

**BUREAU OF SUGAR EXPERIMENT STATIONS
QUEENSLAND, AUSTRALIA**

**BS175S - RISK TO THE AUSTRALIAN SUGAR
INDUSTRY FROM EXOTIC INSECT PESTS**

**PEST INCURSION MANAGEMENT PLAN
VERSION 1**

by

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IF YOU SUSPECT A NEW PEST	IF YOU SUSPECT A NEW DISEASE
<i>In Queensland</i> IMMEDIATELY NOTIFY:	<i>In Queensland or NSW</i> IMMEDIATELY NOTIFY:
<p>Keith Chandler, BSES, 07 4056 1255; KChandler@bses.org.au</p> <p>Mohamed Sallam, BSES, 07 4068 1488; MSallam@bses.org.au</p> <p>Peter Samson, BSES, 07 4954 5100; PSamson@bses.org.au</p> <p>Peter Allsopp, BSES, 0408 182 614; PAllsopp@bses.org.au</p> <p>or Chief Executive Officer, BSES, 07 3331 3333</p> <p><i>In New South Wales</i> Murray Fletcher, NSW Agriculture, 02 6391 3800 Murray.Fletcher@agric.nsw.gov.au</p> <p><i>In Western Australia</i> Agriculture WA, 08 9166 4000 enquiries@agric.wa.gov.au</p>	<p>Barry Croft, BSES, 0417 613 089; BCroft@bses.org.au</p> <p>Rob Magarey, BSES, 07 4068 1488; RMagarey@bses.org.au</p> <p>or Chief Executive Officer, BSES, 07 3331 3333</p> <p><i>In Western Australia</i> Agriculture WA, 08 9166 4000 enquiries@agric.wa.gov.au</p>
DO NOT REMOVE ANY MATERIAL OR SPECIMENS FROM A SUSPECT AREA, AS THIS MAY SPREAD THE PEST OR DISEASE	

1.0 INTRODUCTION

Sugarcane

Australia is one of the top three exporters of sugar on the world market, with the total production of sugar in Australia in excess of 5M tonnes with a value of \$2B. Over 85% of the sugar is exported to 30 international destinations. The sugar industry is a major employer and component of the economy of regional coastal areas in northern New South Wales and Queensland. The industry has expanded at 3-5% per year for the last seven years, with new sugar mills being built in the Ord River District of Western Australia and the Atherton Tablelands in Queensland.

Contingency Planning for Exotic Pests

Australia has remained free of many serious animal and plant pests and diseases due to its isolation and its strict quarantine laws. This pest-free status has allowed Australia to provide agricultural products with lower pesticide usage and to produce these products more efficiently and at a lower cost than some of our competitors. Maintenance of this pest-free status is being threatened by the increasing ease of world travel and the growing demand for importation of agricultural products.

In response to the risk of entry of animal diseases, which could not only affect animal industries but also human health, the AUSTVETPLAN concept was developed and refined over many years. AUSTVETPLAN contains detailed contingency plans for response to incursions of specific serious animal diseases. Detailed agreements on the cost sharing arrangements for eradication programs are included for some of these diseases.

Plant industries are faced with a much wider range of species that need protection and exotic pest species that could cause serious economic losses. The Standing Committee on Agriculture and Resource Management (SCARM) has developed a general, non-specific, incursion management strategy (SIMS) (Fig. 1). This strategy outlines the broad areas of an incursion management plan and the appropriate authorities involved. The key feature of the strategy is the operation of a national Consultative Committee that is convened under the auspices of Plant Health Committee after an incursion occurs. Recently, the SCARM Task Force on Incursion Management (STF) has developed a generic incursion management plan (GIMP) for the plant industries. This plan outlines the four steps to incursion management: prevention, preparedness, response and recovery (Fig. 2). These plans give a good basis for development of specific management plans.

Recently, some plant industries have seen the need for specific contingency plans for pests and diseases that stand out as being of major economic importance and that also have a high risk of entering Australia. Specific contingency plans have been prepared for black sigatoka of bananas, 1996, fireblight of pome fruit, 1996, dutch elm disease, 1994 and sugarcane smut, 1997 (Croft and Magarey 1997). Incursions of black sigatoka, fireblight and sugarcane smut have occurred in the 1996/98 period. The contingency plans were at least partially successful in assisting with eradication programs. These plans have been

used as models in the development of this incursion plan for sugarcane pests. The other notable example is the preparation of contingency plans for exotic fruit flies following the incursion of papaya fruit fly (*Bactrocera papayae*) in 1995. This incursion has been controlled and formal declaration of eradication of papaya fruit fly from Queensland occurred on 30 April 1999.

Sugarcane Pests

Throughout the world there are many insect pests associated with sugarcane (Box 1953) and the noteworthy point is that there is no one group of pests that could be described as cosmopolitan in world sugarcane (Conlong 1994). Each region appears to have its own group of pest insects that cause the most damage. In Australia there are at least 65 insects associated with sugarcane and the importance of these insects as pests ranges from negligible to high. Commercial plantings of sugarcane in this country does not have some of the most devastating pests such as the borers *Sesamia* spp. and *Chilo* spp., the woolly aphid *Ceratovacuna lanigera*, and leafhoppers such as *Eumetopina*, due in large part to the strict quarantine procedures (international and intranational) already in place for the crop. Some of these insects are not considered serious pests because of the direct damage that they do to the crop but because they are vectors of diseases that are not yet within Australia, such as Ramu stunt disease.

FitzGibbon *et al.* (1998a) identified 213 species of insects and mites as pests of sugarcane in areas to the immediate north of Australia. Thirty-nine of these were considered to pose threats to the Australian sugar industry and dossiers on each of these were presented.

FitzGibbon *et al.* (1998b) identified more than 1,280 species of insects and mites, world-wide, that are associated with sugarcane. Dossiers have been prepared for the key species in this list using an accessible database.

This plan covers both incursions into commercial cropping areas and into back-yard plots of sugarcane in non-commercial cropping situations such as the Torres Strait, Cape York Peninsula or urban areas. This first edition of the contingency plan will need to be reviewed after consultation with industry groups and with further developments in the sugar industry and with developments in the pest situation outside Australia.

Figure 1. Sequence of steps, officers and organisations in the SCARM incursion management strategy (SIMS).

