



Australian Government

**Department of Health and Ageing
Office of the Gene Technology Regulator**

Licence for dealings involving an intentional release of a GMO into the environment

Licence No.: DIR 096

Licence holder: BSES Limited

Title: Limited and controlled release of sugarcane genetically modified for herbicide tolerance

Issued: 11 November 2009

More information about the decision to issue this licence is contained in the Risk Assessment and Risk Management Plan prepared in connection with the assessment of the application for the licence. This document can be obtained from the Office of the Gene Technology Regulator website at <http://www.ogtr.gov.au>, or by telephoning the Office on 1800 181 030.

Gene Technology Regulation in Australia

Australia's gene technology regulatory system operates as part of an integrated legislative framework. The *Gene Technology Act 2000* (Cth) and corresponding state and territory legislation form a substantial part of a nationally consistent regulatory system controlling the development and use of genetically modified organisms (GMOs).

This licence is issued by the Gene Technology Regulator in accordance with the Gene Technology Act 2000 and, as applicable, Corresponding State Law.

The Gene Technology Regulator is required to consult with, and take into account advice from a range of key stakeholders, including other regulatory authorities, on risks to human health and safety and to the environment in assessing applications for dealings involving the intentional release of GMOs into the Australian environment.

Other agencies that also regulate GMOs or GM products include Food Standards Australia New Zealand, Australian Pesticides and Veterinary Medicines Authority, Therapeutic Goods Administration, National Industrial Chemicals Notification and Assessment Scheme, National Health and Medical Research Council and Australian Quarantine and Inspection Service. Dealings conducted under any licence issued by the Regulator may also be subject to regulation by one or more of these agencies. It is recommended that the licence holder consult the relevant agency (or agencies) about their regulatory requirements.

The licence authorises the licence holder and persons covered by the licence to conduct specified dealings with the genetically modified organism(s) listed in Attachment B of this licence.

Dealings permitted by this licence may also be subject to the operation of State legislation declaring areas to be GM, GM free, or both, for marketing purposes.

Note about where dealings with GMOs are being undertaken pursuant to this licence

Information about where the GMOs have been planted pursuant to this licence can be found in a separate document entitled 'DIR 096 Site Details'. This document can be viewed by accessing the document on the OGTR website at <http://www.ogtr.gov.au/internet/ogtr/publishing.nsf/Content/dir096>.

Section 1 Interpretations and Definitions

1. This licence does not authorise dealings with GMOs 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.
2. In this licence:
 - (a) unless defined otherwise in this licence, words and phrases used in this licence have the same meaning as they do in the Act and the Regulations;
 - (b) words importing a gender include any other gender;
 - (c) words in the singular include the plural and words in the plural include the singular;
 - (d) words importing persons include a partnership and a body whether corporate or otherwise;
 - (e) references to any statute or other legislation (whether primary or subordinate) are a reference to a statute or other legislation of the Commonwealth of Australia as amended or replaced from time to time and equivalent provisions, if any, in corresponding State law, unless the contrary intention appears;
 - (f) where any word or phrase is given a defined meaning, any other part of speech or other grammatical form in respect of that word has a corresponding meaning;
 - (g) specific conditions prevail over standard conditions to the extent of any inconsistency.
3. In this licence:

'Act' means the *Gene Technology Act 2000* (Cth) or the corresponding State legislation under which this licence is issued.

'Annual Report' means a written report provided to the Regulator within ninety (90) days of each anniversary of issue of this licence containing all the information required by this licence to be provided in the Annual Report.

'Clean' (or **'Cleaned'**), as the case requires, means:

- (a) in relation to a Place specified in this licence as requiring Cleaning, the Destruction of the GMOs and Plant Material in that Place, to the reasonable satisfaction of the Regulator; or
- (b) in relation to Equipment, the removal and Destruction of the GMOs and Plant Material from the Equipment, to the reasonable satisfaction of the Regulator.

'Crossing Facility' means a facility where GM Sugarcane may be crossed with non-GM Sugarcane plants under controlled conditions in accordance with the conditions of this licence.

'Crush' (or **'Crushing'**) means processing of Sugarcane to extract Sugarcane juice.

'Destroy', (or **'Destroyed'** or **'Destruction'**) means, as the case requires, killed by one or more of the following methods:

- (a) mulching by machinery;
- (b) treatment with herbicide from groups other than those to which the GM sugarcane is tolerant;
- (c) crushing;
- (d) burning;
- (e) autoclaving.

Note: 'As the case requires' has the effect that, depending on the circumstances, one or more of these techniques may not be appropriate. For example, in the case of killing the remains of Harvest of the GMOs, treatment of post-Harvest remains by herbicide would not be a sufficient mechanism.

'Destruction area' means a dedicated area within a BSES station where GM Plant Material is destroyed.

'Equipment' includes, but is not limited to, harvesters, storage equipment, transport equipment (eg bags, containers, pots, trucks), materials used in breeding practices (eg pollen lanterns), Sugarcane Crushing machinery, clothing and tools.

'Field Location' means an area where the GMOs are planted in the ground and grown, but does not include the Guard Row or Isolation Zone.

'Final Harvest' means a Harvest following which the GMOs are not intended to be Ratooned or replanted at a Location.

