledges that if a person is authorized by this licence to deal with GMOs and a particular condition of this licence applies to the dealing by that person, the person must allow the Regulator to enter premises where the dealing is being undertaken for the purposes of auditing or monitoring the dealing.

Remaining an accredited organization

At all times, Monsanto remained an accredited organization and complied with the conditions of the accreditation as set out in the OGTR guidelines for accreditation of organizations.

Additional Information given to the Regulator

During the reporting period, Monsanto did not become aware of additional information as to any risks to the health and safety of people, or to the environment, associated with the dealings authorized by the licence; or of any unintended effects of the dealings authorized by the licence.

Monsanto was not requested by the Regulator, during the reporting period, to collect or provide additional information about any matter to do with the progress of the dealings authorised by DIR118.

Section 3 – Growing the GMO

3.1 GMOs covered by this Licence

The only dealings with GMOs under this licence were those with the GMO described in attachment A of the DIR118 licence

3.2 Permitted Dealings

During the period of this report, only dealings with the GMO authorized were permitted

3.3 Commercial Volumes of GM herbicide tolerant (Roundup Ready Flex® MON 88913) pima cotton grown in each State and Territory

3.3.1 Total commercial GM herbicide tolerant (Roundup Ready Flex® MON 88913) pima cotton grown in the period 1 July 2017 to 30 June 2018 – Summary

STATE	Total ha
Victoria	0
New South Wales	0
Western Australia	0
Queensland	0
Total ha	**0**

3.4 Trial Volumes of GM herbicide tolerant (Roundup Ready Flex® MON 88913) pima cotton grown in each State and Territory

3.4.1 Total trial GM herbicide tolerant (Roundup Ready Flex® MON 88913) pima cotton planted in the period 1 July 2017 to 30 June 2018 – Summary

STATE	Total ha
Victoria	0
New South Wales	0
Western Australia	0
Queensland	0
Total ha	**0**

3.5 Annual Surveys

No other information on the progress of the release of the GMO, including annual surveys, was required to be submitted during this annual reporting period under specific condition 17(d) of DIR118.

BASF
We create chemistry

BASF Australia Ltd.
[redacted]

Office of the Gene Technology Regulator
MDP 54
GPO Box 9848
CANBERRA ACT 2601

Friday 30 October 2020
[redacted]

Sent to andrew.short@health.gov.au via email

Attention: Application Entry Point

Dear Sir/Madam,

Annual Report for DIR062/2005 for the year 8 August 2019 to 7 August 2020

I refer to the requirements of the above licence (*viz*. Condition No. 20), to provide the OGTR with an annual report within 90 days of the licence issue date anniversary.

During the period of 8 August 2019 to 7 August 2020, no cotton containing Liberty Link technology was planted in Australia. During the same period there were no plantings of LLCotton25/Bollgard II cotton in Australia.

During the reporting period, no adverse effects were observed or reported to us as a result of dealings with Liberty Link or LLCotton25/Bollgard II cotton under licence DIR062/2005.

Yours sincerely,

[redacted]

Regulatory Affairs Manager, Seeds, ANZ
BASF Australia Ltd.

[redacted]

LICENCE NO:	DIR124
LICENCE HOLDER:	Monsanto Australia Proprietary Limited
ACCREDITATION NO:	ACCR 034/2002

SUBMISSION:	2020 Annual Report for Commercial release of GM insect resistant and/or herbicide tolerant cotton lines
REPORTING PERIOD:	1 July 2019 – 30 June 2020 (covering 2019/20 cotton growing season)
DATE:	30 June 2020

PREPARED BY: [redacted]

Contents

SECTION 1. LICENCE HOLDER DETAILS

Name: Monsanto Australia Proprietary Limited

Address: Level 1, 8 Redfern Rd Hawthorn East

VIC 3123

Telephone: (03)9522 7101

Contact email: [redacted]

Accreditation Number: ACCR 034/2002

SCOPE OF THE REPORT

This report addresses the annual reporting condition of the DIR124 commercial licence covering Bollgard® 3 and Bollgard® 3 Roundup Ready® Flex cotton technology issued to Monsanto Australia Proprietary Limited by the Office of the Gene Technology Regulator.

This report details compliance with general and specific conditions of Sections 2 to 3 of the DIR124 licence as issued to Monsanto Australia Proprietary Limited on 19 June 2014.

This report covers the period from 1 July 2019 to 30 June 2020, including the 2019/20 cotton planting season.

SECTION 2. LICENCE CONDITIONS AND OBLIGATIONS

Condition 3. Authorised Dealings
No dealings were conducted with GMOs under this licence that are otherwise prohibited as a result of the operation of State legislation declaring areas to be GM, GM free, or both, for marketing purposes.

Condition 4. Duration of Licence
DIR124 has not been suspended, cancelled or surrendered.

Condition 5. Holder of Licence
Monsanto Australia Proprietary Limited (Monsanto) remains the holder of the licence.

Condition 6. Project Supervisor
The project supervisor is [redacted]

Condition 7. Persons covered by this GMO Licence
Monsanto acknowledges that any person, including the licence holder, may conduct any permitted dealings with the GMOs as covered by the licence.

Condition 8. Dealings with GMOs as authorized by this Licence
All dealings with the GMOs are permitted under this licence.

Condition 9. Location
The licence allows for dealings with GMOs to be conducted in all areas of Australia.

Condition 10. GMOs covered by this licence
The only dealings with GMOs under this licence were those with the GMOs described in DIR124 Licence.

Condition 11. Licence Conditions
Monsanto acknowledges that if the conditions of any prior licence authourising dealings with the GMO are inconsistent with the conditions of this licence, the conditions of this licence will prevail.

Condition 12. Remaining an Accredited organization
At all times, Monsanto remained an accredited organization and complied with the Act and with its instrument of accreditation.

Condition 13. Applicant to notify of circumstances that might affect suitability
During the reporting period, Monsanto Australia Ltd did not receive a relevant conviction occurring after the commencement of this licence; nor was there any revocation or suspension of a licence or permit held by Monsanto Australia Ltd under a law of the Australian Government, a State or foreign country, being a law relating to the health and safety of people or the environment; or any event or circumstance occurring after the commencement of this licence that would affect the capacity of Monsanto to meet the conditions of the DIR124 licence. Monsanto acknowledges that it must provide information related to its ongoing suitability to hold a licence, if requested, within a period stipulated by the Regulator.

Condition 14. Informing people of their obligations
Monsanto Australia Proprietary Limited informed all persons covered by the DIR124 licence of the obligations imposed on them as a result of the conditions of the licence. This was primarily achieved through the Monsanto accreditation program and contractual obligations, which includes information on regulatory obligations as well as management of the crop. Accreditation requires all persons having management responsibility for Bollgard 3 cotton crops to undergo training.

Monsanto recognizes that any persons covered by the DIR124 licence, to whom a condition of the licence applies, must be informed of particular conditions and any variations, the cancellation, suspension or surrender of the licence. This is achieved through training and contractual obligations.

Conditions 15 - 17. Applicant to notify of circumstances that might affect the risk assessment

During the reporting period, Monsanto Australia Ltd did not become aware of any risks to the health and safety of people, or to the environment, associated with the dealings authorised under DIR124; or of any contraventions of the licence by a person covered by the licence; or any unintended effects of the dealings authorised by the licence.

Monsanto acknowledges that should it be required to inform the regulator of additional information under these licence conditions it must do so without delay.

Conditions 18 and 19. Persons covered by the licence

Monsanto acknowledges that the persons covered by the licence must not deal with the GMOs except as expressly permitted by this licence.

Monsanto acknowledges that if a person authorized by this licence to deal with GMOs and a condition of this licence applies to the dealing by that person, the person must allow the Regulator, or a person authorized by the Regulator, to enter the premises where the dealing is being undertaken, for the purposes of auditing or monitoring the dealing.

SECTION 3. GROWING THE GMOS

3.1 GMOs covered by this licence

The only dealings with GMOs under this licence were those with the GMOs described in the DIR124 Licence.

3.2 Permitted dealings

Plantings of Bollgard 3 were undertaken under a Technology User Agreement (TUA), which sets out the conditions for planting and growing a cotton crop containing Bollgard 3 technology. To be eligible to sign such an agreement, a grower is required to attend an accreditation and training program.

In the 2019/20 season, all Bollgard 3 cotton planted was managed under the Bollgard 3 RMP.

3.3 Trial/Research Crop Volumes by State

State	Trial/Research Bollgard 3 Area (Ha)
NSW	4.3
QLD	1.6
Total Trial Bollgard 3 Area planted	**5.9**

***Note** – Total Bollgard 3 figure includes Bollgard 3 Roundup Ready Flex only.*

3.4 Commercial Crop Volumes by State

State	Commercial Bollgard 3 Area (Ha)
NSW (Murrumbidgee, Gwydir, Lachlan, Upper and Lower Namoi, Walgett and Macquarie valleys)	39,903.3
VIC (Murray)	495.1
QLD (Belyando, Burdekin, Darling Downs, Dawson/Callide, Dirranbandi, Emerald, Flinders, Gilbert, MacIntyre, Mareeba/Dimbula, McKenzie River and St George valleys)	24,588.6
WA (The Ord valley)	1,007.1
NT (Douglas/Daly and Katherine valleys)	935.4
Total Commercial Bollgard 3 Area planted (Ha)	**66,929.5**

Licence Number	DIR118
Licence Holder	Monsanto Australia Pty Ltd
Accreditation Number	ACCR 034/2002
Submission	2018 Annual Report for the Commercial Release of GM herbicide tolerant (Roundup Ready Flex® MON 88913) pima cotton in Australia
Reporting Period	1 June 2018 – 1 June 2019
Date	30 June, 2019
Prepared By	[redacted]

Contents

Section 1 – Licence Holder Details

Name	Monsanto Australia Proprietary Limited
Address	Level 12 600 St Kilda Rd Melbourne Victoria 3004
Telephone	(03)9522 7101
Facsimile	(03)9522 6101
Contact email	[redacted]
Accreditation Number	ACR 034/2002

Scope of the Report –

This report addresses the annual reporting conditions of the DIR118 commercial licence for the release of GM herbicide tolerant (Roundup Ready Flex® MON 88913) pima cotton in Australia, issued to Monsanto Australia Proprietary Limited by the Office of the Gene Technology Regulator (OGTR).

This report details compliance with the general and specific conditions of sections 2 and 3 of the DIR118 licence as issued to Monsanto on the 16 August 2013.

This report covers the period of time between the 1 July 2018 and 30 June 2019, which includes the 2018/19 cotton growing season.

Section 2 – General Conditions

Duration of the Licence

DIR118 has not been cancelled, suspended or surrendered.

Holder of the Licence

Monsanto Australia Proprietary Limited (Monsanto) is the holder of the licence.

Project Supervisor

[redacted] is the project supervisor.

Persons covered by this licence

All persons covered by this licence are all persons in Australia.

Informing people of their obligations

Monsanto Australia Proprietary Limited informs all GM herbicide tolerant (Roundup Ready Flex® MON 88913) pima cotton growers covered by the DIR118 licence of the obligations imposed on them as a result of the conditions of this licence. This is primarily achieved through Monsanto grower training which includes information on regulatory obligations.

Licence holder to notify of circumstances that might affect suitability

During the reporting period, Monsanto Australia did not receive a relevant conviction occurring after the commencement of this licence; nor was there any revocation or suspension of a licence or permit held by Monsanto Australia Pty Ltd under a law of the Australian Government, a state or a foreign country, being law relating to the health and safety of people or the environment; or any event or circumstance occurring after the commencement of the licence that would affect the capacity of Monsanto to meet the conditions of the DIR118 licence. Monsanto acknowledges that it must provide information related to their ongoing suitability to hold a licence when requested.

People dealing with the GMO must allow auditing and monitoring of the dealing

Monsanto acknowledges that if a person is authorized by this licence to deal with GMOs and a particular condition of this licence applies to the dealing by that person, the person must allow the Regulator to enter premises where the dealing is being undertaken for the purposes of auditing or monitoring the dealing.

Remaining an accredited organization

At all times, Monsanto remained an accredited organization and complied with the conditions of the accreditation as set out in the OGTR guidelines for accreditation of organizations.

Additional Information given to the Regulator

During the reporting period, Monsanto did not become aware of additional information as to any risks to the health and safety of people, or to the environment, associated with the dealings authorized by the licence; or of any unintended effects of the dealings authorized by the licence.

Section 3 – Growing the GMO

3.1 GMOs covered by this Licence

The only dealings with GMOs under this licence were those with the GMO described in attachment A of the DIR118 licence

3.2 Permitted Dealings

During the period of this report, only dealings with the GMO authorized were permitted.

3.3 Commercial Volumes of GM herbicide tolerant (Roundup Ready Flex® MON 88913) pima cotton grown in each State and Territory - Summary

STATE	Total ha
Victoria	0
New South Wales	0
Western Australia	0
Queensland	0
Total ha	**0**

3.4 Trial Volumes of GM herbicide tolerant (Roundup Ready Flex® MON 88913) pima cotton grown in each State and Territory - Summary

STATE	Total ha
Victoria	0
New South Wales	0
Western Australia	0
Queensland	0
Total ha	**0**

3.5 Annual Surveys

No other information on the progress of the release of the GMO, including annual surveys, was required to be submitted during this annual reporting period under specific condition 17(d) of DIR118.

LICENCE NO:	DIR066
LICENCE HOLDER:	Monsanto Australia Proprietary Limited
ACCREDITATION NO:	ACCR 034/2002

SUBMISSION:	2020 Annual Report for Commercial release of GM herbicide tolerant and/or insect resistant cotton lines
REPORTING PERIOD:	1 June 2019 – 1 June 2020 (covering 2019/20 cotton growing season)
DATE:	30 June 2020

PREPARED BY: [redacted]

Contents

SECTION 1. LICENCE HOLDER DETAILS

Name: Monsanto Australia Proprietary Limited

Address: Level 1, 8 Redfern Road
Hawthorn East, VIC 3123

Contact email: [redacted]

Accreditation Number: ACCR 034/2002

SCOPE OF THE REPORT

This report addresses the annual reporting condition of the DIR066 commercial licence covering Roundup Ready® cotton, Roundup Ready® Flex cotton and the Bollgard II® trait issued to Monsanto Australia Proprietary Limited by the Office of the Gene Technology Regulator.

This report details compliance with general and specific conditions of Sections 2 to 6 of the DIR066 licence as issued to Monsanto Australia Proprietary Limited on 26 October 2006, and as varied 22 December 2006, 6 December 2007, 15 April 2009 and 20 June 2013.

This report covers the period from 1 June 2019 to 1 June 2020, including the 2019/20 cotton planting season.

SECTION 2. LICENCE CONDITIONS

Condition 1. Duration of Licence; DIR066 has not been suspended, cancelled or surrendered.

Condition 2. Holder of Licence; Monsanto Australia Proprietary Limited (Monsanto) remains the holder of the licence.

Conditions 3 and 4. Project Supervisor; The project supervisor is [redacted]

Condition 5. No dealings with GMOs except as authorized by this Licence; Persons covered by the licence did not deal with GMOs except as expressly permitted by the licence.

Conditions 6 and 7. Location; The licence allows for dealings with GMOs to be conducted anywhere in Australia. This licence supersedes any previous licences regarding location.

Conditions 8 and 9. Persons covered by this GMO Licence; Monsanto acknowledges that the persons covered by the licence are the licence holder and employees, agents or contractors of the licence holder and other persons who are, or have been, engaged to undertake any activity in connection with GMOs grown in a location pursuant to this licence.

Conditions 10 and 11. Informing people of their obligations; DIR066 was issued in October 2006, permitting dealings with the GMOs to be undertaken during the cotton growing seasons.
Monsanto Australia Proprietary Limited informed all persons covered by the DIR066 licence of the obligations imposed on them as a result of the conditions of the licence. This was primarily achieved through the Monsanto accreditation program, which includes information on regulatory obligations as well as management of the crop.
Accreditation programs require all persons having management responsibility for Roundup Ready (no longer sold commercially), Roundup Ready Flex and Bollgard II cotton crops to undergo training.

Condition 12. Applicant to notify of circumstances that might affect suitability; During the reporting period, Monsanto Australia Pty Ltd did not receive a relevant conviction occurring after the commencement of this licence; nor was there any revocation or suspension of a licence or permit held by Monsanto Australia Pty Ltd under a law of the Australian Government, a State or foreign country, being a law relating to the health and safety of people or the environment; or any event or circumstance occurring after the commencement of this licence that would affect the capacity of Monsanto to meet the conditions of the DIR066 licence.

Condition 13. Licence holder must provide information on matters related to suitability;
Monsanto acknowledges that it must provide information related to its ongoing suitability to hold a licence when requested to do so in writing by the Regulator and must provide information within a time period stipulated by the Regulator.

Condition 14. People dealing with the GMOs must allow auditing and monitoring of the dealing; Monsanto acknowledges that if a person authorized by this licence to deal with GMOs and a particular condition of this licence applies to the dealing by that person, the person must allow the Regulator, or a person authorized by the Regulator, to enter the premises where the dealing is being undertaken, for the purposes of auditing or monitoring the dealing.

Condition 15. Remaining an Accredited organization; At all times, Monsanto remained an accredited organization and complied with conditions of accreditation as set out in the OGTR Guidelines for Accreditation of Organisations.

Conditions 16 - 19 Additional information must be given to the Regulator; During the reporting period, Monsanto did not become aware of any additional information as to any risks to the health and safety of people, or to the environment, associated with the dealings authorized by this licence; or of any unintended effects of the dealings authorized by this licence.

Condition 20. Compliance Management Plan A Compliance Management Plan was provided to the Regulator on issuance of the DIR066 licence.

SECTION 3. GROWING THE GMOS

3.1 GMOs covered by this licence

The only dealings with GMOs under this licence were those with the GMOs described in DIR066 Licence.

3.2 Permitted dealings

Sales and planting of the Roundup Ready Flex (RRF), Bollgard II (BGII) and Bollgard II stacked with Liberty Link® (BGIIwLL) were undertaken under a Technology User Agreement, which sets out the conditions for planting and growing a cotton crop containing RRF and BGII technology. Roundup Ready cotton has been removed from the market in Australia. To be eligible to sign such an agreement, a grower is required to attend an accreditation program and pass a test based on the material covered in the accreditation program.

3.3 Trial/Research Crop Locations and Volumes

Valley	BGII ha	RR ha	RRF ha	BGII w RR ha	BGII w RRF ha	BGII w LL ha	Total ha
Darling Downs	0.0	0.0	0.1	0.0	0.0	0.0	0.1
Mareeba/Dimbula	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Murrumbidgee	0.0	0.0	0.5	0.0	0.0	0.0	0.5
Total ha	**0.0**	**0.0**	**0.6**	**0.0**	**0.0**	**0.0**	**0.6**

3.4 Commercial Crop Locations and Volumes

Valley	BGII ha	RR ha	RRF ha	BGII w RR ha	BGII w RRF ha	BGII w LL ha	TOTAL/Valley
Darling Downs	0.00	0.00	338.6	0.00	0.00	0.00	338.6
Dawson/Callide	0.00	0.00	96.7	0.00	0.00	0.00	96.7
Emerald	0.00	0.00	28.3	0.00	0.00	0.00	28.3
Gilbert	0.00	0.00	607.1	0.00	0.00	0.00	607.1
Gwydir	0.00	0.00	187.8	0.00	0.00	0.00	187.8
Katherine	0.00	0.00	6.5	0.00	0.00	0.00	6.5
Lachlan	0.00	0.00	112.4	0.00	0.00	0.00	112.4
Lower Namoi	0.00	0.00	231.6	0.00	10.5	0.00	242.1
MacIntyre	0.00	0.00	50.1	0.00	0.00	0.00	50.1
Macquarie	0.00	0.00	65.2	0.00	0.00	0.00	65.2
Mareeba/Dimbula	0.00	0.00	34.4	0.00	0.00	0.00	34.4
Murray	0.00	0.00	13.7	0.00	0.00	0.00	13.7
Murrumbidgee	0.00	0.00	164.9	0.00	0.00	0.00	164.9
St George	0.00	0.00	8.8	0.00	26.7	0.00	35.5
Upper Namoi	0.00	0.00	313.5	0.00	0.00	0.00	313.5
Walgett	0.00	0.00	13.9	0.00	0.00	0.00	13.9
Total ha	**0.00**	**0.00**	**2,273.5**	**0.00**	**37.2**	**0.00**	**2,310.7**
Total, Bollgard II ha planted				**37.2**			
Total Roundup Ready Flex ha planted				**2,310.7**			

Note *– Total Bollgard II figure includes Bollgard II, Bollgard II/Roundup Ready Flex and Bollgard II/Liberty Link. Total Roundup Ready Flex figure includes Roundup Ready Flex, Bollgard II/Roundup Ready Flex and Bollgard 3/Roundup Ready Flex. Bollgard 3 component is not reportable under DIR066.*

Dow AgroSciences Australia Ltd ABN 24 003 771 659
www.dowagrosciences.com.au
Level 5, 20 Rodborough Road, Frenchs Forest N.S.W. 2086 Australia
Telephone: 61 + 2 9776 3400 Fax: 61 + 2 9776 3435 Toll Free +1800 700 096
Postal Address: Locked Bag 502, Frenchs Forest N.S.W. 2086 Australia

16th July 2018

Office of the Gene Technology Regulator
(MDP54)
GPO Box 9848
Canberra ACT 2601

DIR091 ANNUAL REPORT 2017

Since the issuing of Licence No.: DIR 091 by the OGTR on the 25 November 2009, Dow AgroSciences Australia Ltd has had nil dealings with WideStrike™ Insect Protection Cotton in Australia.

As per licence condition 32, the following statements are made:

(a) No adverse impacts, unintended effects or new information relating to risks to human health and safety or the environment have been caused by or found in relation to WideStrike™ Insect Protection Cotton

(b) WideStrike™ Insect Protection Cotton has not been produced commercially in any state or territory in Australia since the issuing of Licence No.: DIR 091 by the OGTR on the 25th November 2009.

(c) WideStrike™ Insect Protection Cotton has not been produced for experimental purposes in any state or territory in Australia since the issuing of Licence No.: DIR 091 by the OGTR on the 25th November 2009.

(d) Nil WideStrike™ Insect Protection Cotton has been fed to livestock north of latitude 22° South in Australia.

(e) No research of the effects of WideStrike™ Insect Protection Cotton on non-target insect(s) has been conducted.

(f) No research on volunteer incidence of WideStrike™ Insect Protection Cotton in areas north of latitude 22° South after livestock feeding has been conducted.

Regards,

[redacted]

[redacted]
ANZ Seeds Regulatory and Product Stewardship Lead

Corteva Agriscience™
Agriculture Division of DowDuPont

Office: [redacted] Mobile: [redacted]
Email: [redacted]

Dow AgroSciences Australia Ltd
Level 5, 20 Rodborough Rd
Frenchs Forest, NSW, 2086

Dow AgroSciences Australia Ltd ABN 24 003 771 659
www.dowagrosciences.com.au
Level 5, 20 Rodborough Road, Frenchs Forest N.S.W. 2086 Australia
Telephone: 61 + 2 9776 3400 Fax: 61 + 2 9776 3435 Toll Free +1800 700 096
Postal Address: Locked Bag 502, Frenchs Forest N.S.W. 2086 Australia

5th March 2019

Office of the Gene Technology Regulator
(MDP54)
GPO Box 9848
Canberra ACT 2601

DIR091 ANNUAL REPORT 2018

Since the issuing of Licence No.: DIR 091 by the OGTR on the 25 November 2009, Dow AgroSciences Australia Ltd has had nil dealings with WideStrike™ Insect Protection Cotton in Australia.

As per licence condition 32, the following statements are made:

(a) No adverse impacts, unintended effects or new information relating to risks to human health and safety or the environment have been caused by or found in relation to WideStrike™ Insect Protection Cotton

(b) WideStrike™ Insect Protection Cotton has not been produced commercially in any state or territory in Australia since the issuing of Licence No.: DIR 091 by the OGTR on the 25th November 2009.

(c) WideStrike™ Insect Protection Cotton has not been produced for experimental purposes in any state or territory in Australia since the issuing of Licence No.: DIR 091 by the OGTR on the 25th November 2009.

(d) Nil WideStrike™ Insect Protection Cotton has been fed to livestock north of latitude 22° South in Australia.

(e) No research of the effects of WideStrike™ Insect Protection Cotton on non-target insect(s) has been conducted.

(f) No research on volunteer incidence of WideStrike™ Insect Protection Cotton in areas north of latitude 22° South after livestock feeding has been conducted.

Regards,

[redacted]

[redacted]
Regulatory and Stewardship Manager

Corteva Agriscience™
Agriculture Division of DowDuPont

Office: [redacted] Mobile: [redacted]
Email: [redacted]

Dow AgroSciences Australia Ltd
Level 9, 67 Albert Ave
Chatswood NSW 2067

[redacted]
Syngenta Australia Pty Limited
[redacted]

30 July 2019
Attention Brien Weir
Office of the Gene Technology Regulator
Moinitoring and Compliance
OGTR.M&C@health.gov.au

Subject: Annual Report 2019 - DIR 157

To Whom it May Concern

In accordance to the licence conditions pertaining to DIR-157 conditon 20, for the commercial release of GM cotton -COT102, Syngenta must provide the following information for the purpose of the annual report.

1. Syngenta does not cultivate COT102- as a stand alone or stacked event in any volume, for commercial or research purposes in Australia.

2. Syngenta is not aware of any new information on any adverse impacts, unintended effects, or other information related to the risks, to human health and safety or the environment caused by the GMO or material from the GMO. All information(s) in the original application provided to OGTR are still relevant.

