Queensland

Regulatory Impact Statement for SL 2003 No. 303

Plant Protection Act 1989

PLANT PROTECTION AMENDMENT REGULATION (No. 4) 2003

SUMMARY

1 TITLE

Plant Protection Amendment Regulation (No. 4) 2003.

2 BACKGROUND

The Queensland banana industry produces $300 million of fruit per annum and is concentrated in the Innisfail–Tully area of the State. This industry is under threat from a number of serious diseases including the serious leaf disease banana black Sigatoka, that are spread by wind borne spores. Banana black Sigatoka is endemic in the northern Torres Strait and is present under active quarantine control in the Tully Banana Production Area. The less virulent banana yellow Sigatoka and banana leaf speckle diseases also impose a significant cost to banana growers, particularly in the tropical banana production area of Innisfail–Tully where weather conditions promote rapid development and spread of these diseases.

To manage these disease risks the *Plant Protection Regulation 2002* (the regulation) was made under the *Plant Protection Act 1989* (the Act) and commenced on 1 September 2002. It repealed and replaced the *Banana Industry Pest Quarantine Regulation 1999* without modification. The regulation established six banana pest quarantine areas including the Northern Banana Pest Quarantine Area, which encompasses the tropical areas of north Queensland where 80% of Queensland's bananas are grown.

Section 34 of the regulation imposes an obligation on the owner of land in a pest quarantine area on which a banana plant is growing to treat every banana plant by removing every leaf from the plant that has visible symptoms of either or both banana yellow Sigatoka and banana leaf speckle disease on more than 15% of any leaf at any time between 1 November and 31 May or on more than 30% of any leaf at any time between 1 June and 31 October.

A deficiency in these current regulatory disease thresholds in the Northern Banana Pest Quarantine Area is that the thresholds do not take full account of wet weather conditions occurring outside the prescribed period that may increase risk of spread significantly. Another deficiency is that under optimum conditions for spread such as during warm, wet and windy conditions, the threshold of 15% during the wet season is acknowledged as being too high because spread may be very rapid at this level of infestation. The 30% action level in the dry season is also irrelevant for banana production in the tropics, because this threshold is far too high under wet weather conditions that favour rapid spread. These thresholds are, however, appropriate for all other banana pest quarantine areas.

3 OBJECTIVES OF THE PROPOSED AMENDMENT

The objectives of the proposed amendment to section 34 of the regulation are to redefine the regulatory thresholds for banana yellow Sigatoka and banana leaf speckle from the current 15% and 30% at different times of the year to—

(a) a standard 5% throughout the year in the Northern Banana Pest Quarantine Area; and

(b) retain 15% between 1 November and 31 May and 30% between 1 June and 31 October for all other banana pest quarantine areas.

4 AMENDMENTS REQUIRING PUBLIC CONSULTATION

The proposed change to the regulatory banana leaf disease threshold in the Northern Banana Pest Quarantine requires public consultation. A small minority of commercial banana growers at Innisfail believe that the more stringent leaf disease threshold will result in an increase in treatment costs and difficulties in achieving the lower threshold.

The Regulatory Impact Statement process will provide an opportunity for stakeholder and community input into the development of the most appropriate controls for yellow Sigatoka and leaf speckle disease.

5 OPTIONS AND ALTERNATIVES

The options identified were—

(a) Do nothing—ie retain the status quo;

(b) Other alternatives;

(i) Public Education Programs;

(ii) Voluntary standards/codes of practice;

(iii) Increased enforcement;

(iv) Extending the coverage of existing statutes; and

(v) Self regulation or no regulation; and

(c) Proposed amendment regulation.

6 ASSESSMENT OF THE PROPOSED AMENDMENT

The proposed legislation will more effectively manage the risks of spread of leaf diseases by introducing a 5% disease threshold for the Northern Banana Pest Quarantine Area.

Although banana black Sigatoka has been eradicated from the Tully Banana Production Area, the risk of any future infestations remaining undetected for a period of time will also be greatly reduced because of the 5% threshold for banana yellow Sigatoka disease in the Northern Banana Pest Quarantine Area.

7 ASSESSMENT OF ALTERNATIVES

The do nothing option would continue the current regulatory disease thresholds across all pest quarantine areas, applicable to all banana growers, including residential growers. The option of no change to the regulation is not an acceptable alternative because the current disease thresholds of 15 and 30%, depending on time of year, are set at too high a level, in the tropical productions areas of the Northern Banana Pest Quarantine Area.

Other alternatives including public education programs, voluntary standards or codes of practice, increased enforcement and extending the coverage of existing statutes were assessed as being unlikely to achieve the objectives of the regulation.

8 JUSTIFICATION FOR PROPOSED AMENDMENT

The proposed amendment regulation is the only option that will achieve the desirable control over the spread of yellow Sigatoka and leaf speckle in commercial plantations while managing the risk of black Sigatoka being spread and remaining undetected, with the minimum impact to commercial banana growers, residential banana growers, land holders and the community as a whole.

REGULATORY IMPACT STATEMENT

1 TITLE

Plant Protection Amendment Regulation (No. 4) 2003.