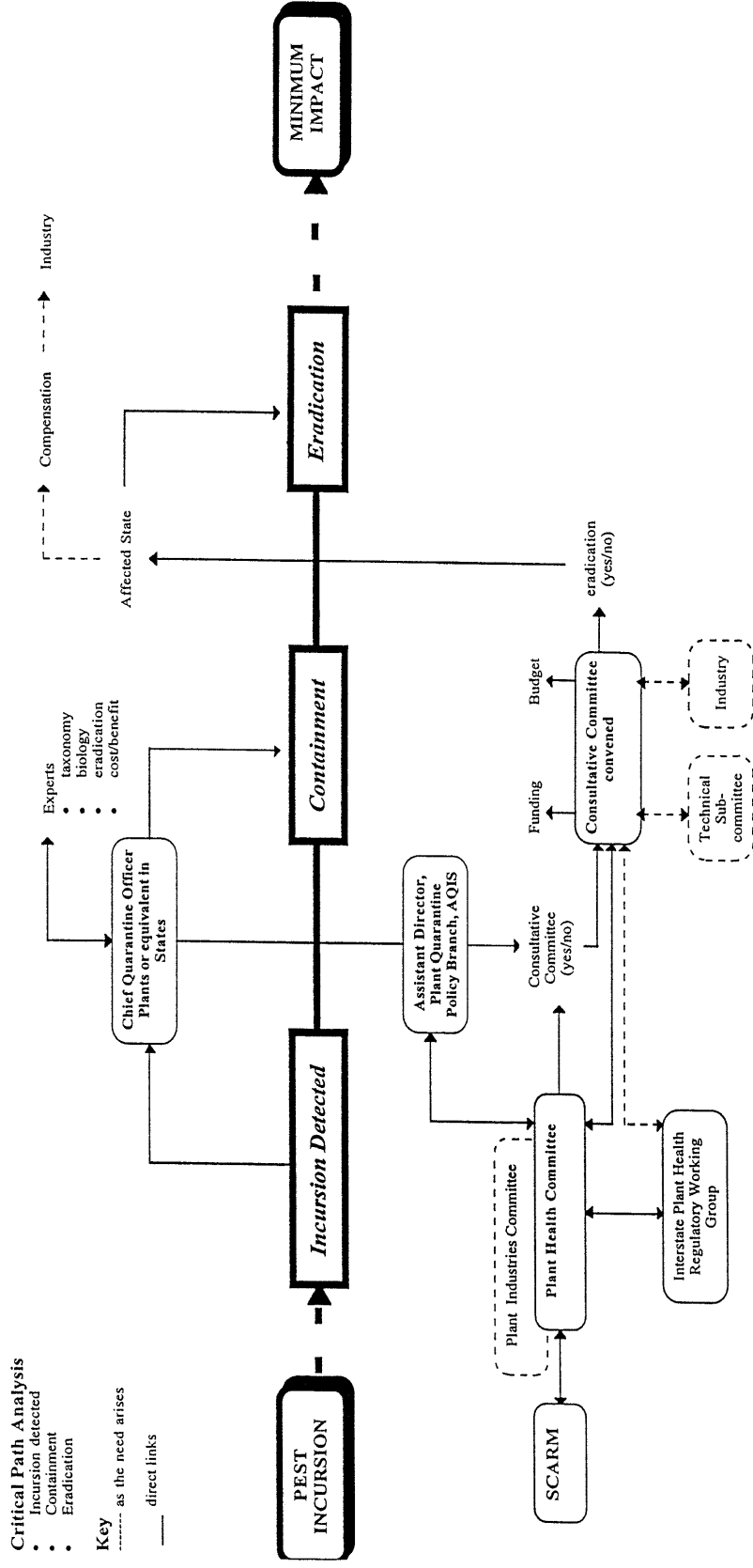
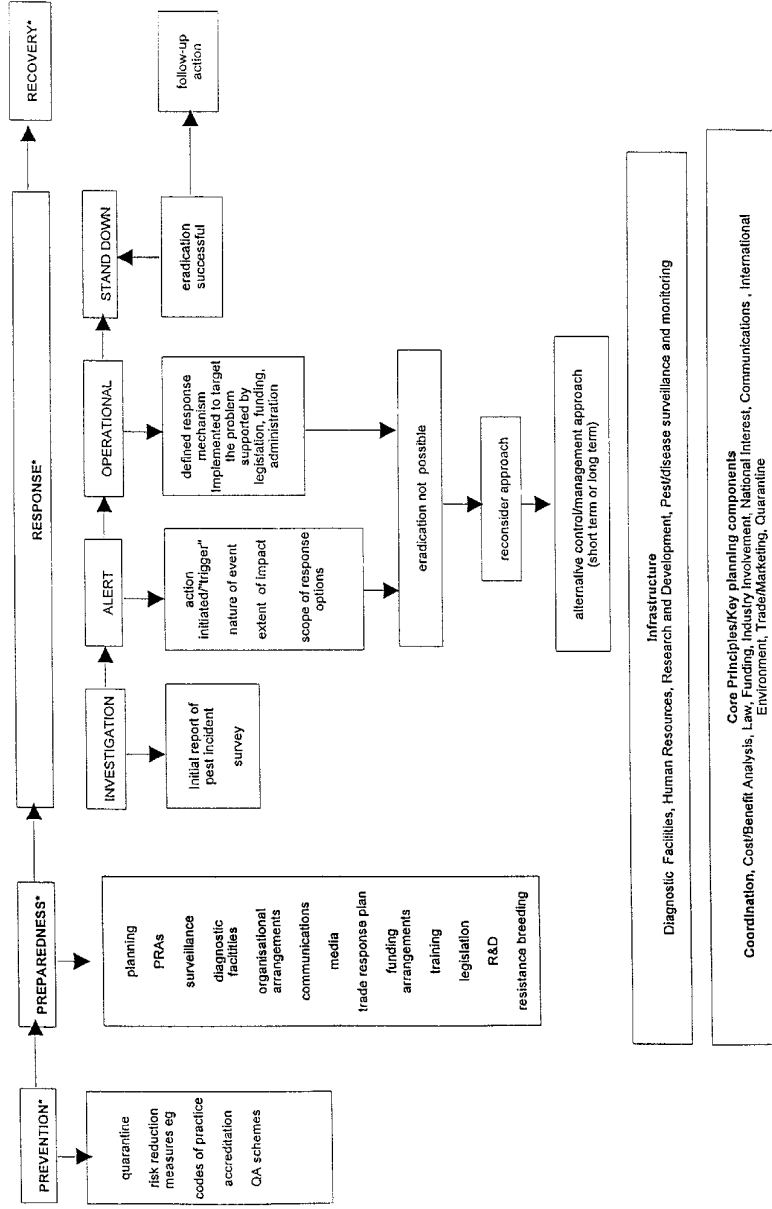


Figure 2. Generic incursion management plan (GIMP).



* Stages of the "all hazards" approach adopted by Emergency Management Australia

2.0 PEST INCURSION MANAGEMENT PLAN

2.1 Summary of Management Plan

SUGGESTED TIMELINE	ISSUE	RESPONSIBLE PERSONS	ACTION
Day 1	INVESTIGATION Notification of suspect pest detection	BSES, State Department or AQIS Officer, Grower, Member of the Public	Immediately contact BSES or other Entomologist. Hold specimens under secure conditions. <div style="border: 1px solid black; padding: 5px; text-align: center;"> DO NOT REMOVE PLANTS FROM FIELD </div> Peter Samson (Mackay) 07 4954 5100 Peter Aillsopp (Bundaberg) 07 4159 3228 Agriculture WA (Ord) 08 9166 4000 Murray Fletcher (NSW) 02 6391 3800 or Director BSES 07 3331 3333 Notify BSES & State/Territory Chief Quarantine Officer, Plants, prepare initial report. State/Territory Chief Quarantine Officer or Director BSES to notify State/Territory Minister and Chief Plant Protection Officer, AFFA. CPPO to notify Federal Minister, other States and Territories and key industry representatives on a confidential basis.
Day 1-2	Identification of pest	BSES/other Entomologist	Travel to site, inspect suspect plants and specimens
	Not a new pest	BSES/other Entomologist	Suspend operations
	Uncertain identification	BSES/other Entomologist	Collect specimens, return to laboratory and inspect microscopically, also dispatch specimens by express courier to: CSIRO Entomology Australian National Insect Collection(ANIC) Attn: Kim Pullen Clunies Ross Street, Acton, Canberra, 2601 GPO Box 1700, Canberra, ACT, 2601 ☎: 02 6246 4263 Fax: 02 6246 4364 Email: kimp@ento.csiro.au John Donaldson QDPI, 80 Meiers Road Indooroopilly Qld 4068 ☎: 07 3896 9419 Fax: 07 3896 9446 Email: donaldj@dpi.qld.gov.au
ALERT Positive identification of new pest	BSES/other Entomologist	Place infested premises under quarantine - State departments.	