3. COT102 is used in stacked events licensed by other companies such as DIR124 , and it is expected any information related to points (a)-(c) will be raised in that companies annual report to the OGTR
   a) Information about any adverse impacts, unintended effects, or new information relating to risks, to human health and safety or the environment caused by the GMO or material from the GMO;
   b) information about the volumes of the GMO grown for commercial purposes, including seed increase operations, in each State and Territory for each growing season in the preceding financial year;
   c) information about the volumes of the GMO grown for non-commercial (e.g. research) purposes in each State and Territory for each growing season in the preceding financial year.

If you require further information, please contact me directly at [redacted].

Thank you
Yours sincerely

[redacted]

Licence Number	DIR118
Licence Holder	Monsanto Australia Ltd
Accreditation Number	ACCR 034/2002
Submission	2016 Annual Report for the Commercial Release of GM herbicide tolerant (Roundup Ready Flex® MON 88913) pima cotton in Australia
Reporting Period	1 June 2015 – 1 June 2016
Date	30 June, 2016
Prepared By	[redacted]

Contents

Section 1 – Licence Holder Details

Name	Monsanto Australia Limited
Address	Level 12 600 St Kilda rd Melbourne Victoria 3004
Telephone	(03)9522 7101
Facsimile	(03)9522 6101
Contact email	[redacted]
Accreditation Number	ACR 034/2002

Scope of the Report –

This report addresses the annual reporting conditions of the DIR118 commercial licence for the release of GM herbicide tolerant (Roundup Ready Flex® MON 88913) pima cotton in Australia, issued to Monsanto Australia Limited by the Office of the Gene Technology Regulator (OGTR).

This report details compliance with the general and specific conditions of sections 2 and 3 of the DIR118 licence as issued to Monsanto on the 16 August 2013.

This report covers the period of time between the 1 July 2015 and 30 June 2016, which includes the 2015/16 cotton growing season.

Section 2 – General Conditions

Duration of the Licence

DIR118 has not been cancelled, suspended or surrendered.

Holder of the Licence

Monsanto Australia Limited (Monsanto) is the holder of the licence.

Project Supervisor

[redacted] is the project supervisor.

Persons covered by this licence

All persons covered by this licence are all persons in Australia.

Informing people of their obligations

Monsanto Australia Limited informs all GM herbicide tolerant (Roundup Ready Flex® MON 88913) pima cotton growers covered by the DIR118 licence of the obligations imposed on them as a result of the conditions of this licence. This is primarily achieved through Monsanto grower training which includes information on regulatory obligations.

Licence holder to notify of circumstances that might affect suitability

During the reporting period, Monsanto Australia did not receive a relevant conviction occurring after the commencement of this licence; nor was there any revocation or suspension of a licence or permit held by Monsanto Australia Ltd under a law of the Australian Government, a state or a foreign country, being law relating to the health and safety of people or the environment; or any event or circumstance occurring after the commencement of the licence that would affect the capacity of Monsanto to meet the conditions of the DIR118 licence.

Monsanto acknowledges that it must provide information related to their ongoing suitability to hold a licence when requested to do so in writing by the regulator and must provide the information within a time frame stipulated by the regulator.

People dealing with the GMO must allow auditing and monitoring of the dealing

Monsanto acknowledges that if a person is authorized by this licence to deal with GMOs and a particular condition of this licence applies to the dealing by that person, the person must allow the Regulator to enter premises where the dealing is being undertaken for the purposes of auditing or monitoring the dealing.

Remaining an accredited organization

At all times, Monsanto remained an accredited organization and complied with the conditions of the accreditation as set out in the OGTR guidelines for accreditation of organizations.

Additional Information given to the Regulator

During the reporting period, Monsanto did not become aware of additional information as to any risks to the health and safety of people, or to the environment, associated with the dealings authorized by the licence; or of any unintended effects of the dealings authorized by the licence.

Monsanto was not requested by the Regulator, during the reporting period, to collect or provide additional information about any matter to do with the progress of the dealings authorised by DIR118.

Section 3 – Growing the GMO

3.1 GMOs covered by this Licence

The only dealings with GMOs under this licence were those with the GMO described in attachment A of the DIR118 licence

3.2 Permitted Dealings

During the period of this report, only dealings with the GMO authorized were permitted

3.3 Commercial Volumes of GM herbicide tolerant (Roundup Ready Flex® MON 88913) pima cotton grown in each State and Territory

3.3.1 Total commercial GM herbicide tolerant (Roundup Ready Flex® MON 88913) pima cotton grown in the period 1 July 2015 to 1 July 2016 – Summary

STATE	Total ha
Victoria	0
New South Wales	0
Western Australia	0
Queensland	0
Total ha	**0**

3.4 Trial Volumes of GM herbicide tolerant (Roundup Ready Flex® MON 88913) pima cotton grown in each State and Territory

3.4.1 Total trial GM herbicide tolerant (Roundup Ready Flex® MON 88913) pima cotton planted in the period 1 July 2015 to 1 July 2016 – Summary

STATE	Total ha
Victoria	0
New South Wales	0
Western Australia	0
Queensland	0
Total ha	**0**

3.5 Annual Surveys

No other information on the progress of the release of the GMO, including annual surveys, was required to be submitted during this annual reporting period under specific condition 17(d) of DIR118.

LICENCE NO:	DIR145
LICENCE HOLDER:	Monsanto Australia Proprietary Limited
ACCREDITATION NO:	ACCR 034/2002

SUBMISSION:	2019 Annual Report for Commercial release of GM insect resistant and/or herbicide tolerant cotton lines
REPORTING PERIOD:	1 June 2018 – 1 June 2019 (covering 2018/19 cotton growing season)
DATE:	30 September 2019

PREPARED BY: [redacted]

Contents

SECTION 1. LICENCE HOLDER DETAILS

Name: Monsanto Australia Proprietary Limited

Address: Level 1, 8 Redfern Rd**, Hawthorn East, VIC 3123**

Telephone: (03) 9248 6888

Facsimilie: (03) 9248 6800

Contact email: [redacted]

Accreditation Number: **ACCR 034/2002**

SCOPE OF THE REPORT

This report addresses the annual reporting condition of the DIR145 commercial licence issued to Monsanto Australia Proprietary Limited by the Office of the Gene Technology Regulator.
This report details compliance with conditions of Sections 2 to 3 of the DIR145 licence as issued to Monsanto Australia Proprietary Limited on 20 December 2016.
This report covers the period from 1 June 2018 to 1 June 2019, including the 2018/19 cotton planting season.

SECTION 2. REPORTING REQUIREMENTS

a) During the reporting period, Monsanto Australia Pty Ltd did not become aware of any risks to the health and safety of people, or to the environment, associated with the dealings authorised under DIR145; or of any contraventions of the licence by a person covered by the licence; or any unintended effects of the dealings authorised by the licence. Monsanto acknowledges that should it be required to inform the regulator of additional information under these licence conditions it must do so without delay. At all times, Monsanto remained an accredited organization and complied with the Act and with its instrument of accreditation.

b) XtendFlex™ cotton was not grown for commercial purposes during the period from 1 June 2018 to 1 June 2019.
c) A total of 204.6 hectares of XtendFlex™ cotton was planted in the 2018/19 season for trial purposes.

2.1 Trial/Research Crop Volumes by State

State	Trial/Research XtendFlex™ Area (Ha)
NSW	181.1
QLD	22.4
WA	1.1
Total Trial XtendFlex™ Area (Ha) planted	**204.6**

Bayer CropScience

11 July 2018

Office of the Gene Technology Regulator
MDP 54, GPO Box 9848
CANBERRA
ACT 2601

Bayer CropScience Pty Ltd
[redacted]
www.crop.bayer.com.au

Attention: Application Entry Point

Dear Sir/Madam,

Annual Report for DIR062/2005 for the year 8 August 2016 to 7 August 2017

I refer to the requirements of the above licence (*viz.* Condition No. 20), to provide the OGTR with an annual report within 90 days of the licence issue date anniversary. We were contacted by OGTR to indicate that this report was unavailable in their files. A search of our internal files has not revealed the original copy, therefore I submit to you this report which has been derived from data from our internal record keeping system for events approved under DIR062/2005.

During the period of 8 August 2016 to 7 August 2017, approximately 87 green ha (single row configuration) of cotton containing Liberty Link technology were planted in Australia. During the same period there were no plantings of LLCotton25/Bollgard II cotton in Australia.

During the reporting period, no adverse effects were observed or reported to us as a result of dealings with Liberty Link or LLCotton25/Bollgard II cotton under licence DIR062/2005.

Yours sincerely,
Bayer CropScience

[redacted]

Regulatory Affairs Manager, Seeds, ANZ

BASF
We create chemistry

BASF Agricultural Solutions Australia Pty Ltd.
[redacted]

Office of the Gene Technology Regulator
MDP 54
GPO Box 9848
CANBERRA ACT 2601

Wednesday, 14 November 2018
[redacted]

Sent to brian.weir@health.gov.au via email

Attention: Application Entry Point

Dear Sir/Madam,

Annual Report for DIR062/2005 for the year 8 August 2017 to 7 August 2018

I refer to the requirements of the above licence (*viz*. Condition No. 20), to provide the OGTR with an annual report within 90 days of the licence issue date anniversary. We were contacted by OGTR to indicate that this report needed to be supplied at earliest opportunity. I submit to you this report which has been derived from data from our internal record keeping system for events approved under DIR062/2005 which has now transferred to BASF.

During the period of 8 August 2017 to 7 August 2018, approximately 6 green ha (single row configuration) of cotton containing Liberty Link technology were planted in Australia. During the same period there were no plantings of LLCotton25/Bollgard II cotton in Australia.

During the reporting period, no adverse effects were observed or reported to us as a result of dealings with Liberty Link or LLCotton25/Bollgard II cotton under licence DIR062/2005.

Yours sincerely,

[redacted]

Phone: [redacted]
[redacted]: BASF Australia Ltd., [redacted]

BASF Agricultural Solutions Australia Pty Ltd.
[redacted]
www.basf.com.au

LICENCE NO:	DIR145
LICENCE HOLDER:	Monsanto Australia Limited
ACCREDITATION NO:	ACCR 034/2002

SUBMISSION:	2017 Annual Report for Commercial release of GM insect resistant and/or herbicide tolerant cotton lines
REPORTING PERIOD:	1 June 2016 – 1 June 2017 (covering 2016/17 cotton growing season)
DATE:	30 September 2017

PREPARED BY: [redacted]

Contents

SECTION 1. LICENCE HOLDER DETAILS

Name: Monsanto Australia Limited

Address: 600 St Kilda Rd, Melbourne 3004

PO Box 6051
St Kilda Rd Central
Victoria, 8008

Telephone: (03)9522 7101

Facsimilie: (03)9522 6101

Contact email: [redacted]

Accreditation Number: **ACCR 034/2002**

SCOPE OF THE REPORT

This report addresses the annual reporting condition of the DIR145 commercial licence issued to Monsanto Australia Limited by the Office of the Gene Technology Regulator.

This report details compliance with conditions of Sections 2 to 3 of the DIR145 licence as issued to Monsanto Australia Limited on 20 December 2016.

This report covers the period from 1 June 2016 to 1 June 2017, including the 2016/17 cotton planting season.

SECTION 2. REPORTING REQUIREMENTS

a) During the reporting period, Monsanto Australia Ltd did not become aware of any risks to the health and safety of people, or to the environment, associated with the dealings authorised under DIR145; or of any contraventions of the licence by a person covered by the licence; or any unintended effects of the dealings authorised by the licence. Monsanto acknowledges that should it be required to inform the regulator of additional information under these licence conditions it must do so without delay.
At all times, Monsanto remained an accredited organization and complied with the Act and with its instrument of accreditation.

b) XtendFlex™ cotton was not grown for commercial purposes during the period from 1 June 2016 to 1 June 2017.

c) A total of 14.35 hectares of XtendFlex™ cotton was planted in the 2016/17 for trial purposes. Trial areas planted in New South Wales and Queensland were done so under OGTR licence DIR120 prior to DIR145 being issued on 20 December 2016.

2.1 Trial/Research Crop Volumes by State

State	Trial/Research XtendFlex™ Area (Ha)
NSW	8.30
QLD	5.90
WA	0.15
Total Trial XtendFlex™ Area planted	**14.35**

Bayer CropScience

11 July 2018

Office of the Gene Technology Regulator
MDP 54, GPO Box 9848
CANBERRA
ACT 2601

Bayer CropScience Pty Ltd
[redacted]
A.B.N. 87 000 226 022
www.crop.bayer.com.au

Attention: Application Entry Point

Dear Sir/Madam,

Annual Report for DIR062/2005 for the year 8 August 2015 to 7 August 2016

I refer to the requirements of the above licence (*viz.* Condition No. 20), to provide the OGTR with an annual report within 90 days of the licence issue date anniversary. We were contacted by OGTR to indicate that this report was unavailable in their files. A search of our internal files has not revealed the original copy, therefore I submit to you this report which has been derived from data from our internal record keeping system for events approved under DIR062/2005.

During the period of 8 August 2015 to 7 August 2016, commercial quantities of approximately 243 green ha (single row configuration) of cotton containing Liberty Link technology and approximately 110 green ha (single row configuration) of cotton containing LLCotton25/Bollgard II technology were planted in Australia.

During the reporting period, no adverse effects were observed or reported to us as a result of dealings with Liberty Link or LLCotton25/Bollgard II cotton under licence DIR062/2005.

Yours sincerely,
Bayer CropScience

[redacted]

Regulatory Affairs Manager, Seeds, ANZ

BASF

We create chemistry

BASF Australia Ltd
PO Box 4705 Melbourne Victoria 3001

Office of the Gene Technology Regulator
MDP 54
GPO Box 9848
CANBERRA ACT 2601

Monday, 30 September 2019

[redacted]

Sent to brian.weir@health.gov.au via email

Attention: Application Entry Point

Dear Sir/Madam,

Annual Report for DIR143 for the year 1 July 2018 to 30 June 2019

I refer to the requirements of the above licence (*viz.* Condition No. 20), to provide the OGTR with an annual report by the end of September each year for the previous financial year.

Please note that from the period of 1 July 2018 to 30 June 2019, this licence was held by three (3) separated licence holders:

1. Bayer CropScience Pty. Ltd. from 1 July to 2 October 2018
2. BASF Agricultural Solutions Australia Pty Ltd from 2 October 2018 to 18 April 2019
3. BASF Australia Ltd from 18 April 2019 to the end of the reporting period

This letter provides a consolidated report on activities under licence DIR143 for annual reporting purposes over the period 1 July 2018 to 30 June 2019.

No plantings of cotton containing the events approved under licence DIR143 were made over the designated period discussed above, and as a consequence no adverse impacts, unintended effects, or new information relating to risks to human health and safety or the environment caused by the GMOs or material from the GMOs is available to report.

Yours sincerely

[redacted]

Regulatory Affairs Manager - Seeds - Australia & New Zealand

[redacted]

Postal Address: BASF Australia Ltd., [redacted]

LICENCE NO:	DIR145
LICENCE HOLDER:	Monsanto Australia Proprietary Limited
ACCREDITATION NO:	ACCR 034/2002

SUBMISSION:	2018 Annual Report for Commercial release of GM insect resistant and/or herbicide tolerant cotton lines
REPORTING PERIOD:	1 June 2017 – 1 June 2018 (covering 2017/18 cotton growing season)
DATE:	30 September 2018

PREPARED BY: [redacted]

Contents

SECTION 1. LICENCE HOLDER DETAILS

Name: Monsanto Australia Proprietary Limited

Address: 600 St Kilda Rd, Melbourne 3004

PO Box 6051
St Kilda Rd Central
Victoria, 8008

Telephone: (03)9522 7101

Facsimilie: (03)9522 6101

Contact email: [redacted]

Accreditation Number: **ACCR 034/2002**

SCOPE OF THE REPORT

This report addresses the annual reporting condition of the DIR145 commercial licence issued to Monsanto Australia Proprietary Limited by the Office of the Gene Technology Regulator.

This report details compliance with conditions of Sections 2 to 3 of the DIR145 licence as issued to Monsanto Australia Proprietary Limited on 20 December 2016.

This report covers the period from 1 June 2017 to 1 June 2018, including the 2017/18 cotton planting season.

SECTION 2. REPORTING REQUIREMENTS

a) During the reporting period, Monsanto Australia Pty Ltd did not become aware of any risks to the health and safety of people, or to the environment, associated with the dealings authorised under DIR145; or of any contraventions of the licence by a person covered by the licence; or any unintended effects of the dealings authorised by the licence. Monsanto acknowledges that should it be required to inform the regulator of additional information under these licence conditions it must do so without delay.
At all times, Monsanto remained an accredited organization and complied with the Act and with its instrument of accreditation.

b) XtendFlex™ cotton was not grown for commercial purposes during the period from 1 June 2017 to 1 June 2018.
c) A total of 59.9 hectares of XtendFlex™ cotton was planted in the 2017/18 season for trial purposes.

2.1 Trial/Research Crop Volumes by State

State	Trial/Research XtendFlex™ Area (Ha)
NSW	47.3
QLD	12.0
WA	0.6
Total Trial XtendFlex™ Area (Ha) planted	**59.9**

LICENCE NO:	DIR124
LICENCE HOLDER:	Monsanto Australia Limited
ACCREDITATION NO:	ACCR 034/2002

SUBMISSION:	2018 Annual Report for Commercial release of GM insect resistant and/or herbicide tolerant cotton lines
REPORTING PERIOD:	1 June 2017 – 1 June 2018 (covering 2017/18 cotton growing season)
DATE:	30 June 2018

PREPARED BY: [redacted]

Contents

SECTION 1. LICENCE HOLDER DETAILS

Name: Monsanto Australia Limited

Address: 600 St Kilda Rd, Melbourne 3004

PO Box 6051
St Kilda Rd Central
Victoria, 8008

Telephone: (03)9522 7101

Facsimilie: (03)9522 6101

Contact email: [redacted]

Accreditation Number: **ACCR 034/2002**

SCOPE OF THE REPORT

This report addresses the annual reporting condition of the DIR124 commercial licence covering Bollgard® 3 and Bollgard® 3 x Roundup Ready® Flex cotton technology issued to Monsanto Australia Limited by the Office of the Gene Technology Regulator.

This report details compliance with general and specific conditions of Sections 2 to 3 of the DIR124 licence as issued to Monsanto Australia Limited on 19 June 2014.

This report covers the period from 1 June 2017 to 1 June 2018, including the 2017/18 cotton planting season.

SECTION 2. LICENCE CONDITIONS AND OBLIGATIONS

Condition 3. Authorised Dealings

No dealings were conducted with GMOs under this licence that are otherwise prohibited as a result of the operation of State legislation declaring areas to be GM, GM free, or both, for marketing purposes.

Condition 4. Duration of Licence

DIR124 has not been suspended, cancelled or surrendered.

Condition 5. Holder of Licence

Monsanto Australia Limited (Monsanto) remains the holder of the licence.

Condition 6. Project Supervisor

The project supervisor is [redacted]

Condition 7. Persons covered by this GMO Licence

Monsanto acknowledges that any person, including the licence holder, may conduct any permitted dealings with the GMOs as covered by the licence.

Condition 8. Dealings with GMOs as authorized by this Licence

All dealings with the GMOs are permitted under this licence.

Condition 9. Location

The licence allows for dealings with GMOs to be conducted in all areas of Australia.

Condition 10. GMOs covered by this licence

The only dealings with GMOs under this licence were those with the GMOs described in DIR124 Licence.

Condition 11. Licence Conditions

Monsanto acknowledges that if the conditions of any prior licence authourising dealings with the GMO are inconsistent with the conditions of this licence, the conditions of this licence will prevail.

Condition 12. Remaining an Accredited organization

At all times, Monsanto remained an accredited organization and complied with the Act and with its instrument of accreditation.

Condition 13. Applicant to notify of circumstances that might affect suitability

During the reporting period, Monsanto Australia Ltd did not receive a relevant conviction occurring after the commencement of this licence; nor was there any revocation or suspension of a licence or permit held by Monsanto Australia Ltd under a law of the Australian Government, a State or foreign country, being a law relating to the health and safety of people or the environment; or any event or circumstance occurring after the commencement of this licence that would affect the capacity of Monsanto to meet

the conditions of the DIR124 licence. Monsanto acknowledges that it must provide information related to its ongoing suitability to hold a licence, if requested, within a period stipulated by the Regulator.

Condition 14. Informing people of their obligations

Monsanto Australia Limited informed all persons covered by the DIR124 licence of the obligations imposed on them as a result of the conditions of the licence. This was primarily achieved through the Monsanto accreditation program and contractual obligations, which includes information on regulatory obligations as well as management of the crop. Accreditation requires all persons having management responsibility for Bollgard 3 cotton crops to undergo training.

Monsanto recognizes that any persons covered by the DIR124 licence, to whom a condition of the licence applies, must be informed of particular conditions and any variations, the cancellation, suspension or surrender of the licence. This is achieved through training and contractual obligations.

Conditions 15 - 17. Applicant to notify of circumstances that might affect the risk assessment

During the reporting period, Monsanto Australia Ltd did not become aware of any risks to the health and safety of people, or to the environment, associated with the dealings authorised under DIR124; or of any contraventions of the licence by a person covered by the licence; or any unintended effects of the dealings authorised by the licence.

Monsanto acknowledges that should it be required to inform the regulator of additional information under these licence conditions it must do so without delay.

Conditions 18 and 19. Persons covered by the licence

Monsanto acknowledges that the persons covered by the licence must not deal with the GMOs except as expressly permitted by this licence.

Monsanto acknowledges that if a person authorized by this licence to deal with GMOs and a condition of this licence applies to the dealing by that person, the person must allow the Regulator, or a person authorized by the Regulator, to enter the premises where the dealing is being undertaken, for the purposes of auditing or monitoring the dealing.

SECTION 3. GROWING THE GMOS

3.1 GMOs covered by this licence

The only dealings with GMOs under this licence were those with the GMOs described in the DIR124 Licence.

3.2 Permitted dealings

Plantings of Bollgard 3 were undertaken under a Technology User Agreement (TUA), which sets out the conditions for planting and growing a cotton crop containing Bollgard 3 technology. To be eligible to sign such an agreement, a grower is required to attend an accreditation and training program.

In the 2017/18 season, all Bollgard 3 cotton planted was managed under the Bollgard 3 RMP. The Bollgard 3 cotton Resistance Management Plans (RMP) are attached in Appendices A and B.

3.3 Commercial Crop Volumes by State

State	Commercial Bollgard 3 Area (Ha)
NSW (Bourke, Menindee, Murrumbidgee, Gwydir, Lachlan, Upper and Lower Namoi, Mungindi, Walgett and Macquarie valleys)	289,083.0
VIC (Murray)	4228.2
QLD (Belyando, Darling Downs, Dawson/Callide, Dirranbandi, Emerald, Flinders/Gilbert, MacIntyre and St George valleys)	129,426.4
WA (The Ord valley)	332.2
Total Commercial Bollgard 3 Area planted	**423,069.8**

3.4 Trial/Research Crop Volumes by State

State	Trial/Research Bollgard 3 Area (Ha)
NSW	340.4
QLD	12.8
Total Trial Bollgard 3 Area planted	**353.2**

APPENDIX A -

Resistance Management Plan for Bollgard 3® Cotton

Developed by Monsanto Australia Limited.

The Resistance Management Plan is based on three basic principles: (1) minimising the exposure of *Helicoverpa* spp. to the *Bacillus thuringiensis* (Bt) proteins Cry1Ac, Cry2Ab and Vip3A, (2) providing a population of susceptible individuals that can mate with any resistant individuals, hence diluting any potential resistance, and (3) removing resistant individuals at the end of the cotton season. These principles are supported through the implementation of five elements that are the key components of the Resistance Management Plan. These elements are:

1. Planting Restrictions;
2. Refuge crops;
3. Control of volunteers and ratoon cotton;
4. Pupae destruction/trap crops; and
5. Spray limitations

Growers of Bollgard 3 cotton are required to practice preventative resistance management as set out below. Compliance with the Resistance Management Plan is required under the terms of the Bollgard 3 Technology User Agreement and per the Conditions of Registration for Bollgard 3 under the *Agricultural and Veterinary Chemicals Act 1994*.

1. Planting Restrictions

New South Wales and Southern Queensland

All Bollgard 3 crops and refuges must be planted into moisture or watered-up between August 1 and before December 31 each year, unless otherwise specified in this Resistance Management Plan.

Central Queensland

All Bollgard 3 crops and refuges must be planted into moisture or watered-up between August 1 and before October 31 each year, unless otherwise specified in this Resistance Management Plan.

Any Bollgard 3 crops planted into moisture or watered-up after October 31 and up to December 31 must plant additional refuge as specified in Table 3 and 4.

2. Refuges

Growers planting Bollgard 3 cotton will be required to grow a refuge crop that is capable of producing large numbers of *Helicoverpa* spp. moths which have not been exposed to selection with the Bt proteins

Cry1Ac, Cry2Ab and Vip3A. These unselected moths are expected to dominate matings with any survivors from Bollgard 3 crops and thus help to maintain resistant alleles to the Bt proteins Cry1Ac, Cry2Ab and Vip3A at low frequencies.

All refuge options are based on the requirement of a 5% unsprayed cotton refuge or its equivalent, as determined by the relative production of *Helicoverpa* spp. from each of the refuge types as described in Tables 1 and 2 for irrigated and dryland production scenarios, respectively.