2 BACKGROUND

2.1 Overview of the Queensland banana industry

The Queensland banana industry consists of approximately 2,000 commercial growers, producing approximately $300 million worth of banana fruit each year. Half of these growers, accounting for in excess of 80% of Queensland's banana production and approximately 70% of the Australian banana production, are located in the Innisfail to Tully area of the Northern Banana Pest Quarantine Area. The principal variety grown in north Queensland is Williams, a Cavendish variety that is susceptible to the major leaf diseases.

The remaining 1,000 commercial banana growers are principally located in the subtropical part of the State generally extending from the Bundaberg district to the Queensland–New South Wales border, encompassing the Southern Buffer, Special and Southern Banana Pest Quarantine Areas. The

south Queensland banana industry is based principally on Williams and Lady Finger varieties.

There are also a small number of commercial growers producing bananas in Cape York Peninsula within the Northern Buffer Banana Pest Quarantine Area and practically no commercial banana production in the Far Northern Banana Pest Quarantine Area that extends from the vicinity of Coen to the limit of the State of Queensland in Torres Strait.

A significant number of residential banana growers are also growing not more than ten banana plants for their own use. The majority of these residential banana growers are located in the Northern Banana Quarantine Area, principally in the area from Cardwell to Daintree.

There is no export market for Australian banana fruit. The major domestic markets for Queensland banana fruit are Sydney and Melbourne, with a smaller market in Brisbane. Market access to Sydney is reliant on New South Wales authorities being satisfied that their banana industry is not exposed to an unacceptable disease risk from the introduction of Queensland bananas, particularly from banana black Sigatoka disease.

2.2 Disease threats to the Queensland banana industry

The Queensland banana industry is under threat from a number of serious diseases, particularly banana bunchy top virus, the soil borne Panama disease and the most serious leaf disease banana black Sigatoka. Bunchy top virus is restricted to the area of the State south of Yandina while Panama disease is generally restricted to south of Bundaberg, with a few isolated outbreaks of the less virulent race 1 strain, that does not affect Cavendish bananas, in the Innisfail–Tully banana production area. Banana black Sigatoka is endemic in the northern part of Torres Strait and is also present but under active quarantine control, in the Tully Banana Production Area.

Banana yellow Sigatoka, a less virulent fungal leaf disease than banana black Sigatoka. In addition banana leaf speckle disease also occurs throughout Queensland. Both these leaf diseases impact on the yield and quality of banana fruit, but to a much lesser degree than banana black Sigatoka.

2.3 Mode of spread of banana leaf diseases

Fungal spores of these leaf diseases are spread on the wind, with rapid spread and development of disease being favoured by high humidity and

temperatures and high inoculum levels. Failure of commercial growers to control these diseases results in high inoculum levels that contribute to spread to other commercial plantations. The extent of the banana industry in the Northern Banana Pest Quarantine Area means that banana farms are often in close juxtaposition and therefore vulnerable to disease spreading from one farm to another.

There is also a risk of residential plantations spreading these leaf diseases to commercial plantations but the risk is much lower than from other commercial plantations because of the significantly lower inoculum levels that can build up in residential banana plants that, by definition, consist of not more than 10 banana plants.

2.4 Control of banana leaf diseases

Control of banana leaf diseases is a serious issue for commercial plantations. It requires the regular removal of infected leaf and the application of fungicide sprays as a protection against infection of young leaves. Disease symptoms appear 3–6 weeks after infection, depending on the prevailing temperature and rainfall conditions.

It is usual to make 20–30 fungicide spray applications throughout the year in tropical north Queensland, where 80% of Queensland's bananas are grown, or 4–10 fungicide sprays during the summer period in sub-tropical south Queensland. Failure to apply the necessary number of sprays leads to a build-up of disease and increased pressure on neighbouring farms which, in turn, may require 5 or more additional sprays to maintain adequate disease control. The cost of each fungicide spray is approximately $100/ha.

Fungicide spraying is also supported by sanitation measures to reduce the build-up of disease. Diseased leaves are regularly removed and left to rot on the surface of the soil. There may be 10–15 deleafing (removal of infected leaf) cycles per year in north Queensland and 3–5 in south Queensland. The removal of diseased leaves prevents the spread of disease to neighbouring farms by destroying the tissue on which spores are produced.

Sanitation is not a substitute for fungicide spraying of commercial banana plants as there is a limit to the number of leaves that can be removed without affecting fruit production. Partial leaf removal is however, an effective measure for preventing spread of disease. The cost of each deleafing treatment is approximately $140/ha.

2.5 Legislative control of banana leaf diseases

To control the serious disease risks the *Plant Protection Regulation 2002* (the regulation) made under the *Plant Protection Act 1989* (the Act) provides six pest quarantine areas in the State and imposes strict controls over the introduction, movement, planting and cultivation of banana plants and prescribes treatment obligations for the major banana diseases including the leaf diseases banana black Sigatoka, banana yellow Sigatoka and banana leaf speckle disease.

Section 34(4) of the regulation defines an **"infested leaf"** as a banana plant leaf that is infested with the banana yellow Sigatoka pest or banana leaf speckle pest and the visible symptoms of the infestation of either or both of the pests are showing, at any time between November and 31 May—on more than 15% of the leaf; or at any time between 1 June and 31 October—on more than 30% of the leaf.