'Flowering' is taken to begin when any plant of the class of plants referred to in a particular condition first flowers, and is taken to end when all plants in the class of plants no longer have flowers.

'GM' means genetically modified.

'GMOs' means the genetically modified organisms the subject of the dealings authorised by this licence.

'Guard Row' means at least one (1) row of non-GM Sugarcane located not more than three (3) metres from, and entirely surrounding, a Field Location and grown in such a way as to reasonably promote growth commensurate with the growth of the GMOs at the Field Location.

'Harvest' (or **'Harvested'**) means the removal of the GMOs or GM Plant Material at the Field Location but does not include the removal of small samples.

'Isolation Zone' means an area of land extending at least six (6) metres in all directions from the outer edge of the Guard Row surrounding a Field Location, in which no crops may be cultivated and growth of Related Species must be controlled.

'Juice Laboratory' means a building in which Sugarcane is Destroyed by Crushing, and juice extracted.

'Location' means a Field Location, a Nursery, or a Crossing Facility where the GMOs may be grown pursuant to this licence.

'Logbook' means a written or electronic record kept at a central location within each of the BSES stations, containing information required to be collected and maintained by this licence and which is able to be presented to the OGTR on request.

'Natural Waterways' means waterways other than irrigation channels, holding dams or storage ponds used to collect water runoff from irrigated areas.

'Nursery' means a Location where GM and/or non-GM Sugarcane may be grown outdoors in pots.

'Personal Information' means information or an opinion (including information forming part of a database), whether true or not, and whether recorded in a material form or not, about an individual whose identity is apparent, or can reasonably be ascertained, from the information or opinion.

'Place' means an area required to be Cleaned under this licence.

'Plant Material' means any part of the GM or non-GM Sugarcane plants grown at a Location, whether viable or not, including, but not limited to, seed, pollen and material cut from plants as part of standard cultural practice, whether from the plant itself or derived from or produced by the plant, but not including cane juice extracted from stem material by Crushing.

'Ratoon' (or 'Ratooned') means the process whereby, following Harvest of stem material, plants are permitted to re-grow from the remaining base of the plant.

'Regulations' means the *Gene Technology Regulations 2001*

'Regulator' means the Gene Technology Regulator.

'Related Species' means plants other than Sugarcane in the genus *Saccharum* and plants of the genera *Miscanthus*, *Erianthus* and *Imperata*.

'Sign-off' means a notice in writing from the Regulator, in respect of a Site, that post Harvest conditions no longer apply in respect of that Site.

'Site' means the aggregate of all Places required to be Cleaned for a Location, including the Location, Destruction Areas and equipment Cleaning areas.

'Sugarcane' means commercial cultivars of Sugarcane derived from hybridisation of *Saccharum officinarum* and *Saccharum spontaneum*.

'Volunteer Plants' means GM or non-GM Sugarcane plants that have not been intentionally grown.

Section 2 General conditions

Duration of Licence

4. This licence remains in force until it is suspended, cancelled or surrendered. No dealings with GMOs are authorised during any period of suspension.

Holder of Licence

5. The holder of this licence ('the licence holder') is BSES Limited.

Project Supervisor

6. The Project Supervisor in respect of this licence is the person named in Attachment A of the licence.

7. The licence holder must immediately notify the Regulator in writing if any of the contact details of the Project Supervisor change.

No dealings with the GMOs except as authorised by this licence

8. Persons covered by this licence must not deal with the GMOs except as expressly permitted by this licence.

Persons covered by this GMO licence

9. The persons covered by this licence are the licence holder and employees, agents or contractors of the licence holder and other persons who are, or have been, engaged or otherwise authorised by the licence holder to undertake any activity in connection with the dealings authorised by this licence.

10. Prior to growing the GMOs, the licence holder must provide to the Regulator:

- (a) a list of the names of all organisations or natural persons who will be persons covered by this licence. Where a name of a person is not known at the time of submitting the list, the function or position of the person to be covered must be provided; and
- (b) a description of the responsibilities of the licence holder and of each person covered by the licence in relation to the requirements of this licence.

Note: Examples of functions or positions are 'Site manager', 'Farm labourer' etc.

11. Where any of the details provided under the immediately preceding condition change, the Regulator must be notified of the changes within fourteen (14) days of the change occurring.

Informing people of their obligations

12. The licence holder must inform any person covered by this licence, to whom a particular condition of this licence applies, of the following:

- (a) the particular condition (including any variations of it);

- (b) the cancellation or suspension of the licence;
- (c) the surrender of the licence.

13. If a particular condition, including any variation of it, applies to a person with respect to a particular dealing, the licence holder must not permit a person covered by this licence to conduct that dealing unless,

- (a) the person has been informed of the condition, including any variation of it, and
- (b) the licence holder has obtained from the person a signed and dated statement that the person,
 - i) has been informed by the licence holder of the condition and, when applicable, its variation, and
 - ii) has understood and agreed to be bound by the condition, or its variation.

14. The licence holder must provide the Regulator, on the Regulator's request, with copies of the signed and dated statements referred to in the immediately preceding condition.

15. Prior to growing the GMOs the licence holder must provide to the Regulator an explanation of how the licence holder has informed, or proposes to inform, each person intended to be covered by the licence of the conditions of this licence including conditions related to the collection of Personal Information by the licence holder from the person intended to be covered by the licence.