For each area of irrigated Bollgard 3 cotton planted, a grower is required to plant one or more of the following:

Table 1: Irrigated Bollgard 3 cotton refuge options

Crop	Conditions	% of Bollgard 3
Cotton	Irrigated, sprayed conventional cotton	100
	Irrigated, unsprayed conventional cotton	5
Pigeon pea	Fully irrigated, unsprayed	2.5

Table 2: Dryland Bollgard 3 cotton refuge options

Crop	Conditions	% of Bollgard 3
Cotton	Dryland or irrigated, sprayed conventional cotton	100
	Dryland or irrigated, unsprayed conventional cotton	5
Pigeon pea	Dryland or fully irrigated, unsprayed. Dryland pigeon peas can only be planted with an approved plan from Monsanto Australia.	2.5

Table 3: Irrigated Bollgard 3 cotton refuge options for Central Queensland planted after October 31

Crop	Conditions	% of Bollgard 3
Cotton	Irrigated, sprayed conventional cotton	100
	Irrigated, unsprayed conventional cotton	10
Pigeon pea	Fully irrigated, unsprayed	5

Table 4: Dryland Bollgard 3 cotton refuge options for Central Queensland planted after October 31

Crop	Conditions	% of Bollgard 3
Cotton	Dryland or irrigated, sprayed conventional cotton	100
	Dryland or irrigated, unsprayed conventional cotton	10
Pigeon pea	Dryland or fully irrigated, unsprayed. Dryland pigeon peas can only be planted with an approved plan from Monsanto Australia.	5

Note: *Unsprayed means not sprayed with any insecticide that targets any life stage of Helicoverpa spp.*

Bt products must not be applied to any refuge (including sprayed cotton).

If the viability of an unsprayed refuge is at risk due to early or late season pressure by Helicoverpa spp., or any other caterpillar species, contact Monsanto Australia immediately. With prior approval from Monsanto Australia, a non-Bt heliocide can be applied.

For the purposes of this Resistance Management Plan, conventional cotton includes any cotton varieties that do not have Bt proteins in the plant that control Helicoverpa spp. larvae.

General conditions for all refuges

(a) Refuge crops are to be planted and managed so that they are attractive to *Helicoverpa* spp. during the growing period of the Bollgard 3 cotton varieties.

Irrigated: It is preferable that all refuge is planted within the 2 week period prior to planting Bollgard 3. If this is not possible, refuge planting must be completed within 3 weeks of the first day of sowing of Bollgard 3. At this time, sufficient refuge must have been planted to cover all of the Bollgard 3 cotton proposed to be planted for the season (including Bollgard 3 already planted and any that remains unplanted). If additional Bollgard 3 is planted after this date which is not already covered by refuge, additional refuge must be planted as soon as possible and no more than 2 weeks after sowing of the additional Bollgard 3.

Dryland: A dryland refuge must be planted within the 2 week period prior to the first day of planting Bollgard 3 cotton.

(b) Pigeon pea refuges should not be planted until the soil temperature reaches 17°C, which is a requirement for germination, and should also be planted into moisture to ensure successful germination. If soil temperatures are not suitable to allow germination of pigeon peas in line with condition (a), an alternative refuge must be planted in its place within the prescribed period (under (a) above).

(c) All refuges should preferably be planted into a fallow or rotation field that has not been planted to Bt cotton in the previous season to avoid volunteer and ratoon cotton. See Refuge Management Guide for all unsprayed refuges.

(d) Once Bollgard 3 cotton begins to flower, the corresponding refuge must not be cultivated.

(e) All refuges are to be planted within the farm unit growing Bollgard 3 cotton no more than 2 km from the associated Bollgard 3 cotton field. For any cases where it may not be possible to plant the refuge within 2 km from the associated Bollgard 3, approval must be sought from Monsanto Australia.

(f) To minimise the possibility of refuge attractiveness being affected by herbicide drift, non-herbicide tolerant refuges should be separated from herbicide tolerant Bollgard 3 cotton crops by a sufficient distance to minimise such drift, but no more than 2 km from the Bollgard 3 cotton.

(g) To account for possible insecticide drift, the options for the width of refuge crops vary according to spray regime. If any sprayed conventional cotton is grown on the same farm unit, Bollgard 3 refuge crops must be at least 48 metres wide and each refuge area must be a minimum of 2 hectares. If sprayed conventional cotton is not grown on the same farm unit, Bollgard 3 refuge crops must be at least 24 metres wide and each refuge area must be a minimum of 0.5 hectares. Different unsprayed refuge options may be planted in the same field as a single unit; however a sprayed conventional cotton refuge must not be planted in a field that is also planted to an unsprayed refuge type unless a sufficient buffer is in place to prevent insecticide drift.

(h) In all regions, destruction of refuges must only be carried out after Bollgard 3 has been harvested. In Central Queensland, soil disturbance of refuge crops must only occur when the trap crop is being destroyed (refer to section 4 Pupae Destruction).

(i) Refuges for dryland Bollgard 3 cotton crops must be planted in the same row configuration as the Bollgard 3 crop unless the refuge is irrigated. If an irrigated option is utilised for a dryland Bollgard 3 crop, then that refuge may be planted in a solid configuration. Dryland cotton is measured as green hectares (calculated as defined in the Technology User Agreement).

3. Control of volunteer and ratoon cotton

Volunteer and ratoon cotton may impose additional selection pressure on *Helicoverpa* spp. to develop resistance to the Bt proteins Cry1Ac, Cry2Ab and Vip3A produced by Bollgard 3 cotton.

As soon as practical after harvest, Bollgard 3 cotton crops must be destroyed by cultivation, root cutting or herbicide so that they do not continue to act as hosts for *Helicoverpa* spp.

Growers must ensure that volunteer and ratoon plants are removed as soon as possible from all fields, including fallow areas, Bollgard 3 crops, conventional cotton crops and all refuges. **The presence of Bollgard 3 volunteers/ratoon cotton in any refuge will diminish the value of the refuge and must be removed as soon as possible.**

Note: The refuge should preferably be planted into fallow or rotation fields that have not been planted to cotton in the previous season.

4. Pupae destruction / trap crops

New South Wales and Southern Queensland

To further mitigate the risk of resistance, each grower of Bollgard 3 must undertake *Helicoverpa* spp. pupae destruction in fields with a higher probability of carrying over wintering pupae according to the following key guidelines:

- If first defoliation of a Bollgard 3 field occurs on or before March 31, the Bollgard 3 field must be slashed or mulched and controlled to prevent regrowth within 4 weeks of harvesting.
- If first defoliation of a Bollgard 3 field occurs after March 31, the Bollgard 3 field must be slashed or mulched and controlled to prevent regrowth within 4 weeks of harvesting and pupae busting must be complete by July 31 for all valleys except for all regions including the Lachlan, Murrumbidgee, Menindee and Murray Valleys where pupae busting must be complete by August 31.

- Ensure disturbance of the soil surface to a depth of 10 cm to a distance of 30 cm both sides of the plant line.

Central Queensland

Crop destruction

All Bollgard 3 crops must be slashed or mulched and controlled to prevent regrowth within 4 weeks of harvesting.

End of season management of refuges/trap crops

End of season pupae busting practices are not effective in the Central Queensland region as *Helicoverpa* spp. are less likely to diapause. A late summer trap crop (pigeon pea) must be planted for all Bollgard 3 cotton grown in Central Queensland. The planting configuration of the trap crop should be the same as that of the Bollgard 3 crop. Irrigated Bollgard 3 must have an irrigated trap crop. Table 5 shows the requirements for the late summer pigeon pea trap crop. **Dryland Bollgard 3 growers who do not have any irrigated cotton on their farm should contact Monsanto Australia for alternative options.**

Refuge and late summer trap crops have different purposes. Where a pigeon pea refuge is utilised, the full pigeon pea refuge area must be managed to become the late summer trap crop. If unsprayed cotton is used as the refuge, an additional area of 1% pigeon pea must be planted as the late summer trap crop. Requirements for late summer trap crops are detailed in Table 5 below.

Table 5: Late summer pigeon pea trap crop requirements in Central Queensland

Criterion	Trap crop*
Minimum area & dimension (Requirement)	A minimum trap crop of 1% of planted Bollgard 3 cotton crop is required. If sprayed conventional cotton is grown on that farm unit: the trap crop must be at least 48m x 48m. If no sprayed conventional cotton is grown on that farm unit: the trap crop must be at least 24m x 24m.
Planting time	The trap crop should preferably be planted 4 weeks after the associated Bollgard 3. Note: if growers choose to plant their trap crop to coincide with the planting of pigeon pea refuges, they must manage the trap crop in such a way that it remains attractive to *Helicoverpa* spp. 2-4 weeks after final defoliation.

Planting rate **	35kg/ha (recommended establishment greater than 4 plants per metre)
Insect control	The trap crop can be sprayed with virus after flowering, while avoiding insecticide spray drift, except where a pigeon pea refuge is converted to a trap crop. In this case the full 5% pigeon pea refuge area managed to become the late summer trap crop can only be sprayed with virus after the first defoliation of Bollgard 3 cotton.
Irrigation	The refuge/trap crop must be planted into an area where it can receive the additional irrigation required to keep the trap crop attractive to *Helicoverpa* spp. until after the cotton is defoliated.
Weed control	The trap crop should be kept free of weeds and particularly volunteer Bollgard 3 cotton. When using the full pigeon pea refuge area as the trap crop, weed control must not be carried out by cultivation once flowering of the associated Bollgard 3 cotton crop has commenced.
Crop destruction	The trap crop must be destroyed 2-4 weeks (but not before 2 weeks) after final defoliation of the Bollgard 3 cotton crop, (slash and pupae bust – full soil disturbance to a depth of 10 cm across the entire trap crop area). All Bollgard 3 and associated trap crops must be destroyed by July 31.

* A pigeon pea trap crop is to be planted so that it is attractive (flowering) to *Helicoverpa* spp. after the cotton crop has cut out, and as any survivors from the Bollgard 3 crop emerge. Planting pigeon pea too early (e.g. before November) or too late (e.g. mid December) is not adequate for cotton crops planted during September through to October.

** The planting rate is a recommendation based on a minimum of 85% seed germination.

Failed Crops – All Regions

Bollgard 3 crops that will not be grown through to harvest for various reasons and are declared to, and verified by, Monsanto as failed must be destroyed within two weeks after verification, in such a way that prevents regrowth. Crops that are abandoned before February 28 should be slashed and mulched within 4 weeks

5. Spray Limitations

Insecticide preparations containing Bt may be used on Bollgard 3 cotton throughout the season BUT NOT on any refuge crops.

An unsprayed refuge should not be planted in the same field as any crop sprayed with a rate of insecticide that is registered for *Helicoverpa* spp, with the exception of Bollgard 3. Sprayed crops and unsprayed refuges that are planted in adjacent fields must be separated by sufficient distance to minimise the likelihood of insecticide drift onto the unsprayed refuge.

If the viability of an unsprayed refuge is at risk due to early or late season pressure by *Helicoverpa* spp., or any other caterpillar species, contact Monsanto Australia immediately. With prior approval from Monsanto Australia, a non-Bt heliocide can be applied.

NB: If any grower encounters problems in complying with the Resistance Management Plan please contact Monsanto Australia.

For further background information on the various components of this plan see the "Preamble to the Resistance Management Plan for Bollgard 3" in the current Cotton Pest Management Guide.

APPENDIX B -

Resistance Management Plan for Bollgard® 3 Cotton - Northern

Developed by Monsanto Australia Limited and the Transgenic and Insect Management Strategy (TIMS) Committee of Cotton Australia Limited.

The resistance management plan is based on three basic principles: (1) minimising the exposure of *Helicoverpa* spp. to the *Bacillus thuringiensis* (Bt) proteins Cry 1Ac, Cry 2Ab and Vip3A; (2) providing a population of susceptible individuals that can mate with any resistant individuals, hence diluting any potential resistance; and (3) removing resistant individuals at the end of the cotton season. The three principles are supported through the implementation of 5 elements that are the key components of the Resistance Management Plan. These elements are:

1. Planting Restrictions;
2. Refuge crops;
3. Control of volunteers and ratoon cotton;
4. Trap crops/Pupae destruction; and
5. Spray limitations.

Growers of Bollgard 3 cotton are required to practice preventative resistance management as set out below. Compliance with the Resistance Management Plan is required under the terms of the Bollgard 3 Technology User Agreement and under the conditions of registration (*Agricultural and Veterinary Chemicals Act, 1994*).

Scope:

This RMP pertains to cotton planting in all areas North of the latitude 21.15 degrees south in Queensland, Northern Territory and Western Australia.

1. Planting Restrictions

All Bollgard 3 crops and cotton refuges are to be planted into moisture or watered-up in a six week window between December 1 and May 30. Valley boundaries will be determined by Monsanto and TIMS. Within each valley, the start date of the planting window will be determined by Monsanto and

TIMS in consultation with local growers and reflected in a regionally amended "Bollgard 3 Planting Window Variation Notice" issued by Monsanto.

2. Refuges

Growers planting Bollgard 3 cotton will also be required to grow a refuge crop that is capable of producing large numbers of *Helicoverpa* spp. moths which have not been exposed to selection with Bt proteins Cry 1Ac, Cry 2Ab and Vip3A. These unselected moths are expected to dominate matings with any survivors from Bollgard 3 crops and thus help to maintain resistant alleles to the Bt proteins Cry 1Ac, Cry 2Ab, and Vip3A at low frequencies.

All refuge options are based on the requirement of a 5% unsprayed cotton refuge or its equivalent as determined by the relative production of *Helicoverpa* spp. from each of the refuge types as described in the table below.

For each area of irrigated Bollgard 3 cotton planted, a grower is required to plant a minimum of one, or a combination of, the following:

Table 1. Irrigated Bollgard 3 cotton refuge options

Crop	Conditions	% of Bollgard 3	Regions permitted
Conventional Cotton	Irrigated, unsprayed conventional cotton	5	All Regions
Pigeon pea	Fully irrigated, unsprayed	2.5	All Regions

Table 2. Dryland Bollgard 3 refuge options

Crop	Conditions	% of Bollgard 3	Regions permitted
Conventional Cotton	Dryland or irrigated, unsprayed conventional cotton	5	All Regions
Pigeon pea	Dryland or fully irrigated, unsprayed	2.5	All Regions

Unsprayed means not sprayed with any insecticide that targets any life stage of *Helicoverpa* spp.

Bt products must not be applied to any refuge.

If the viability of an unsprayed refuge is at risk due to early or late season pressure by *Helicoverpa* spp., or any other caterpillar species, contact Monsanto Australia immediately. With prior approval from Monsanto Australia, a non-Bt larvicide can be applied.

An unsprayed refuge should not be planted in the same field as any crop sprayed with a rate of insecticide that is registered for *Helicoverpa* spp, with the exception of Bollgard 3 unless a sufficient buffer is in place to prevent insecticide drift.

Sprayed crops and unsprayed refuges that are planted in adjacent fields must also be separated by sufficient distance to minimise the likelihood of insecticide drift onto the unsprayed refuge.

For the purposes of this Resistance Management Plan, conventional cotton includes any cotton varieties that do not have Bt proteins in the plant that control *Helicoverpa* spp. larvae.

General conditions for all refuges:
(a) Refuge crops are to be planted and managed so that they are attractive to *Helicoverpa* spp. during the growing period of the Bollgard 3 cotton varieties.

> **All regions:**
> It is preferable that all refuge is planted within the 2 week period prior to planting Bollgard 3. If this is not possible, refuge planting must be completed within 3 weeks of the first day of sowing of Bollgard 3. At this time, sufficient refuge must have been planted to cover all of the Bollgard 3 cotton proposed to be planted for the season (including Bollgard 3 already planted and any that remains unplanted). Should additional Bollgard 3 be planted after this date, which is not already covered by refuge, additional refuge must be planted as soon as possible and no more than 2 weeks after sowing of the additional Bollgard 3.

(b) Group J legume innoculant should be used to treat pigeon pea planting seed just prior to sowing to ensure effective root zone colonisation by nitrogen fixing rhizobium bacteria

(c) All refuges should preferably be planted into a fallow or rotation field that has not been planted to Bt cotton in the previous season to avoid volunteer and ratoon cotton. See Refuge Management Guide for all unsprayed refuges,

(c) Once the Bollgard 3 cotton begins to flower the corresponding refuge must not be cultivated.

(d) Insecticide preparations containing Bt may be used on Bollgard 3 cotton throughout the season BUT NOT on any refuge crops.

(e) All refuges are to be planted within the farm unit growing Bollgard 3 cotton. Subject to clause (f) below, all reasonable effort should be taken to plant the refuge either on one side of, or next to, a Bollgard 3 cotton field, and all Bollgard 3 fields must be no more than 2 km from the nearest Bollgard 3 refuge. For any cases where it may not be possible to plant the refuge within 2 km from the associated Bollgard 3, approval must be sought from Monsanto.

(f) To minimise the possibility of refuge attractiveness being affected by herbicide drift, non-herbicide tolerant refuges should be separated from herbicide tolerant Bollgard 3 cotton crops by a sufficient distance to minimise such drift, but no more than 2km from the Bollgard 3 cotton.

(g) To account for possible insecticide drift, Bollgard 3 refuge crops must be at least 24 metres wide and each refuge area must be a minimum of 0.5 hectares Different unsprayed refuge options may be planted in the same field as a single unit.

(h) Destruction of refuges must only be carried out after the Bollgard 3 has been harvested. Soil disturbance of refuge crops must only occur when the trap crop is being destroyed (refer to section 4 Trap crop)

(i) Refuges for Bollgard 3 crops must be planted in the same row configuration as the Bollgard 3 crop.

3. Control of volunteer and ratoon cotton

Volunteer and ratoon cotton may impose additional selection pressure on *Helicoverpa* spp. to develop resistance to the Bt proteins Cry 1Ac, Cry 2Ab and Vip3A produced by Bollgard 3 cotton.

As soon as practical after harvest, Bollgard 3 cotton crops must be destroyed by cultivation, root cutting or herbicide so that they do not continue to act as hosts for *Helicoverpa* spp.

Growers must make all reasonable efforts to remove volunteer and ratoon plants as soon as possible from all fields - including fallow areas, Bollgard 3 crops, conventional cotton crops and all refuges. **The presence of Bollgard 3 volunteers/ratoon cotton in any refuge will diminish the value of the refuge and must be removed as soon as possible.**

Note: The refuge should preferably be planted into fallow or rotation fields that have not been planted to cotton in the previous season.

4. End of season pigeon pea trap crop

An end of season pigeon trap crop must be planted. The planting configuration of the trap crop should be the same as that of the Bollgard 3 crop. Table 3 shows the requirements for the pigeon pea trap crop.

Crop destruction

All Bollgard 3 crops must be slashed or mulched and controlled to prevent regrowth within 4 weeks of harvesting.

End of season management of refuges/trap crops

A late summer trap crop (pigeon pea) must be planted for all Bollgard 3 cotton grown in Northern Australia. The planting configuration of the trap crop should be the same as that of the Bollgard 3 crop. Irrigated Bollgard 3 must have an irrigated trap crop. Table 5 shows the requirements for the late summer pigeon pea trap crop. **Dryland Bollgard 3 growers who do not have any irrigated cotton on their farm should contact Monsanto Australia for alternative options**.

Refuge and late summer trap crops have different purposes. Where a pigeon pea refuge is utilised, the full pigeon pea refuge area must be managed to become the late summer trap crop. If unsprayed cotton is used as the refuge, an additional area of 1% pigeon pea must be planted as the late summer trap crop. Requirements for late summer trap crops are detailed in Table 3 below.

Table 3: Late summer pigeon pea trap crop requirements in Northern Australia

Criterion	Trap crop*
Minimum area & dimension (Requirement)	A minimum trap crop of 1% of planted Bollgard 3 cotton crop is required (if the full refuge is not utilised). If sprayed conventional cotton is grown on that farm unit: the trap crop must be at least 48m x 48m. If no sprayed conventional cotton is grown on that farm unit: the trap crop must be at least 24m x 24m.
Planting time	The trap crop should preferably be planted 4 weeks after the associated Bollgard 3. Note: if growers choose to plant their trap crop to coincide with the planting of pigeon pea refuges, they must manage the trap crop in such a way that it remains attractive to *Helicoverpa* spp. 2-4 weeks after final defoliation.
Planting rate **	35kg/ha (recommended establishment greater than 4 plants per metre)
Insect control	The trap crop can be sprayed with virus after flowering, while avoiding insecticide spray drift, except where a pigeon pea refuge is converted to a trap

	crop. In this case the full 5% pigeon pea refuge area managed to become the late summer trap crop can only be sprayed with virus after the first defoliation of Bollgard 3 cotton.
Irrigation	The refuge/trap crop must be planted into an area where it can receive the additional irrigation required to keep the trap crop attractive to *Helicoverpa* spp. until after the cotton is defoliated.
Weed control	The trap crop should be kept free of weeds and particularly volunteer Bollgard 3 cotton. When using the full pigeon pea refuge area as the trap crop, weed control must not be carried out by cultivation once flowering of the associated Bollgard 3 cotton crop has commenced.
Crop destruction	The trap crop must be destroyed 2-4 weeks (but not before 2 weeks) after final defoliation of the associated Bollgard 3 cotton crop, (slash and pupae bust – full soil disturbance to a depth of 10 cm across the entire trap crop area).

* A pigeon pea trap crop is to be planted so that it is attractive (flowering) to *Helicoverpa* spp. after the cotton crop has cut out, and as any survivors from the Bollgard 3 crop emerge. Planting pigeon pea too early (e.g. before November) or too late (e.g. mid December) is not adequate for cotton crops planted during September through to October.

** The planting rate is a recommendation based on a minimum of 85% seed germination.

5. Spray Limitations

Insecticide preparations containing Bt may be used on Bollgard 3 cotton throughout the season BUT NOT on any refuge crops.

An unsprayed refuge should not be planted in the same field as any crop sprayed with a rate of insecticide that is registered for *Helicoverpa* spp. with the exception of Bollgard 3. Sprayed crops and unsprayed refuges that are planted in adjacent fields must be separated by sufficient distance to minimise the likelihood of insecticide drift onto the unsprayed refuge,

If the viability of an unsprayed refuge is at risk due to early or late season pressure by *Helicoverpa* spp., or any other caterpillar species, contact Monsanto Australia immediately. With prior approval from Monsanto Australia, a non-Bt larvicide can be applied.

NB: If any grower encounters problems in complying with the Resistance Management Plan please contact Monsanto Australia.

For further background information on the various components of this plan see the “Preamble to the Resistance Management Plan for Bollgard 3” in the current Cotton Pest Management Guide

LICENCE NO:	DIR066
LICENCE HOLDER:	Monsanto Australia Limited
ACCREDITATION NO:	ACCR 034/2002

SUBMISSION:	2018 Annual Report for Commercial release of GM herbicide tolerant and/or insect resistant cotton lines
REPORTING PERIOD:	1 June 2017 – 1 June 2018 (covering 2017/18 cotton growing season)
DATE:	30 June 2018

PREPARED BY: [redacted]

Contents

SECTION 1. LICENCE HOLDER DETAILS

Name: Monsanto Australia Limited

Address: 600 St Kilda Rd, Melbourne 3004

PO Box 6051
St Kilda rd Central
Victoria, 8008

Telephone: (03)9522 7101

Facsimilie: (03)9522 6122

Contact email: [redacted]

Accreditation Number: **ACCR 034/2002**

SCOPE OF THE REPORT

This report addresses the annual reporting condition of the DIR066 commercial licence covering Roundup Ready® cotton, Roundup Ready® Flex cotton and the Bollgard II® trait issued to Monsanto Australia Limited by the Office of the Gene Technology Regulator.

This report details compliance with general and specific conditions of Sections 2 to 6 of the DIR066 licence as issued to Monsanto Australia Limited on 26 October 2006, and as varied 22 December 2006, 6 December 2007, 15 April 2009 and 20 June, 2013.

This report covers the period from 1 June 2017 to 1 June 2018, including the 2017/18 cotton planting season.

SECTION 2. LICENCE CONDITIONS

Condition 1. Duration of Licence

DIR066 has not been suspended, cancelled or surrendered.

Condition 2. Holder of Licence

Monsanto Australia Limited (Monsanto) remains the holder of the licence.

Conditions 3 and 4. Project Supervisor

The project supervisor is [redacted]

Condition 5. No dealings with GMOs except as authorized by this Licence

Persons covered by the licence did not deal with GMOs except as expressly permitted by the licence.

Conditions 6 and 7. Location

The licence allows for dealings with GMOs to be conducted anywhere in Australia. This licence supersedes any previous licences regarding location.

Conditions 8 and 9. Persons covered by this GMO Licence

Monsanto acknowledges that the persons covered by the licence are the licence holder and employees, agents or contractors of the licence holder and other persons who are, or have been, engaged to undertake any activity in connection with GMOs grown in a location pursuant to this licence.

Conditions 10 and 11. Informing people of their obligations

DIR066 was issued in October 2006, permitting dealings with the GMOs to be undertaken during the cotton growing seasons.

Monsanto Australia Limited informed all persons covered by the DIR066 licence of the obligations imposed on them as a result of the conditions of the licence. This was primarily achieved through the Monsanto accreditation program, which includes information on regulatory obligations as well as management of the crop.

Accreditation programs require all persons having management responsibility for Roundup Ready (no longer sold commercially), Roundup Ready Flex and Bollgard II cotton crops to undergo training.

Condition 12. Applicant to notify of circumstances that might affect suitability

During the reporting period, Monsanto Australia Ltd did not receive a relevant conviction occurring after the commencement of this licence; nor was there any revocation or suspension of a licence or permit held by Monsanto Australia Ltd under a law of the Australian Government, a State or foreign country, being a law relating to the health and safety of people or the environment; or any event or circumstance occurring after the commencement of this licence that would affect the capacity of Monsanto to meet the conditions of the DIR066 licence.

Condition 13. Licence holder must provide information on matters related to suitability

Monsanto acknowledges that it must provide information related to its ongoing suitability to hold a licence when requested to do so in writing by the Regulator and must provide information within a time period stipulated by the Regulator.

Condition 14. People dealing with the GMOs must allow auditing and monitoring if the dealing

Monsanto acknowledges that if a person authorized by this licence to deal with GMOs and a particular condition of this licence applies to the dealing by that person, the person must allow the Regulator, or a person authorized by the Regulator, to enter the premises where the dealing is being undertaken, for the purposes of auditing or monitoring the dealing.