The effect is that if the above mentioned disease thresholds[1] are exceeded, the land owner must remove the leaf from the plant and let it rot on the surface of the soil, unless exempted from treatment by an inspector.

2.6 The problem being addressed by this amendment

These regulatory disease thresholds have been shown by DPI research to be inadequate for the Northern Banana Pest Quarantine Area where control of banana leaf diseases is a much more serious issue for commercial plantations than in other pest quarantine areas. The wet tropical conditions in most of the major banana growing districts of this pest quarantine area are much more conducive to disease development and spread of banana leaf diseases, and consequently a 5% disease threshold is recommended in the tropical areas while the current 15/30% threshold is technically justified in the drier subtropical area of the State and also in the pest quarantine areas encompassing Cape York Peninsula and Torres Strait.

In addition, the spread of banana black Sigatoka into the Tully Banana Production Area since the leaf disease thresholds for banana yellow Sigatoka and banana leaf speckle were prescribed, requires a review of the thresholds. Although banana black Sigatoka has been eradicated from the Tully Banana Production Area, it is recognised that recurrence of banana

1 The regulatory thresholds for banana leaf speckle and yellow Sigatoka means the maximum level, expressed as a percentage of leaf area that has visible symptoms of banana leaf disease, above which banana growers are obligated to treat their banana plants by removal of infected leaf and implementing a fungicide spraying program.

black Sigatoka may be assisted by confusion with the similar symptoms of banana yellow Sigatoka. It is therefore recognised that effective control of banana black Sigatoka is reliant on keeping banana yellow Sigatoka and banana leaf speckle disease in the entire Northern Banana Pest Quarantine Area under strict control so that banana black Sigatoka symptoms will be more obvious, resulting in earlier detection and more effective control.

Recent technical advice based on research and regulatory experience since 1999 is that there is no biological justification for the distinction of 15% and 30% at different times of the year in the Northern Banana Pest Quarantine Area. A leaf with 15% of the area infested is a potent source of spores for spread to neighbouring farms regardless of time of year.

Regulatory experience in north Queensland is that landowners who manage the disease at or near the currently prescribed levels are not able to control the disease on their own farms let alone stop it from spreading to neighbouring farms. Disease progression from 5% to 15% and beyond occurs over a period of 1 to 3 weeks, while disease progression from zero to 5% may take from 3 to 10 weeks depending on the amount of inoculum elsewhere in the plantation. Landowners who manage leaf diseases at near to zero incidence and remove any leaf that exceeds 5% infestation are able to prevent the diseases spreading to neighbouring farms and also minimise the need for fungicide spraying and sanitation measures in the long term.

A 5% threshold is considered to be a more appropriate regulatory threshold in the north Queensland areas represented by the Northern Banana Pest Quarantine Area as declared in section 18 of the regulation and described in schedule 3 of that regulation.

A similar situation applies in south Queensland but landowners are able to maintain control of the diseases by adoption of less stringent measures, mainly because the lower temperatures and humidity are not conducive to infection. Similarly, banana growers in the remote Cape York Peninsula and Torres Strait areas, represented by the Northern Buffer Banana Pest Quarantine Area and the Far Northern Banana Pest Quarantine Area, respectively, are able to maintain satisfactory disease control under the existing 15/30% summer/winter thresholds.

For these reasons, the current 15/30% infestation threshold is considered to be a satisfactory regulatory standard for all banana pest quarantine areas other than the Northern Banana Pest Quarantine Area.

3 AUTHORISING LAW

Plant Protection Act 1989.

4 POLICY OBJECTIVES

The objectives of the proposed amendment to section 34 of regulation are to—

a. redefine the regulatory thresholds for banana yellow Sigatoka and banana leaf speckle from the current 15% and 30% at different times of the year to a standard of 5% throughout the year in the Northern Banana Pest Quarantine Area; and

b. retain the current 15% between 1 November and 31 May and 30% between 1 June and 31 October in all other banana pest quarantine areas.

5 LEGISLATIVE INTENT

Section 34 of the regulation provides the legislative basis for preventing spread of banana yellow Sigatoka and banana leaf speckle. It clearly defines the obligations of landowners and provides inspectors with a capacity to direct landowners to treat infested plants, or to issue exemptions, under section 11(7) of the Act. The proposed amendment will allow inspectors to enforce section 34 of the regulation at a biologically justified level and so enhance the biosecurity of commercial banana farms.

6 CONSISTENCY WITH AUTHORISING LAW

The proposed amendment to section 34 of the regulation is consistent with the authorizing power of section 35 (1) of the Act that authorizes the Governor in Council to make regulations under the Act. The amendment of the definition of infested leaf for section 34 of regulation is consistent with the authorizing powers of section 11 of the Act, with respect to the nature of a quarantine.

7 CONSISTENCY WITH OTHER LEGISLATION

The proposed amendment to section 34 of the regulation is not inconsistent with any other legislation.