16. Where any of the details provided under the immediately preceding condition change, the Regulator must be notified of the changes within fourteen (14) days of the change occurring.

17. The licence holder must notify the project supervisor and all persons covered by a licence that Personal Information collected by the licence holder which is relevant to the administration and/or enforcement of the licence may be released to the Regulator.

Licence holder must provide information on matters related to suitability

18. The licence holder must immediately, by notice in writing, inform the Regulator of:

- (a) any relevant conviction of the licence holder occurring after the commencement of this licence;
- (b) any revocation or suspension of a licence or permit held by the licence holder under a law of the Australian Government, a State or a foreign country, being a law relating to the health and safety of people or the environment;
- (c) any event or circumstances occurring after the commencement of this licence that would affect the capacity of the holder of this licence to meet the conditions in the licence.

19. The licence holder must provide information related to the licence holder's ongoing suitability to hold a licence when requested to do so in writing by the Regulator and must provide the information within a time period stipulated by the Regulator.

Additional information to be given to the Regulator

20. It is a condition of this licence that the licence holder informs the Regulator if the licence holder:

- (a) becomes aware of additional information as to any risks to the health and safety of people, or to the environment, associated with the dealings authorised by the licence; or
- (b) becomes aware of any contraventions of the licence by a person covered by the licence; or
- (c) becomes aware of any unintended effects of the dealings authorised by the licence.

Note: The Act requires, for the purposes of the above condition that:

- (a) the licence holder will be taken to have become aware of additional information if he or she was reckless as to whether such information existed; and*
- (b) the licence holder will be taken to have become aware of contraventions, or unintended effects, if he or she was reckless as to whether such contraventions had occurred, or such unintended effects existed.*

21. The licence holder must provide the information required by paragraphs (a), (b) and (c) of the immediately preceding condition to the Regulator as soon as practically and reasonably possible, and must also include the information in the Annual Report.

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

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

23. The licence holder must be able to access and control all Sites, approved facilities or other premises to the extent necessary to comply with this licence, for the duration of the life of the licence.

24. Where the licence holder does not have legal access and control of a Site, approved facility or other premise to the extent necessary to comply with this licence, for the duration of the life of the licence, then prior to growing the GMOs, the licence holder must provide to the Regulator a description of how any contracts, agreements, or other enforceable arrangements will allow the licence holder to access and control a Site, approved facility or other premise to the extent necessary to comply with this licence, for the duration of the life of the licence.

25. Where any of the details provided under the immediately preceding condition change, the Regulator must be notified of the changes within fourteen (14) days of the change occurring.

Remaining an Accredited organisation

26. The licence holder must, at all times, remain an accredited organisation in accordance with the Act and comply with its instrument of accreditation.

Section 3 Growing the GMOs

GMOs covered by this licence

27. The GMOs covered by this licence are described in Attachment B of the licence.

Permitted dealings

28. The permitted dealings with the GMOs are to plant, grow, propagate, breed, Harvest, transport and dispose of the GMOs, to conduct experiments with the GMOs, and the possession, supply and use of the GMOs for the purpose of any of the permitted dealings with the GMOs, or in the course of any of these dealings.

Non-GM Plants

29. Non-GM Sugarcane may be planted and grown at the Field Locations but if planted, must be handled and controlled as if it were the GMOs.

30. Plant Material from non-GM Sugarcane grown at a Field Location or in the Guard Row surrounding a Field Location must be handled and controlled as if it were Plant Material from the GMOs.

31. Non-GM Sugarcane plants may be grown at the same Nursery and Crossing Facility as the GMOs.

32. If non-GM plants which are grown at a Crossing Facility are crossed with GM Sugarcane then the Plant Material of the non-GM plant must be handled and controlled as if it were Plant Material from the GMOs.

Limits - Locations, timing and size of trial

33. With respect to the permitted dealings described in condition 28, planting, growing, propagating, breeding and Harvesting must only be undertaken between November 2009 and November 2015, inclusive, within the Queensland shires of Moreton Bay, Bundaberg, Mackay, Burdekin and Cairns.

34. Establishment of Field Locations, Nurseries and Crossing Facilities may only take place at BSES Limited stations as specified in Table 1. The total area of all Locations of each type at each BSES station over the duration of the permitted dealings must not exceed the maximum size indicated in Table 1.

Table 1: Types and maximum size of Locations at BSES Limited stations at which permitted dealings may occur.

BSES station	Local government area	Address	Type of Location	Maximum total size of all Locations
BSES Woodford	Moreton Bay	Lot 207, Old Cove Rd, Woodford, Qld 4514	Field Location	5 ha
			Nursery	200 m ²
BSES Southern	Bundaberg	Ashfield Rd, Bundaberg, Qld 4670	Field Location	5 ha
			Crossing facility	60 m ²
			Nursery	200 m ²
BSES Central	Mackay	Peak Downs Highway, Te Kowai, Qld 4741	Field Location	5 ha
			Nursery	200 m ²
BSES Burdekin	Burdekin	Bruce Highway Brandon, Qld 4808	Field Location	5 ha
			Nursery	200 m ²
BSES Meringa	Cairns	Bruce Highway, Gordonvale, Qld 4865	Crossing Facility	200 m ²
BSES Durre	Burdekin	35 Sayers Road, The Durre farm, Barratta, 4809	Field Location	5 ha

Control measures – planting and growing

35. Nurseries may only be used for the cultivation of GM Sugarcane that:

- (a) is grown in the Nursery from GM single-eye setts and/or is transported to the Nursery as tissue-culture derived GM plants and/or seedlings derived from GM seed germinated at Crossing Facilities;
- (b) is planted in pots;
- (c) is labelled as GM Sugarcane
- (d) is clearly distinguishable from non-GM Sugarcane;
- (e) is kept on a separate bench to any non-GM Sugarcane, the bench being labelled to indicate it holds GM Sugarcane;
- (f) is kept on a separate bench to any GM Sugarcane released under another licence; and
- (g) is prevented from Flowering.