Condition 15. Remaining an Accredited organization

At all times, Monsanto remained an accredited organization and complied with conditions of accreditation as set out in the OGTR Guidelines for Accreditation of Organisations.

Conditions 16 - 19 Additional information must be given to the Regulator

During the reporting period, Monsanto did not become aware of any additional information as to any risks to the health and safety of people, or to the environment, associated with the dealings authorized by this licence; or of any unintended effects of the dealings authorized by this licence.

Condition 20. Compliance Management Plan

A Compliance Management Plan was provided to the Regulator on issuance of the DIR066 licence.

SECTION 3. GROWING THE GMOS

3.1 GMOs covered by this licence

The only dealings with GMOs under this licence were those with the GMOs described in DIR066 Licence.

3.2 Permitted dealings

Sales and planting of the Roundup Ready Flex (RRF), Bollgard II (BGII) and Bollgard II stacked with Liberty Link® (BGIIwLL) were undertaken under a Technology User Agreement, which sets out the conditions for planting and growing a cotton crop containing RRF and BGII technology. Roundup Ready cotton has been removed from the market in Australia. To be eligible to sign such an agreement, a grower is required to attend an accreditation program and pass a test based on the material covered in the accreditation program.

3.3 Commercial Crop Locations and Volumes

Valley	BGII ha	RR ha	RRF ha	BGII w RR ha	BGII w RRF ha	BGII w LL ha	Total ha
Belyando	0.00	0.00	11.21	0.00	0.00	0.00	11.21
Bourke	0.00	0.00	107.08	0.00	167.00	0.00	274.08
Darling Downs	0.00	0.00	2681.81	0.00	423.08	0.00	3104.89
Dawson/Callide	0.00	0.00	269.09	0.00	0.00	0.00	269.09
Dirranbandi	0.00	0.00	189.76	0.00	0.00	0.00	189.76
Emerald	0.00	0.00	335.92	0.00	186.96	0.00	522.88
Flinders Gilbert	0.00	0.00	7.38	0.00	0.00	0.00	7.38
Gwydir	0.00	0.00	5379.15	0.00	188.65	0.00	5567.80
Lachlan	0.00	0.00	427.21	0.00	0.00	0.00	427.21
Lower Namoi	0.00	0.00	2305.47	0.00	1117.16	0.00	3422.63
MacIntyre	0.00	0.00	2024.24	0.00	138.70	0.00	2162.94
Macquarie	0.00	0.00	925.64	0.00	87.95	0.00	1013.59
McKenzie River	0.00	0.00	13.70	0.00	0.00	0.00	13.70
Menindee	0.00	0.00	293.33	0.00	0.00	0.00	0.00
Mungindi	0.00	0.00	369.61	0.00	0.00	0.00	369.61
Murray	0.00	0.00	149.33	0.00	0.00	0.00	149.33
Murrumbidgee	0.00	0.00	988.88	0.00	333.50	0.00	1322.38
St George	0.00	0.00	264.00	0.00	110.00	0.00	374.00
The Ord	0.00	0.00	23.00	0.00	0.00	0.00	23.00
Upper Namoi	0.00	0.00	1337.35	0.00	86.89	0.00	1424.24
Walgett	0.00	0.00	614.15	0.00	0.00	0.00	614.15
Total ha	**0.00**	**0.00**	**18,717.31**	**0.00**	**2,839.89**	**0.00**	**21,557.20**

Total Bollgard II ha planted	**2,839.89**
Total Roundup Ready Flex ha planted	**21,557.20**

Note *– Total Bollgard II figure includes Bollgard II, Bollgard II/Roundup Ready Flex and Bollgard II/Liberty Link. Total Roundup Ready Flex figure includes Roundup Ready Flex and Bollgard II/Roundup Ready Flex.*

3.4 Trial/Research Crop Locations and Volumes

Valley	BGII ha	RR ha	RRF ha	BGII w RR ha	BGII w RRF ha	BGII w LL ha	Total ha
Lower Namoi	0.00	0.00	63.40	0.00	1.40	0.00	64.80
Total ha	**0.00**	**0.00**	**63.40**	**0.00**	**1.40**	**0.00**	**64.80**

APPENDIX A -

Resistance Management Plan for Bollgard II® Cotton 2017/2018

Developed by Monsanto Australia Limited and the Transgenic and Insect Management Strategy (TIMS) Committee of Cotton Australia Ltd.

The resistance management plan is based on three basic principles: (1) minimising the exposure of *Helicoverpa* spp. to the *Bacillus thuringiensis* (Bt) proteins Cry 1Ac and Cry 2Ab; (2) providing a population of susceptible individuals that can mate with any resistant individuals, hence diluting any potential resistance; and (3) removing resistant individuals at the end of the cotton season. The three principles are supported through the implementation of 5 elements that are the key components of the Resistance Management Plan. These elements are:

1. Refuge crops
2. Planting window
3. Pupae busting/Trap crops
4. Control of volunteers and ratoon cotton and
5. Spray limitations.

Growers of Bollgard II cotton are required to practice preventative resistance management as set out below. Compliance with the Resistance Management Plan is required under the terms of the Bollgard II Technology User Agreement and under the conditions of registration (*Agricultural and Veterinary Chemicals Act 1994*).

Section 1 is applicable to all regions in New South Wales and Queensland that grow cotton while sections 2 and 3 detail specific requirements for New South Wales and Southern Queensland, and Central Queensland respectively.

SECTION 1: NEW SOUTH WALES, SOUTHERN QUEENSLAND & CENTRAL QUEENSLAND

1. **Refuges**

Growers planting Bollgard II cotton will also be required to grow a refuge crop that is capable of producing large numbers of *Helicoverpa* spp. moths which have not been exposed to selection with Bt proteins Cry 1Ac and Cry 2Ab. These unselected moths are expected to dominate matings with any survivors from Bollgard II crops and thus help to maintain resistance to Bt proteins Cry 1Ac and Cry 2Ab at low levels.

All refuge options are based on the requirement of a 10% unsprayed cotton refuge or its equivalent, as determined by the relative production of *Helicoverpa* spp. from each of the refuge types as described in Tables 1 and 2, for irrigated and dryland production scenarios respectively. Irrespective of the irrigation regime for the Bollgard II cotton, all pigeon pea refuges must be fully irrigated so that they are attractive to *Helicoverpa* spp. during the growing period of the Bollgard II cotton.

For each area of irrigated Bollgard II cotton planted, a grower is required to plant a minimum of one or a combination of the following:

Table 1. Irrigated Bollgard II cotton refuge options

Crop	**Conditions**	**% of Bollgard II**
Cotton	Irrigated, sprayed conventional cotton	100
	Irrigated, unsprayed conventional cotton	10
Pigeon pea	Fully irrigated, unsprayed	5

Table 2. Dryland Bollgard II cotton refuge options

Crop	**Conditions**	**% of Bollgard II**
Cotton	Dryland or irrigated, sprayed conventional cotton	100
	Dryland or irrigated, unsprayed conventional cotton	10
Pigeon pea	Fully irrigated, unsprayed	5

No other refuge options are approved for dryland Bollgard II.

Note: Unsprayed means not sprayed with any insecticide that targets any life stage of *Helicoverpa* spp.

Bt products must not be applied to any refuge (including sprayed cotton).

If the viability of an unsprayed conventional cotton refuge is at risk due to early season pressure by *Helicoverpa* spp., and with prior approval from the Monsanto Compliance and Stewardship Manager, a non-Bt heliocide can be applied. An unsprayed refuge should not be planted in the same field as any crop sprayed with a rate of insecticide that is registered for *Helicoverpa* spp, with the exception of Bollgard II. Sprayed crops and unsprayed refuges that are planted in

adjacent fields must be separated by sufficient distance to *minimise the likelihood of insecticide drift onto the unsprayed refuge*.

For the purposes of this Resistance Management Plan, conventional cotton includes any cotton varieties that do not have Bt proteins in the plant that control *Helicoverpa* spp. larvae.

General conditions for all refuges:

(a) Refuge crops are to be planted and managed so that they are attractive to *Helicoverpa* spp. during the growing period of the Bollgard II cotton varieties.

Irrigated: It is preferable that all refuge is planted within the 2 week period prior to planting Bollgard II. If this is not possible, refuge planting must be completed within 3 weeks of the first day of sowing of Bollgard II. At this time, sufficient refuge must have been planted to cover all of the Bollgard II cotton proposed to be planted for the season (including Bollgard II already planted and any that remains unplanted). Should additional Bollgard II planting be made after this date, which is not already covered by refuge, additional refuge must be planted as soon as possible and no more than 2 weeks after sowing of the additional Bollgard II.

Dryland: A dryland refuge must be planted within the 2 week period prior to the first day of planting Bollgard II cotton.

(b) Pigeon pea refuges should not be planted until the soil temperature reaches 17°C, which is a requirement for germination, and should also be planted into moisture to ensure successful germination. If soil temperatures are not suitable to allow germination of pigeon peas in line with condition (a), an alternative refuge must be planted in its place within the prescribed period (under (a) above).

(c) Once Bollgard II cotton begins to flower the corresponding refuge should not be cultivated.

(d) Insecticide preparations containing Bt may be used on Bollgard II cotton throughout the season BUT NOT on any refuge crops.

(e) All refuges are to be planted within the farm unit growing Bollgard II cotton. Subject to clause (f) below, all reasonable effort should be taken to plant the refuge either on one side of, or next to a Bollgard II cotton field and all Bollgard II fields must be no more than 2 km from the nearest associated Bollgard II refuge.

(f) To minimise the possibility of refuge attractiveness being affected by herbicide drift, non-herbicide tolerant refuges should be separated from herbicide tolerant Bollgard II cotton crops by a sufficient distance to minimise such drift, but no more than 2km from the Bollgard II cotton.

(g) To account for possible insecticide drift, the options for the width of refuge crops vary according to spray regime. If any sprayed conventional cotton is grown on the same farm unit, Bollgard II refuge crops must be at least 48 metres wide and each refuge area must be a minimum of 2 hectares. If no sprayed conventional cotton is grown on the same farm unit, Bollgard II refuge crops must be at least 24 metres wide and 24 metres long. Different unsprayed refuge options may be planted in the same field as a single unit; however a sprayed conventional cotton refuge must not be planted in a field that is also planted to an unsprayed refuge type.

(h) In all regions, destruction of refuges should only be carried out after Bollgard II cotton lint removal has been completed.

(i) Refuges for dryland Bollgard II cotton crops must be planted in the same row configuration as the Bollgard II crop unless the refuge is irrigated. If an irrigated option is utilised for a dryland Bollgard II crop, then that refuge may be planted in a solid configuration. Dryland cotton is measured as green hectares (calculated as defined in the Technology User Agreement).

2. Control of volunteer and ratoon cotton

Volunteer and ratoon cotton may impose additional selection pressure on *Helicoverpa* spp. to develop resistance to the Bt Cry 1Ac and Cry 2Ab proteins produced by Bollgard II cotton.

Growers must make all reasonable efforts to remove volunteer and ratoon plants, as soon as possible from all fields, including fallow areas, Bollgard II crops, conventional cotton crops and all refuges. **The presence of Bollgard II volunteers/ratoon cotton in any refuge will diminish the value of the refuge and must be removed as soon as possible.**

Note: The refuge should preferably be planted into fallow or rotation fields that have not been planted to cotton in the previous season.

3. Post-harvest crop destruction

As soon as practical after harvest, Bollgard II cotton crops must be destroyed by cultivation or herbicide so that they do not continue to act as hosts for *Helicoverpa* spp.

SECTION 2: NEW SOUTH WALES AND SOUTHERN QUEENSLAND ONLY

1. Planting windows

All Bollgard II crops are to be planted into moisture or watered-up by 15 November, unless otherwise advised by a Bollgard II Planting Window Variation Notice.

2. Pupae destruction

In Bollgard II cotton fields, each grower will be required to undertake *Helicoverpa* spp. pupae destruction after harvest according to the following key guidelines:

- Bollgard II crops should be slashed or mulched and fields cultivated for pupae control within 4 weeks of harvesting. All pupae busting must be completed by July 31.
- Ensure disturbance of the whole soil surface to a depth of 10 cm.
- All fields that are sown to any winter crop following a Bollgard II crop must be inspected by the Technology Service Provider before sowing commences in order to ensure that pupae busting has occurred.

In Refuge crops:

In New South Wales and Southern Queensland, to ensure maximum emergence of late pupae from associated refuges, soil disturbance of refuge crops should not be undertaken until after the pupae busting in Bollgard II cotton crops on the farm unit is complete. All unsprayed refuges, should preferably be left uncultivated until the following October.

3. Failed crops

Bollgard II crops that will not be grown through to harvest for various reasons and are declared to, and verified by, Monsanto as failed must be destroyed within two weeks after verification, in such a way that prevents regrowth. Crops abandoned before February 28 do not require pupae busting. Crops abandoned on February 28 or later must be pupae busted.

NB: If any grower encounters problems in complying with the Resistance Management Plan please contact your local Monsanto Regional Business Manager.

SECTION 3: CENTRAL QUEENSLAND ONLY

1. Planting Windows

Emerald: All Bollgard II crops are to be planted into moisture or watered-up in the period between September 15 and October 26, unless advised otherwise by a Bollgard II Planting Window Variation Notice.

Dawson Callide Valleys: All Bollgard II crops are to be planted into moisture or watered-up in the period between September 15 and October 26, unless advised otherwise by a Bollgard II Planting Window Variation Notice.

Belyando - Clermont: All Bollgard II crops are to be planted into moisture or watered-up in the period between November 4 and Decmber 15, unless advised otherwise by a Bollgard II Planting Window Variation Notice.

Mackenzie: All Bollgard II crops are to be planted into moisture or watered-up in the period between November 4 and Decmber 15, unless advised otherwise by a Bollgard II Planting Window Variation Notice.

2. Refuges

Pigeon Pea refuge should preferably be planted into a fallow or rotation field that has not been planted to cotton in the previous season to avoid volunteer and ratoon cotton.

In Central Queensland soil disturbance of refuge crops can only occur 2 weeks after final defoliation of the Bollgard II cotton.

3. Late summer pigeon pea trap crop

A late summer trap crop (pigeon pea) must be planted for all Bollgard II cotton grown in Central Queensland. The planting configuration of the trap crop should be the same as that of the Bollgard II crop. Irrigated Bollgard II must have an irrigated trap crop. Table 3 shows the requirements for the late summer pigeon pea trap crop. Dryland Bollgard II growers who do not have any irrigated cotton on their farm should contact their Monsanto Regional Business Manager for alternative options.

Refuge and late summer trap crops have different purposes and, if pigeon pea is selected for both, two separate plantings may be required. However, where a pigeon pea refuge is utilised as a trap crop the full 5% pigeon pea refuge area must be managed to become the late summer trap crop and must adhere to the requirements in Table 3 below.

Table 3. Late summer pigeon pea trap crop requirements in Central Queensland

Criterion	**Trap crop***
Minimum area & dimension (Requirement)	A minimum trap crop of 1% of planted Bollgard II cotton crop is required. If sprayed conventional cotton is grown on that farm unit: the trap crop must be at least 48m x 48m. If no sprayed conventional cotton is grown on that farm unit: the trap crop must be at least 24m x 24m.
Planting time	The trap crop should preferably be planted between November 1 and November 30 Note: if growers choose to plant their trap crop to coincide with the planting of pigeon pea refuges they must manage the trap crop in such a way that it remains attractive to *Helicoverpa* spp. 2-4 weeks after final defoliation.
Planting rate **	35kg/ha (recommended establishment greater than 4 plants per metre)
Insect control	The trap crop can be sprayed with virus after flowering; while avoiding insecticide spray drift, except where a pigeon pea refuge is converted to a trap crop. In this case the full 5% pigeon pea refuge area managed to become the late summer trap crop can only be sprayed with virus after the first defoliation of Bollgard II cotton.
Irrigation	The trap crop must be planted into an area where it can receive the additional irrigation required to keep the trap crop attractive to *Helicoverpa* spp. until after the cotton is defoliated.
Weed control	The trap crop should be kept free of weeds and particularly volunteer Bollgard II cotton. When using the full 5% pigeon pea trap crop option, weed control must not be carried out by cultivation once flowering of the associated Bollgard II cotton crop has commenced

Crop destruction	The trap crop must be destroyed 2-4 weeks (but not before 2 weeks) after final defoliation of the Bollgard II cotton crop, (slash and pupae bust – full soil disturbance to a depth of 10cm across the entire trap crop area). All Bollgard II and associated trap crops must be destroyed by July 31.

* A pigeon pea trap crop is to be planted so that it is attractive (flowering) to *Helicoverpa* spp. after the cotton crop has cut out, and as any survivors from the Bollgard II crop emerge. Planting pigeon pea too early (e.g. before November) or too late (e.g. mid December) is not adequate for cotton crops planted during September through to October.

** The planting rate is a recommendation based on a minimum of 85% seed germination.

NB: **<u>If any grower encounters problems in complying with the resistance management plan, please contact your Monsanto Regional Business Manager.</u>**

For further background information on the various components of this plan see the ”Preamble to the Resistance Management Plan for Bollgard II” in the current Cotton Pest Management Guide.

APPENDIX B

Resistance Management Plan for Bollgard II® cotton 2017/2018 - Ord River Irrigation and Burdekin Bowen Basin Areas

Ord River Irrigation, Burdekin Bowen Basin and Richmond Areas
Developed by Monsanto Australia Limited and the Transgenic and Insect Management Strategy (TIMS) Committee of Cotton Australia Limited.
The resistance management plan is based on three basic principles: (1) minimising the exposure of *Helicoverpa* spp. to the *Bacillus thuringiensis* (Bt) proteins Cry 1Ac and Cry 2Ab; (2) providing a population of susceptible individuals that can mate with any resistant individuals, hence diluting any potential resistance; and (3) removing resistant individuals at the end of the cotton season. The three principles are supported through the implementation of 5 elements that are the key components of the Resistance Management Plan. These elements are:
1. Refuge crops
2. Planting window
3. Pupae busting/Trap crops
4. Control of volunteers and ratoon cotton and
5. Spray limitations.

Growers of Bollgard II cotton are required to practice preventative resistance management as set out below. Compliance with the Resistance Management Plan is required under the terms of the Bollgard II Technology User Agreement and under the conditions of registration (*Agricultural and Veterinary Chemicals Act, 1994*).
This RMP is for the following areas:
- **Ord River Irrigation Area**, Western Australia
- **Burdekin Bowen Basin Area,** Queensland
- **Richmond Area, Queensland**

1. Refuges
Growers planting Bollgard II cotton will also be required to grow a refuge crop that is capable of producing large numbers of *Helicoverpa* spp. moths which have not been exposed to selection with Bt proteins Cry 1Ac and Cry 2Ab. These unselected moths are expected to dominate matings with any survivors from Bollgard II crops and thus help to maintain resistance to Bt proteins Cry 1Ac and Cry 2Ab at low levels.
All refuge options are based on the requirement of a 10% unsprayed cotton refuge or its equivalent as determined by the relative production of *Helicoverpa* spp. from each of the refuge types as described in the tables below.
For each area of irrigated Bollgard II cotton planted, a grower is required to plant a minimum of one, or a combination of, the following:

Table 1. Irrigated Bollgard II cotton refuge options

Crop	Conditions	% of Bollgard II	Regions permitted
Conventional Cotton	Irrigated, unsprayed conventional cotton	10	All Regions
Pigeon pea	Fully irrigated, unsprayed	5	All Regions

Note: Unsprayed means not sprayed with insecticides that target any life stage of *Helicoverpa* spp.
Bt products must not be applied to any refuge.
If the viability of an unsprayed refuge is at risk due to early or late season pressure by *Helicoverpa* spp., or any other caterpillar species, contact Monsanto immediately. With prior approval from the Monsanto Compliance and Stewardship Manager, a non-Bt heliocide can be applied.
An unsprayed refuge should not be planted in the same field as any crop sprayed with a rate of insecticide that is registered for Helicoverpa spp, with the exception of Bollgard II unless a sufficient buffer is in place to prevent insecticide drift.

Sprayed crops and unsprayed refuges that are planted in adjacent fields must also be separated by sufficient distance to *minimise the likelihood of insecticide drift onto the unsprayed refuge*.
For the purposes of this Resistance Management Plan, conventional cotton includes any cotton varieties that do not have Bt proteins in the plant that control *Helicoverpa* spp. larvae.
General conditions for all refuges:
(a) Refuge crops are to be planted and managed so that they are attractive to *Helicoverpa* spp. during the growing period of the Bollgard II cotton varieties.

Ord River Irrigation Area
It is preferable that all refuge is planted within the 2 week period prior to planting Bollgard II. If this is not possible, refuge planting must be completed within 3 weeks of the first day of sowing of Bollgard II. At this time, sufficient refuge must have been planted to cover all of the Bollgard II cotton proposed to be planted for the season (including Bollgard II already planted and any that remains unplanted). Should additional Bollgard II planting be made after this date, which is not already covered by refuge, additional refuge must be planted as soon as possible and no more than 2 weeks after sowing of the additional Bollgard II.
Burdekin Bowen and Richmond Areas
Refuges must be sown within the 2 weeks prior to planting any Bollgard II. This timing attempts to mitigate wet season planting risks.
(b) Group J legume innoculant should be used to treat pigeon pea planting seed just prior to sowing to ensure effective root zone colonisation by nitrogen fixing rhizobium bacteria
(c) Once the Bollgard II cotton begins to flower the corresponding refuge must not be cultivated.
(d) Insecticide preparations containing Bt may be used on Bollgard II cotton throughout the season BUT NOT on any refuge crops.
(e) All refuges are to be planted within the farm unit growing Bollgard II cotton. Subject to clause (f) below, all reasonable effort should be taken to plant the refuge either on one side of, or next to, a Bollgard II cotton field, and all Bollgard II fields must be no more than 2 km from the nearest Bollgard II refuge.

(f) To minimise the possibility of refuge attractiveness being affected by herbicide drift, non-herbicide tolerant refuges should be separated from herbicide tolerant Bollgard II cotton crops by a sufficient distance to minimise such drift, but no more than 2km from the Bollgard II cotton.
(g) To account for possible insecticide drift, Bollgard II refuge crops must be at least 24 metres wide and 24 metres long. Different unsprayed refuge options may be planted in the same field as a single unit.
(h) Slashing of plants within the refuge should only be carried out after Bollgard II cotton lint removal has been completed. Soil disturbance of refuge crops can only occur 2 weeks after Bollgard II cotton plants have been harvested.
(i) Refuges for Bollgard II crops must be planted in the same row configuration as the Bollgard II crop.

2. Control of volunteer and ratoon cotton

Volunteer and ratoon cotton may impose additional selection pressure on *Helicoverpa* spp. to develop resistance to the Bt proteins Cry 1Ac and Cry 2Ab produced by Bollgard II cotton.
Growers must make all reasonable efforts to remove volunteer and ratoon plants as soon as possible from all fields - including fallow areas, Bollgard II crops, conventional cotton crops and all refuges. **The presence of Bollgard II volunteers/ratoon cotton in any refuge will diminish the value of the refuge and must be removed as soon as possible.**
Note: The refuge should preferably be planted into fallow or rotation fields that have not been planted to cotton in the previous season.

3. Post-harvest crop destruction

As soon as practical after harvest, Bollgard II cotton crops must be destroyed by cultivation or herbicide so that they do not continue to act as hosts for *Helicoverpa* spp. Unsprayed refuges must be left uncultivated for two weeks after harvest to allow emergence of any pupating *Helicoverpa* spp.

4. Planting windows

All Bollgard II crops and cotton refuges are to be planted into moisture or watered-up in a five week window. In each region, the start date of the planting window will be determined by TIMS in consultation with local growers and reflected in a regionally amended "Bollgard II Planting Window Variation Notice".
The planting window will occur within the following periods:
Ord River Irrigation Area: March 1 and May 1.
Burdekin Bowen Basin Area: December 1 and April 1.
Richmond Area: December 1 and April 1.

5. Refuge

Unsprayed Pigeon Pea refuge should preferably be planted into a fallow or rotation field that has not been planted to cotton in the previous season.

6. End of season chick pea trap crop

An end of season chick pea trap crop must be planted. The planting configuration of the trap crop should be the same as that of the Bollgard II crop. Table 2 shows the requirements for the chick pea trap crop.

Table 2. End of season chick pea trap crop requirements Criterion	**End of season chick pea trap crop**
Minimum area & dimensions	A trap crop of 1% of planted Bollgard II crop area is required. This planting must be at least 24 m x 24m wide.

Planting time	In April for Burdekin Bowen Area. In July/August for Ord area. The trap crop is to be planted such that it is attractive to *Helicoverpa* spp. from 2 weeks before defoliation of the Bollgard II cotton. It must remain attractive to *Helicoverpa* spp. until at least 2 weeks after defoliation of the Bollgard II cotton.
Insect control	The trap crop should be monitored and sprayed with insecticide if the larval pressure threatens the viability of the crop.
Irrigation	The trap crop is to remain attractive to *Helicoverpa* spp. until after defoliation of cotton. In some cases this may require one additional irrigation after the cotton is defoliated. The trap crop must be planted into an area where it can receive the additional irrigation required to ensure the trap crop remains attractive to Helicoverpa spp.
Weed control	The trap crop should be kept free of weeds and particularly volunteer Bollgard II cotton.
Crop destruction	The trap crop must be destroyed 2-4 weeks after defoliation of the Bollgard II cotton crop, but not before 3 weeks (slash and pupae bust – full soil disturbance to a depth of 10 cm across the entire trap crop area). All Bollgard II cotton and associated trap crops must be destroyed by: Burdekin Bowen Basin/Richmond Area – August 31 Ord River Irrigation Area – December 10

NB: If any grower encounters problems in complying with the resistance management plan, please contact your Monsanto Regional Business Manager.