SUGGESTED TIMELINE	ISSUE	RESPONSIBLE PERSONS	ACTION
Day 2-3	OPERATIONAL Implementation of response action	Director BSES, State/Territory Chief Quarantine Officer, Plants Operations Managers and BSES/other Entomologists	Establish State/Territory Strategic Management Group and Local Operations Centres.
Day 2-3	Convene Consultative Committee	CPPO in collaboration with State/Territory Chief Quarantine Officer, Plants	Quarantine alert teams formed and instructed in pest identification, survey/trace-back methods and disinfection techniques. Survey and trace-back commenced. Collection and destruction of infested plants on infested premises if appropriate. Committee is convened and briefed on incursion and recommends further action. Press Release is prepared and circulated to Government and Industry. Chairman of Committee negotiates with Federal and State Ministers on release of Press Release to media and statement by Minister or their nominee. Seek approval from NRA for use of pesticides needed in eradication or containment.
Day 3-5	Review of initial survey data	Operations Managers	Collect and summarise survey data and report prepared for Consultative Committee. Expand surveys and trace-back (ongoing). Destruction of infested plants (ongoing).
Day 6-9	Survey and trace-back	Consultative Committee	Review survey data and recommend Restricted Area (RA) and Control Area (CA) for restriction of movement of plants, plant parts, soil and machinery. Establish RA and CA by proclamation of necessary legislation. Assess likely success of eradication given available survey data. Prepare and circulate updated Press Release.
	Second meeting of Consultative Committee	Operations Managers	Collect, compile and interpret survey data. Prepare report for Consultative Committee. Consultative Committee to meet in district of outbreak (if commercial cane area) and meet with BSES Entomologist and Operations Managers. Review survey data and report on identification from CSIRO Entomology (ANIC) and QDPI and recommend: (a) eradication (b) more information - continue alert (c) eradication not possible, move to active containment.

SUGGESTED TIMELINE	ISSUE	RESPONSIBLE PERSONS	ACTION
Day 6-9	(a) Eradication	CPPO and affected State/Territory Strategic Management Group, Consultative Committee	Prepare recommendation for eradication including cost/benefit analysis and a budget. Submit recommendation and budget to SCARM through the Plant Health Committee. Discuss compensation with industry and governments. Prepare State legislation if required to restrict movement of plants and machinery and enforce plough-outs.
	Decision to eradicate made	Operations Managers	Organise destruction of all infested and buffer crops. Re-survey fields surrounding infested crops. Continue wider surveys and trace-back.
		State/Territory Strategic Management Group, Consultative Committee	Organise counselling of affected farmers. Convene Information Meetings for Industry in affected district. Prepare Press Release on decisions of Consultative Committee and SCARM. Inform industry organisations and interstate governments on decisions
Day 10-20	Review	Program and Operations Managers	Reports prepared daily on ongoing survey results. Report on progress of eradication.
1-36 months		Consultative Committee	Review survey and eradication reports. Re-assess decision to eradicate.
		Operations Managers	Report monthly on ongoing surveys and eradication.
3-5 years	Review	State/Territory Strategic Management Group Consultative Committee	Meet bi-monthly or as required to review eradication program.
		State/Territory Strategic Management Group Operations Managers Consultative Committee	Final report prepared.
Post-eradication	Surveillance	AQIS	Review final report and success of eradication. Committee to cease function. Maintain surveillance and off-shore control programs.
Day 6-9	(b) More information	Operations Manager	Surveys and trace-back (ongoing). Report prepared on daily basis.

SUGGESTED TIMELINE	ISSUE	RESPONSIBLE PERSONS	ACTION
Day 6-20	(c) Eradication not possible	Consultative Committee, State/Territory Strategic Management Group	Consultative Committee ceases to function and Containment Committee formed. Preparation of containment plan. State/Territory Strategic Management Group continues to oversee program until containment plan is fully operational. Prepare State legislation if required to restrict movement of plants and machinery and enforce plough-outs. Report to industry organisations. Discuss industry-wide levy to fund containment with State and Industry bodies.
		Operations Managers	Organise strategic surveys in district outside infested district. Establish road-blocks on major roads out of district to inspect for plants and contaminated machinery. Organise survey teams to monitor pest levels and issue plough-out orders as required to reduce build up. Convene information meetings in affected area.
1-12 months		BSES/other Entomologist/State Plant Improvement Manager	Establish insecticide-screening program. Establish list of potential non-insecticidal controls. Establish propagation areas of resistant varieties initially in affected area but also in other districts. Distribute resistant varieties to affected growers.
		BSES Entomologist/State Plant Improvement Manager	Develop plan for production of pest-free planting material and establish resistance screening for advanced clones in breeding programs if appropriate. Organise visit by overseas Entomologist with expertise in control of particular pest type.

2.2 Detection of an incursion

2.2.1 Investigation and Alert phases

Anyone finding a plant that they believe may be infested with a new pest should **immediately** contact the nearest office of the BSES or relevant State/Territory Department. This office should immediately contact an experienced sugarcane entomologist (BSES) or their nearest AQIS office.

Under no circumstances should the suspect infested plants be removed from the infested premises. If there will be some delay before the entomologist can visit the site to inspect the suspect plant, the suspect plants should be covered with paper bags or fertiliser bags tied tightly around the stems.

Any suspect infested plant should be inspected by an entomologist (BSES or State Department) who will confirm that the plant is infested with a new pest. The entomologist will take samples and/or specimens for dispatch to suitable taxonomists through CSIRO Entomology, Australian National Insect Collection (ANIC) and/or QDPI (Appendix 1) for further confirmation, but actions should be initiated immediately the entomologist has confirmed the identification of the insect to the best of their ability.

The entomologist must also notify the Director of BSES or the relevant State/Territory Chief Quarantine Officer (Plants) in the State/Territory Department of Primary Industries/Agriculture, and should also prepare a brief report on the details of the introduction. This notification should be made **urgently**.

The State/Territory Chief Quarantine Officer (Plants) or Director BSES (in Queensland) will notify the State Minister (through the head of the department) and the Chief Plant Protection Officer in Canberra. The Chief Plant Protection Officer will notify the Federal Minister. A Strategic Management Group should be convened at this stage in the affected State/Territory to coordinate the initial response.

As soon as possible after the entomologist has positively identified a new pest the infested premises should be placed under quarantine and no plant material, soil or agricultural machinery should be allowed to leave the premises. After consultation with the Director of BSES and the relevant State/Territory Chief Quarantine Officer (Plants) and CPPO, declaration of a restricted area around the infested premises should be made as soon as possible. The extent of this quarantine area will depend on the type of pest, the exact location of the incursion and the geographical and other characteristics of the region.