Note: Measures to ensure GM Sugarcane is clearly distinguishable from non-GM Sugarcane may include colour-coding of plant pots or labels on pots or plants.

36. Nurseries must display signage to indicate they contain GM Sugarcane.

37. Field Locations may be planted with GM Sugarcane originating at a Nursery or with setts Harvested from other Field Locations.

38. Any of the following may be used as part of a Crossing Facility:

- (a) an area of a glasshouse in which the GMOs may be cultivated from setts;

- (b) an outdoor area for germinating setts on seedling benches and cultivating seedlings;
- (c) an area of a photoperiod facility (a structure equipped to modify daylength and/or temperature), including the area immediately adjacent to this facility;
- (d) at BSES Meringa, an area in a crossing shed in which cut inflorescences from the GMOs may be kept, but plants may not be grown in pots;
- (e) a germination chamber in which GM Sugarcane seed may be germinated.

39. At a Crossing Facility:

- (a) GM Sugarcane plants must not be planted in the ground;
- (b) GM Sugarcane plants must be kept in areas clearly identified as containing GM Sugarcane, and these areas must be separated from non-GM Sugarcane by a distance of at least one (1) metre;
- (c) any non-GM Sugarcane grown in an area identified as containing GM Sugarcane must be handled and controlled as if it were the GMOs;
- (d) GM Sugarcane plants and cut GM Sugarcane inflorescences must be labelled as GM Sugarcane and be clearly distinguishable from non-GM Sugarcane;
- (e) crossing of GM Sugarcane lines with non-GM Sugarcane plants may be undertaken;
- (f) cut GM Sugarcane inflorescences must be kept in an area clearly identified as containing GM Sugarcane and separated from non-GM Sugarcane inflorescences by a distance of at least one (1) metre, except when undergoing crossing to non-GM Sugarcane as permitted by this condition;
- (g) structures which house areas making up a Crossing Facility must be signed to indicate they contain GM Sugarcane (eg glasshouse, photoperiod facility, crossing shed).

Note: In a Crossing facility, pollen dispersal from the GMOs must be controlled in the manner required in condition 47

Note: The licence holder must give notices to the Regulator in relation to intention to plant, actual date of planting, and flowering of the GMOs as specified in Section 7 of this licence.

40. GM Sugarcane seed may be stored in a box, which must be clearly labelled as containing GM plant material and must be locked when unattended.

Containment measures

41. With the exception of the photoperiod facility at BSES Meringa, Places must be located such that the outer edge of the Place is at least fifty (50) metres away from the nearest natural waterway.

42. Field Locations in which the GMOs are growing must be surrounded by a Guard Row and an Isolation Zone.

43. No crops may be planted in the Isolation Zone, which must be maintained in a manner that allows the identification of Sugarcane and Related Species while the GMOs are growing at the Field Location. This could be achieved by keeping the Isolation Zone free of any vegetation.

44. If any Sugarcane or Related Species occur in the Isolation Zone while the GMOs are being grown at a Location, the Sugarcane or Related Species must be Destroyed immediately.

Inspecting for initiation of Flowering of the GMOs at Crossing Facilities, and control of pollen transfer

45. The licence holder must inspect GMOs grown in Crossing Facilities for spikelet opening three times per week during the Flowering period

46. The findings of Crossing Facility inspection activities must be recorded in a Logbook. The information recorded must include at least the following:

- (a) details of the areas inspected;
- (b) details of the date of inspection;
- (c) the names of the person or persons who undertook the monitoring and details of the experience, training or qualification that enabled them to recognise spikelet opening; and
- (d) the developmental stages reached by the GMOs, including the number of GMOs at each developmental stage.

47. In Crossing Facilities and in all areas of photoperiod facilities in which the GMOs are grown, unintentional pollen transfer between GMOs and between the GMOs and non-GM Sugarcane must be restricted by:

- (a) removing and Destroying Sugarcane inflorescences prior to spikelet opening; or
- (b) completely enclosing Sugarcane inflorescences with pollen-impermeable lanterns with no openings, prior to spikelet opening; or
- (c) implementing the following control measures if spikelets have opened on Sugarcane inflorescences which are not enclosed in pollen lanterns:
 - i) removing and Destroying opened spikelets as soon as practicable; and
 - ii) Destroying the inflorescences or completely enclosing the inflorescences with pollen-impermeable lanterns with no openings prior to further spikelets opening.

Note: this condition applies to the GMOs and to non-GM sugarcane grown in Crossing Facilities and also to non-GM sugarcane grown in the same photoperiod facility as the GMOs.