8 OPTIONS AND ALTERNATIVES

The options considered were—

(a) do nothing—ie retain the status quo;

(b) other alternatives;

(i) public education programs;

(ii) voluntary standards/codes of practice;

(iii) increased enforcement;

(iv) extending the coverage of existing statutes; and

(v) self-regulation or no-regulation; and

(c) the proposed amendment regulation.

8.1 Do nothing option

The do nothing option would continue the current regulatory disease thresholds across all pest quarantine areas, applicable to all banana growers, including residential growers. The option of no change to the regulation is not an acceptable alternative in recognition that the current disease thresholds of 15 and 30% (depending on time of year) are set at too high a level in the tropical production areas of the Northern and Northern Buffer Pest Quarantine Areas.

The current 15/30% threshold is technically justified in all banana pest quarantine areas other than the Northern Banana Pest Quarantine Area.

8.2 Other alternatives

8.2.1 Public education programs

For many years prior to establishing regulatory leaf disease thresholds in regulation in 1999, public education was used to encourage banana leaf disease control in north Queensland. However, because the education program was not successful in achieving the desirable leaf disease thresholds, it was necessary to intervene through regulation. It is considered that public education programs alone are unlikely to effectively control the build up of disease inoculum in banana plants that threatens control of banana yellow Sigatoka and banana leaf speckle disease on plantations in proximity.

8.2.2 Voluntary standards or codes of practice

Voluntary standards by their very nature do not impose a legal obligation of compliance. Like public education programs, voluntary standards or industry codes of practice do not have the capacity to control disease thresholds to levels below those that threaten other banana growers in proximity to a high amount of disease inoculum.

8.2.3 Increased enforcement

The alternative of increased enforcement is not considered to be a viable option because of the necessary inspection resources that would be provided at the expense of higher priority enforcement activities such as conducting surveillance for banana black Sigatoka disease. The banana industry in the Northern Banana Pest Quarantine Area has repeatedly requested a high degree of enforcement of the Regulation, and these requests have been supported by the Banana Industry Protection Board. However, the implementation of these policies has been affected by the ineffective leaf disease thresholds. The lower leaf disease thresholds should result in less frequent inspections once the thresholds have been achieved.

8.2.4 Extending the coverage of existing statutes

The only statute law relevant to controlling diseases in bananas is the *Plant Protection Act 1989*. It is therefore not a viable option to extend any other statute law to achieve the objectives.

8.2.5 Self-regulation or no-regulation

The Queensland banana industry is committed to the Government continuing regulation of pest and disease risks that pose a threat to the industry. Self-regulation and no regulation by their very nature do not impose a legal obligation of compliance and like voluntary codes of practice they do not have the capacity to control disease thresholds to levels below those that threaten other banana growers in proximity to a high amount of disease inoculum.

8.3 Proposed legislation

The proposed legislation would amend section 34(4) of the regulation to introduce a 5% disease threshold for the Northern Banana Pest Quarantine Area, and retain a 15/30% summer/winter threshold regime for all other banana pest quarantine areas.

9 STAKEHOLDERS

9.1 Commercial banana growers

The Minister for Primary Industries and Rural Communities has received letters from the Queensland Banana Industry Committee and briefings from the Banana Industry Protection Board, which summarize grower consultation in north Queensland on the issue of the proposed amendment to section 34 of the regulation. In brief, approximately 95% of banana growers in north Queensland support the proposal to have a 5% threshold in that area. There are a few commercial growers who do not support the proposal because of a belief that the lower threshold will impose increased costs and may not be achievable.

Consultation with south Queensland banana growers has been through the Queensland Banana Industry Committee, the Banana Industry Protection Board, and through contact between DPI inspectors and individual growers. There has been a high level of support for retaining the current 15/30% threshold and a high degree of opposition to any change. There has been no direct consultation with banana growers in Cape York Peninsula and Torres Strait because no change is proposed in these areas.

9.2 Residential banana growers

There has been no direct consultation with residential banana growers in the Northern Banana Pest Quarantine Area at this stage. It is known, however that the Johnstone Shire Council is supportive of any measures to address the banana leaf disease problems in the main production areas. The publication of the RIS has met the community consultation requirements.

9.3 Department of Primary Industries

There has been extensive discussions between technical and regulatory staff on the issue of disease thresholds. The issue has also been discussed in detail by the Department of Primary Industries and the Banana Industry Protection Board and specifically during its meetings on 11 March and 29 August 2002. The Department of Primary industries and the Banana Industry Protection Board endorse the amendment including retention of the current threshold in the Southern Buffer, Special and Southern Pest Quarantine Areas.

10 PRELIMINARY IMPACT ASSESSMENT

10.1 Do nothing—no intervention option

If there was no intervention, the 15/30% threshold as currently existing in section 34 of the regulation would remain as the basis for regulatory intervention. This would be seen as inconsistent with industry objectives. It would also perpetuate a technically unsound approach to disease control, and may compromise the banana black Sigatoka eradication and control programs.

If section 34 was withdrawn from the regulation altogether, inspectors would be required to issue directions under section 13 of the Act for a landowner to treat plants infested with leaf disease. It would be necessary to issue these directions repeatedly and in a way that would stand up to appeal. Taking no action, or even repealing section 34 altogether, is seen as quite unrealistic in that there would be major objections from the banana industry. It is considered that banana growers who do not control leaf diseases seriously, threaten farm and community viability in the north Queensland banana pest quarantine areas.