For further background information on the various components of this plan see the ”Preamble to the Resistance Management Plan for Bollgard II” in the current Cotton Pest Management Guide.

BASF
We create chemistry

BASF Australia Ltd.
[redacted]

Office of the Gene Technology Regulator
MDP 54
GPO Box 9848
CANBERRA ACT 2601

Thursday 21 November 2019
[redacted]

Sent to brian.weir@health.gov.au via email

Attention: Application Entry Point

Dear Sir/Madam,

Annual Report for DIR062/2005 for the year 8 August 2018 to 7 August 2019

I refer to the requirements of the above licence (*viz.* Condition No. 20), to provide the OGTR with an annual report within 90 days of the licence issue date anniversary. We were contacted by OGTR to indicate that this report needed to be supplied at earliest opportunity. I submit to you this report which has been derived from data from our internal record keeping system for events approved under this licence.

Please note that from the period of 8 August 2018 to 7 August 2019, this licence was held by three (3) separated licence holders:

1. Bayer CropScience Pty. Ltd. from 8 August to 2 October 2018
2. BASF Agricultural Solutions Australia Pty Ltd from 2 October 2018 to 18 April 2019
3. BASF Australia Ltd from 18 April 2019 to the end of the reporting period

During the period of 8 August 2018 to 7 August 2019, no cotton containing Liberty Link technology was planted in Australia. During the same period there were no plantings of LLCotton25/Bollgard II cotton in Australia.

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During the reporting period, no adverse effects were observed or reported to us as a result of dealings with Liberty Link or LLCotton25/Bollgard II cotton under licence DIR062/2005.

[redacted]

[redacted]

Regulatory Affairs Manager, Seeds, ANZ
BASF Australia Ltd.

[redacted]

LICENCE NO:	DIR066
LICENCE HOLDER:	Monsanto Australia Limited
ACCREDITATION NO:	ACCR 034/2002

SUBMISSION:	2017 Annual Report for Commercial release of GM herbicide tolerant and/or insect resistant cotton lines
REPORTING PERIOD:	1 June 2016 – 1 June 2017 (covering 2016/17 cotton growing season)
DATE:	30 June 2017

PREPARED BY: [redacted]

Contents

SECTION 1. LICENCE HOLDER DETAILS

Name: Monsanto Australia Limited

Address: 600 St Kilda Rd, Melbourne 3004

PO Box 6051
St Kilda rd Central
Victoria, 8008

Telephone: (03)9522 7101

Facsimilie: (03)9522 6122

Contact email: [redacted]

Accreditation Number: **ACCR 034/2002**

SCOPE OF THE REPORT

This report addresses the annual reporting condition of the DIR066 commercial licence covering Roundup Ready® cotton, Roundup Ready® Flex cotton and the Bollgard II® trait issued to Monsanto Australia Limited by the Office of the Gene Technology Regulator.

This report details compliance with general and specific conditions of Sections 2 to 6 of the DIR066 licence as issued to Monsanto Australia Limited on 26 October 2006, and as varied 22 December 2006, 6 December 2007, 15 April 2009 and 20 June, 2013.

This report covers the period from 1 June 2016 to 1 June 2017, including the 2016/17 cotton planting season.

SECTION 2. LICENCE CONDITIONS

Condition 1. Duration of Licence

DIR066 has not been suspended, cancelled or surrendered.

Condition 2. Holder of Licence

Monsanto Australia Limited (Monsanto) remains the holder of the licence.

Conditions 3 and 4. Project Supervisor

The project supervisor is [redacted]

Condition 5. No dealings with GMOs except as authorized by this Licence

Persons covered by the licence did not deal with GMOs except as expressly permitted by the licence.

Conditions 6 and 7. Location

The licence allows for dealings with GMOs to be conducted anywhere in Australia. This licence supersedes any previous licences regarding location.

Conditions 8 and 9. Persons covered by this GMO Licence

Monsanto acknowledges that the persons covered by the licence are the licence holder and employees, agents or contractors of the licence holder and other persons who are, or have been, engaged to undertake any activity in connection with GMOs grown in a location pursuant to this licence.

Conditions 10 and 11. Informing people of their obligations

DIR066 was issued in October 2006, permitting dealings with the GMOs to be undertaken during the cotton growing seasons.

Monsanto Australia Limited informed all persons covered by the DIR066 licence of the obligations imposed on them as a result of the conditions of the licence. This was primarily achieved through the Monsanto accreditation program, which includes information on regulatory obligations as well as management of the crop.

Accreditation programs require all persons having management responsibility for Roundup Ready (no longer sold commercially), Roundup Ready Flex and Bollgard II cotton crops to undergo training.

Condition 12. Applicant to notify of circumstances that might affect suitability

During the reporting period, Monsanto Australia Ltd did not receive a relevant conviction occurring after the commencement of this licence; nor was there any revocation or suspension of a licence or permit held by Monsanto Australia Ltd under a law of the Australian Government, a State or foreign country, being a law relating to the health and safety of people or the environment; or any event or circumstance occurring after the commencement of this licence that would affect the capacity of Monsanto to meet the conditions of the DIR066 licence.

Condition 13. Licence holder must provide information on matters related to suitability

Monsanto acknowledges that it must provide information related to its ongoing suitability to hold a licence when requested to do so in writing by the Regulator and must provide information within a time period stipulated by the Regulator.

Condition 14. People dealing with the GMOs must allow auditing and monitoring if the dealing

Monsanto acknowledges that if a person authorized by this licence to deal with GMOs and a particular condition of this licence applies to the dealing by that person, the person must allow the Regulator, or a person authorized by the Regulator, to enter the premises where the dealing is being undertaken, for the purposes of auditing or monitoring the dealing.

Condition 15. Remaining an Accredited organization

At all times, Monsanto remained an accredited organization and complied with conditions of accreditation as set out in the OGTR Guidelines for Accreditation of Organisations.

Conditions 16 - 19 Additional information must be given to the Regulator

During the reporting period, Monsanto did not become aware of any additional information as to any risks to the health and safety of people, or to the environment, associated with the dealings authorized by this licence; or of any unintended effects of the dealings authorized by this licence.

Condition 20. Compliance Management Plan

A Compliance Management Plan was provided to the Regulator on issuance of the DIR066 licence.

SECTION 3. GROWING THE GMOS

3.1 GMOs covered by this licence

The only dealings with GMOs under this licence were those with the GMOs described in DIR066 Licence.

3.2 Permitted dealings

Sales and planting of the Roundup Ready Flex (RRF), Bollgard II (BGII) and Bollgard II stacked with Liberty Link® (BGIIwLL) were undertaken under a Technology User Agreement, which sets out the conditions for planting and growing a cotton crop containing RRF and BGII technology. Roundup Ready cotton has been removed from the market in Australia. To be eligible to sign such an agreement, a grower is required to attend an accreditation program and pass a test based on the material covered in the accreditation program.

3.3 Commercial Crop Locations and Volumes

Valley	BGII ha	RR ha	RRF ha	BGII w RR ha	BGII w RRF ha	BGII w LL ha	Total ha
Alton Downs	0.00	0.00	6.25	0.00	101.31	0.00	107.56
Belyando	0.00	0.00	86.56	0.00	0.00	0.00	86.56
Bourke	0.00	0.00	41.10	0.00	118	0.00	159.1
Darling Downs	0.00	0.00	3986.48	0.00	2307.43	0.00	6293.91
Dawson/Callide	0.00	0.00	146.49	0.00	0.00	0.00	146.49
Dirranbandi	0.00	0.00	383.00	0.00	165.58	0.00	548.58
Emerald	0.00	0.00	139.20	0.00	0.00	0.00	139.2
Flinders Gilbert	0.00	0.00	97.76	0.00	0.00	0.00	97.76
Gwydir	0.00	0.00	5029.18	0.00	1104.27	0.00	6133.45
Lachlan	0.00	0.00	352.35	0.00	0.00	0.00	352.35
Lower Namoi	0.00	0.00	2276.99	0.00	2207.77	0.00	4484.76
MacIntyre	0.00	0.00	2269.94	0.00	2171.36	0.00	4441.3
Macquarie	0.00	0.00	418.53	0.00	487.06	0.00	905.59
McKenzie River	0.00	0.00	133.97	0.00	0.00	0.00	133.97
Mungindi	0.00	0.00	304.74	0.00	0.00	0.00	304.74
Murray	0.00	0.00	44.96	0.00	36.6	0.00	81.56
Murrumbidgee	0.00	0.00	587.08	0.00	3104.85	0.00	3691.93
St George	0.00	0.00	289.92	0.00	1798.39	0.00	2088.31
Tandou	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Upper Namoi	0.00	0.00	2139.52	0.00	1045.75	0.00	3185.27
Walgett	0.00	0.00	1046.70	0.00	1495.89	0.00	2542.59
Total ha	**0.00**	**0.00**	**19,781.02**	**0.00**	**16,121.76**	**0.00**	**35,902.78**

Total Bollgard II ha planted	**16,121.76**
Total Roundup Ready Flex ha planted	**35,902.78**

Note *– Total Bollgard II figure includes Bollgard II, Bollgard II/Roundup Ready Flex and Bollgard II/Liberty Link. Total Roundup Ready Flex figure includes Roundup Ready Flex and Bollgard II/Roundup Ready Flex.*

3.4 Trial/Research Crop Locations and Volumes

Valley	BGII ha	RR ha	RRF ha	BGII w RR ha	BGII w RRF ha	BGII w LL ha	Total ha
Darling Downs	0.00	0.00	0.60	0.00	0.00	0.00	0.60
Lower Namoi	0.00	0.00	28.05	0.00	3.34	0.00	31.39
Total ha	**0.00**	**0.00**	**28.65**	**0.00**	**3.34**	**0.00**	**31.99**

APPENDIX A -

Resistance Management Plan for Bollgard II® Cotton 2016/2017

Developed by Monsanto Australia Limited and the Transgenic and Insect Management Strategy (TIMS) Committee of Cotton Australia Ltd.

The resistance management plan is based on three basic principles: (1) minimising the exposure of *Helicoverpa* spp. to the *Bacillus thuringiensis* (Bt) proteins Cry 1Ac and Cry 2Ab; (2) providing a population of susceptible individuals that can mate with any resistant individuals, hence diluting any potential resistance; and (3) removing resistant individuals at the end of the cotton season. The three principles are supported through the implementation of 5 elements that are the key components of the Resistance Management Plan. These elements are:

1. Refuge crops
2. Planting window
3. Pupae busting/Trap crops
4. Control of volunteers and ratoon cotton and
5. Spray limitations.

Growers of Bollgard II cotton are required to practice preventative resistance management as set out below. Compliance with the Resistance Management Plan is required under the terms of the Bollgard II Technology User Agreement and under the conditions of registration (*Agricultural and Veterinary Chemicals Act 1994*).

Section 1 is applicable to all regions in New South Wales and Queensland that grow cotton while sections 2 and 3 detail specific requirements for New South Wales and Southern Queensland, and Central Queensland respectively.

SECTION 1: NEW SOUTH WALES, SOUTHERN QUEENSLAND & CENTRAL QUEENSLAND

1. Refuges

Growers planting Bollgard II cotton will also be required to grow a refuge crop that is capable of producing large numbers of *Helicoverpa* spp. moths which have not been exposed to selection with Bt proteins Cry 1Ac and Cry 2Ab. These unselected moths are expected to dominate matings with any survivors from Bollgard II crops and thus help to maintain resistance to Bt proteins Cry 1Ac and Cry 2Ab at low levels.

All refuge options are based on the requirement of a 10% unsprayed cotton refuge or its equivalent, as determined by the relative production of *Helicoverpa* spp. from each of the refuge types as described in Tables 1 and 2, for irrigated and dryland production scenarios respectively. Irrespective of the irrigation regime for the Bollgard II cotton, all pigeon pea refuges must be fully irrigated so that they are attractive to *Helicoverpa* spp. during the growing period of the Bollgard II cotton.

For each area of irrigated Bollgard II cotton planted, a grower is required to plant a minimum of one or a combination of the following:

Table 1. Irrigated Bollgard II cotton refuge options

Crop	**Conditions**	**% of Bollgard II**
Cotton	Irrigated, sprayed conventional cotton	100
	Irrigated, unsprayed conventional cotton	10
Pigeon pea	Fully irrigated, unsprayed	5

Table 2. Dryland Bollgard II cotton refuge options

Crop	**Conditions**	**% of Bollgard II**
Cotton	Dryland or irrigated, sprayed conventional cotton	100
	Dryland or irrigated, unsprayed conventional cotton	10
Pigeon pea	Fully irrigated, unsprayed	5

No other refuge options are approved for dryland Bollgard II.

Note: Unsprayed means not sprayed with any insecticide that targets any life stage of *Helicoverpa* spp.

Bt products must not be applied to any refuge (including sprayed cotton).

If the viability of an unsprayed conventional cotton refuge is at risk due to early season pressure by *Helicoverpa* spp., and with prior approval from the Monsanto Compliance and Stewardship Manager, a non-Bt heliocide can be applied. An unsprayed refuge should not be planted in the same field as any crop sprayed with a rate of insecticide that is registered for *Helicoverpa* spp, with the exception of Bollgard II. Sprayed crops and unsprayed refuges that are planted in

adjacent fields must be separated by sufficient distance to *minimise the likelihood of insecticide drift onto the unsprayed refuge*.

For the purposes of this Resistance Management Plan, conventional cotton includes any cotton varieties that do not have Bt proteins in the plant that control *Helicoverpa* spp. larvae.

General conditions for all refuges:

(a) Refuge crops are to be planted and managed so that they are attractive to *Helicoverpa* spp. during the growing period of the Bollgard II cotton varieties.

Irrigated: It is preferable that all refuge is planted within the 2 week period prior to planting Bollgard II. If this is not possible, refuge planting must be completed within 3 weeks of the first day of sowing of Bollgard II. At this time, sufficient refuge must have been planted to cover all of the Bollgard II cotton proposed to be planted for the season (including Bollgard II already planted and any that remains unplanted). Should additional Bollgard II planting be made after this date, which is not already covered by refuge, additional refuge must be planted as soon as possible and no more than 2 weeks after sowing of the additional Bollgard II.

Dryland: A dryland refuge must be planted within the 2 week period prior to the first day of planting Bollgard II cotton.

(b) Pigeon pea refuges should not be planted until the soil temperature reaches 17°C, which is a requirement for germination, and should also be planted into moisture to ensure successful germination. If soil temperatures are not suitable to allow germination of pigeon peas in line with condition (a), an alternative refuge must be planted in its place within the prescribed period (under (a) above).

(c) Once Bollgard II cotton begins to flower the corresponding refuge should not be cultivated.

(d) Insecticide preparations containing Bt may be used on Bollgard II cotton throughout the season BUT NOT on any refuge crops.

(e) All refuges are to be planted within the farm unit growing Bollgard II cotton. Subject to clause (f) below, all reasonable effort should be taken to plant the refuge either on one side of, or next to a Bollgard II cotton field and all Bollgard II fields must be no more than 2 km from the nearest associated Bollgard II refuge.

(f) To minimise the possibility of refuge attractiveness being affected by herbicide drift, non-herbicide tolerant refuges should be separated from herbicide tolerant Bollgard II cotton crops by a sufficient distance to minimise such drift, but no more than 2km from the Bollgard II cotton.

(g) To account for possible insecticide drift, the options for the width of refuge crops vary according to spray regime. If any sprayed conventional cotton is grown on the same farm unit, Bollgard II refuge crops must be at least 48 metres wide and each refuge area must be a minimum of 2 hectares. If no sprayed conventional cotton is grown on the same farm unit, Bollgard II refuge crops must be at least 24 metres wide and 24 metres long. Different unsprayed refuge options may be planted in the same field as a single unit; however a sprayed conventional cotton refuge must not be planted in a field that is also planted to an unsprayed refuge type.

(h) In all regions, destruction of refuges should only be carried out after Bollgard II cotton lint removal has been completed.

(i) Refuges for dryland Bollgard II cotton crops must be planted in the same row configuration as the Bollgard II crop unless the refuge is irrigated. If an irrigated option is utilised for a dryland Bollgard II crop, then that refuge may be planted in a solid configuration. Dryland cotton is measured as green hectares (calculated as defined in the Technology User Agreement).

2. Control of volunteer and ratoon cotton

Volunteer and ratoon cotton may impose additional selection pressure on *Helicoverpa* spp. to develop resistance to the Bt Cry 1Ac and Cry 2Ab proteins produced by Bollgard II cotton.

Growers must make all reasonable efforts to remove volunteer and ratoon plants, as soon as possible from all fields, including fallow areas, Bollgard II crops, conventional cotton crops and all refuges. **The presence of Bollgard II volunteers/ratoon cotton in any refuge will diminish the value of the refuge and must be removed as soon as possible.**

Note: The refuge should preferably be planted into fallow or rotation fields that have not been planted to cotton in the previous season.

3. Post-harvest crop destruction

As soon as practical after harvest, Bollgard II cotton crops must be destroyed by cultivation or herbicide so that they do not continue to act as hosts for *Helicoverpa* spp.

SECTION 2: NEW SOUTH WALES AND SOUTHERN QUEENSLAND ONLY

1. Planting windows

All Bollgard II crops are to be planted into moisture or watered-up by 15 November, unless otherwise advised by a Bollgard II Planting Window Variation Notice.

2. Pupae destruction

In Bollgard II cotton fields, each grower will be required to undertake *Helicoverpa* spp. pupae destruction after harvest according to the following key guidelines:

- Bollgard II crops should be slashed or mulched and fields cultivated for pupae control within 4 weeks of harvesting. All pupae busting must be completed by July 31.
- Ensure disturbance of the whole soil surface to a depth of 10 cm.
- All fields that are sown to any winter crop following a Bollgard II crop must be inspected by the Technology Service Provider before sowing commences in order to ensure that pupae busting has occurred.

In Refuge crops:

In New South Wales and Southern Queensland, to ensure maximum emergence of late pupae from associated refuges, soil disturbance of refuge crops should not be undertaken until after the pupae busting in Bollgard II cotton crops on the farm unit is complete. All unsprayed refuges, should preferably be left uncultivated until the following October.

3. Failed crops

Bollgard II crops that will not be grown through to harvest for various reasons and are declared to, and verified by, Monsanto as failed must be destroyed within two weeks after verification, in such a way that prevents regrowth. Crops abandoned before February 28 do not require pupae busting. Crops abandoned on February 28 or later must be pupae busted.

NB: If any grower encounters problems in complying with the Resistance Management Plan please contact your local Monsanto Regional Business Manager.

SECTION 3: CENTRAL QUEENSLAND ONLY

1. Planting Windows

Emerald: All Bollgard II crops are to be planted into moisture or watered-up in the period between September 15 and October 26, unless advised otherwise by a Bollgard II Planting Window Variation Notice.

Dawson Callide Valleys: All Bollgard II crops are to be planted into moisture or watered-up in the period between September 15 and October 26, unless advised otherwise by a Bollgard II Planting Window Variation Notice.

Belyando - Clermont: All Bollgard II crops are to be planted into moisture or watered-up in the period between November 4 and Decmber 15, unless advised otherwise by a Bollgard II Planting Window Variation Notice.

Mackenzie: All Bollgard II crops are to be planted into moisture or watered-up in the period between November 4 and Decmber 15, unless advised otherwise by a Bollgard II Planting Window Variation Notice.

2. Refuges

Pigeon Pea refuge should preferably be planted into a fallow or rotation field that has not been planted to cotton in the previous season to avoid volunteer and ratoon cotton.

In Central Queensland soil disturbance of refuge crops can only occur 2 weeks after final defoliation of the Bollgard II cotton.

3. Late summer pigeon pea trap crop

A late summer trap crop (pigeon pea) must be planted for all Bollgard II cotton grown in Central Queensland. The planting configuration of the trap crop should be the same as that of the Bollgard II crop. Irrigated Bollgard II must have an irrigated trap crop. Table 3 shows the requirements for the late summer pigeon pea trap crop. Dryland Bollgard II growers who do not have any irrigated cotton on their farm should contact their Monsanto Regional Business Manager for alternative options.

Refuge and late summer trap crops have different purposes and, if pigeon pea is selected for both, two separate plantings may be required. However, where a pigeon pea refuge is utilised as a trap crop the full 5% pigeon pea refuge area must be managed to become the late summer trap crop and must adhere to the requirements in Table 3 below.

Table 3. Late summer pigeon pea trap crop requirements in Central Queensland

Criterion	**Trap crop***
Minimum area & dimension (Requirement)	A minimum trap crop of 1% of planted Bollgard II cotton crop is required. If sprayed conventional cotton is grown on that farm unit: the trap crop must be at least 48m x 48m. If no sprayed conventional cotton is grown on that farm unit: the trap crop must be at least 24m x 24m.
Planting time	The trap crop should preferably be planted between November 1 and November 30 Note: if growers choose to plant their trap crop to coincide with the planting of pigeon pea refuges they must manage the trap crop in such a way that it remains attractive to *Helicoverpa* spp. 2-4 weeks after final defoliation.
Planting rate **	35kg/ha (recommended establishment greater than 4 plants per metre)
Insect control	The trap crop can be sprayed with virus after flowering; while avoiding insecticide spray drift, except where a pigeon pea refuge is converted to a trap crop. In this case the full 5% pigeon pea refuge area managed to become the late summer trap crop can only be sprayed with virus after the first defoliation of Bollgard II cotton.
Irrigation	The trap crop must be planted into an area where it can receive the additional irrigation required to keep the trap crop attractive to *Helicoverpa* spp. until after the cotton is defoliated.
Weed control	The trap crop should be kept free of weeds and particularly volunteer Bollgard II cotton. When using the full 5% pigeon pea trap crop option, weed control must not be carried out by cultivation once flowering of the associated Bollgard II cotton crop has commenced

Crop destruction	The trap crop must be destroyed 2-4 weeks (but not before 2 weeks) after final defoliation of the Bollgard II cotton crop, (slash and pupae bust – full soil disturbance to a depth of 10cm across the entire trap crop area). All Bollgard II and associated trap crops must be destroyed by July 31.

* A pigeon pea trap crop is to be planted so that it is attractive (flowering) to *Helicoverpa* spp. after the cotton crop has cut out, and as any survivors from the Bollgard II crop emerge. Planting pigeon pea too early (e.g. before November) or too late (e.g. mid December) is not adequate for cotton crops planted during September through to October.

** The planting rate is a recommendation based on a minimum of 85% seed germination.

NB: **<u>If any grower encounters problems in complying with the resistance management plan, please contact your Monsanto Regional Business Manager.</u>**

For further background information on the various components of this plan see the ”Preamble to the Resistance Management Plan for Bollgard II” in the current Cotton Pest Management Guide.

APPENDIX B

Resistance Management Plan for Bollgard II® cotton 2016/2017 - Ord River Irrigation and Burdekin Bowen Basin Areas

Ord River Irrigation, Burdekin Bowen Basin and Richmond Areas
Developed by Monsanto Australia Limited and the Transgenic and Insect Management Strategy (TIMS) Committee of Cotton Australia Limited.
The resistance management plan is based on three basic principles: (1) minimising the exposure of *Helicoverpa* spp. to the *Bacillus thuringiensis* (Bt) proteins Cry 1Ac and Cry 2Ab; (2) providing a population of susceptible individuals that can mate with any resistant individuals, hence diluting any potential resistance; and (3) removing resistant individuals at the end of the cotton season. The three principles are supported through the implementation of 5 elements that are the key components of the Resistance Management Plan. These elements are:
1. Refuge crops
2. Planting window
3. Pupae busting/Trap crops
4. Control of volunteers and ratoon cotton and
5. Spray limitations.

Growers of Bollgard II cotton are required to practice preventative resistance management as set out below. Compliance with the Resistance Management Plan is required under the terms of the Bollgard II Technology User Agreement and under the conditions of registration (*Agricultural and Veterinary Chemicals Act, 1994*).
This RMP is for the following areas:
- **Ord River Irrigation Area**, Western Australia
- **Burdekin Bowen Basin Area,** Queensland
- **Richmond Area, Queensland**

1. Refuges
Growers planting Bollgard II cotton will also be required to grow a refuge crop that is capable of producing large numbers of *Helicoverpa* spp. moths which have not been exposed to selection with Bt proteins Cry 1Ac and Cry 2Ab. These unselected moths are expected to dominate matings with any survivors from Bollgard II crops and thus help to maintain resistance to Bt proteins Cry 1Ac and Cry 2Ab at low levels.
All refuge options are based on the requirement of a 10% unsprayed cotton refuge or its equivalent as determined by the relative production of *Helicoverpa* spp. from each of the refuge types as described in the tables below.
For each area of irrigated Bollgard II cotton planted, a grower is required to plant a minimum of one, or a combination of, the following:

Table 1. Irrigated Bollgard II cotton refuge options

Crop	Conditions	% of Bollgard II	Regions permitted
Conventional Cotton	Irrigated, unsprayed conventional cotton	10	All Regions
Pigeon pea	Fully irrigated, unsprayed	5	All Regions

Note: Unsprayed means not sprayed with insecticides that target any life stage of *Helicoverpa* spp.
Bt products must not be applied to any refuge.
If the viability of an unsprayed refuge is at risk due to early or late season pressure by *Helicoverpa* spp., or any other caterpillar species, contact Monsanto immediately. With prior approval from the Monsanto Compliance and Stewardship Manager, a non-Bt heliocide can be applied.
An unsprayed refuge should not be planted in the same field as any crop sprayed with a rate of insecticide that is registered for Helicoverpa spp, with the exception of Bollgard II unless a sufficient buffer is in place to prevent insecticide drift.