Section 4 Use of Plant Material

Experiment and storage

48. Experiments with Plant Material are only permitted if:

- (a) the experiments are notifiable low risk dealings; and
- (b) the experiments do not involve the feeding of Plant Material or cane juice to humans or animals.

Note: Dealings may only be conducted as notifiable low risk dealing if conducted in accordance with all applicable requirements of the Gene Technology Regulations 2001.

49. Any Plant Material that is collected for experiments and/or analysis may be transported off Site to:

- (a) a facility certified by the Regulator to PC2; or
- (b) a facility approved in writing by the Regulator and signed so as to indicate that GM Plant Material is stored within the facility; or
- (c) a Juice Laboratory located on one of the BSES Limited stations described in Table 1 which is signed so as to indicate that GM Plant Material is stored within the facility,

and may be experimented on and/or analysed and must be Destroyed as soon as practicable.

Plant Material not to be used in food

50. The GMOs, Plant Material and cane juice must not be used, sold or otherwise disposed of for any purpose which would involve or result in their use as feed for animals or food for humans.

Section 5 Transport, Cleaning and Disposal

Harvest and post harvest cleaning procedures

51. Any GMO Harvested at a Location must be kept separate from any other Sugarcane plants or material.

52. GM Sugarcane plants may be Ratooned following Harvest until a maximum of three (3) Ratoons have been Harvested from the GMOs planted at a Location.

53. Following a Final Harvest the Location must be Cleaned.

Note: The licence holder must give notices to the Regulator in relation to intention to harvest, actual date of harvest and cleaning as specified in Section 7 of this licence.

Destruction Area

54. GM Sugarcane Plant Material may be Destroyed at a Destruction Area.

55. The Destruction Area may be located within a Field Location or elsewhere within a BSES station.

56. The GPS coordinates of an area to be used as a Destruction Area must be provided to the Regulator before the area is used as a Destruction Area.

57. Unless the GM sugarcane Plant Material is to be Destroyed immediately after being placed in a Destruction Area, the Destruction Area must be surrounded by a star picket fence with chicken wire to 1 metre and an electric fence strand until Destruction of the GM sugarcane Plant Material.

58. If the Plant Material in a Destruction Area is Destroyed, the area is taken to have been cleaned for the purpose of Section 6 of this licence (Use of Site post-cleaning and site sign-off)

Transportation of Plant Material

59. Plant Material may only be transported to the extent necessary to store it, Destroy it, export it, Clean it from Equipment, relocate it from one Location to another Location for planting under this licence, relocate it to a facility approved by the Regulator or to a physical containment level 2 (PC2) facility, or relocate it to the Site from a facility approved by the Regulator or from a PC2 facility.

60. Unless occurring within a BSES station described in Table 1, transport of Plant Material must be undertaken in accordance with the guidelines for the transportation of GM Plant Material found in the Regulator's *Guidelines for the Transport of GMOs* as current at the time of transportation, and routes, methods and procedures used must be documented and provided to the Regulator on request.

61. Transport of Plant material occurring within a BSES station described in Table 1 must be undertaken in accordance with conditions 62 to 66, as applicable, unless undertaken in accordance with the Regulator's *Guidelines for the Transport of GMOs* as current at the time of transportation.

62. Transportation within a BSES station of GM Sugarcane stalk material for planting or for destructive analysis may be undertaken if:

- (a) the GM sugarcane stalk material is bundled and labelled with a barcode;
- (b) the bundled material is transported in a covered trailer;
- (c) the trailer is followed and observed to ensure that no stalk material is lost during transportation;
- (d) labels are scanned at the destination Location; and
- (e) the transport undertaken is recorded in a Logbook.

63. Transportation within a BSES station of GM Sugarcane seedlings in trays from a Nursery bench to a field Location for planting may be undertaken if:

- (a) the trays or seedlings are barcoded and secured in a covered trailer;
- (b) the trailer is followed and observed to ensure that no material is lost during transportation; and
- (c) the transport undertaken is recorded in a Logbook.

64. Transportation within a BSES Meringa of GM Sugarcane inflorescences from the Photoperiod facility to the crossing shed may occur if:

- (a) inflorescences are not shedding any viable pollen or are completely enclosed in pollen impermeable material to prevent pollen escape;
- (b) are transported on a trailer;
- (c) the trailer is followed and observed to ensure no inflorescences are lost during transportation; and
- (d) the transport undertaken is recorded in a Logbook.

65. Transportation within a BSES station of Harvested GM Sugarcane Plant Material to a Destruction Area may be undertaken if:

- (a) Plant Material is in a weigh tuck which is covered securely (with eg a tarpaulin) to prevent loss of any material;
- (b) the truck is followed and observed to ensure that no material is lost during transportation; and
- (c) the transport undertaken is recorded.

66. Small amounts of Harvested GM Sugarcane Plant Material may be stored and transported to a Destruction Area in lockable bins (eg wheelie bins) which are labelled as containing GM Plant Material.

Cleaning of Equipment and Places

67. Cleaning of Equipment must occur immediately or as soon as practicable after use and before it is used for any other purpose (eg equipment used to Crush GM Sugarcane must be Cleaned before it is used to Crush other Sugarcane).