2.2.2 Operational phase

At this stage, the State/Territory Strategic Management Group is formally established and a Local Operations Centre established in the infested area. The Operations Manager should be a person with good local industry knowledge such as the Regional Extension Officer (from BSES in Queensland). Other members of this local group should represent

BSES, local Cane Protection and Productivity Boards and industry organisations. The Regional Manager, Plant Health from the relevant State/Territory department (from Animal and Plant Health Service in Queensland) should also be a member. This group will report to the Strategic Management Group and will ensure that local responses are carried out.

2.2.3 Notification of a quarantine incursion

The following list of authorities should be informed of the details of the incursion by the Director of BSES or the relevant Director of the State Department of Primary Industries/Agriculture **before** any press releases.

- A. Chief Plant Protection Officer (CPPO)
 Department of Agriculture, Fisheries and Forests - Australia
 GPO Box 858
 CANBERRA ACT 2601
 Facsimile: (02) 6272 5835 Telephone: (02) 6271 6534
 (02) 6271 6471 for general reporting
- B. The Minister
 Department of Agriculture, Fisheries and Forests - Australia
 GPO Box 858
 CANBERRA ACT 2601
 Facsimile: (02) 6273 4120 Telephone: (02) 6277 7520
- C. General Manager, Plant Health
 [Chief Quarantine Officer (Plants)]
 Mr Ken Priestly
 Queensland Department of Primary Industries
 80 Ann Street
 BRISBANE QLD 4001
 Facsimile: (07) 3239 6994 Telephone: (07) 3239 3361
- D. Chief Quarantine Officer (Plants)
 Mr Rowland Gwynne
 Agriculture Western Australia
 3 Baron-Hay Court
 SOUTH PERTH WA 6151
 Facsimile: (08) 9367 6248 Telephone: (08) 9368 3315
- E. Program Manager, Horticultural Products and Plant Protection
 [Chief Quarantine Officer (Plants)]
 Mr Doug Hocking
 New South Wales Agriculture
 161 Kite St
 ORANGE NSW 2800
 Facsimile: (02) 6391 3605 Telephone: (02) 6391 3150

- F. Chairman
CANEGROWERS
GPO Box 1032
BRISBANE QLD 4001
Facsimile: (07) 3864 6429 Telephone: (07) 3864 6444
- G. Chairman
Australian Cane Farmers Association Ltd
GPO Box 608
BRISBANE QLD 4001
Facsimile: (07) 3303 2024 Telephone: (07) 3303 2020
- H. Chairman
New South Wales Cane Growers Association
PO Box 27
WARDELL NSW 2477
Facsimile: (02) 6683 4503 Telephone: (02) 6683 4205
- I. Chairman
Ord River District Canegrowers Association
KUNUNURRA WA 6743
Facsimile: (08) 9169 1489 Telephone: (08) 9169 1488
- J. Chairman
Ord Sugar Industry Board
278 Indooroopilly Rd
INDOOROPILLY QLD 4068
Facsimile: (07) 3870 8597 Telephone: (07) 3870 8597
- K. Chairman
Queensland Sugar Corporation
GPO Box 891
BRISBANE QLD 4001
Facsimile: (07) 3221 2906 Telephone: (07) 3231 0199
- L. Chairman
Sugar Research and Development Corporation
PO Box 12050
BRISBANE ELIZABETH STREET QLD 4002
Facsimile: (07) 3210 0506 Telephone: (07) 3210 0495
- M. Director
BSES
PO Box 86
INDOOROPILLY QLD 4068
Facsimile: (07) 3871 0383 Telephone: (07) 3331 3333

- N. Mill Directors and/or Mill Managers, Cane Protection & Productivity Board Chairman, Mill Suppliers Committee, BSES Regional Extension Officer in the district in which the incursion occurs.
- O. Chairman
 Australian Sugar Milling Council Pty Ltd
 GPO Box 945
 BRISBANE QLD 4001
 Facsimile: (07) 3221 1310 Telephone: (07) 3221 5633

The involvement of offices of the ministers of the federal and relevant state departments of Primary Industries/Agriculture must be assumed in any quarantine incursion. The Federal and State/Territory Minister's press secretaries should be contacted and be appraised of the details of the incursion and discussions held on the release of the initial and future significant press releases. All press releases should be sent to the Federal and State/Territory Ministers' press secretaries **before** they are released to the media. This will allow the ministers to reply to any media enquires. This action may not be appropriate in all situations and should be negotiated with the CPPO.

An example of a possible press release is given in Appendix 3. A fact sheet giving details of the pest should be forwarded to all organisations with the initial press release.

On the initial press release the Director of BSES or the relevant state department or CPPO will nominate a media spokesperson(s) whose name will be shown on the press release. **Other staff should contact this person before releasing or making any comments on the incursion to the media.**

2.2.4 Formation of Sugarcane Pest Consultative and Containment Committees

A Sugarcane Pest Consultative Committee (SPCC) should be formed to assess the initial survey results, make recommendations on eradication to SCARM through the Plant Health Committee (PHC) and to direct eradication if feasible. The Committee will be chaired by the Chief Plant Protection Officer. The PHC will determine the format of the committee and would be expected draw on expertise from sources such as:

- BSES Group Manager for Agronomy and Crop Protection or State Department Manager of appropriate department (Program Manager)
- Regional Extension Officer for region where incursion has occurred (Operations Manager)
- Director of BSES
- State Chief Quarantine Officers (Plants)
- BSES or State Department Entomologist
- AQIS Representative
- Media Liaison Officer
- Industry Representatives

This committee should meet as soon as possible after the incursion has been confirmed and then after the initial survey which should be completed within one week. In view of the strategic nature of the Consultative Committee and the decisions it makes, the location of these meetings is not important. However, once the initial emergency phase is over, there would almost certainly be a Consultative Committee meeting in the outbreak area so that members gain the necessary geographical and other contextual understanding necessary to facilitate strategic decision-making.

In each affected State/Territory, a Strategic Management Group should be formed to oversee operations in eradication. This group reports to the Consultative Committee and provides strategic input into managing the operations of the Local Operations Centres. Composition of this group should be negotiated between the relevant State/Territory department, industry, and, if in Queensland, BSES.

If eradication is considered not to be feasible, the national Consultative Committee may be disbanded and a State/Territory Containment Committee formed; the AQIS representative would not normally be a member of this Committee. At the same time, Regional Managers, Plant Health, may cease membership of the Local Operations Centres and composition of the Strategic Management Group may change.

2.3 Management of an incursion

If the SPCC considers eradication is not possible (**and before that decision is made**), actions should be taken to contain the incursion to the region where the incursion has occurred.

2.3.1 Surveillance

An urgent requirement will be to determine the extent of the incursion. This action should be initiated immediately. Samples of insects (placed in ethanol or methylated spirits) should be collected to confirm identification.

There is a need to establish a list of host plants to allow establishment of quarantine protocols and aid in defining areas for surveys. This should be done by BSES Entomologists and/or state department officers.

2.3.1.1 Commercial-crop areas

It will be essential to initiate surveys urgently if an incursion is found in a commercial sugarcane crop area. This will be required to define the area of spread, to limit any further spread and to allow appropriate responses to be initiated.

Inspection teams should be formed. These may include staff of the State Department, BSES, Cane Protection and Productivity Board, sugar mill and AQIS (only trace-back activities).

The owner and manager of the property should be interviewed to determine the source of planting material brought on to the property in the last two years and whether planting

material or alternative hosts from the property have been moved to other properties. Movement of soil and machinery should also be determined and the other farms in the same harvesting group identified. Inspection teams should inspect all properties identified by the interview.