10.2 Proposed legislation option

The most significant consequence of the proposed amendment to section 34 of the regulation is that inspectors will be able to enforce leaf disease control thresholds which have a sound biological basis and will tend to reduce the need for fungicide sprays and sanitation in the long term. With the firm regulatory policies already in place, it is not anticipated that the proposed legislation will increase government costs, rather these will decrease with time due to lower control costs resulting from the lower disease inoculum levels. The proposed approach is considered to be quite

realistic in that it has the support of the vast majority of banana growers and the methodology and regulatory policies are already in place.

11 QUALITATIVE IMPACT ASSESSMENT

Impacts may be either positive because the impact provides a benefit or negative where the impact imposes a cost. Costs and benefits may be either financial or non financial. No impact means that there will be no impact whatsoever. A low impact means more than no impact but only an insignificant impact while a high impact means a significant impact. Moderate impact is an impact above insignificant but below significant.

11.1 Proposed legislation

11.1.1 Commercial banana growers

The effect of this alternative on this stakeholder sector is rated as (M+) Medium Positive Impact. The proposed amendment is a relatively minor change to the regulation but with substantial long-term benefits.

11.1.2 Residential banana growers

The effect of this alternative on this stakeholder sector is rated as (L+) Low Positive Impact.

11.1.3 Department of Primary Industries

The effect of this alternative on this stakeholder sector is rated as (L+) Low Positive Impact. This alternative will ensure delivery of more effective enforcement.

11.1.4 Summary of Alternative: Proposed legislation

The benefits of focused activities, increased DPI/industry cooperation and less intrusion on residential situations will improve performance.

11.1.5 Qualitative impact assessment conclusion

The preferred option is the proposed legislation supported by public awareness programs.

12 QUANTITATIVE IMPACT ASSESSMENT

12.1 Proposed legislation

12.1.1 Commercial banana growers

The proposed legislation will incur costs to commercial banana growers in the Northern Banana Pest Quarantine Area in the first two years as they meet the more stringent standards but then there will be substantial benefits over the medium to long term in more effective leaf disease control that should translate into higher yield and quality fruit production. There will be no change to commercial banana growers in other banana pest quarantine areas because the current 15% threshold between 1 November and 31 May and 30% threshold between 1 June and 31 October will be retained.

12.1.2 Residential banana growers

The proposed legislation does not change the obligations on residential banana growers. The treatment threshold has little significance and there is a low risk of spread from residential plantations ton commercial plantations.

12.1.3 Department of Primary Industries

The benefits to the Department of Primary Industries are largely intangible, which will allow for greater focus on the higher risk commercial growers.

12.1.4 Summary of Alternative: Proposed legislation

All stakeholders stand to benefit from the proposed legislation, although there may be direct costs on commercial banana growers in the first two years. All banana growers will benefit from more effective banana leaf

disease control and the greater potential to more quickly identify and react to incursions of black Sigatoka.

12.1.5 Quantitative impact assessment conclusion

A complete quantitative assessment is not possible because most of the impacts are not quantifiable. There is inadequate data available to assess the quantitative impacts in other than the Northern Banana Pest Quarantine Area. A limited quantitative assessment of the impacts on stakeholders in the Northern Banana Pest Quarantine Area follows.

13 COST BENEFIT ASSESSMENT

13.1 Impact on commercial banana growers

The principal financial impacts to commercial banana growers in the Northern Banana Pest Quarantine Area are associated with the recurrent operational costs of fungicide spraying and deleafing to maintain control of banana yellow Sigatoka and banana leaf speckle below the 5% regulatory disease threshold.

The impacts in other Pest Quarantine Areas is unknown because of the lack of data on impacts in the subtropical areas of the State where leaf diseases are less significant.

It is estimated that this will impose additional costs on only 10% of commercial banana growers in this area who are not voluntarily achieving the 5% regulatory disease threshold.

Fungicide spraying is estimated to cost $50,000 in the first year, $20,000 in the second year, reach cost neutrality in the third year, and result in a benefit of $200,000 in the fourth year and $400,000 in subsequent years. Similar net costs and net benefits are anticipated for deleafing.

Thus the recurrent operating costs to these growers is estimated to cost $100,000 in the first year, $40,000 in the second year, reach cost neutrality in the third year, achieve $400,000 benefit in the fourth year and $800,000 benefit in subsequent years.

Financial benefits will also result from reduced threats from neighbours and improved biosecurity resulting from more effective leaf disease control. The net costs and net benefits are estimated at nil in the first year, increasing to a net benefit of $20,000 in the second year, and a net benefit

of $40,000 in the third year and a net benefit of $60,000 in subsequent years.

The net financial impact to commercial banana growers in the Northern Banana Pest Quarantine Area is estimated to be a cost of $100,000 in the first year, reducing to a cost of $20,000 in the second year and a benefit of $40,000 in the third year, and a benefit of $460,000 in the fourth year and $860,000 in each subsequent year.