68. In the case of Equipment used at a Location or Place, the Equipment must be cleaned before it is removed from the Location or Place (eg if a mechanical harvester is used at a Location it must be Cleaned before it is moved to another Location).

69. The following Places must be Cleaned:

- (a) Locations;
- (b) Guard Row and Isolation Zone surrounding Field Locations;
- (c) any areas used following Harvest or Final Harvest;
- (d) any areas used to process or Crush Plant Material;
- (e) Destruction Areas; and
- (f) any areas used to Clean Equipment used in connection with the GMOs, Guard Row or Plant Material, or used to Destroy the GMOs, Guard Row or Plant Material.

70. Each Place in respect of each Field Location must be Cleaned within fourteen (14) days of Final Harvest or when the GMO is no longer intended to be grown at the Location.

71. Each Crossing Facility and Nursery must be Cleaned as soon as practicable after use, and before being used for another purpose.

72. Each Destruction Area must be Cleaned as soon as is practicable after no additional GM Plant Material is intended to be added to the Destruction Area.

Note: In the above condition, depending on the Destruction method chosen, 'as soon as practicable' could have the effect of allowing the GM Plant Material to be left to dry before Cleaning.

Note: Other conditions of this Licence require the Licence Holder to make records and give notices to the Regulator in relation to Cleaning of Places (Section 6 –Use of Places post Cleaning and Site Sign-Off; Section 7 – Reporting and Documentation Requirements).

Section 6 Use of Places post-Cleaning and Site Sign-Off

General conditions on use of Locations and other Places post-Cleaning

73. No plants may be grown in a Place, other than a Nursery or Crossing Facility, following its Cleaning unless:

- (a) the Regulator has issued a Sign-off for the Site; or
- (b) the plants are plants agreed to in writing by the Regulator.

Note: The Regulator will not agree to the growing of Sugarcane or Related Species prior to Sign-off.

Post-Cleaning Inspections

74. Inspections must be performed by a person who is able to recognise Volunteer Plants and Related Species.

75. Following Cleaning, the following Places must be inspected for the existence of Volunteer Plants and Related Species:

- (a) Field Location Sites; and
- (b) Destruction Areas and other Places where GMOs from Field Locations, Nurseries and Crossing Facilities were Destroyed, other than areas used for experiments according to conditions 48 and 49.

76. All Places which must be inspected for the existence of Volunteer Plants and Related Species must be maintained in a manner appropriate to allow the identification of any Volunteer Plants and Related Species.

77. All Places which must be inspected for the existence of Volunteer Plants and Related Species must be inspected at least once every thirty-five (35) days, commencing on the last day of Cleaning of the Place and continuing until the Regulator has issued a Sign-off for the relevant Site.

78. Any Volunteer Plants and Related Species identified must be Destroyed immediately.

79. The findings of post-Cleaning inspection activities must be recorded in a Logbook. The information recorded must include at least the following:

- (e) details of the areas inspected;
- (f) details of current land use (eg type of crop being grown) and of recent land management practices (eg irrigation, cultivation or spraying) applied in the areas inspected;
- (g) details of the date of inspection;
- (h) the names of the person or persons who undertook the monitoring and details of the experience, training or qualification that enabled them to recognise Volunteer Plants and Related Species and/or spikelet opening;
- (i) the means of inspection used;
- (j) the number of Volunteer Plants or Related Species observed, if any;
- (k) details of the developmental stages reached by the Volunteer Plants or Related Species, if any; and
- (l) details of methods used to Destroy Volunteer Plants or Related Species, if any, and the date of destruction, if different from the date of inspection;

80. Inspection requirements do not apply in respect of a Place if the licence holder has received a Sign-off for the relevant Site.

Note: Results of inspection activities must be provided to the Regulator as required in Section 7 of this licence.

Sign-off

81. For Field Locations and for other Places requiring inspection, including Places associated with Nurseries and Crossing Facilities:

- (a) if inspections have been routinely completed for a period of at least twelve (12) months; and
- (b) if inspection records for that Site or Place show that no Volunteers have been observed in the most recent six (6) months inspection period;

the licence holder may make written application to the Regulator that these inspection conditions no longer apply to the Site or Place.

Section 7 Reporting and Documentation Requirements

Contingency Plans

82. Within thirty (30) days of the date of issue of this licence, a written Contingency Plan must be submitted to the Regulator detailing measures to be taken in the event of the unintended presence of the GMOs or Plant Material outside an area where the GMO is permitted, or that must be inspected, under this licence.

83. The Contingency Plan must include details of procedures to:

- (a) ensure the Regulator is notified immediately if the licence holder becomes aware of the event;

- (b) destroy any of the GMOs or Plant Material; and
- (c) inspect for and Destroy any Volunteer Plants that may exist as a result of the event.

84. The Contingency Plan must be implemented in the event that the unintended presence of the GMOs or Plant Material is discovered outside an area where the GMO is permitted, or that must be inspected, under this licence.