The approach to the inspection in commercial sugarcane crops will depend on the growth stage of the crop and the pest involved. In crops less than 2 m high, it should be possible to walk the crops. If the crop is lodged, inspections will be difficult. Inspections in lodged crops could be conducted from the headland and then row for row as the cane is harvested. Inspection of alternative host crops will depend on the type of crop involved.

The distribution and number of crops to be inspected depends on the type of pest involved.

Crops may have to be beaten to dislodge insects or stems sliced to detect borers. Stools will have to be dug to detect subterranean pests. Light traps or yellow pan-traps may be useful for detecting mobile stages, again depending on the species involved.

During the inspection of these fields any infested plants located should be collected in paper bags or fertiliser bags for destruction. This same procedure should be followed for the farms with links to the infested farm as identified by interviews with the owners/managers and local mill and Cane Protection and Productivity Board staff.

After this initial survey, a meeting should be held of the Sugarcane Pest Consultative Committee to assess the findings of the survey. This committee will determine whether eradication is feasible or whether containment of spread to non-infested areas should be the objective of future actions. If eradication is considered to be feasible, the Consultative Committee will make a recommendation to the Plant Health Committee. While the Plant Health Committee and SCARM consider the recommendation, at least containment should proceed.

If incidence is low in the initial survey the inspection teams should then proceed to inspect 10% of sugarcane fields on a stratified random pattern throughout the rest of the mill area. If a known highly susceptible variety is grown in the mill area, a high percentage of fields of this variety should be included in the survey.

All other canegrowing districts, particularly those adjoining the infested area, should conduct random surveys of sugarcane and alternative host fields to determine the status of the pest in these districts. The number of fields to be surveyed depends on the type of pest involved.

All canefarmers should be sent a leaflet describing the pest and be asked to report any suspect plants to their nearest BSES or State Department Office.

2.3.1.2 Non-commercial-crop areas

If the incursion is in a non-commercial-crop area other than the far northern areas of Australia, such as Brisbane or Townsville, the local State Department office should be informed immediately and in consultation with BSES, CPPO and AQIS a management

plan developed. A survey team should be formed including staff of BSES and/or State Departments and, where appropriate, AQIS staff (normally only for trace-back activities). These teams should interview the owner of the infested premises to obtain information about movement of cane plants and alternative hosts, soil and machinery onto and off the infested premises in the previous two years.

A survey should be conducted tracing the source of the plants involved and any plants moved off the infested premises. When the tracing has been completed, the survey team should inspect all properties in a wider area. Initially this would be set at a 1 km radius in a city or 10 km radius in the country, but could vary with the type of pest. The survey should then be extended to cover a wider area depending on the situation.

2.3.1.3 Northern Australia

If the incursion occurs in a sparsely isolated area of Northern Australia, the NAQS Co-ordinator should be advised and requested for assistance:

Bonny Vogelzang
 AQIS - NAQS
 PO Box 96
 Airport Administration Centre
 Cairns International Airport
 Cairns
 Queensland 4870
 Tel: (07) 4030 7854
 Fax: (07) 4035 9578
 email - Bonny.Vogelzang@affa.gov.au

John Curran
 Agriculture Western Australia
 PO Box 350
 Broome
 Western Australia 6725
 Tel: (08) 9192 1579
 Fax: (08) 9193 5236
 email - jcurran@agric.wa.gov.au

The team leader should interview the owner of the premises to try and trace back the source of the infestation. If cane plants, soil or machinery have been brought from or taken to another site in the last two years the team should immediately inspect these sites or arrange for another team to inspect the site(s).

If there are no obvious links to other sites, the survey team should conduct a survey of all sugarcane and alternative hosts, radiating out from the original source. This survey would be the next priority after following any possible links. Sugarcane is mainly grown in backyard or garden situations and, therefore, surveys should concentrate on current or abandoned dwellings.

Concurrent with the survey, all infested plants should be collected and destroyed to reduce the risk of further spread of the pest.

Survey teams, initially consisting of sugar industry personnel, should be initiated in all commercial sugarcane areas concentrating on the closest areas to the incursion. Other personnel should join survey teams following appropriate training. Team members should be prepared to change clothes after inspecting infested premises. Sugarcane and alternative hosts must be inspected.

The survey team should be instructed by the relevant State Department on correct methods of approaching members of the public during the survey and their legal rights and limits of entry to property.

2.3.2 Other containment actions

All movement of sugarcane and alternative host planting material, plant parts, soil and sugarcane machinery will be restricted. Planting material will require a period in an approved quarantine facility with suitable disinfestation treatments (See Section 3.2.7) before release to another region. All machinery must be thoroughly cleaned of all dirt and organic matter and steam cleaned before moving out of the infested area. A certificate stating the equipment has been inspected and is suitable for transport must be issued by a State official.

Definition of a quarantine area should happen early and will need Interstate Plant Health Regulation Working Group input. Road-blocks may be established on all main roads out of the infested region to ensure that no sugarcane or alternative hosts are carried out of the region.

The SPCC should develop a policy for the plough-out of infested crops within the infestation area in an attempt to reduce pest pressure. A well-developed crop may have to be burnt and harvested before plough-out; harvested material may be sent to the mill depending on the type of pest involved. A suggested limit of infested plants should be established, based on the type and potential severity of the pest. This will require a large inspection team to monitor the level of pests in crops. This team will be managed by the SPCC in cooperation with local groups such as Cane Protection and Productivity Boards.

Potential useful insecticides should be identified from the literature and application made for emergency use permits to NRA within three days of detection. These insecticides should be field tested to determine relative efficacies and establish MRLs as soon as possible.

The Director of BSES or relevant State/Territory departments should limit further planting of known highly susceptible cultivars of sugarcane in the infested region. Suitable resistant cultivars should be multiplied as quickly as possible for distribution to growers with particular attention to known infested farms.

2.3.3 Eradication

Bags of all infested plants collected in the initial survey should be incinerated on site (with due regard to fire safety). If incineration is not feasible, bags should be placed into black 'garbage' bags which are then sealed and placed in the sun for one week to heat up and kill pests.

If the SPCC considers eradication a feasible option all infested fields and buffer areas should be destroyed (See Section 3.2.4).

Methods for eradication will depend on the extent of the incursion and the biology of the pest. These need to be considered by the SPCC on a case-by-case basis.

2.4 Information meetings

Meetings of all sugar industry personnel, both milling and grower sectors, should be convened in the infested mill area by the SPCC as soon as possible to explain the current status of the incursion and the proposed control program. This meeting will be essential to keep the industry fully informed and to enlist their assistance in the control programs. Similar meetings should be conducted in other regions as time permits.

2.5 Overseas expert

An overseas expert on control of the pest (or its close relatives) in sugarcane should be contacted as soon as possible after the pest is detected and asked for information on detection and control.

The expert should be invited to review the eradication or containment program. The best time for the visit of the expert will be decided by the SPCC, but it is likely to be between 3-12 months after the incursion when the extent of the incursion has been determined and urgent actions have been undertaken.

3.0 PRINCIPLES OF CONTROL AND ERADICATION

3.1 Introduction

If a new pest is detected in Australia, the response will depend on whether the infested plants are found in commercial crops or as isolated plants in non-crop areas, on the range of alternative hosts, and on the type of pest involved.