Because there is a lack of reliable data on the impact of the leaf disease thresholds in other than the Northern Banana Pest Quarantine Area, a full quantitative assessment has only been conducted on banana growers and other affected stakeholders in the Northern Banana Pest Quarantine Area. It is recognised however that the impacts of banana yellow Sigatoka and leaf speckle and the risk of banana black Sigatoka are greatly reduced in the subtropical banana production areas because of less favourable weather conditions and smaller areas of production to promote disease spread over a much larger production area. Retention of the current 15/30% threshold is therefore justified in the Southern Buffer, Special and Southern Pest Quarantine Areas.

13.2 Impact on residential banana growers

The impacts on residential banana growers in the Northern Banana Pest Quarantine Area are from the costs of fungicide spraying and deleafing. The total aggregate cost of fungicide spraying in each year to residential banana growers is estimated at a total of $1,000, and a similar cost of $1,000 per annum is attributed to deleafing. Thus the recurrent operating costs to all residential banana growers in the Northern Banana Pest Quarantine Area is estimated at a total of $2,000 per annum.

13.3 Impact on pest control operators

It is estimated that the spraying contractor stakeholders and the deleafing contractor stakeholders will each receive a net benefit $100,000 in each of the first 2 years, reducing to $50,000 in the third year, and cost neutrality in the fourth year and a net loss of $50,000 in each subsequent year, through reduced frequency of deleafing and reduced demand for routine spraying.

It is anticipated that the current relatively lower demand for deleafing and spraying in the subtropical area of the State will not change as a consequence of retention of the current 15/30% disease threshold.

13.4 Impact on disease monitoring service providers

Disease monitoring providers are expected to achieve a net benefit of approximately $100,000 per annum, derived from higher demand for monitoring services to achieve the 5% regulatory disease threshold.

The amendment is unlikely to affect the low demand for leaf disease monitoring services in rest of the State.

13.5 Impact on the Department of Primary Industries

Funding of banana regulatory activities is provided by the Queensland banana industry under a service agreement with DPI to provide a regulatory service. There will be no change to funding arrangements or resources due to the proposed amendments.

The principal areas of cost and benefit to DPI are in the provision of field services, compliance enforcement and prosecution, inspection services, enquiries, extension activities and education that are funded by industry through a service agreement. A net cost to Government of $90,000 is estimated in the first year, mostly from establishment of the amended regulation and education, reducing to $50,000 in the second year.

It is anticipated that a net reduction of $10,000 in the funds being expended for enforcement will occur in the third year, increasing to a net reduction of $30,000 in each subsequent year as the lower leaf disease thresholds are achieved. This will allow DPI to more effectively manage the banana regulatory funds to target higher priority demands for disease surveillance and control of black Sigatoka.

13.6 Overall impact on all stakeholders

The overall impact to all stakeholders in the Northern Banana Pest Quarantine Area of the proposed amendment regulation is estimated at a net benefit of $108,000 in the first year, $228,000 in the second year, $248,000 in the third year, $588,000 in the fourth year and $888,000 each year thereafter.

The overall impact on stakeholders in other pest quarantine areas has not been assessed because of a lack or reliable data, however retaining the current 15/30% threshold in the Southern Buffer, Special and Southern Pest Quarantine Areas will not change the impacts on commercial banana growers in these areas.

There will not be any impact of licensing or fees resulting from the proposed amendment.

14 FUNDAMENTAL LEGISLATIVE PRINCIPLES

While the proposed amendment to section 34 of the regulation does impact on the rights and liberties of individual banana growers by imposing a lower action level for banana yellow Sigatoka and banana leaf speckle that must be maintained, there is a public benefit in more effective management of banana leaf disease, particularly banana black Sigatoka. Adopting the lower leaf disease thresholds will benefit commercial banana growers by reducing production costs and improving yield and quality. The community will also benefit in maintenance of supply of banana fruit to the domestic market and avoiding significant increases in cost of bananas.

The majority of banana growers in the Northern Banana Pest Quarantine Area support the adoption of the more stringent banana leaf disease regulatory threshold as a means of eradicating and controlling the banana black Sigatoka incursion in the Tully Banana Production Area.

South Queensland banana growers also endorse the amendment in north Queensland but support retention of the current 15/30% threshold in the Southern Buffer, Special and Southern Pest Quarantine Areas.

15 NATIONAL COMPETITION POLICY

15.1 What is the impact of the proposed legislation on competition—ie to what extent does it impose or encourage any restrictions?

While the 5% regulatory disease threshold may be seen to be anticompetitive, there will be a net benefit to commercial banana growers in north Queensland in achieving better leaf disease control at a reduced cost and improved yield and fruit quality that will result in them being more competitive. There is also expected to be a benefit to commercial banana growers in other sub tropical pest quarantine areas resulting from retention of the current 15/30% disease threshold, however the costs and benefits have not been quantified because of a lack of reliable data.

There is a clear benefit to the Queensland banana industry, the regional economy in the Tully–Innisfail area and the community as a whole in

protecting commercial banana growers from leaf disease and ensuring interstate market access for Queensland's banana fruit.

