3rd July 2001
Office of the Chief Executive
Biosecurity Australia
GPO Box 858
Canberra ACT 2601

Att: Colin J Grant

Dear Colin,

I am extremely concerned about the recent announcement of the Australian government to allow New Zealand apples into Australia without any orchard or fruit inspection, relying only on standard New Zealand orchard practices to keep Australia free of fire blight and other undesirable diseases and pests that we don't have here yet.

There are a number of issues here that obviously have not been conveyed to you or other members of the parliament.

Please read through these articles and see for yourself why this is a **reckless and irresponsible** decision that will affect far more than the Apple and pear industry.
Two things can be taken from this first article,

- Fire blight will affect far more than Apples and Pears and who knows what other plants that are native to Australia that it could wipe out, as they haven't been subjected to this bacteria before. This article mentions a number of other species that will be severely damaged by this bacteria.
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- The warmer springtime conditions alluded to here are for the cooler climates and here in Australia we would have suitable conditions for the rapid buildup of Bacteria in most Springs when this bacteria is at it's most dangerous stage.
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- Note - The bacteria invade and kill the cambial tissue of the branch, and from what I can find of the science presented by New Zealand there is no mention of apples being infected in this way. Dr Hales approach of hanging apples dipped in fire blight bacteria next to unaffected apples on a tree is simply so stupid it is not comprehendible a decision could be made from this project.
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- Note - The bacteria overwinter in blighted branches and at the edge of cankers (areas of bark killed by bacteria) (Figure 1). In spring, when temperatures frequently reach 65 F, the bacteria multiply rapidly. Fire blight is at it's most dangerous doing bloom when the bacteria can enter through the flowers and travel through the stem into the tree, the same stem that remains with the apple when it is harvested or bacteria from within the tree can travel through the stem into the apple.

Fire Blight

by R.D. Koski and W.R. Jacobi [1] (10/09)

Quick Facts...

- Fire blight is a bacterial disease that can kill branches and whole plants of many members of the rose family, including apple, pear, quince and crabapple. .
- Symptoms include dead branches, water-soaked blossoms, light brown to blackened leaves, discolored bark, black "shepherd's crook" twigs, and dried fruits. .
- Fire blight bacteria can be spread by insects, splashing rain or contaminated pruning tools..
- Management includes resistant varieties, cultural practices, pruning and preventive chemical sprays.

Fire blight is a bacterial disease that affects certain species in the rose family (Rosaceae). It is especially destructive to apples (*Malus* spp.), pears (*Pyrus* spp.), and crabapples (*Malus* spp.). The disease also can occur on serviceberries (*Amelanchier* spp.), flowering quinces (*Chaenolmeles* spp.), cotoneasters (*Cotoneaster* spp.), hawthorns (*Crataegus* spp.), quinces (*Cydonia* spp.), pyracanthas (*Pyracantha* spp.), blackberries (*Rubus* spp.), raspberries (*Rubus* spp.), and mountain ashes (*Sorbus* spp.).

Disease incidence varies from year to year and severity is influenced by cultivar susceptibility, tree age, succulence of tissues and spring meteorological conditions. The disease is most serious when spring temperatures during pre-bloom and bloom are warmer than average. Warm rainy springs are particularly conducive to rapid spread of the pathogen, resulting in blossom blight. Blight of twig terminals can occur in late May through June (Northern Hemisphere spring) during wind driven rain events. Hail and wind damage provide wounds that allow the pathogen to enter at other times. Hot summer weather generally slows or stops the disease.

Disease Cycle

Fire blight is caused by the bacterium Erwinia amylovora. The bacteria overwinter in blighted branches and at the edge of cankers (areas of bark killed by bacteria) (Figure 1). In spring, when temperatures frequently reach 65 F, the bacteria multiply rapidly.

Masses of bacteria are forced through cracks and bark pores to the bark surface, where they form a sweet, gummy exudate called bacterial ooze. Insects such as aphids, ants, bees, beetles, and flies, are attracted to this ooze, pick up the bacteria on their bodies, and inadvertently carry the bacteria to opening blossoms. Bacterial ooze splashed by rain can also spread the pathogen.

Once in the blossom, bacteria multiply rapidly in the nectar and eventually enter the flower tissue. From the flower, the bacteria move into the branch. When the bacteria invade and kill the cambial tissue of the branch, all flowers, leaves and fruit above the girdled area die.