3.1.1 Pest type

Pests likely to be introduced into Australia fall into five main groups. Each has aspects of their life histories and biologies that impact on control and eradication:

Stem borers:

- damage visible as dead tops of stalks and bored stems;
- often 5-6 generations per year;
- moths relatively mobile;
- larvae may move to adjacent stalks;
- spread by larvae in canes and/or eggs at bases of leaves;
- could be confused with naturalised moth borer *Bathytricha truncata*;
- commercial pheromone lures may be available for some species of *Chilo* and *Sesamia* – contact Dr Richard Vickers, CSIRO Entomology, Indooroopilly;

Perkinsiella planthoppers (sidewinders):

- direct damage from feeding is minor, some sooty mould, vectors of Fiji Disease Virus;
- a number of generations per year with peak adult numbers in February-March;
- adults mobile and attracted to lights;
- nymphs restricted to plant;
- spread by flight of adults, eggs in the midribs of cane, or nymphs and adults on cane;
- easily confused with naturalised *P. saccharicida*;

Eumetopina planthoppers:

- direct damage from feeding is minor, some sooty mould, vectors of Ramu Stunt Virus;
- a number of generations per year;
- adults mobile;
- nymphs found in leaf whorl;
- spread by flight of adults (restricted), or by all stages in plant parts, especially by planting tops;

Whitegrubs:

- damage visible as poor growth of ratoons or stool tipping of half-grown cane;
- 1- or 2-year life cycle with short adult period;
- adults mobile during spring/summer;
- dispersal of females may be restricted;
- larvae in soil and move very little;
- easily confused with native species;

Scales, aphids, mealybugs and whiteflies:

- damage visible as yellowing of leaves, associated sooty mould, may be disease vectors;
- many generations per year;
- first-instar nymphs and adults may disperse, often with wind;
- nymphs restricted to plant, spread through infested plant parts;
- could be confused with naturalised species.

3.1.2 Infested plants in commercial crops

If the incursion is restricted to a small number of fields it may be possible to eradicate the pest. The immediate response should assume eradication is possible until surveys determine the distribution of the pest.

If infested plants are found in commercial crops it will be essential to determine as soon as possible the extent of infestation. If infestation is widespread and pests have been present for some time, eradication is unlikely to be successful and containment is likely to be the only viable option.

Containment will involve strict quarantine on movement of all sugarcane plant parts, alternative host-plants, soil and contaminated machinery. Reduction of sources of the pest by plough-out and fallowing of infested fields, removal and destruction of infested plants, eradication of abandoned sugarcane, planting pest-free material and planting of resistant varieties could all be important in containing the spread of the pest. The relative importance of each of these will depend on the type of pest involved, eg white grubs are likely to be moved in soil but not on plant parts; aphids, scales, leafhoppers and borers are likely to be spread with plant parts.

3.1.3 Isolated plants in non-crop areas

Sugarcane and its relative, *Saccharum edule*, are widely grown throughout the Torres Strait and in home gardens in northern Australia and as far south as Sydney. In some areas, the wild sugarcane relative *Saccharum spontaneum* has established as a weed, eg on the banks of the Mulgrave River near Cairns. Alternative hosts may also be grown over wide areas. If a new pest is found in isolated plants in a non-crop area, it may be feasible to eradicate the outbreak, depending on the biology and host range of the pest. Eradication will involve:

- Immediate isolation and destruction or treatment with appropriate insecticides of all *Saccharum* species and alternative hosts within 10 km of the outbreak (this may vary with the type of pest) and follow-up destruction of any regrowth.
- Intensive surveys within 150 km of the incursion. These surveys would concentrate on current and abandoned dwellings where sugarcane and alternative hosts may have been planted.
- Public awareness campaign to alert all AQIS, BSES, State Departments of Primary Industries/Agriculture in Queensland, New South Wales and Western Australia,

Cane Protection and Productivity Board staff, cane farmers and the general public to report any symptoms resembling those associated with the pest.

3.2 Methods to eradicate and prevent spread

Eradication of pests from isolated incursions in non-commercial crop areas will have a high probability of success if the infestation is detected early. Monitoring of the distribution of the pest in neighbouring countries may be important to warn of the approach of the pest. In non-commercial crop situations, such as wild *Saccharum* species and garden *Saccharum* species, it may be difficult to detect the pest. Regular surveys of qualified inspectors and good public awareness are the best approaches. Regular contact with sugar industries in neighbouring countries should be maintained to monitor the pest status of their crops. Surveillance should be high in the Torres Strait, Cape York Peninsula, Ord River and Northern Territory, and near the Cairns, Brisbane and Darwin airports.

3.2.1 Quarantine and movement controls

Quarantine and movement control must be imposed at several levels (dependant on what legislative controls are available):

Infested Premises (IP): A premises on which the pest is confirmed or presumed to exist. Total movement control is imposed.

Dangerous Contact Premises (DCP): A premises containing susceptible host plants, which are known to have been in direct or indirect contact with an IP or infested plants. Total movement control is imposed.

Suspect Premises (SP): A premises containing plants which may have been exposed to the pest and which will be subjected to quarantine and intense surveillance. Provided there is no evidence of infestation, the premises then reverts to normal status.

Restricted Area (RA): A restricted area will be drawn around all IPs and DCPs and include as many SPs as practical. The distance in any one direction is determined by factors such as terrain, the distribution, harvesting and management practices, the weather (particularly rainfall, temperature and prevailing winds), the distribution of other host plants in home gardens, and the biology of the pest.

The RA is not determined by drawing a circle of a certain diameter around the IP. The boundaries must be modified as new information comes to hand. A high level of movement control and surveillance will apply.

Control Area (CA): A CA will be imposed around the RA and include all remaining SPs. The purpose of the CA is to control movement of susceptible plant species for as long as is necessary to complete trace-back and epidemiological studies. Less stringent movement control and surveillance will apply. Once the

limits of the pest have been confidently defined, the CA boundaries and movement restrictions should be relaxed or removed.

Movement controls should be maintained to contain the pest to within infested areas.

3.2.2 Trace-back

It is important in any incursion to try and identify the source of the outbreak. If the infestation has resulted from the illegal entry of an infested cutting, soil or alternative host plant, the period in which the infested plant has been present and the subsequent movement of infested cuttings, plants or soil from the original infested site will be important factors in determining the likely success of eradication, the extent of the restricted area, and the actions required.

If it appears likely that the incursion is through movement of contaminated machinery, then the movements of the machine should be traced.

Aerial incursions may require a much wider survey to determine whether spot incursions have occurred in other locations. Movements of plants and machinery from the infested premises should be thoroughly investigated.

3.2.3 Surveillance surveys

Eradication or restricting spread of the pest will depend on the initial distribution and the range of alternative host plants, and surveys should be initiated as soon as possible after the first record of the pest. The scope of these surveys will vary with the type of pest, but those detailed below should be taken as the first approximation.

3.2.3.1 In commercial-crop areas

If a new pest is found in a commercial sugarcane crop, the entire field in which the pest was found should be walked row for row and the intensity of infestation determined. All fields within a 2-km radius of the initial infestation should be walked row for row, followed by inspections of 10% of fields at random throughout the remaining mill area or adjoining mill areas. All fields on farms belonging to the same farmer/company and the same harvester group as the infested farm should be inspected. Any farm on which machinery (including vehicles) or planting material from the infested farm has been shifted to in the previous two years should be inspected. If a highly susceptible variety is present in the region inspections should include a high percentage of fields of this variety. Extreme care should be taken to decontaminate all clothing and machinery before moving from a known infested site if the pest is a planthopper, aphid, scale, mealybug or whitefly.