15.2 Do the associated benefits outweigh costs from an economy-wide perspective?

Yes. The benefits to Government, industry and the community of introducing the proposed amendments are estimated at a net benefit of $108,000 in the first year, $228,000 in the second year, $248,000 in the third year, $588,000 in the fourth year and $888,000 each year thereafter.

These benefits far outweigh the relatively minor increase in short term control costs that are limited to the 5% of commercial growers who are currently not achieving this leaf disease thresholds. There are also benefits in reduced chemical usage to the environment and reduced risk of fungicide resistance.

15.3 If there are restrictions, how and why are they in the public interest?

Although the lower disease thresholds appear to be more restrictive, achievement will require greater effort by only a minority of growers who are not currently achieving the 5% leaf disease threshold in the Northern Banana Pest Quarantine Area. Also, once the lower disease levels are achieved, the maintenance costs are greatly reduced because of the reduction in inoculum levels.

Achieving the lower leaf disease thresholds will result in lower production costs to commercial banana growers.

Retention of the current 15/30% threshold in the subtropical part of the State is generally achievable by commercial growers, and will maintain yield and fruit quality without any additional cost.

The community as a whole will also benefit from maintenance of supply of fruit on the market and stability of price and less reliance of routine spraying of fungicides that will help avoid chemical resistance and reduce the environmental impacts. The lower leaf disease thresholds will also assist in avoiding the risk of banana black Sigatoka remaining undetected because of confusion with banana yellow Sigatoka symptoms.

15.4 How do the competitive impacts of the proposed legislation compare with any reasonable alternative?

There is no reasonable alternative that is likely to achieve the objectives of the proposed regulation.

16 RISK ASSESSMENT

There are approximately 2,000 landowners who cultivate bananas commercially in Queensland. Half of these are in tropical north Queensland while the remainder are in sub-tropical south Queensland. The area of cultivated bananas in north Queensland is nearly 4 times greater in the north than in the south.

Banana yellow Sigatoka is universally distributed on all banana plants in Queensland and occurs to varying degrees throughout the year. Banana growers who have failed to control leaf diseases adequately will experience production problems during the autumn and winter months. Approximately 5% of banana growers habitually fail to control leaf diseases adequately but this proportion may rise to 20% if weather conditions interrupt fungicide spray programs or if market prices force growers into economic rationalisation.

The current 15/30% threshold levels reduce the opportunities for inspectors to act in a timely manner against recalcitrant landowners. Disease tends to increase beyond a reasonably manageable level and threatens the neighbouring farms where efforts have been made to control the disease.

The enforcement measures target those landowners who do not meet a clearly defined threshold. Many of these landowners are habitual offenders and are well known to inspectors. The proposed amendment will not change that situation but will allow inspectors to act in a more timely manner with respect to the spread of disease.

The regulatory policy is to issue a section 11 directive if an inspector finds one or more infested leaves above the leaf disease threshold that have not been removed from a banana plant. If the landowner fails to comply within a reasonable time, action is taken under section 16 of the Act to have the unsatisfied requirements completed. This maintains biosecurity for neighbouring farms by preventing spread of disease in a timely and biologically justified manner.

Section 34 of the regulation already provides for the inspector to issue an exemption from the requirement to treat and thereby allows for less

stringent treatment options where the inspector is satisfied that the alternative treatment does not pose a risk of spreading the disease. The proposed amendment will not change the capacity for these inspector's approvals.

ATTACHMENT 1

COST BENEFIT ANALYSIS OF PROPOSED REGULATORY AMENDMENTS

Analysis process

A cost-benefit analysis using the Business Regulation Reform Unit (BRRU) guidelines was undertaken by Dr Rob Allen, Principal Policy Officer, DPI and former chair of the Banana Industry Protection Board. Dr. Allen has formal qualifications and expertise in banana plant pathology and is a world recognised expert on banana disease control, particularly leaf disease control and the Queensland banana industry.

Data on the impacts on commercial growers have been derived from the Banana Industry Protection database and technical knowledge accumulated by DPI research and regulatory activities, particularly since the 15% and 30% thresholds were regulated in 1999.

It is considered that the data available for the Northern Banana Pest Quarantine Area are complete, consistent and reliable. The financial impacts on stakeholders in other pest quarantine areas have not been assessed because of a lack of reliable and consistent data on banana leaf disease impacts in these areas.

Impact on commercial banana growers

The principal financial impacts to commercial banana growers in the Northern Banana Pest Quarantine Area are associated with the recurrent operational costs of fungicide spraying and deleafing to maintain control of yellow Sigatoka and banana leaf speckle below the regulatory disease threshold. It is estimated that changing the leaf disease threshold to 5% at any time of the year in the Northern Banana Pest Quarantine Area will impose additional costs on only 5% of commercial banana growers in this area who are not voluntarily achieving the 5% regulatory disease threshold.

Fungicide spraying is estimated to cost $50,000 in the first year, $20,000 in the second year, reach cost neutrality in the third year, and result in a benefit of $200,000 in the fourth year and $400,000 in subsequent years. Similar net costs and net benefits are anticipated for deleafing.

The benefits are increased yield and fruit quality and reduced disease control costs once the lower disease threshold is achieved, that translate into higher returns and lower production costs.