Notice of intention to plant, of planting and Flowering

85. At least seven (7) days prior to the date on which planting of the GMOs is intended to commence, the licence holder must provide a notice in writing to the Regulator which contains:

- (a) the date on which planting of the GMOs is intended to commence;
- (b) the date on which planting of any non-GM Sugarcane at a Location is intended to commence;
- (c) details of the Location where the GMOs will be planted, including its size, the type of Location (eg Nursery, Crossing Facility or Field Location), a street address and GPS coordinates for the Location;
- (d) the category of the GMOs which are intended to be planted;
- (e) the period during which the licence holder considers the GMOs are likely to flower;
- (f) the period during which the licence holder considers the GMOs are likely to be Harvested;
- (g) for Field Locations, the number of Ratoons for which the licence holder considers it likely the GMOs will be cultivated and Harvested;
- (h) the period(s) during which the licence holder considers the GMOs at the Location are likely to be Destroyed;
- (i) if GMOs have previously been planted at a Field Location, a history indicating details of previous GMOs and post-Harvest crops planted at the Location and how the Location has been used in the preceding two years; and
- (j) for Field Locations, a description of how the Location is intended to be used during the first twelve (12) months following Final Harvest of the GMOs.

Note: For the purposes of this licence, planting means the commencement of cultivation of each GMO at each Field Location, Nursery and Crossing Facility, eg GMOs are considered to be planted in a Nursery when transferred there from other Locations.

86. Within seven (7) days of planting of the GMOs, the licence holder must provide a notice in writing to the Regulator which contains:

- (a) the actual date on which planting of the GMOs occurred;
- (b) the actual date on which planting of any non-GM Sugarcane occurred at a Location;

- (c) details of the Location where the GMOs were planted, including its size, the type of Location (eg Nursery, Crossing Facility or Field Location), a street address and GPS coordinates for the Location;
- (d) the category of the GMOs which were planted;
- (e) information to identify the Location or PC2 facility where the GMOs were grown prior to planting;
- (f) if GMOs have previously been planted at a Field Location, a history indicating details of previous GMOs and post-Harvest crops planted at the Location and how the Location has been used in the preceding two years;
- (g) the period during which the licence holder considers the GMOs are likely to flower;
- (h) the period during which the licence holder considers the GMOs are likely to be Harvested;
- (i) for Field Locations, the number of Ratoons for which the licence holder considers it likely the GMOs will be cultivated and Harvested;
- (j) the period(s) during which the licence holder considers the GMOs are likely to be Destroyed;
- (k) for Field Locations, a description of how the Location is intended to be used during the first twelve (12) months following Final Harvest of the GMOs.

87. Within seven (7) days of the commencement of Flowering of the GMOs at any Field Location or Crossing Facility within each BSES station each season, the licence holder must provide a notice in writing to the Regulator which contains:

- (a) the actual date on which Flowering of the GMOs commenced;
- (b) the period during which the licence holder considers the GMOs are likely to remaining Flowering;
- (c) for a Field Location, the period during which the licence holder considers the GMOs are likely to be Harvested;
- (d) for a Crossing Facility, the period during which crosses are expected to be undertaken; and
- (e) the period(s) during which the licence holder considers the GMOs are likely to be Destroyed.

88. Within seven (7) days of commencement of crossing with the GMOs at a Crossing Facility, the licence holder must provide a notice in writing to the Regulator.

Notice of Harvest and Cleaning following Final Harvest

89. The licence holder must provide the Regulator with a notice of intention to Harvest the GMOs at a Location. This notice must be provided at least seven (7) days, and not more than twenty one (21) days, in advance of the intended date of Harvest set out in the notice. Any change of intention prior to the intended Harvest date must be notified to the Regulator as

soon as is reasonably and practically possible. In the notice the licence holder must specify if there is intention to Ratoon the GMOs following Harvest of a Field Location.

90. The licence holder must provide a notice in writing to the Regulator with the actual date or dates of Harvesting and Final Harvesting of the GMOs at a Location. This notice must be provided within seven (7) days of commencement of Harvesting of the GMOs. The notice must specify if GMOs Harvested from a Field Location will be Ratooned.

91. The licence holder must provide a notice in writing to the Regulator when a Field Location is Cleaned following Final Harvest. The notice must be provided to the Regulator within fourteen (14) days of the date on which Cleaning of the Location concluded.

92. On the request of the Regulator, the Licence Holder must provided the Regulator with written documentation of the procedures in place to ensure continuing compliance with the Cleaning conditions in this licence.

Notices of inspection activities

93. The findings of post Cleaning inspections, as recorded in the Logbook, must be forwarded to the Regulator within fourteen (14) days of inspection taking place, and must also be included in the licence holder's Annual Report to the Regulator.

Other records to be kept

94. The licence holder must keep records of the Cleaning of a Location other than a Field Location, such as a Nursery or Crossing facility, in a Logbook, and provide the information in the record to the Regulator upon request.

95. The licence holder must keep records of the number and category of GM Sugarcane lines grown at each Location as part of the trial, and of the number of GM Sugarcane plants and Plant Material from the Locations stored at the end of the trial, if any, in a Logbook, and provide the information in the record to the Regulator upon request.

Annual Report

96. The licence holder must provide an Annual Report to the Regulator.

Note: Conditions 21 and 93 specify information that must be included in an Annual Report.

Testing methodology

97. The licence holder must provide a written instrument to the Regulator describing an experimental method that is capable of reliably detecting the presence of the GMOs and the presence of the genetic modifications described in this licence (for details see Attachment B of the licence) in a recipient organism. The detection method should be capable of reliably distinguishing between GMOs described in this licence and those described in other licences. The instrument must be provided within 30 days of the issuing of this licence.