Surveys in alternative hosts should be similar to these, but may vary due to the nature of the crop.

Random inspections should be made throughout all other mill areas concentrating on any known susceptible sugarcane cultivars and alternative hosts.

Careful records of the number of infested plants per field, the distribution of infested plants within a field (infested plants in runs down a row suggest infested planting material, individual plants scattered throughout the field suggest aerial transmission) and the location of infested fields (mark on mill maps).

The intensity and number of positive findings in the initial 2-km-radius survey and the survey of farms with a link to the original farm should be reviewed before proceeding with the wider survey. If the pest is widespread on these farms, it is likely that the pest has been present for some time and eradication is less likely to be possible. Future action should concentrate on preventing movement from this region/mill area to surrounding regions/mill areas. If only a few infested plants or fields are found close to the original infestation, there may be some possibility of eradication and strict quarantine should be enforced around the infested farms. Detailed surveys should continue within the infested mill areas.

3.2.3.2 In non-commercial-crop areas

All *Saccharum* species and alternative host plants within a 1-km radius in a city or a 10-km radius in rural areas of the initial finding should be inspected and then inspections should be made radiating out from this initial area. The surveys would concentrate on current and abandoned dwellings where sugarcane and alternative hosts may have been planted.

A careful record should be kept of the location of cane plants and alternative hosts for follow-up inspections. Follow-up inspections should be carried out at 3, 6 and 12 months after the first finding. Where the introduced pest is a planthopper, aphid, scale, mealybug or whitefly, extreme care should be taken when an infestation is found to decontaminate all clothing, equipment and vehicles brought onto the site before continuing inspections. No plants should be removed from any location.

3.2.4 Destruction of infested plants

No insects, plants or soil should be removed from the infested premises, except for scientific purposes by an authorised person. Great care should be taken to limit the dispersal of any pest.

The actual methods of destroying infested plants will depend on the number of plants involved, the growth stage of the crop, and the pest. For example, there is no need to destroy stems if the pest is a white grub, and no need to destroy roots if it is a *Eumetopina* planthopper; mealybugs require both tops and at least underground stubble to be destroyed.

If the pest is a mobile insect, such as leafhoppers, the infested fields should be treated with a systemic insecticide. Choice of the insecticide will depend on materials to hand, the type of insect and whether the crop will be harvested and processed.

If the pest is a stem borer, a 'nonmobile' insect such as a scale or a white grub, the crop should be destroyed. If there are less than 50 infested plants, they should be dug out and

should be destroyed fully by burning in an incinerator or in a pit. The cane in the infested fields should then be destroyed by rotary hoeing the field. The crop may be slashed or knocked down with a tractor first to assist in the hoeing. The field should be rotary hoed, disced or ploughed 3-4 and 6-8 weeks after the initial hoeing to destroy all volunteers. After these cultivations any further volunteers should be sprayed with glyphosate. If weather makes it impossible to plough the field it should be sprayed with glyphosate at 10 L/ha, left for at least 2-3 weeks and ploughed as soon as possible after this time. The field should be left fallow with no sugarcane volunteers or grass weeds for 12 months. All machinery must be decontaminated immediately after use.

If there are a large number of infested plants in the field, the field should be rotary hoed and/or sprayed with glyphosate.

If the survey shows that only a small number of fields are infested (1-5), an area of 300-500 m around the extremities of the infested fields should be rotary hoed and left fallow for at least 6 months to starve out pests. If no rain falls within the first 2 months, and irrigation is available, the field should be irrigated to field capacity on at least two occasions to promote plant growth and hatching of eggs or activity of larvae.

The actual extent of the initial infestation will determine whether it is necessary to continue ploughout of infested fields. If there are many infested fields, it may be necessary to set a level of infestation which would require ploughout (eg 5% of stools) to help reduce the population for further spread outside the initial infested region.

3.2.5 Decontamination of clothing and machinery

3.2.5.1 Clothing

Where possible, disposable clothing (eg hats and overalls) should be worn; this is extremely important if the pest is a planthopper, aphid, scale, mealybug or whitefly. All other clothing worn in an infested field, including hats, should be washed in hot water (>60°C); again this is extremely important if the pest is a planthopper, aphid, scale, mealybug or whitefly, and less important if the pest is a stemborer or white grub. The clothing should be sealed in a plastic bag for transport to the laundry. Shoes or boots should also be washed thoroughly.

Survey teams should change their clothes after inspecting an infested site, before moving to another field.

3.2.5.2 Vehicles and Machinery

All vehicles and machinery should be thoroughly washed and steam cleaned to remove all dirt and plant residues before leaving an infested property; this includes private vehicles which have entered the property. The vehicle or machine must be inspected by an authorised person before it is allowed to move. Survey teams and other visitors to infested sites should avoid driving vehicles close to the infested field.

3.2.6 Control with insecticides

Potentially useful insecticides should be identified from the literature as a matter of urgency. Those insecticides with established MRLs (Maximum Residue Levels) in Australian sugarcane should be used. Permission for use must be obtained from the National Registration Authority, PO Box E240, Kingston, ACT 2604; telephone 02 6272 5158, fax 02 6272 4753.

Screening to determine efficacy should commence as soon as possible (within three days of detection), especially if it is clear that there is no chance of short-term eradication.

3.2.7 Non-insecticidal control

The known infested fields and those close by should be planted with resistant varieties after the prescribed fallow period.

Varieties with high levels of resistance to some pests, especially stem borers, have been bred in many overseas sugar industries. Some of these varieties are held in variety collections at BSES and CSR Experiment Stations. Some Australian varieties may also be resistant to the pest. In the case of an incursion, a selection of any resistant varieties should be multiplied for use on infested farms and for possible introduction into the area if eradication is unsuccessful or is not possible.

Hot water treatment of cane can be used to eliminate some pests, eg scales, aphids, mealybugs and whiteflies, from infested planting material. Treatment at 52°C for 30 minutes and the long hot water treatment of 50°C for 3 hours may be effective.

Other controls, such as the introduction of parasites and predators, use of traps, and management options, may be useful in controlling introduced pests. Information should be taken from the literature and from consultation with overseas experts. The type of controls that are useful will depend on the pest involved.

3.2.8 Approved-seed plots

Distribution of approved seed should be discontinued until the extent of the incursion is determined. It may be necessary to hot-water treat all cane being distributed from an approved seed plot. The approved seed plot should be inspected for the pest row-for-row before any cane is distributed.

3.2.9 Abandoned sugarcane and alternative hosts

All abandoned sugarcane within 50 km of the incursion should be destroyed, as this could act as a source of re-infestation of the pest. Spraying with glyphosate may be the most effective and efficient method of destruction, but follow-up sprays may be necessary.

In some areas the wild sugarcane relative, *S. spontaneum*, has established as a weed (eg banks of the Mulgrave River near Cairns) and sugarcane and its relative *Saccharum edule* are grown in home gardens in the Torres Strait and across northern Australia as far south as Sydney. Attempts should be made to destroy these plants if they are found to be

infested with the pest. This would need to be discussed with the Department of Natural Resources to determine the environmental impacts of any control program.