Thus the recurrent operating costs to these growers is estimated to be $100,000 in the first year, $40,000 in the second year, reach cost neutrality in the third year, achieve $400,000 benefit in the fourth year and $800,000 benefit in subsequent years.

Financial benefits will also result from reduced threats from neighbours and improved biosecurity resulting from more effective leaf disease control. The net costs and net benefits are estimated at nil in the first year, a net cost of $20,000 in the second year, a benefit of $40,000 in the third year and $60,000 in each subsequent year.

The net financial impact to commercial banana growers in the Northern Banana Pest Quarantine Area is estimated to be a cost of $100,000 in the first year, reducing to a cost of $20,000 in the second year, a benefit of $40,000 in the third year, and a benefit of $460,000 in the fourth year and $860,000 in each subsequent year.

Because there is a lack of reliable data on the impact of the leaf disease thresholds in other than the Northern Banana Pest Quarantine Area, a full quantitative assessment has only been conducted on banana growers and other affected stakeholders in the Northern Banana Pest Quarantine Area. It is recognised, however that the impacts of yellow Sigatoka and leaf speckle and the risk of black Sigatoka are greatly reduced in the subtropical banana production areas because of less favourable weather conditions and smaller areas of production that reduce disease spread. In any case, retention of the current 15/30% threshold will not change the impacts on commercial banana growers in the subtropical quarantine areas of the State.

Impact on residential banana growers

The impacts on residential banana growers in the Northern Banana Pest Quarantine Area are from fungicide spraying and deleafing. The net costs of fungicide spraying in each year to all residential banana growers in the Northern Pest Quarantine Area is estimated at a total of $1,000, and a similar cost of $1,000 per annum is attributed to deleafing. Thus the recurrent operating costs to all residential banana growers in the Northern Banana Pest Quarantine Area is estimated at a total of $2,000 re annum. This is an insignificant cost to each individual residential banana grower.

The amendment will only impact on residential banana growers in the Northern Pest Quarantine Area.

Impact on pest control operators

The costs and benefits to pest control operators in the Northern Pest Quarantine Area relate to spraying contractors and deleafing contractors. It is estimated that the spraying contractor stakeholders and the deleafing contractor stakeholders will each receive a net benefit $100,000 in each of the first 2 years, reducing to $50,000 in the third year, and cost neutrality in the fourth year and a net reduction in current income of $50,000 in each subsequent year. That is, from the fourth year demand for spraying and deleafing contractors is likely to decline due to anticipated lower incidence of disease. It is however, likely that the demand for strategic spraying based on disease monitoring will increase to a minor degree.

It is anticipated that the current relatively lower demand for deleafing and spraying in the subtropical area of the State will not change as a consequence of retention of the current 15/30% leaf disease threshold in the subtropical quarantine areas.

Impact on disease monitoring service providers

Disease monitoring service providers in the Northern Banana Pest Quarantine Area are expected to achieve a net benefit of approximately $100,000 per annum, derived from higher demand for monitoring services to achieve the 5% regulatory disease threshold. The amendment is unlikely to affect the low demand for leaf disease monitoring services in the sub-tropical part of the State.

Impact on Department of Primary Industries

Funding of banana regulatory activities is provided by the Queensland banana industry under a service agreement with DPI to provide a regulatory service. There will be no change to funding arrangements or resources due to the proposed amendments.

The principal areas of cost and benefit to DPI are in the provision of field services, compliance enforcement and prosecution, inspection services, enquiries, extension activities and education that are funded by industry through a service agreement. A net cost to Government of $90,000 is

estimated in the first year, mostly from establishment of the amended regulation and education, reducing to $50,000 in the second year.

It is anticipated that a net reduction of $10,000 in the funds being expended for enforcement will occur in the third year, increasing to a net reduction of $30,000 in each subsequent year as the lower leaf disease thresholds are achieved. This will allow DPI to more effectively manage the banana regulatory funds to target higher priority demands for disease surveillance and control of black Sigatoka.

Overall impact on all stakeholders

The overall impact to all stakeholders in the Northern Pest Quarantine Area of the proposed amendment regulation is estimated at a net benefit of $108,000 in the first year, $228,000 in the second year, $248,000 in the third year, $588,000 in the fourth year and $888,000 each year thereafter.

The overall impact on stakeholders in other pest quarantine areas has not been assessed.

There will not be any impact of licensing or fees resulting from the proposed amendment. There will also be no change in funding arrangements or resources to enforce the amended leaf disease thresholds, however it is anticipated that there will be savings within the current budget that could be used for higher priority activities such as surveillance and black Sigatoka control.

Non-financial costs and benefits

There are likely to be significant non-financial benefits to commercial and residential banana growers in the Northern Pest Quarantine Area resulting from a reduced threat to neighbours resulting from better leaf disease control. There is also a significant benefit to the environment and in reduced risk of resistance to fungicides in the long term because, although fungicide use is likely to increase in the short term, it is expected to reduce after the third year because of lower incidence of leaf disease due to the 5% regulatory disease threshold, and greater reliance on monitoring and strategic spraying rather than routine spraying.

ENDNOTES

1. Laid before the Legislative Assembly on . . .
2. The administering agency is the Department of Primary Industries.