ATTACHMENT A

DIR No: 096

***Full Title:** Limited and controlled release of sugarcane genetically modified for herbicide tolerance

Organisation Details

Postal address: * BSES Limited
50 Meiers Rd
Indooroopilly
QLD 4068

Phone No: 07 3331 3333

Project Supervisor Details

Surname: *[Personal Information Redacted]*

First Name: *[Personal Information Redacted]*

Title: *[Personal Information Redacted]*

Phone No: *[Personal Information Redacted]*

Fax: *[Personal Information Redacted]*

Email Address: *[Personal Information Redacted]*

Position: *[Personal Information Redacted]*

Organisation: *[Personal Information Redacted]*

Postal Address: * 50 Meiers Rd
Indooroopilly
QLD 4068

IBC Details

IBC Name: BSES Limited IBC

GMO Description

GMOs covered by this licence:

***Saccharum spp.* containing only the HT1 and HT2 genes, the marker genes listed below, and the genetic elements as described in Table 1, in the GM categories as described in Table 2 of this attachment.**

***Parent Organism:**

Common Name: Sugarcane

Scientific Names: *Saccharum spp.* hybrid

***Modified traits:**

Categories: Herbicide tolerance
Antibiotic resistance
Marker gene expression

Description: Sugarcane plants have been genetically modified for herbicide tolerance and/or marker expression. A total of three categories are to be released. Two categories contain one antibiotic resistance marker and may include a second antibiotic resistance marker. Two categories also include a reporter gene. One category will contain only the herbicide tolerance genes.

Purpose of the dealings with the GMOs:

BSES Limited has applied for a licence to release up to 6,000 genetically modified sugarcane lines into the environment on a limited scale and under controlled conditions. The purpose of the release is to assess the agronomic potential of the GM sugarcane lines, and the extent to which they may contribute to increasing sugarcane yield and the sustainability of sugarcane production by more efficient use of resources. Some of the GM sugarcane lines may be crossed to non-GM sugarcane.

***Genetic elements responsible for conferring the modified traits:**

Refer to Tables 1 and 2

* Information that must be included in the Record of GM Products and GMO dealings.

Table 1. Genetic elements responsible for conferring the modified traits.

Genes and regulatory sequences	Full name	Genbank accession no.	Function	Source
<i>nptII</i>	<i>neomycin phosphotransferase II</i>	V01547	enzyme for antibiotic resistance	<i>Escherichia coli</i>
<i>bla</i>	<i>beta-lactamase</i>	AJ847363	enzyme for antibiotic resistance	<i>Escherichia coli</i>
<i>AvGfp</i>	<i>green fluorescent protein</i>	M62653	green fluorescing protein	<i>Aequorea victoria</i>
HT1	<i>Herbicide tolerance protein 1 (CCI)</i>	-	protein conferring herbicide tolerance	bacteria
HT2	<i>Herbicide tolerance protein 1 (CCI)</i>	-	protein conferring herbicide tolerance	plant
P1	CCI	-	promoter	plant
P2	CCI	-	promoter	plant
<i>OsAct</i>	<i>actin</i>	AP008209	promoter	<i>Oryza sativa</i>
<i>Ubi1</i>	poly ubiquitin	S94464 (1-993)	promoter	<i>Zea mays</i>
<i>H2B</i>	histone 2B	US Patent 6177611	promoter	<i>Zea mays</i>
<i>CaMV 35S</i>	<i>Cauliflower mosaic virus 35 S</i>	US Patent 5164316	enhancer	<i>Cauliflower mosaic virus</i>
<i>Ubi1</i>	poly ubiquitin	S94464 (943-1993)	intron	<i>Zea mays</i>
H2B-E	synthetic	US Patent 6177611, 5164316, S94464 (943-1993)	synthetic promoter	Synthetic promoter (comprised of Ubi1, H2B and CaMV 35S)
<i>Nos</i>	<i>nopaline synthase</i>	V00087	terminator	<i>Agrobacterium tumefaciens</i>
<i>PinII</i>	<i>proteinase inhibitor II</i>	X04118 (1544:1840)	terminator	<i>Solanum tuberosum</i>

Table 2. The GM sugarcane categories

Category	Gene(s) expressed in GM sugarcane	Promoters	Terminators	Expected phenotype
1	<i>nptII</i> ± <i>gfp</i>	<i>Ubi1</i>	<i>nos</i>	no expected phenotype
2	<i>HT1</i>	<i>Ubi1</i>	<i>pinII</i>	Herbicide tolerance
	<i>HT2</i>	<i>Ubi1</i> or <i>H2B-E</i>	<i>pinII</i> or <i>nos</i>	
	<i>nptII</i>	<i>Ubi1</i>	<i>nos</i>	
	<i>gfp</i>	<i>Ubi1</i>	<i>nos</i>	
3 ^a	<i>HT1</i> and <i>HT2</i> ^a	<i>Ubi1</i>	<i>pinII</i> <i>nos</i> ^b	Herbicide tolerance
		<i>OsAct</i>		
		<i>H2B-E</i>		
		<i>P1</i>		
		<i>P2</i>		

^a The promoters will be used in any combination with the two genes conferring herbicide tolerance, giving a total of 25 combinations.

^b The *Ubi1-HT2* combination will have *nos* as the terminator.