Sugarcane grown in backyards should be inspected in the area near any incursion and any infested plants should be destroyed.

3.3 Feasibility of control in Australia

If a new pest is found on isolated plants outside a commercial canegrowing area, it would be feasible to eradicate the pest from Australia. If an initial incursion occurred in a commercial crop, it is unlikely that eradication will be possible, but the response to the incursion should assume that eradication is possible until the extent of the incursion is known. Experience with pests and diseases in other canegrowing areas shows that spread within a country with distinct breaks between canegrowing areas can be delayed significantly through careful internal quarantine. This delay in spread would allow the screening of insecticides, resistant varieties and other controls before the arrival of the pest. Ultimately, if eradication is not achieved, the pest may be controlled, but this will involve potentially serious yield losses and the loss of valuable commercial varieties.

4.0 ACKNOWLEDGMENTS

We thank colleagues in BSES and CSIRO for their comments on this plan. Other useful comments were received from QDPI (Bryan Cantrell), NSW Agriculture (Doug Hocking), Agriculture WA (Rowland Gwynne), Cane Protection and Productivity Boards, CANEGROWERS and Bundaberg Sugar Company.

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APPENDIX 1**CONTACTS FOR IDENTIFICATION OF INSECTS**

Confirmation of the identity of insects should be made through:

Kim Pullen
CSIRO Entomology
Australian National Insect Collection (ANIC)
Clunies Ross Street, Acton, Canberra, ACT
GPO Box 1700
Canberra, ACT, 2601
☎: 02 6246 4263
Fax: 02 6246 4364
Email: kimp@ento.csiro.au

John Donaldson
QDPI
80 Meiers Road
Indooroopilly Qld 4068
☎: 07 3896 9419
Fax: 07 3896 9446
Email: [donaldj@dpi.qld.gov.au](mailto:donal dj@dpi.qld.gov.au)

APPENDIX 2

SURVEY FOR SUGARCANE PESTS

Method

1. Teams of 2-4 people will be trained in recognition of the pest, survey methods, disinfection, and protocols for surveys on private and public lands.
2. Equipment:
 - disposable hats, overalls and gloves
 - washable boots
 - illustrated guide to established sugarcane pests and to the introduced species
 - mill or local authority maps, hand-held GPS device (one per team)
 - paper bags or fertiliser bags to collect infested material
 - spades
 - 70% methylated spirits in hand held spray bottles to disinfect equipment
 - portable cleaning kit for boots
 - survey report sheets
 - identification tags and leaflets explaining reason for survey
 - mobile phone
 - small bottles of 100% ethanol (where DNA samples need to be analysed) or methylated spirits for collecting insect specimens
3. Owners of private properties will, where possible, be advised in advance of the survey, by letter drop, radio, and/or TV.
4. Team to dress in protective clothing before entering property and display identification tags.
5. Vehicles to be left on farm roads.
6. Team leader to identify group to property owner/manager if available, explain survey and provide them with a leaflet on the pest.
7. All cane plants are inspected or the pre-determined number of blocks and rows walked in commercial crops.
8. When an infested plant is located, it should be carefully covered in a paper or fertiliser bag, the stalk cut and the bag sealed. If large numbers infested plants are present (eg >100), the team should leave the field without removing plants; these fields should then be destroyed by burning and/or ploughing - the appropriate measure will depend on the pest type.
9. Infested plants should be incinerated. Treated material should be buried on the infested property. Disposable clothing should be placed in bags of water-soluble

plastic and washed in a hot cycle or autoclaved. Vehicles and boots should be treated with contact insecticide or steam-cleaned.

- 10.** Complete survey form.
- 11.** Advise property owner/manager of survey results.
- 12.** If the pest is located on the property, report results immediately to the operation control centre.
- 13.** At the end of each day, the survey sheets will be entered onto the data base and a summary report prepared and forwarded to the operations manager.

Sugarcane Pest Survey

Commercial Crops

Farm Name: **Farm No:**

Mill Area: **Locality:**

Block No: **Variety:**

Crop Class: **Plant Source:**

Movement of plants and machinery off property:

Date of Inspection: **Inspection method:**

No. of infested plants located:

Distribution in block:

GPS Co-ordinates of block and infested plants:

Sketch of field and location of infested plants ↑ N
--

Sample number for insect specimens

Comments:.....
.....
.....

Team Leader: **Signature:** **Date:**.....

Sugarcane Pest Survey

Dwellings/Abandoned Cane

Dwelling Location: (Street No./Local Authority No./GPS Co-ordinates):

.....

Owner/Occupier:

.....

Sugarcane no. stools: **No. of infested plants:**

Type of sugarcane -

Noble:

Edule:

Commercial:

Spontaneum:

Trace-back - source of plants:

Movement plants to other properties:

Sample number for insect specimens

Comments:

.....

.....

Team Leader: **Signature:** **Date:**.....

APPENDIX 3 - DRAFT PRESS RELEASE

This may be made in the name of the federal or state minister responsible for plant health; the example given is for the Queensland Minister for Primary Industries.

NEWS RELEASE	From the office of
 MLA
	Minister for Primary Industries

Date

Program to Eradicate NAME OF PEST

The Queensland Primary Industries Minister,, said today that **NAME OF PEST** had been detected on a sugarcane farm in the **NAME OF AREA** with the property immediately being quarantined.

Mr said Bureau of Sugar Experiment Stations (BSES) senior entomologist had inspected the infested plants and confirmed that the pest was present. Further confirmation will be available when results from samples which were sent to CSIRO Entomology (Australian National Insect Collection) and the Queensland Department of Primary Industries insect collection are received.

NAME OF PEST is a serious pest of sugarcane that can reduce yields.

“This is the first suspected case of **NAME OF PEST** in Australia and a control plan developed by BSES with assistance from AQIS has been activated,” Mr. said.

“Under the plan, a BSES task force has begun tracing all movements of cane and machinery from the suspect property and has commenced a survey of neighbouring farms. This includes a total ban on movement of cane and machinery from the suspect property.

BSES, AQIS and the QDPI are working closely with the sugar industry to ensure the outbreak is eradicated or contained as quickly as possible,” Mr.
said.

The source of this outbreak is unknown at this stage.

Media contact: Mr (Ministerial Adviser)

Phone:

Fax:

Technical information contact: **Designated person- phone number**
Director, BSES 07 3331 3333

Attached: Fact Sheet on **NAME OF PEST**
Location map of outbreak

APPENDIX 4 - ABBREVIATIONS USED IN THIS REPORT

AFFA	Department of Agriculture, Fisheries and Forests - Australia
ANIC	CSIRO Entomology, Australian National Insect Collection
AQIS	Australian Quarantine and Inspection Service
BSES	Bureau of Sugar Experiment Stations
CA	Control Area
CPPO	Chief Plant Protection Officer
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DCP	Dangerous Contact Premises
GIMP	Generic Incursion Management Plan
IP	Infested Premises
MRL	Maximum Residue Limit
NAQS	Northern Australia Quarantine Strategy
NRA	National Registration Authority for Agricultural and Veterinary Chemicals
PHC	Plant Health Committee
QDPI	Queensland Department of Primary Industries
RA	Restricted Area
SCARM	Standing Committee on Agricultural Resource Management
SIMS	SCARM Incursion Management Strategy
SP	Suspect Premises
SPCC	Sugarcane Pest Consultative/Containment Committee
STF	SCARM Task Force on Incursion Management