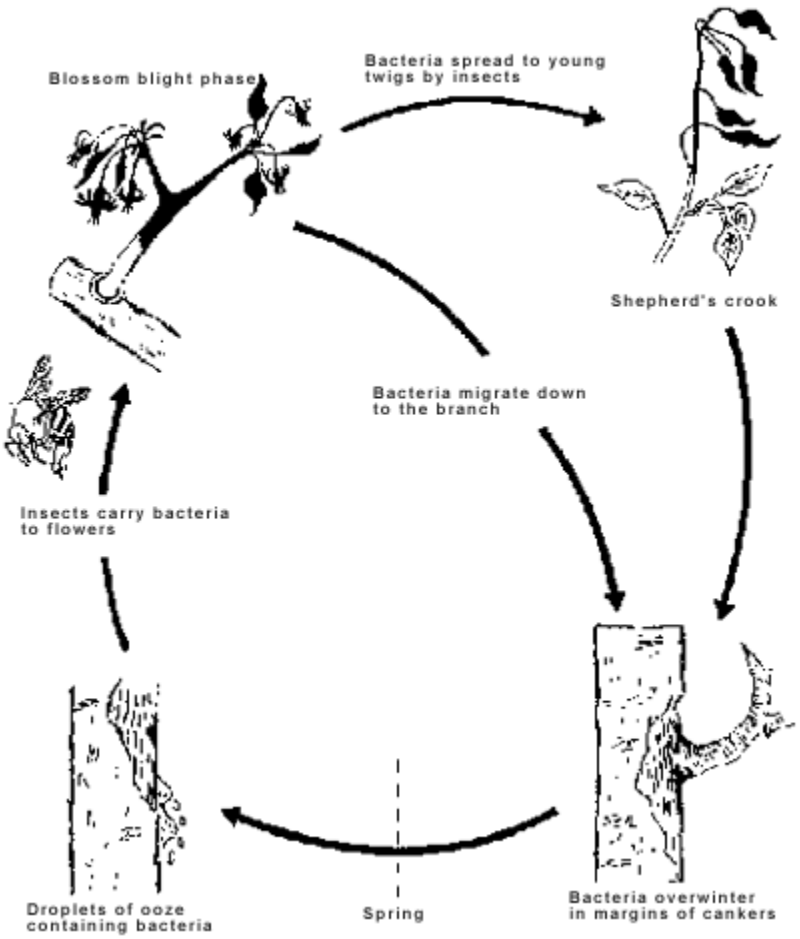

Figure 1: Fire blight life cycle.

Infection also can take place through natural openings in leaves (stomata), branches (lenticels), pruning wounds, insect feeding and ovipositing, and hail. Droplets of bacterial ooze can form on twigs within three days after infection.

New Zealand Scientists have concluded the following:

HortFACT - Why Fireblight shouldn't be a market access problem

Dr C.N. Hale - HortResearch, Mt Albert

Please search Fire Blight New Zealand on the internet then pickup Hort Fact Fire Blight.

Please read through this document explaining the problem of fire blight in NZ and then click on the paper at the bottom of the first article which is Dr Hale's paper on why it shouldn't be a market access problem.
Besides this interesting disclaimer at the end of the paper (*In Italics Below*), all he talks about here is the **Surface and Calyx of the apple**. Where are the statistics of the testing done on stems, seeds and other parts of the apple? This is likely to be the areas fire blight is found if the tree has been affected during the growing season.

Interesting articles showing two totally different sets of circumstances, funnily enough the NZ research shows no positive tests at all although the number of fruit sampled here is relatively small. If this is the research the WTO has worked out their decision on then the integrity of the WTO has to be seriously questioned. The statement in the small print at the end is also significant cause for concern.

This research does not take into account an orchard that has been naturally infected with fire blight and how the bacteria may end up in the stems, seeds or other parts of the apple. All this research really suggests is that it is **difficult to artificially** infect fruit or trees with the bacteria, as if the blossoms had been naturally infected then in a very short time frame (a matter of hours) significant parts of the tree would be severely affected.

Some things to consider that should set alarm bells ringing

1. **No country** that has allowed fruit from a country that has fire blight has escaped the bacteria entering, hence very few countries are still free of this terrible bacteria.
2. Growers and agricultural scientists from around the world have always envied the fact that Australia does not have fire blight when they have visited, and always encouraged the industry to make sure that it never has the opportunity to get in.(No other growers or scientists that have visited believe that it doesn't travel somehow on or in fruit)
3. Countries that have this bacteria need to use antibiotic sprays during spring to keep the bacteria under control, something that is of great concern to the medical community given the incidence of antibiotic resistance already around the world today. The Antibiotics used in the control of fire blight are the same that the hospitals use sparingly for the control of resistant strains of bacteria such as Golden Staph etc so resistance has lest chance to evolve.
4. Australia does not allow the use of antibiotics on horticultural crops but that will need to change if fire blight inadvertently reaches our shores and the **government should put up the funding to have these registered and ready to use when an outbreak occurs as it inevitably will.**
5. Parts of Europe had a warmer spring this season and some orchards are so badly damaged from fire blight, **governments are subsidizing growers with significant funding to remove the trees and replant. There are no second changes with fire blight.**
6. When fire blight enters Australia it **will cost local Governments $100,000.00's** removing and replacing dead or damaged trees on road sides and in parks and gardens, it will render some species of ornamentals unacceptable to grow because of the significant damage it causes. **Local governments will also need to remove all host plants from roadsides, parks & gardens and legislate to have them removed from private properties.**
7. Many growers will leave the industry causing a loss of many thousands of jobs in the industry itself, as well as the hundreds of companies supporting the industry needs. Intensive horticulture like the apple and pear industries have taken big hits to their income over the last twenty years with large rises in labour costs as well as the continuing squeeze by the large

retailers wanting the growers to spend thousands in complying with quality assurance and other bureaucratic red tape.

8. **No one can harvest apples without some parts of the tree coming with the apple some of the time. These buds, leaves and small parts of the branches will always end up in a carton and this is where the bacteria moves very quickly. At the time of harvest it would not be noticeable however that part of the tree will be dead next spring and will have probably have gone on to affect the whole tree.**

While I understand there are benefits for Australia in advocating free trade it should not be done at the expense or detriment of producing food. We should be guarding our land from dangerous imports of disease or pests so we have food security for this and other countries.

If we are going to go down the road of trusting New Zealand standard orchard practices, then I can't see why we need and quarantine or custom facilities at points of entry into Australia, because what this protocol implies is that people will always do the right thing and declare what they have.

As I said earlier this is dangerous, reckless and irresponsible and the WTO should be told we are not accepting their position.
When fire blight or other pests and disease are found in Australia, are the WTO providing the money to pay out our growers, or will that come personally from the management of bio-security and the politicians who have caved in to the WTO.
You should probably add a good percentage to that amount of money to assist consumers to buy imported fruit.

Yours Sincerely

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