Sprayed crops and unsprayed refuges that are planted in adjacent fields must also be separated by sufficient distance to *minimise the likelihood of insecticide drift onto the unsprayed refuge*.
For the purposes of this Resistance Management Plan, conventional cotton includes any cotton varieties that do not have Bt proteins in the plant that control *Helicoverpa* spp. larvae.
General conditions for all refuges:
(a) Refuge crops are to be planted and managed so that they are attractive to *Helicoverpa* spp. during the growing period of the Bollgard II cotton varieties.

Ord River Irrigation Area
It is preferable that all refuge is planted within the 2 week period prior to planting Bollgard II. If this is not possible, refuge planting must be completed within 3 weeks of the first day of sowing of Bollgard II. At this time, sufficient refuge must have been planted to cover all of the Bollgard II cotton proposed to be planted for the season (including Bollgard II already planted and any that remains unplanted). Should additional Bollgard II planting be made after this date, which is not already covered by refuge, additional refuge must be planted as soon as possible and no more than 2 weeks after sowing of the additional Bollgard II.
Burdekin Bowen and Richmond Areas
Refuges must be sown within the 2 weeks prior to planting any Bollgard II. This timing attempts to mitigate wet season planting risks.
(b) Group J legume innoculant should be used to treat pigeon pea planting seed just prior to sowing to ensure effective root zone colonisation by nitrogen fixing rhizobium bacteria
(c) Once the Bollgard II cotton begins to flower the corresponding refuge must not be cultivated.
(d) Insecticide preparations containing Bt may be used on Bollgard II cotton throughout the season BUT NOT on any refuge crops.
(e) All refuges are to be planted within the farm unit growing Bollgard II cotton. Subject to clause (f) below, all reasonable effort should be taken to plant the refuge either on one side of, or next to, a Bollgard II cotton field, and all Bollgard II fields must be no more than 2 km from the nearest Bollgard II refuge.

(f) To minimise the possibility of refuge attractiveness being affected by herbicide drift, non-herbicide tolerant refuges should be separated from herbicide tolerant Bollgard II cotton crops by a sufficient distance to minimise such drift, but no more than 2km from the Bollgard II cotton.
(g) To account for possible insecticide drift, Bollgard II refuge crops must be at least 24 metres wide and 24 metres long. Different unsprayed refuge options may be planted in the same field as a single unit.
(h) Slashing of plants within the refuge should only be carried out after Bollgard II cotton lint removal has been completed. Soil disturbance of refuge crops can only occur 2 weeks after Bollgard II cotton plants have been harvested.
(i) Refuges for Bollgard II crops must be planted in the same row configuration as the Bollgard II crop.

2. Control of volunteer and ratoon cotton

Volunteer and ratoon cotton may impose additional selection pressure on *Helicoverpa* spp. to develop resistance to the Bt proteins Cry 1Ac and Cry 2Ab produced by Bollgard II cotton.
Growers must make all reasonable efforts to remove volunteer and ratoon plants as soon as possible from all fields - including fallow areas, Bollgard II crops, conventional cotton crops and all refuges. **The presence of Bollgard II volunteers/ratoon cotton in any refuge will diminish the value of the refuge and must be removed as soon as possible.**
Note: The refuge should preferably be planted into fallow or rotation fields that have not been planted to cotton in the previous season.

3. Post-harvest crop destruction

As soon as practical after harvest, Bollgard II cotton crops must be destroyed by cultivation or herbicide so that they do not continue to act as hosts for *Helicoverpa* spp. Unsprayed refuges must be left uncultivated for two weeks after harvest to allow emergence of any pupating *Helicoverpa* spp.

4. Planting windows

All Bollgard II crops and cotton refuges are to be planted into moisture or watered-up in a five week window. In each region, the start date of the planting window will be determined by TIMS in consultation with local growers and reflected in a regionally amended “Bollgard II Planting Window Variation Notice”.
The planting window will occur within the following periods:
Ord River Irrigation Area: March 1 and May 1.
Burdekin Bowen Basin Area: December 1 and April 1.
Richmond Area: December 1 and April 1.

5. Refuge

Unsprayed Pigeon Pea refuge should preferably be planted into a fallow or rotation field that has not been planted to cotton in the previous season.

6. End of season chick pea trap crop

An end of season chick pea trap crop must be planted. The planting configuration of the trap crop should be the same as that of the Bollgard II crop. Table 2 shows the requirements for the chick pea trap crop.

Table 2. End of season chick pea trap crop requirements Criterion	**End of season chick pea trap crop**
Minimum area & dimensions	A trap crop of 1% of planted Bollgard II crop area is required. This planting must be at least 24 m x 24m wide.

Planting time	In April for Burdekin Bowen Area. In July/August for Ord area. The trap crop is to be planted such that it is attractive to *Helicoverpa* spp. from 2 weeks before defoliation of the Bollgard II cotton. It must remain attractive to *Helicoverpa* spp. until at least 2 weeks after defoliation of the Bollgard II cotton.
Insect control	The trap crop should be monitored and sprayed with insecticide if the larval pressure threatens the viability of the crop.
Irrigation	The trap crop is to remain attractive to *Helicoverpa* spp. until after defoliation of cotton. In some cases this may require one additional irrigation after the cotton is defoliated. The trap crop must be planted into an area where it can receive the additional irrigation required to ensure the trap crop remains attractive to Helicoverpa spp.
Weed control	The trap crop should be kept free of weeds and particularly volunteer Bollgard II cotton.
Crop destruction	The trap crop must be destroyed 2-4 weeks after defoliation of the Bollgard II cotton crop, but not before 3 weeks (slash and pupae bust – full soil disturbance to a depth of 10 cm across the entire trap crop area). All Bollgard II cotton and associated trap crops must be destroyed by: Burdekin Bowen Basin/Richmond Area – August 31 Ord River Irrigation Area – December 10

NB: If any grower encounters problems in complying with the resistance management plan, please contact your Monsanto Regional Business Manager.

For further background information on the various components of this plan see the ”Preamble to the Resistance Management Plan for Bollgard II” in the current Cotton Pest Management Guide.

LICENCE NO:	DIR124
LICENCE HOLDER:	Monsanto Australia Limited
ACCREDITATION NO:	ACCR 034/2002

SUBMISSION:	2017 Annual Report for Commercial release of GM insect resistant and/or herbicide tolerant cotton lines
REPORTING PERIOD:	1 June 2016 – 1 June 2017 (covering 2016/17 cotton growing season)
DATE:	30 June 2017

PREPARED BY: [redacted]

Contents

SECTION 1. LICENCE HOLDER DETAILS

Name: Monsanto Australia Limited

Address: 600 St Kilda Rd, Melbourne 3004

PO Box 6051
St Kilda Rd Central
Victoria, 8008

Telephone: (03)9522 7101

Facsimilie: (03)9522 6101

Contact email: [redacted]

Accreditation Number: **ACCR 034/2002**

SCOPE OF THE REPORT

This report addresses the annual reporting condition of the DIR124 commercial licence covering Bollgard® 3 and Bollgard® 3 x Roundup Ready® Flex cotton technology issued to Monsanto Australia Limited by the Office of the Gene Technology Regulator.

This report details compliance with general and specific conditions of Sections 2 to 3 of the DIR124 licence as issued to Monsanto Australia Limited on 19 June 2014.

This report covers the period from 1 June 2016 to 1 June 2017, including the 2016/17 cotton planting season.

SECTION 2. LICENCE CONDITIONS AND OBLIGATIONS

Condition 3. Authorised Dealings

No dealings were conducted with GMOs under this licence that are otherwise prohibited as a result of the operation of State legislation declaring areas to be GM, GM free, or both, for marketing purposes.

Condition 4. Duration of Licence

DIR124 has not been suspended, cancelled or surrendered.

Condition 5. Holder of Licence

Monsanto Australia Limited (Monsanto) remains the holder of the licence.

Condition 6. Project Supervisor

The project supervisor is [redacted]

Condition 7. Persons covered by this GMO Licence

Monsanto acknowledges that any person, including the licence holder, may conduct any permitted dealings with the GMOs as covered by the licence.

Condition 8. Dealings with GMOs as authorized by this Licence

All dealings with the GMOs are permitted under this licence.

Condition 9. Location

The licence allows for dealings with GMOs to be conducted in all areas of Australia.

Condition 10. GMOs covered by this licence

The only dealings with GMOs under this licence were those with the GMOs described in DIR124 Licence.

Condition 11. Licence Conditions

Monsanto acknowledges that if the conditions of any prior licence authourising dealings with the GMO are inconsistent with the conditions of this licence, the conditions of this licence will prevail.

Condition 12. Remaining an Accredited organization

At all times, Monsanto remained an accredited organization and complied with the Act and with its instrument of accreditation.

Condition 13. Applicant to notify of circumstances that might affect suitability

During the reporting period, Monsanto Australia Ltd did not receive a relevant conviction occurring after the commencement of this licence; nor was there any revocation or suspension of a licence or permit held by Monsanto Australia Ltd under a law of the Australian Government, a State or foreign country, being a law relating to the health and safety of people or the environment; or any event or circumstance occurring after the commencement of this licence that would affect the capacity of Monsanto to meet

the conditions of the DIR124 licence. Monsanto acknowledges that it must provide information related to its ongoing suitability to hold a licence, if requested, within a period stipulated by the Regulator.

Condition 14. Informing people of their obligations

Monsanto Australia Limited informed all persons covered by the DIR124 licence of the obligations imposed on them as a result of the conditions of the licence. This was primarily achieved through the Monsanto accreditation program and contractual obligations, which includes information on regulatory obligations as well as management of the crop. Accreditation requires all persons having management responsibility for Bollgard 3 cotton crops to undergo training.

Monsanto recognizes that any persons covered by the DIR124 licence, to whom a condition of the licence applies, must be informed of particular conditions and any variations, the cancellation, suspension or surrender of the licence. This is achieved through training and contractual obligations.

Conditions 15 - 17. Applicant to notify of circumstances that might affect the risk assessment

During the reporting period, Monsanto Australia Ltd did not become aware of any risks to the health and safety of people, or to the environment, associated with the dealings authorised under DIR124; or of any contraventions of the licence by a person covered by the licence; or any unintended effects of the dealings authorised by the licence.

Monsanto acknowledges that should it be required to inform the regulator of additional information under these licence conditions it must do so without delay.

Conditions 18 and 19. Persons covered by the licence

Monsanto acknowledges that the persons covered by the licence must not deal with the GMOs except as expressly permitted by this licence.

Monsanto acknowledges that if a person authorized by this licence to deal with GMOs and a condition of this licence applies to the dealing by that person, the person must allow the Regulator, or a person authorized by the Regulator, to enter the premises where the dealing is being undertaken, for the purposes of auditing or monitoring the dealing.

SECTION 3. GROWING THE GMOS

3.1 GMOs covered by this licence

The only dealings with GMOs under this licence were those with the GMOs described in the DIR124 Licence.

3.2 Permitted dealings

Plantings of Bollgard 3 were undertaken under a Technology User Agreement (TUA), which sets out the conditions for planting and growing a cotton crop containing Bollgard 3 technology. To be eligible to sign such an agreement, a grower is required to attend an accreditation and training program.

In the 2016/17 season, all Bollgard 3 cotton planted was managed under the Bollgard 3 RMP. The Bollgard 3 cotton Resistance Management Plan (RMP) is attached in Appendix A.

3.3 Commercial Crop Volumes by State

State	Commercial Bollgard 3 Area (Ha)
NSW (Bourke, Murrumbidgee, Gwydir, Lachlan, Upper and Lower Namoi, Mungindi, Walgett and Macquarie valleys)	269,167.0
VIC (Murray)	2872.9
QLD (Belyando, Darling Downs, Dawson/Callide, Dirranbandi, Emerald, Flinders/Gilbert, MacIntyre and St George valleys)	158,267.7
Total Commercial Bollgard 3 Area planted	**430,307.6**

3.4 Trial/Research Crop Volumes by State

State	Trial/Research Bollgard 3 Area (Ha)
NSW (Lower Namoi, Murrumbidgee)	357.8
VIC (Murray)	1.5
QLD (Darling Downs)	1.2
Total Trial Bollgard 3 Area planted	**360.5**

APPENDIX A -

Resistance Management Plan for Bollgard 3® Cotton

Developed by Monsanto Australia Limited.

The Resistance Management Plan is based on three basic principles: (1) minimising the exposure of *Helicoverpa* spp. to the *Bacillus thuringiensis* (Bt) proteins Cry1Ac, Cry2Ab and Vip3A, (2) providing a population of susceptible individuals that can mate with any resistant individuals, hence diluting any potential resistance, and (3) removing resistant individuals at the end of the cotton season. These principles are supported through the implementation of five elements that are the key components of the Resistance Management Plan. These elements are:

1. Planting Restrictions;
2. Refuge crops;
3. Control of volunteers and ratoon cotton;
4. Pupae destruction/trap crops; and
5. Spray limitations

Growers of Bollgard 3 cotton are required to practice preventative resistance management as set out below. Compliance with the Resistance Management Plan is required under the terms of the Bollgard 3 Technology User Agreement and per the Conditions of Registration for Bollgard 3 under the *Agricultural and Veterinary Chemicals Act 1994*.

1. Planting Restrictions

New South Wales and Southern Queensland

All Bollgard 3 crops and refuges must be planted into moisture or watered-up between August 1 and before December 31 each year, unless otherwise specified in this Resistance Management Plan.

Central Queensland

All Bollgard 3 crops and refuges must be planted into moisture or watered-up between August 1 and before October 31 each year, unless otherwise specified in this Resistance Management Plan.

Any Bollgard 3 crops planted into moisture or watered-up after October 31 and up to December 31 must plant additional refuge as specified in Table 3 and 4.

2. Refuges

Growers planting Bollgard 3 cotton will be required to grow a refuge crop that is capable of producing large numbers of *Helicoverpa* spp. moths which have not been exposed to selection with the Bt proteins

Cry1Ac, Cry2Ab and Vip3A. These unselected moths are expected to dominate matings with any survivors from Bollgard 3 crops and thus help to maintain resistant alleles to the Bt proteins Cry1Ac, Cry2Ab and Vip3A at low frequencies.

All refuge options are based on the requirement of a 5% unsprayed cotton refuge or its equivalent, as determined by the relative production of *Helicoverpa* spp. from each of the refuge types as described in Tables 1 and 2 for irrigated and dryland production scenarios, respectively.

For each area of irrigated Bollgard 3 cotton planted, a grower is required to plant one or more of the following:

Table 1: Irrigated Bollgard 3 cotton refuge options

Crop	Conditions	% of Bollgard 3
Cotton	Irrigated, sprayed conventional cotton	100
	Irrigated, unsprayed conventional cotton	5
Pigeon pea	Fully irrigated, unsprayed	2.5

Table 2: Dryland Bollgard 3 cotton refuge options

Crop	Conditions	% of Bollgard 3
Cotton	Dryland or irrigated, sprayed conventional cotton	100
	Dryland or irrigated, unsprayed conventional cotton	5
Pigeon pea	Dryland or fully irrigated, unsprayed. Dryland pigeon peas can only be planted with an approved plan from Monsanto Australia.	2.5

Table 3: Irrigated Bollgard 3 cotton refuge options for Central Queensland planted after October 31

Crop	Conditions	% of Bollgard 3
Cotton	Irrigated, sprayed conventional cotton	100
	Irrigated, unsprayed conventional cotton	10
Pigeon pea	Fully irrigated, unsprayed	5

Table 4: Dryland Bollgard 3 cotton refuge options for Central Queensland planted after October 31

Crop	Conditions	% of Bollgard 3
Cotton	Dryland or irrigated, sprayed conventional cotton	100
	Dryland or irrigated, unsprayed conventional cotton	10
Pigeon pea	Dryland or fully irrigated, unsprayed. Dryland pigeon peas can only be planted with an approved plan from Monsanto Australia.	5

Note: *Unsprayed means not sprayed with any insecticide that targets any life stage of Helicoverpa spp.*

Bt products must not be applied to any refuge (including sprayed cotton).

If the viability of an unsprayed refuge is at risk due to early or late season pressure by Helicoverpa spp., or any other caterpillar species, contact Monsanto Australia immediately. With prior approval from Monsanto Australia, a non-Bt heliocide can be applied.

For the purposes of this Resistance Management Plan, conventional cotton includes any cotton varieties that do not have Bt proteins in the plant that control Helicoverpa spp. larvae.

General conditions for all refuges

(a) Refuge crops are to be planted and managed so that they are attractive to *Helicoverpa* spp. during the growing period of the Bollgard 3 cotton varieties.

Irrigated: It is preferable that all refuge is planted within the 2 week period prior to planting Bollgard 3. If this is not possible, refuge planting must be completed within 3 weeks of the first day of sowing of Bollgard 3. At this time, sufficient refuge must have been planted to cover all of the Bollgard 3 cotton proposed to be planted for the season (including Bollgard 3 already planted and any that remains unplanted). If additional Bollgard 3 is planted after this date which is not already covered by refuge, additional refuge must be planted as soon as possible and no more than 2 weeks after sowing of the additional Bollgard 3.

Dryland: A dryland refuge must be planted within the 2 week period prior to the first day of planting Bollgard 3 cotton.

(b) Pigeon pea refuges should not be planted until the soil temperature reaches 17°C, which is a requirement for germination, and should also be planted into moisture to ensure successful germination. If soil temperatures are not suitable to allow germination of pigeon peas in line with condition (a), an alternative refuge must be planted in its place within the prescribed period (under (a) above).

(c) All refuges should preferably be planted into a fallow or rotation field that has not been planted to Bt cotton in the previous season to avoid volunteer and ratoon cotton. See Refuge Management Guide for all unsprayed refuges.

(d) Once Bollgard 3 cotton begins to flower, the corresponding refuge must not be cultivated.

(e) All refuges are to be planted within the farm unit growing Bollgard 3 cotton no more than 2 km from the associated Bollgard 3 cotton field. For any cases where it may not be possible to plant the refuge within 2 km from the associated Bollgard 3, approval must be sought from Monsanto Australia.

(f) To minimise the possibility of refuge attractiveness being affected by herbicide drift, non-herbicide tolerant refuges should be separated from herbicide tolerant Bollgard 3 cotton crops by a sufficient distance to minimise such drift, but no more than 2 km from the Bollgard 3 cotton.

(g) To account for possible insecticide drift, the options for the width of refuge crops vary according to spray regime. If any sprayed conventional cotton is grown on the same farm unit, Bollgard 3 refuge crops must be at least 48 metres wide and each refuge area must be a minimum of 2 hectares. If sprayed conventional cotton is not grown on the same farm unit, Bollgard 3 refuge crops must be at least 24 metres wide and each refuge area must be a minimum of 0.5 hectares. Different unsprayed refuge options may be planted in the same field as a single unit; however a sprayed conventional cotton refuge must not be planted in a field that is also planted to an unsprayed refuge type unless a sufficient buffer is in place to prevent insecticide drift.

(h) In all regions, destruction of refuges must only be carried out after Bollgard 3 has been harvested. In Central Queensland, soil disturbance of refuge crops must only occur when the trap crop is being destroyed (refer to section 4 Pupae Destruction).

(i) Refuges for dryland Bollgard 3 cotton crops must be planted in the same row configuration as the Bollgard 3 crop unless the refuge is irrigated. If an irrigated option is utilised for a dryland Bollgard 3 crop, then that refuge may be planted in a solid configuration. Dryland cotton is measured as green hectares (calculated as defined in the Technology User Agreement).

3. Control of volunteer and ratoon cotton

Volunteer and ratoon cotton may impose additional selection pressure on *Helicoverpa* spp. to develop resistance to the Bt proteins Cry1Ac, Cry2Ab and Vip3A produced by Bollgard 3 cotton.

As soon as practical after harvest, Bollgard 3 cotton crops must be destroyed by cultivation, root cutting or herbicide so that they do not continue to act as hosts for *Helicoverpa* spp.

Growers must ensure that volunteer and ratoon plants are removed as soon as possible from all fields, including fallow areas, Bollgard 3 crops, conventional cotton crops and all refuges. **The presence of Bollgard 3 volunteers/ratoon cotton in any refuge will diminish the value of the refuge and must be removed as soon as possible.**

Note: The refuge should preferably be planted into fallow or rotation fields that have not been planted to cotton in the previous season.

4. Pupae destruction / trap crops

New South Wales and Southern Queensland

To further mitigate the risk of resistance, each grower of Bollgard 3 must undertake *Helicoverpa* spp. pupae destruction in fields with a higher probability of carrying over wintering pupae according to the following key guidelines:

- If first defoliation of a Bollgard 3 field occurs on or before March 31, the Bollgard 3 field must be slashed or mulched and controlled to prevent regrowth within 4 weeks of harvesting.
- If first defoliation of a Bollgard 3 field occurs after March 31, the Bollgard 3 field must be slashed or mulched and controlled to prevent regrowth within 4 weeks of harvesting and pupae busting must be complete by July 31 for all valleys except for all regions including the Lachlan, Murrumbidgee, Menindee and Murray Valleys where pupae busting must be complete by August 31.

- Ensure disturbance of the soil surface to a depth of 10 cm to a distance of 30 cm both sides of the plant line.

Central Queensland

Crop destruction

All Bollgard 3 crops must be slashed or mulched and controlled to prevent regrowth within 4 weeks of harvesting.

End of season management of refuges/trap crops

End of season pupae busting practices are not effective in the Central Queensland region as *Helicoverpa* spp. are less likely to diapause. A late summer trap crop (pigeon pea) must be planted for all Bollgard 3 cotton grown in Central Queensland. The planting configuration of the trap crop should be the same as that of the Bollgard 3 crop. Irrigated Bollgard 3 must have an irrigated trap crop. Table 5 shows the requirements for the late summer pigeon pea trap crop. **Dryland Bollgard 3 growers who do not have any irrigated cotton on their farm should contact Monsanto Australia for alternative options.**

Refuge and late summer trap crops have different purposes. Where a pigeon pea refuge is utilised, the full pigeon pea refuge area must be managed to become the late summer trap crop. If unsprayed cotton is used as the refuge, an additional area of 1% pigeon pea must be planted as the late summer trap crop. Requirements for late summer trap crops are detailed in Table 5 below.

Table 5: Late summer pigeon pea trap crop requirements in Central Queensland

Criterion	Trap crop*
Minimum area & dimension (Requirement)	A minimum trap crop of 1% of planted Bollgard 3 cotton crop is required. If sprayed conventional cotton is grown on that farm unit: the trap crop must be at least 48m x 48m. If no sprayed conventional cotton is grown on that farm unit: the trap crop must be at least 24m x 24m.
Planting time	The trap crop should preferably be planted 4 weeks after the associated Bollgard 3. Note: if growers choose to plant their trap crop to coincide with the planting of pigeon pea refuges, they must manage the trap crop in such a way that it remains attractive to *Helicoverpa* spp. 2-4 weeks after final defoliation.

Planting rate **	35kg/ha (recommended establishment greater than 4 plants per metre)
Insect control	The trap crop can be sprayed with virus after flowering, while avoiding insecticide spray drift, except where a pigeon pea refuge is converted to a trap crop. In this case the full 5% pigeon pea refuge area managed to become the late summer trap crop can only be sprayed with virus after the first defoliation of Bollgard 3 cotton.
Irrigation	The refuge/trap crop must be planted into an area where it can receive the additional irrigation required to keep the trap crop attractive to *Helicoverpa* spp. until after the cotton is defoliated.
Weed control	The trap crop should be kept free of weeds and particularly volunteer Bollgard 3 cotton. When using the full pigeon pea refuge area as the trap crop, weed control must not be carried out by cultivation once flowering of the associated Bollgard 3 cotton crop has commenced.
Crop destruction	The trap crop must be destroyed 2-4 weeks (but not before 2 weeks) after final defoliation of the Bollgard 3 cotton crop, (slash and pupae bust – full soil disturbance to a depth of 10 cm across the entire trap crop area). All Bollgard 3 and associated trap crops must be destroyed by July 31.

* A pigeon pea trap crop is to be planted so that it is attractive (flowering) to *Helicoverpa* spp. after the cotton crop has cut out, and as any survivors from the Bollgard 3 crop emerge. Planting pigeon pea too early (e.g. before November) or too late (e.g. mid December) is not adequate for cotton crops planted during September through to October.

** The planting rate is a recommendation based on a minimum of 85% seed germination.

Failed Crops – All Regions

Bollgard 3 crops that will not be grown through to harvest for various reasons and are declared to, and verified by, Monsanto as failed must be destroyed within two weeks after verification, in such a way that prevents regrowth. Crops that are abandoned before February 28 should be slashed and mulched within 4 weeks

5. Spray Limitations

Insecticide preparations containing Bt may be used on Bollgard 3 cotton throughout the season BUT NOT on any refuge crops.

An unsprayed refuge should not be planted in the same field as any crop sprayed with a rate of insecticide that is registered for *Helicoverpa* spp, with the exception of Bollgard 3. Sprayed crops and unsprayed refuges that are planted in adjacent fields must be separated by sufficient distance to minimise the likelihood of insecticide drift onto the unsprayed refuge.

If the viability of an unsprayed refuge is at risk due to early or late season pressure by *Helicoverpa* spp., or any other caterpillar species, contact Monsanto Australia immediately. With prior approval from Monsanto Australia, a non-Bt heliocide can be applied.

NB: If any grower encounters problems in complying with the Resistance Management Plan please contact Monsanto Australia.

For further background information on the various components of this plan see the "Preamble to the Resistance Management Plan for Bollgard 3" in the current Cotton Pest Management Guide.

APPENDIX B -

Resistance Management Plan for Bollgard® 3 Cotton - Northern

Developed by Monsanto Australia Limited and the Transgenic and Insect Management Strategy (TIMS) Committee of Cotton Australia Limited.

The resistance management plan is based on three basic principles: (1) minimising the exposure of *Helicoverpa* spp. to the *Bacillus thuringiensis* (Bt) proteins Cry 1Ac, Cry 2Ab and Vip3A; (2) providing a population of susceptible individuals that can mate with any resistant individuals, hence diluting any potential resistance; and (3) removing resistant individuals at the end of the cotton season. The three principles are supported through the implementation of 5 elements that are the key components of the Resistance Management Plan. These elements are:

1. Planting Restrictions;
2. Refuge crops;
3. Control of volunteers and ratoon cotton;
4. Trap crops/Pupae destruction; and
5. Spray limitations.

Growers of Bollgard 3 cotton are required to practice preventative resistance management as set out below. Compliance with the Resistance Management Plan is required under the terms of the Bollgard 3 Technology User Agreement and under the conditions of registration (*Agricultural and Veterinary Chemicals Act, 1994*).

Scope:

This RMP pertains to cotton planting in all areas North of the latitude 21.15 degrees south in Queensland, Northern Territory and Western Australia.

1. Planting Restrictions

All Bollgard 3 crops and cotton refuges are to be planted into moisture or watered-up in a six week window between December 1 and May 30. Valley boundaries will be determined by Monsanto and TIMS. Within each valley, the start date of the planting window will be determined by Monsanto and

TIMS in consultation with local growers and reflected in a regionally amended "Bollgard 3 Planting Window Variation Notice" issued by Monsanto.

2. Refuges

Growers planting Bollgard 3 cotton will also be required to grow a refuge crop that is capable of producing large numbers of *Helicoverpa* spp. moths which have not been exposed to selection with Bt proteins Cry 1Ac, Cry 2Ab and Vip3A. These unselected moths are expected to dominate matings with any survivors from Bollgard 3 crops and thus help to maintain resistant alleles to the Bt proteins Cry 1Ac, Cry 2Ab, and Vip3A at low frequencies.

All refuge options are based on the requirement of a 5% unsprayed cotton refuge or its equivalent as determined by the relative production of *Helicoverpa* spp. from each of the refuge types as described in the table below.

For each area of irrigated Bollgard 3 cotton planted, a grower is required to plant a minimum of one, or a combination of, the following:

Table 1. Irrigated Bollgard 3 cotton refuge options

Crop	Conditions	% of Bollgard 3	Regions permitted
Conventional Cotton	Irrigated, unsprayed conventional cotton	5	All Regions
Pigeon pea	Fully irrigated, unsprayed	2.5	All Regions

Table 2. Dryland Bollgard 3 refuge options

Crop	Conditions	% of Bollgard 3	Regions permitted
Conventional Cotton	Dryland or irrigated, unsprayed conventional cotton	5	All Regions
Pigeon pea	Dryland or fully irrigated, unsprayed	2.5	All Regions

Unsprayed means not sprayed with any insecticide that targets any life stage of *Helicoverpa* spp.

Bt products must not be applied to any refuge.

If the viability of an unsprayed refuge is at risk due to early or late season pressure by *Helicoverpa* spp., or any other caterpillar species, contact Monsanto Australia immediately. With prior approval from Monsanto Australia, a non-Bt larvicide can be applied.

An unsprayed refuge should not be planted in the same field as any crop sprayed with a rate of insecticide that is registered for *Helicoverpa* spp, with the exception of Bollgard 3 unless a sufficient buffer is in place to prevent insecticide drift.

Sprayed crops and unsprayed refuges that are planted in adjacent fields must also be separated by sufficient distance to minimise the likelihood of insecticide drift onto the unsprayed refuge.

For the purposes of this Resistance Management Plan, conventional cotton includes any cotton varieties that do not have Bt proteins in the plant that control *Helicoverpa* spp. larvae.

General conditions for all refuges:
(a) Refuge crops are to be planted and managed so that they are attractive to *Helicoverpa* spp. during the growing period of the Bollgard 3 cotton varieties.

> **All regions:**
> It is preferable that all refuge is planted within the 2 week period prior to planting Bollgard 3. If this is not possible, refuge planting must be completed within 3 weeks of the first day of sowing of Bollgard 3. At this time, sufficient refuge must have been planted to cover all of the Bollgard 3 cotton proposed to be planted for the season (including Bollgard 3 already planted and any that remains unplanted). Should additional Bollgard 3 be planted after this date, which is not already covered by refuge, additional refuge must be planted as soon as possible and no more than 2 weeks after sowing of the additional Bollgard 3.

(b) Group J legume innoculant should be used to treat pigeon pea planting seed just prior to sowing to ensure effective root zone colonisation by nitrogen fixing rhizobium bacteria

(c) All refuges should preferably be planted into a fallow or rotation field that has not been planted to Bt cotton in the previous season to avoid volunteer and ratoon cotton. See Refuge Management Guide for all unsprayed refuges,

(c) Once the Bollgard 3 cotton begins to flower the corresponding refuge must not be cultivated.

(d) Insecticide preparations containing Bt may be used on Bollgard 3 cotton throughout the season BUT NOT on any refuge crops.

(e) All refuges are to be planted within the farm unit growing Bollgard 3 cotton. Subject to clause (f) below, all reasonable effort should be taken to plant the refuge either on one side of, or next to, a Bollgard 3 cotton field, and all Bollgard 3 fields must be no more than 2 km from the nearest Bollgard 3 refuge. For any cases where it may not be possible to plant the refuge within 2 km from the associated Bollgard 3, approval must be sought from Monsanto.

(f) To minimise the possibility of refuge attractiveness being affected by herbicide drift, non-herbicide tolerant refuges should be separated from herbicide tolerant Bollgard 3 cotton crops by a sufficient distance to minimise such drift, but no more than 2km from the Bollgard 3 cotton.

(g) To account for possible insecticide drift, Bollgard 3 refuge crops must be at least 24 metres wide and each refuge area must be a minimum of 0.5 hectares Different unsprayed refuge options may be planted in the same field as a single unit.

(h) Destruction of refuges must only be carried out after the Bollgard 3 has been harvested. Soil disturbance of refuge crops must only occur when the trap crop is being destroyed (refer to section 4 Trap crop)

(i) Refuges for Bollgard 3 crops must be planted in the same row configuration as the Bollgard 3 crop.

3. Control of volunteer and ratoon cotton

Volunteer and ratoon cotton may impose additional selection pressure on *Helicoverpa* spp. to develop resistance to the Bt proteins Cry 1Ac, Cry 2Ab and Vip3A produced by Bollgard 3 cotton.

As soon as practical after harvest, Bollgard 3 cotton crops must be destroyed by cultivation, root cutting or herbicide so that they do not continue to act as hosts for *Helicoverpa* spp.

Growers must make all reasonable efforts to remove volunteer and ratoon plants as soon as possible from all fields - including fallow areas, Bollgard 3 crops, conventional cotton crops and all refuges. **The presence of Bollgard 3 volunteers/ratoon cotton in any refuge will diminish the value of the refuge and must be removed as soon as possible.**

Note: The refuge should preferably be planted into fallow or rotation fields that have not been planted to cotton in the previous season.

4. End of season pigeon pea trap crop

An end of season pigeon trap crop must be planted. The planting configuration of the trap crop should be the same as that of the Bollgard 3 crop. Table 3 shows the requirements for the pigeon pea trap crop.

Crop destruction

All Bollgard 3 crops must be slashed or mulched and controlled to prevent regrowth within 4 weeks of harvesting.

End of season management of refuges/trap crops

A late summer trap crop (pigeon pea) must be planted for all Bollgard 3 cotton grown in Northern Australia. The planting configuration of the trap crop should be the same as that of the Bollgard 3 crop. Irrigated Bollgard 3 must have an irrigated trap crop. Table 5 shows the requirements for the late summer pigeon pea trap crop. **Dryland Bollgard 3 growers who do not have any irrigated cotton on their farm should contact Monsanto Australia for alternative options**.

Refuge and late summer trap crops have different purposes. Where a pigeon pea refuge is utilised, the full pigeon pea refuge area must be managed to become the late summer trap crop. If unsprayed cotton is used as the refuge, an additional area of 1% pigeon pea must be planted as the late summer trap crop. Requirements for late summer trap crops are detailed in Table 3 below.

Table 3: Late summer pigeon pea trap crop requirements in Northern Australia

Criterion	Trap crop*
Minimum area & dimension (Requirement)	A minimum trap crop of 1% of planted Bollgard 3 cotton crop is required (if the full refuge is not utilised). If sprayed conventional cotton is grown on that farm unit: the trap crop must be at least 48m x 48m. If no sprayed conventional cotton is grown on that farm unit: the trap crop must be at least 24m x 24m.
Planting time	The trap crop should preferably be planted 4 weeks after the associated Bollgard 3. Note: if growers choose to plant their trap crop to coincide with the planting of pigeon pea refuges, they must manage the trap crop in such a way that it remains attractive to *Helicoverpa* spp. 2-4 weeks after final defoliation.
Planting rate **	35kg/ha (recommended establishment greater than 4 plants per metre)
Insect control	The trap crop can be sprayed with virus after flowering, while avoiding insecticide spray drift, except where a pigeon pea refuge is converted to a trap

	crop. In this case the full 5% pigeon pea refuge area managed to become the late summer trap crop can only be sprayed with virus after the first defoliation of Bollgard 3 cotton.
Irrigation	The refuge/trap crop must be planted into an area where it can receive the additional irrigation required to keep the trap crop attractive to *Helicoverpa* spp. until after the cotton is defoliated.
Weed control	The trap crop should be kept free of weeds and particularly volunteer Bollgard 3 cotton. When using the full pigeon pea refuge area as the trap crop, weed control must not be carried out by cultivation once flowering of the associated Bollgard 3 cotton crop has commenced.
Crop destruction	The trap crop must be destroyed 2-4 weeks (but not before 2 weeks) after final defoliation of the associated Bollgard 3 cotton crop, (slash and pupae bust – full soil disturbance to a depth of 10 cm across the entire trap crop area).

* A pigeon pea trap crop is to be planted so that it is attractive (flowering) to *Helicoverpa* spp. after the cotton crop has cut out, and as any survivors from the Bollgard 3 crop emerge. Planting pigeon pea too early (e.g. before November) or too late (e.g. mid December) is not adequate for cotton crops planted during September through to October.

** The planting rate is a recommendation based on a minimum of 85% seed germination.

5. Spray Limitations

Insecticide preparations containing Bt may be used on Bollgard 3 cotton throughout the season BUT NOT on any refuge crops.

An unsprayed refuge should not be planted in the same field as any crop sprayed with a rate of insecticide that is registered for *Helicoverpa* spp. with the exception of Bollgard 3. Sprayed crops and unsprayed refuges that are planted in adjacent fields must be separated by sufficient distance to minimise the likelihood of insecticide drift onto the unsprayed refuge,

If the viability of an unsprayed refuge is at risk due to early or late season pressure by *Helicoverpa* spp., or any other caterpillar species, contact Monsanto Australia immediately. With prior approval from Monsanto Australia, a non-Bt larvicide can be applied.

NB: If any grower encounters problems in complying with the Resistance Management Plan please contact Monsanto Australia.

For further background information on the various components of this plan see the “Preamble to the Resistance Management Plan for Bollgard 3” in the current Cotton Pest Management Guide

[redacted]
Syngenta Australia Pty Limited
[redacted]

21 September 2020
Office of the Gene Technology Regulator
Monitoring and Compliance

Subject: Annual Report 2020- DIR 157

To Whom it May Concern

In accordance to the licence conditions pertaining to DIR-157 condition 20, for the commercial release of GM cotton -COT102, Syngenta must provide the following information for the purpose of the annual report.

1. Syngenta does not cultivate COT102- as a stand-alone or stacked event in any volume, for commercial or research purposes in Australia.

2. Syngenta is not aware of any new information on any adverse impacts, unintended effects, or other information related to the risks, to human health and safety or the environment caused by the GMO or material from the GMO. All information(s) in the original application provided to OGTR are still relevant.

3. COT102 is used in stacked events licensed by other companies such as DIR124 and it is expected any information related to points (a)-(c) will be raised in that company's annual report to the OGTR
   a) Information about any adverse impacts, unintended effects, or new information relating to risks, to human health and safety or the environment caused by the GMO or material from the GMO;
   b) information about the volumes of the GMO grown for commercial purposes, including seed increase operations, in each State and Territory for each growing season in the preceding financial year;
   c) information about the volumes of the GMO grown for non-commercial (e.g. research) purposes in each State and Territory for each growing season in the preceding financial year.

If you require further information, please contact me directly at [redacted]

Thank you
Yours sincerely,

[redacted]

LICENCE NO:	DIR124
LICENCE HOLDER:	Monsanto Australia Limited
ACCREDITATION NO:	ACCR 034/2002

SUBMISSION:	2016 Annual Report for Commercial release of GM insect resistant and/or herbicide tolerant cotton lines
REPORTING PERIOD:	1 June 2015 – 1 June 2016 (covering 2015/16 cotton growing season)
DATE:	30 June 2016

PREPARED BY: [redacted]

Contents

SECTION 1. LICENCE HOLDER DETAILS

Name: Monsanto Australia Limited

Address: 600 St Kilda Rd, Melbourne 3004

PO Box 6051
St Kilda Rd Central
Victoria, 8008

Telephone: (03)9522 7101

Facsimilie: (03)9522 6101

Contact email: [redacted]

Accreditation Number: **ACCR 034/2002**

SCOPE OF THE REPORT

This report addresses the annual reporting condition of the DIR124 commercial licence covering Bollgard® 3 and Bollgard® 3 x Roundup Ready Flex® cotton technology issued to Monsanto Australia Limited by the Office of the Gene Technology Regulator.

This report details compliance with general and specific conditions of Sections 2 to 3 of the DIR124 licence as issued to Monsanto Australia Limited on 19 June 2014.

This report covers the period of time from 1 June 2015 to 1 June 2016, including the 2015/16 cotton planting season.

SECTION 2. LICENCE CONDITIONS AND OBLIGATIONS

Condition 3. Authorised Dealings

No dealings were conducted with GMOs under this licence that are otherwise prohibited as a result of the operation of State legislation declaring areas to be GM, GM free, or both, for marketing purposes.

Condition 4. Duration of Licence

DIR124 has not been suspended, cancelled or surrendered.

Condition 5. Holder of Licence

Monsanto Australia Limited (Monsanto) remains the holder of the licence.

Condition 6. Project Supervisor

The project supervisor is [redacted]

Condition 7. Persons covered by this GMO Licence

Monsanto acknowledges that any person, including the licence holder, may conduct any permitted dealings with the GMOs as covered by the licence.

Condition 8. Dealings with GMOs as authorized by this Licence

All dealings with the GMOs are permitted under this licence.

Condition 9. Location

The licence allows for dealings with GMOs to be conducted in all areas of Australia.

Condition 10. GMOs covered by this licence

The only dealings with GMOs under this licence were those with the GMOs described in DIR124 Licence.

Condition 11. Licence Conditions

Monsanto acknowledges that if the conditions of any prior licence authourising dealings with the GMO are inconsistent with the conditions of this licence, the conditions of this licence will prevail.

Condition 12. Remaining an Accredited organization

At all times, Monsanto remained an accredited organization and complied with the Act and with its instrument of accreditation.

Condition 13. Applicant to notify of circumstances that might affect suitability

During the reporting period, Monsanto Australia Ltd did not receive a relevant conviction occurring after the commencement of this licence; nor was there any revocation or suspension of a licence or permit held by Monsanto Australia Ltd under a law of the Australian Government, a State or foreign country, being a law relating to the health and safety of people or the environment; or any event or circumstance occurring after the commencement of this licence that would affect the capacity of Monsanto to meet

the conditions of the DIR124 licence. Monsanto acknowledges that it must provide information related to its ongoing suitability to hold a licence, if requested, within a time period stipulated by the Regulator.

Condition 14. Informing people of their obligations

During the 2015/16 cotton growing season Bollgard 3 was grown under APVMA Permit 80841 until Monsanto received approval from the APVMA for the product in February 2016.

Monsanto Australia Limited informed all persons covered by the DIR124 licence of the obligations imposed on them as a result of the conditions of the licence. This was primarily achieved through the Monsanto accreditation program and contractual obligations, which includes information on regulatory obligations as well as management of the crop. Accreditation requires all persons having management responsibility for Bollgard 3 cotton crops to undergo training.

Monsanto recognizes that any persons covered by the DIR124 licence, to whom a particular condition of the licence applies, must be informed of particular conditions and any variations, the cancellation, suspension or surrender of the licence. This is achieved through training and contractual obligations.

Conditions 15 - 17. Applicant to notify of circumstances that might affect the risk assessment

During the reporting period, Monsanto Australia Ltd did not become aware of any risks to the health and safety of people, or to the environment, associated with the dealings authorised under DIR124; or of any contraventions of the licence by a person covered by the licence; or any unintended effects of the dealings authorised by the licence.

Monsanto acknowledges that should it be required to inform the regulator of additional information under these licence conditions it must do so without delay.

Conditions 18 and 19. Persons covered by the licence

Monsanto acknowledges that the persons covered by the licence must not deal with the GMOs except as expressly permitted by this licence.

Monsanto acknowledges that if a person authorized by this licence to deal with GMOs and a particular condition of this licence applies to the dealing by that person, the person must allow the Regulator, or a person authorized by the Regulator, to enter the premises where the dealing is being undertaken, for the purposes of auditing or monitoring the dealing.

SECTION 3. GROWING THE GMOS

3.1 GMOs covered by this licence

The only dealings with GMOs under this licence were those with the GMOs described in the DIR124 Licence.

3.2 Permitted dealings

Plantings of Bollgard 3 were undertaken under a Technology User Agreement (TUA), which sets out the conditions for planting and growing a cotton crop containing Bollgard 3 technology. In order to be eligible to sign such an agreement, a grower is required to attend an accreditation and training program.

In the 2015/16 season, all Bollgard 3 cotton planted was managed under the Bollgard 3 RMP as per the APVMA permit (PER80841) issued in May, 2015. The Bollgard 3 cotton Resistance Management Plan (RMP) is attached in Appendix A.

3.3 Commercial Crop Locations

State	Commercial BG3 ha
NSW (Bourke,Murrumbidgee, Gwydir, Lachlan, Upper and Lower Namoi, Mungindi, Murray, Walgett and Macquarie valleys)	12,938.00
QLD (Darling Downs, Dawson/Callide, Dirranbandi, Emerald, MacIntyre and St George valleys)	4,567.63
Total BG3 Commercial ha planted	**17,505.63**

3.4 Trial/Research Crop Locations and Volumes by State

State	Trial/Research BG3 ha
NSW (Lower Namoi)	130.30
Total BG3 Trial ha planted	**130.30**

APPENDIX A -

Resistance Management Plan for Bollgard 3® Cotton

Developed by Monsanto Australia Limited.

The Resistance Management Plan is based on three basic principles: (1) minimising the exposure of *Helicoverpa* spp. to the *Bacillus thuringiensis* (Bt) proteins Cry1Ac, Cry2Ab and Vip3A, (2) providing a population of susceptible individuals that can mate with any resistant individuals, hence diluting any potential resistance, and (3) removing resistant individuals at the end of the cotton season. These principles are supported through the implementation of five elements that are the key components of the Resistance Management Plan. These elements are:

1. Planting Restrictions;
2. Refuge crops;
3. Control of volunteers and ratoon cotton;
4. Pupae destruction/trap crops; and
5. Spray limitations

Growers of Bollgard 3 cotton are required to practice preventative resistance management as set out below. Compliance with the Resistance Management Plan is required under the terms of the Bollgard 3 Technology User Agreement and per the Conditions of Registration for Bollgard 3 under the *Agricultural and Veterinary Chemicals Act 1994*.

1. Planting Restrictions

New South Wales and Southern Queensland

All Bollgard 3 crops and refuges must be planted into moisture or watered-up between August 1 and before December 31 each year, unless otherwise specified in this Resistance Management Plan.

Central Queensland

All Bollgard 3 crops and refuges must be planted into moisture or watered-up between August 1 and before October 31 each year, unless otherwise specified in this Resistance Management Plan.

Any Bollgard 3 crops planted into moisture or watered-up after October 31 and up to December 31 must plant additional refuge as specified in Table 3 and 4.

2. Refuges

Growers planting Bollgard 3 cotton will be required to grow a refuge crop that is capable of producing large numbers of *Helicoverpa* spp. moths which have not been exposed to selection with the Bt proteins Cry1Ac, Cry2Ab and Vip3A. These unselected moths are expected to dominate matings with any

survivors from Bollgard 3 crops and thus help to maintain resistant alleles to the Bt proteins Cry1Ac, Cry2Ab and Vip3A at low frequencies.

All refuge options are based on the requirement of a 5% unsprayed cotton refuge or its equivalent, as determined by the relative production of *Helicoverpa* spp. from each of the refuge types as described in Tables 1 and 2 for irrigated and dryland production scenarios, respectively.

For each area of irrigated Bollgard 3 cotton planted, a grower is required to plant one or more of the following:

Table 1: Irrigated Bollgard 3 cotton refuge options

Crop	Conditions	% of Bollgard 3
Cotton	Irrigated, sprayed conventional cotton	100
	Irrigated, unsprayed conventional cotton	5
Pigeon pea	Fully irrigated, unsprayed	2.5

Table 2: Dryland Bollgard 3 cotton refuge options

Crop	Conditions	% of Bollgard 3
Cotton	Dryland or irrigated, sprayed conventional cotton	100
	Dryland or irrigated, unsprayed conventional cotton	5
Pigeon pea	Dryland or fully irrigated, unsprayed. Dryland pigeon peas can only be planted with an approved plan from Monsanto Australia.	2.5

Table 3: Irrigated Bollgard 3 cotton refuge options for Central Queensland planted after October 31

Crop	Conditions	% of Bollgard 3
Cotton	Irrigated, sprayed conventional cotton	100
	Irrigated, unsprayed conventional cotton	10
Pigeon pea	Fully irrigated, unsprayed	5

Table 4: Dryland Bollgard 3 cotton refuge options for Central Queensland planted after October 31

Crop	Conditions	% of Bollgard 3
Cotton	Dryland or irrigated, sprayed conventional cotton	100
	Dryland or irrigated, unsprayed conventional cotton	10
Pigeon pea	Dryland or fully irrigated, unsprayed. Dryland pigeon peas can only be planted with an approved plan from Monsanto Australia.	5

Note: *Unsprayed means not sprayed with any insecticide that targets any life stage of Helicoverpa spp.*

Bt products must not be applied to any refuge (including sprayed cotton).

If the viability of an unsprayed refuge is at risk due to early or late season pressure by Helicoverpa spp., or any other caterpillar species, contact Monsanto Australia immediately. With prior approval from Monsanto Australia, a non-Bt heliocide can be applied.

For the purposes of this Resistance Management Plan, conventional cotton includes any cotton varieties that do not have Bt proteins in the plant that control Helicoverpa spp. larvae.

General conditions for all refuges

(a) Refuge crops are to be planted and managed so that they are attractive to *Helicoverpa* spp. during the growing period of the Bollgard 3 cotton varieties.

Irrigated: It is preferable that all refuge is planted within the 2 week period prior to planting Bollgard 3. If this is not possible, refuge planting must be completed within 3 weeks of the first day

of sowing of Bollgard 3. At this time, sufficient refuge must have been planted to cover all of the Bollgard 3 cotton proposed to be planted for the season (including Bollgard 3 already planted and any that remains unplanted). If additional Bollgard 3 is planted after this date which is not already covered by refuge, additional refuge must be planted as soon as possible and no more than 2 weeks after sowing of the additional Bollgard 3.

Dryland: A dryland refuge must be planted within the 2 week period prior to the first day of planting Bollgard 3 cotton.

(b) Pigeon pea refuges should not be planted until the soil temperature reaches 17°C, which is a requirement for germination, and should also be planted into moisture to ensure successful germination. If soil temperatures are not suitable to allow germination of pigeon peas in line with condition (a), an alternative refuge must be planted in its place within the prescribed period (under (a) above).

(c) All refuges should preferably be planted into a fallow or rotation field that has not been planted to Bt cotton in the previous season to avoid volunteer and ratoon cotton. See Refuge Management Guide for all unsprayed refuges.

(d) Once Bollgard 3 cotton begins to flower, the corresponding refuge must not be cultivated.

(e) All refuges are to be planted within the farm unit growing Bollgard 3 cotton no more than 2 km from the associated Bollgard 3 cotton field. For any cases where it may not be possible to plant the refuge within 2 km from the associated Bollgard 3, approval must be sought from Monsanto Australia.

(f) To minimise the possibility of refuge attractiveness being affected by herbicide drift, non-herbicide tolerant refuges should be separated from herbicide tolerant Bollgard 3 cotton crops by a sufficient distance to minimise such drift, but no more than 2 km from the Bollgard 3 cotton.

(g) To account for possible insecticide drift, the options for the width of refuge crops vary according to spray regime. If any sprayed conventional cotton is grown on the same farm unit, Bollgard 3 refuge crops must be at least 48 metres wide and each refuge area must be a minimum of 2 hectares. If sprayed conventional cotton is not grown on the same farm unit, Bollgard 3 refuge crops must be at least 24 metres wide and each refuge area must be a minimum of 0.5 hectares. Different unsprayed refuge options may be planted in the same field as a single unit; however a sprayed conventional cotton refuge must not be planted in a field that is also planted to an unsprayed refuge type unless a sufficient buffer is in place to prevent insecticide drift.

(h) In all regions, destruction of refuges must only be carried out after Bollgard 3 has been harvested. In Central Queensland, soil disturbance of refuge crops must only occur when the trap crop is being destroyed (refer to section 4 Pupae Destruction).

(i) Refuges for dryland Bollgard 3 cotton crops must be planted in the same row configuration as the Bollgard 3 crop unless the refuge is irrigated. If an irrigated option is utilised for a dryland Bollgard 3 crop, then that refuge may be planted in a solid configuration. Dryland cotton is measured as green hectares (calculated as defined in the Technology User Agreement).

3. Control of volunteer and ratoon cotton

Volunteer and ratoon cotton may impose additional selection pressure on *Helicoverpa* spp. to develop resistance to the Bt proteins Cry1Ac, Cry2Ab and Vip3A produced by Bollgard 3 cotton.

As soon as practical after harvest, Bollgard 3 cotton crops must be destroyed by cultivation, root cutting or herbicide so that they do not continue to act as hosts for *Helicoverpa* spp.

Growers must ensure that volunteer and ratoon plants are removed as soon as possible from all fields, including fallow areas, Bollgard 3 crops, conventional cotton crops and all refuges. **The presence of Bollgard 3 volunteers/ratoon cotton in any refuge will diminish the value of the refuge and must be removed as soon as possible.**

Note: The refuge should preferably be planted into fallow or rotation fields that have not been planted to cotton in the previous season.

4. Pupae destruction / trap crops

New South Wales and Southern Queensland

To further mitigate the risk of resistance, each grower of Bollgard 3 must undertake *Helicoverpa* spp. pupae destruction in fields with a higher probability of carrying over wintering pupae according to the following key guidelines:

- If first defoliation of a Bollgard 3 field occurs on or before March 31, the Bollgard 3 field must be slashed or mulched and controlled to prevent regrowth within 4 weeks of harvesting.
- If first defoliation of a Bollgard 3 field occurs after March 31, the Bollgard 3 field must be slashed or mulched and controlled to prevent regrowth within 4 weeks of harvesting and pupae busting must be complete by July 31 for all valleys except for all regions including the Lachlan, Murrumbidgee, Menindee and Murray Valleys where pupae busting must be complete by August 31.

- Ensure disturbance of the soil surface to a depth of 10 cm to a distance of 30 cm both sides of the plant line.

Central Queensland

Crop destruction

All Bollgard 3 crops must be slashed or mulched and controlled to prevent regrowth within 4 weeks of harvesting.

End of season management of refuges/trap crops

End of season pupae busting practices are not effective in the Central Queensland region as *Helicoverpa* spp. are less likely to diapause. A late summer trap crop (pigeon pea) must be planted for all Bollgard 3 cotton grown in Central Queensland. The planting configuration of the trap crop should be the same as that of the Bollgard 3 crop. Irrigated Bollgard 3 must have an irrigated trap crop. Table 5 shows the requirements for the late summer pigeon pea trap crop. **Dryland Bollgard 3 growers who do not have any irrigated cotton on their farm should contact Monsanto Australia for alternative options.**

Refuge and late summer trap crops have different purposes. Where a pigeon pea refuge is utilised, the full pigeon pea refuge area must be managed to become the late summer trap crop. If unsprayed cotton is used as the refuge, an additional area of 1% pigeon pea must be planted as the late summer trap crop. Requirements for late summer trap crops are detailed in Table 5 below.

Table 5: Late summer pigeon pea trap crop requirements in Central Queensland

Criterion	Trap crop*
Minimum area & dimension (Requirement)	A minimum trap crop of 1% of planted Bollgard 3 cotton crop is required. If sprayed conventional cotton is grown on that farm unit: the trap crop must be at least 48m x 48m. If no sprayed conventional cotton is grown on that farm unit: the trap crop must be at least 24m x 24m.
Planting time	The trap crop should preferably be planted 4 weeks after the associated Bollgard 3. Note: if growers choose to plant their trap crop to coincide with the planting of pigeon pea refuges, they must manage the trap crop in such a way that it remains attractive to *Helicoverpa* spp. 2-4 weeks after final defoliation.

Planting rate **	35kg/ha (recommended establishment greater than 4 plants per metre)
Insect control	The trap crop can be sprayed with virus after flowering, while avoiding insecticide spray drift, except where a pigeon pea refuge is converted to a trap crop. In this case the full 5% pigeon pea refuge area managed to become the late summer trap crop can only be sprayed with virus after the first defoliation of Bollgard 3 cotton.
Irrigation	The refuge/trap crop must be planted into an area where it can receive the additional irrigation required to keep the trap crop attractive to *Helicoverpa* spp. until after the cotton is defoliated.
Weed control	The trap crop should be kept free of weeds and particularly volunteer Bollgard 3 cotton. When using the full pigeon pea refuge area as the trap crop, weed control must not be carried out by cultivation once flowering of the associated Bollgard 3 cotton crop has commenced.
Crop destruction	The trap crop must be destroyed 2-4 weeks (but not before 2 weeks) after final defoliation of the Bollgard 3 cotton crop, (slash and pupae bust – full soil disturbance to a depth of 10 cm across the entire trap crop area). All Bollgard 3 and associated trap crops must be destroyed by July 31.

* A pigeon pea trap crop is to be planted so that it is attractive (flowering) to *Helicoverpa* spp. after the cotton crop has cut out, and as any survivors from the Bollgard 3 crop emerge. Planting pigeon pea too early (e.g. before November) or too late (e.g. mid December) is not adequate for cotton crops planted during September through to October.

** The planting rate is a recommendation based on a minimum of 85% seed germination.

Failed Crops – All Regions

Bollgard 3 crops that will not be grown through to harvest for various reasons and are declared to, and verified by, Monsanto as failed must be destroyed within two weeks after verification, in such a way that prevents regrowth. Crops that are abandoned before February 28 should be slashed and mulched within 4 weeks

5. Spray Limitations

Insecticide preparations containing Bt may be used on Bollgard 3 cotton throughout the season BUT NOT on any refuge crops.

An unsprayed refuge should not be planted in the same field as any crop sprayed with a rate of insecticide that is registered for *Helicoverpa* spp, with the exception of Bollgard 3. Sprayed crops and unsprayed refuges that are planted in adjacent fields must be separated by sufficient distance to minimise the likelihood of insecticide drift onto the unsprayed refuge.

If the viability of an unsprayed refuge is at risk due to early or late season pressure by *Helicoverpa* spp., or any other caterpillar species, contact Monsanto Australia immediately. With prior approval from Monsanto Australia, a non-Bt heliocide can be applied.

NB: If any grower encounters problems in complying with the Resistance Management Plan please contact Monsanto Australia.

For further background information on the various components of this plan see the "Preamble to the Resistance Management Plan for Bollgard 3" in the current Cotton Pest Management Guide.

BASF
We create chemistry

BASF Agricultural Solutions Australia Pty Ltd.
PO Box 4705 Melbourne Victoria 3001

Office of the Gene Technology Regulator
MDP 54
GPO Box 9848
CANBERRA ACT 2601

Friday, 26 October 2018
[redacted]

Sent to brian.weir@health.gov.au via email

Attention: Application Entry Point

Dear Sir/Madam,

Annual Report for DIR143 for the year 1 July 2017 to 30 June 2018

I refer to the requirements of the above licence (*viz*. Condition No. 20), to provide the OGTR with an annual report by the end of September each year for the previous financial year. We were contacted by OGTR to indicate that this report had not yet been lodged. I submit to you this report which has been derived from data from our internal record keeping system for events approved under DIR143.

From the period of 1 July 2017 to 30 June 2018, there were no plantings of cotton containing any of the approved events under DIR143 in Australia.

As a result, no adverse effects were observed or reported to us as a result of dealings with cotton events under licence DIR143.

Yours sincerely,

[redacted]
Regulatory Affairs Manager - Seeds - Australia & New Zealand

Phone: [redacted]
Postal Address: BASF Australia Ltd., [redacted]

LICENCE NO:	DIR066
LICENCE HOLDER:	Monsanto Australia Proprietary Limited
ACCREDITATION NO:	ACCR 034/2002

SUBMISSION:	2019 Annual Report for Commercial release of GM herbicide tolerant and/or insect resistant cotton lines
REPORTING PERIOD:	1 June 2018 – 1 June 2019 (covering 2018/19 cotton growing season)
DATE:	30 June 2019

PREPARED BY: [redacted]

Contents

SECTION 1. LICENCE HOLDER DETAILS

Name: Monsanto Australia Proprietary Limited

Address: 600 St Kilda Rd, Melbourne 3004

PO Box 6051
St Kilda rd Central
Victoria, 8008

Telephone: (03)9522 7101

Contact email: [redacted]

Accreditation Number: ACCR 034/2002

SCOPE OF THE REPORT

This report addresses the annual reporting condition of the DIR066 commercial licence covering Roundup Ready® cotton, Roundup Ready® Flex cotton and the Bollgard II® trait issued to Monsanto Australia Proprietary Limited by the Office of the Gene Technology Regulator.

This report details compliance with general and specific conditions of Sections 2 to 6 of the DIR066 licence as issued to Monsanto Australia Proprietary Limited on 26 October 2006, and as varied 22 December 2006, 6 December 2007, 15 April 2009 and 20 June 2013.

This report covers the period from 1 June 2018 to 1 June 2019, including the 2018/19 cotton planting season.

SECTION 2. LICENCE CONDITIONS

Condition 1. Duration of Licence; DIR066 has not been suspended, cancelled or surrendered.

Condition 2. Holder of Licence; Monsanto Australia Proprietary Limited (Monsanto) remains the holder of the licence.

Conditions 3 and 4. Project Supervisor; The project supervisor is [redacted]

Condition 5. No dealings with GMOs except as authorized by this Licence; Persons covered by the licence did not deal with GMOs except as expressly permitted by the licence.

Conditions 6 and 7. Location; The licence allows for dealings with GMOs to be conducted anywhere in Australia. This licence supersedes any previous licences regarding location.

Conditions 8 and 9. Persons covered by this GMO Licence; Monsanto acknowledges that the persons covered by the licence are the licence holder and employees, agents or contractors of the licence holder and other persons who are, or have been, engaged to undertake any activity in connection with GMOs grown in a location pursuant to this licence.

Conditions 10 and 11. Informing people of their obligations; DIR066 was issued in October 2006, permitting dealings with the GMOs to be undertaken during the cotton growing seasons.
Monsanto Australia Proprietary Limited informed all persons covered by the DIR066 licence of the obligations imposed on them as a result of the conditions of the licence. This was primarily achieved through the Monsanto accreditation program, which includes information on regulatory obligations as well as management of the crop.
Accreditation programs require all persons having management responsibility for Roundup Ready (no longer sold commercially), Roundup Ready Flex and Bollgard II cotton crops to undergo training.

Condition 12. Applicant to notify of circumstances that might affect suitability; During the reporting period, Monsanto Australia Ltd did not receive a relevant conviction occurring after the commencement of this licence; nor was there any revocation or suspension of a licence or permit held by Monsanto Australia Ltd under a law of the Australian Government, a State or foreign country, being a law relating to the health and safety of people or the environment; or any event or circumstance occurring after the commencement of this licence that would affect the capacity of Monsanto to meet the conditions of the DIR066 licence.

Condition 13. Licence holder must provide information on matters related to suitability;
Monsanto acknowledges that it must provide information related to its ongoing suitability to hold a licence when requested to do so in writing by the Regulator and must provide information within a time period stipulated by the Regulator.

Condition 14. People dealing with the GMOs must allow auditing and monitoring of the dealing; Monsanto acknowledges that if a person authorized by this licence to deal with GMOs and a particular condition of this licence applies to the dealing by that person, the person must allow the Regulator, or a person authorized by the Regulator, to enter the premises where the dealing is being undertaken, for the purposes of auditing or monitoring the dealing.

Condition 15. Remaining an Accredited organization; At all times, Monsanto remained an accredited organization and complied with conditions of accreditation as set out in the OGTR Guidelines for Accreditation of Organisations.

Conditions 16 - 19 Additional information must be given to the Regulator; During the reporting period, Monsanto did not become aware of any additional information as to any risks to the health and safety of people, or to the environment, associated with the dealings authorized by this licence; or of any unintended effects of the dealings authorized by this licence.

Condition 20. Compliance Management Plan A Compliance Management Plan was provided to the Regulator on issuance of the DIR066 licence.

SECTION 3. GROWING THE GMOS

3.1 GMOs covered by this licence

The only dealings with GMOs under this licence were those with the GMOs described in DIR066 Licence.

3.2 Permitted dealings

Sales and planting of the Roundup Ready Flex (RRF), Bollgard II (BGII) and Bollgard II stacked with Liberty Link® (BGIIwLL) were undertaken under a Technology User Agreement, which sets out the conditions for planting and growing a cotton crop containing RRF and BGII technology. Roundup Ready cotton has been removed from the market in Australia. To be eligible to sign such an agreement, a grower is required to attend an accreditation program and pass a test based on the material covered in the accreditation program.

3.3 Trial/Research Crop Locations and Volumes

Valley	BGII ha	RR ha	RRF ha	BGII w RR ha	BGII w RRF ha	BGII w LL ha	Total ha
Lower Namoi	0.00	0.00	70.70	0.00	0.00	0.00	70.70
Total ha	**0.00**	**0.00**	**70.70**	**0.00**	**0.00**	**0.00**	**70.70**

3.4 Commercial Crop Locations and Volumes

Valley	BGII ha	RR ha	RRF ha	BGII w RR ha	BGII w RRF ha	BGII w LL ha	TOTAL/Valley
Belyando	0.00	0.00	0.00	0.00	0.00	0.00	311.19
Burdekin	0.00	0.00	0.00	0.00	0.00	0.00	52.77
Darling Downs	0.00	0.00	3271.18	0.00	0.00	0.00	39951.09
Dawson/Callide	0.00	0.00	359.56	0.00	0.00	0.00	4918.18
Dirranbandi	0.00	0.00	3.95	0.00	0.00	0.00	251.19
Douglas/Daly	0.00	0.00	0.00	0.00	0.00	0.00	50.07
Emerald	0.00	0.00	98.38	0.00	16.91	0.00	14020.68
Flinders	0.00	0.00	0.00	0.00	0.00	0.00	370.88
Gilbert	0.00	0.00	399.44	0.00	0.00	0.00	5321.04
Gwydir	0.00	0.00	2798.05	0.00	50.55	0.00	46093.05
Katherine	0.00	0.00	0.00	0.00	0.00	0.00	23.00
Lachlan	0.00	0.00	348.64	0.00	0.00	0.00	12929.93
Lower Namoi	0.00	0.00	957.56	0.00	417.11	0.00	26458.45
MacIntyre	0.00	0.00	1671.80	0.00	228.50	0.00	30448.39
Macquarie	0.00	0.00	415.19	0.00	50.45	0.00	19860.64
Mareeba/Dimbula	0.00	0.00	0.00	0.00	0.00	0.00	605.35
McKenzie River	0.00	0.00	0.00	0.00	0.00	0.00	282.40
Mungindi	0.00	0.00	414.06	0.00	0.00	0.00	7634.06
Murray	0.00	0.00	23.38	0.00	0.00	0.00	2876.80
Murrumbidgee	0.00	0.00	708.35	0.00	0.00	0.00	43952.74
St George	0.00	0.00	192.15	0.00	125.66	0.00	7225.98
The Ord	0.00	0.00	0.00	0.00	0.00	0.00	270.17
Upper Namoi	0.00	0.00	683.22	0.00	44.00	0.00	17848.24
Walgett	0.00	0.00	46.47	0.00	0.00	0.00	1328.70
Total ha	**0.00**	**0.00**	**12,391.38**	**0.00**	**933.18**	**0.00**	**28,3084.99**

Total, Bollgard II ha planted	**933.18**
Total Roundup Ready Flex ha planted	**13,324.56**

Note *– Total Bollgard II figure includes Bollgard II, Bollgard II/Roundup Ready Flex and Bollgard II/Liberty Link. Total Roundup Ready Flex figure includes Roundup Ready Flex and Bollgard II/Roundup Ready Flex.*

LICENCE NO:	DIR124
LICENCE HOLDER:	Monsanto Australia Proprietary Limited
ACCREDITATION NO:	ACCR 034/2002

SUBMISSION:	2019 Annual Report for Commercial release of GM insect resistant and/or herbicide tolerant cotton lines
REPORTING PERIOD:	1 June 2018 – 1 June 2019 (covering 2018/19 cotton growing season)
DATE:	30 June 2019

PREPARED BY: [redacted]

[redacted]

Contents

SECTION 1. LICENCE HOLDER DETAILS

Name: Monsanto Australia Proprietary Limited

Address: 600 St Kilda Rd, Melbourne 3004

PO Box 6051
St Kilda Rd Central
Victoria, 8008

Telephone: (03)9522 7101

Contact email: [redacted]

Accreditation Number: ACCR 034/2002

SCOPE OF THE REPORT

This report addresses the annual reporting condition of the DIR124 commercial licence covering Bollgard® 3 and Bollgard® 3 Roundup Ready® Flex cotton technology issued to Monsanto Australia Proprietary Limited by the Office of the Gene Technology Regulator.

This report details compliance with general and specific conditions of Sections 2 to 3 of the DIR124 licence as issued to Monsanto Australia Proprietary Limited on 19 June 2014.

This report covers the period from 1 June 2018 to 1 June 2019, including the 2018/19 cotton planting season.

SECTION 2. LICENCE CONDITIONS AND OBLIGATIONS

Condition 3. Authorised Dealings
No dealings were conducted with GMOs under this licence that are otherwise prohibited as a result of the operation of State legislation declaring areas to be GM, GM free, or both, for marketing purposes.

Condition 4. Duration of Licence
DIR124 has not been suspended, cancelled or surrendered.

Condition 5. Holder of Licence
Monsanto Australia Proprietary Limited (Monsanto) remains the holder of the licence.

Condition 6. Project Supervisor
The project supervisor is [redacted]

Condition 7. Persons covered by this GMO Licence
Monsanto acknowledges that any person, including the licence holder, may conduct any permitted dealings with the GMOs as covered by the licence.

Condition 8. Dealings with GMOs as authorized by this Licence
All dealings with the GMOs are permitted under this licence.

Condition 9. Location
The licence allows for dealings with GMOs to be conducted in all areas of Australia.

Condition 10. GMOs covered by this licence
The only dealings with GMOs under this licence were those with the GMOs described in DIR124 Licence.

Condition 11. Licence Conditions
Monsanto acknowledges that if the conditions of any prior licence authourising dealings with the GMO are inconsistent with the conditions of this licence, the conditions of this licence will prevail.

Condition 12. Remaining an Accredited organization
At all times, Monsanto remained an accredited organization and complied with the Act and with its instrument of accreditation.

Condition 13. Applicant to notify of circumstances that might affect suitability
During the reporting period, Monsanto Australia Ltd did not receive a relevant conviction occurring after the commencement of this licence; nor was there any revocation or suspension of a licence or permit held by Monsanto Australia Ltd under a law of the Australian Government, a State or foreign country, being a law relating to the health and safety of people or the environment; or any event or circumstance occurring after the commencement of this licence that would affect the capacity of Monsanto to meet the conditions of the DIR124 licence. Monsanto acknowledges that it must provide information related to its ongoing suitability to hold a licence, if requested, within a period stipulated by the Regulator.

Condition 14. Informing people of their obligations
Monsanto Australia Proprietary Limited informed all persons covered by the DIR124 licence of the obligations imposed on them as a result of the conditions of the licence. This was primarily achieved through the Monsanto accreditation program and contractual obligations, which includes information on regulatory obligations as well as management of the crop. Accreditation requires all persons having management responsibility for Bollgard 3 cotton crops to undergo training.

Monsanto recognizes that any persons covered by the DIR124 licence, to whom a condition of the licence applies, must be informed of particular conditions and any variations, the cancellation, suspension or surrender of the licence. This is achieved through training and contractual obligations.

Conditions 15 - 17. Applicant to notify of circumstances that might affect the risk assessment

During the reporting period, Monsanto Australia Ltd did not become aware of any risks to the health and safety of people, or to the environment, associated with the dealings authorised under DIR124; or of any contraventions of the licence by a person covered by the licence; or any unintended effects of the dealings authorised by the licence.

Monsanto acknowledges that should it be required to inform the regulator of additional information under these licence conditions it must do so without delay.

Conditions 18 and 19. Persons covered by the licence

Monsanto acknowledges that the persons covered by the licence must not deal with the GMOs except as expressly permitted by this licence.

Monsanto acknowledges that if a person authorized by this licence to deal with GMOs and a condition of this licence applies to the dealing by that person, the person must allow the Regulator, or a person authorized by the Regulator, to enter the premises where the dealing is being undertaken, for the purposes of auditing or monitoring the dealing.

SECTION 3. GROWING THE GMOS

3.1 GMOs covered by this licence

The only dealings with GMOs under this licence were those with the GMOs described in the DIR124 Licence.

3.2 Permitted dealings

Plantings of Bollgard 3 were undertaken under a Technology User Agreement (TUA), which sets out the conditions for planting and growing a cotton crop containing Bollgard 3 technology. To be eligible to sign such an agreement, a grower is required to attend an accreditation and training program.

In the 2018/19 season, all Bollgard 3 cotton planted was managed under the Bollgard 3 RMP.

3.3 Trial/Research Crop Volumes by State

State	Trial/Research Bollgard 3 Area (Ha)
NSW	170.40
Total Trial Bollgard 3 Area planted	**170.40**

***Note** – Total Bollgard 3 figure includes Bollgard 3 Roundup Ready Flex only.*

3.4 Commercial Crop Volumes by State

State	Commercial Bollgard 3 Area (Ha)
NSW (Belyando, Menindee, Murrumbidgee, Gwydir, Lachlan, Upper and Lower Namoi, Mungindi, Walgett and Macquarie valleys)	169,172.16
VIC (Murray)	2,853.42
QLD (Belyando, Burdekin, Darling Downs, Dawson/Callide, Dirranbandi, Emerald, Flinders, Gilbert, MacIntyre, Mareeba/Dimbula, McKenzie River and St George valleys)	97,391.61
WA (The Ord valley)	270.17
NT (Douglas/Daly and Katherine valleys)	73.07
Total Commercial Bollgard 3 Area planted	**269,760.43**

Licence Number	DIR118
Licence Holder	Monsanto Australia Pty Ltd
Accreditation Number	ACCR 034/2002
Submission	2020 Annual Report for the Commercial Release of GM herbicide tolerant (Roundup Ready Flex® MON 88913) pima cotton in Australia
Reporting Period	1 July 2019 – 30 June 2020
Date	30 June, 2020
Prepared By	[redacted]

Contents

Section 1 – Licence Holder Details

Name	Monsanto Australia Proprietary Limited
Address	Level 1, 8 Redfern Rd Hawthorn East VIC 3123
Telephone	(03) 9248 6888
Contact email	[redacted]
Accreditation Number	ACR 034/2002

Scope of the Report –

This report addresses the annual reporting conditions of the DIR118 commercial licence for the release of GM herbicide tolerant (Roundup Ready Flex® MON 88913) pima cotton in Australia, issued to Monsanto Australia Proprietary Limited by the Office of the Gene Technology Regulator (OGTR).

This report details compliance with the general and specific conditions of sections 2 and 3 of the DIR118 licence as issued to Monsanto on the 16 August 2013.

This report covers the period of time between the 1 July 2019 and 30 June 2020, which includes the 2019/20 cotton growing season.

Section 2 – General Conditions

Duration of the Licence

DIR118 has not been cancelled, suspended or surrendered.

Holder of the Licence

Monsanto Australia Proprietary Limited (Monsanto) is the holder of the licence.

Project Supervisor

[redacted] is the project supervisor.

Persons covered by this licence

All persons covered by this licence are all persons in Australia.

Informing people of their obligations

Monsanto Australia Proprietary Limited informs all GM herbicide tolerant (Roundup Ready Flex® MON 88913) pima cotton growers covered by the DIR118 licence of the obligations imposed on them as a result of the conditions of this licence. This is primarily achieved through Monsanto grower training which includes information on regulatory obligations.

Licence holder to notify of circumstances that might affect suitability

During the reporting period, Monsanto Australia did not receive a relevant conviction occurring after the commencement of this licence; nor was there any revocation or suspension of a licence or permit held by Monsanto Australia Pty Ltd under a law of the Australian Government, a state or a foreign country, being law relating to the health and safety of people or the environment; or any event or circumstance occurring after the commencement of the licence that would affect the capacity of Monsanto to meet the conditions of the DIR118 licence. Monsanto acknowledges that it must provide information related to their ongoing suitability to hold a licence when requested.

People dealing with the GMO must allow auditing and monitoring of the dealing

Monsanto acknowledges that if a person is authorized by this licence to deal with GMOs and a particular condition of this licence applies to the dealing by that person, the person must allow the Regulator to enter premises where the dealing is being undertaken for the purposes of auditing or monitoring the dealing.

Remaining an accredited organization

At all times, Monsanto remained an accredited organization and complied with the conditions of the accreditation as set out in the OGTR guidelines for accreditation of organizations.

Additional Information given to the Regulator

During the reporting period, Monsanto did not become aware of additional information as to any risks to the health and safety of people, or to the environment, associated with the dealings authorized by the licence; or of any unintended effects of the dealings authorized by the licence.

Section 3 – Growing the GMO

3.1 GMOs covered by this Licence

The only dealings with GMOs under this licence were those with the GMO described in attachment A of the DIR118 licence

3.2 Permitted Dealings

During the period of this report, only dealings with the GMO authorized were permitted.

3.3 Commercial Volumes of GM herbicide tolerant (Roundup Ready Flex® MON 88913) pima cotton grown in each State and Territory - Summary

STATE	Total ha
Victoria	0
New South Wales	0
Western Australia	0
Queensland	0
Total ha	**0**

3.4 Trial Volumes of GM herbicide tolerant (Roundup Ready Flex® MON 88913) pima cotton grown in each State and Territory - Summary

STATE	Total ha
Victoria	0
New South Wales	0
Western Australia	0
Queensland	0
Total ha	**0**

3.5 Annual Surveys

No other information on the progress of the release of the GMO, including annual surveys, was required to be submitted during this annual reporting period under specific condition 17(d) of DIR118.