

New ERMA Controls on Methyl Bromide

What do they mean for Forest Biosecurity?
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Introduction



Update on world trends with methyl bromide

NZ trend

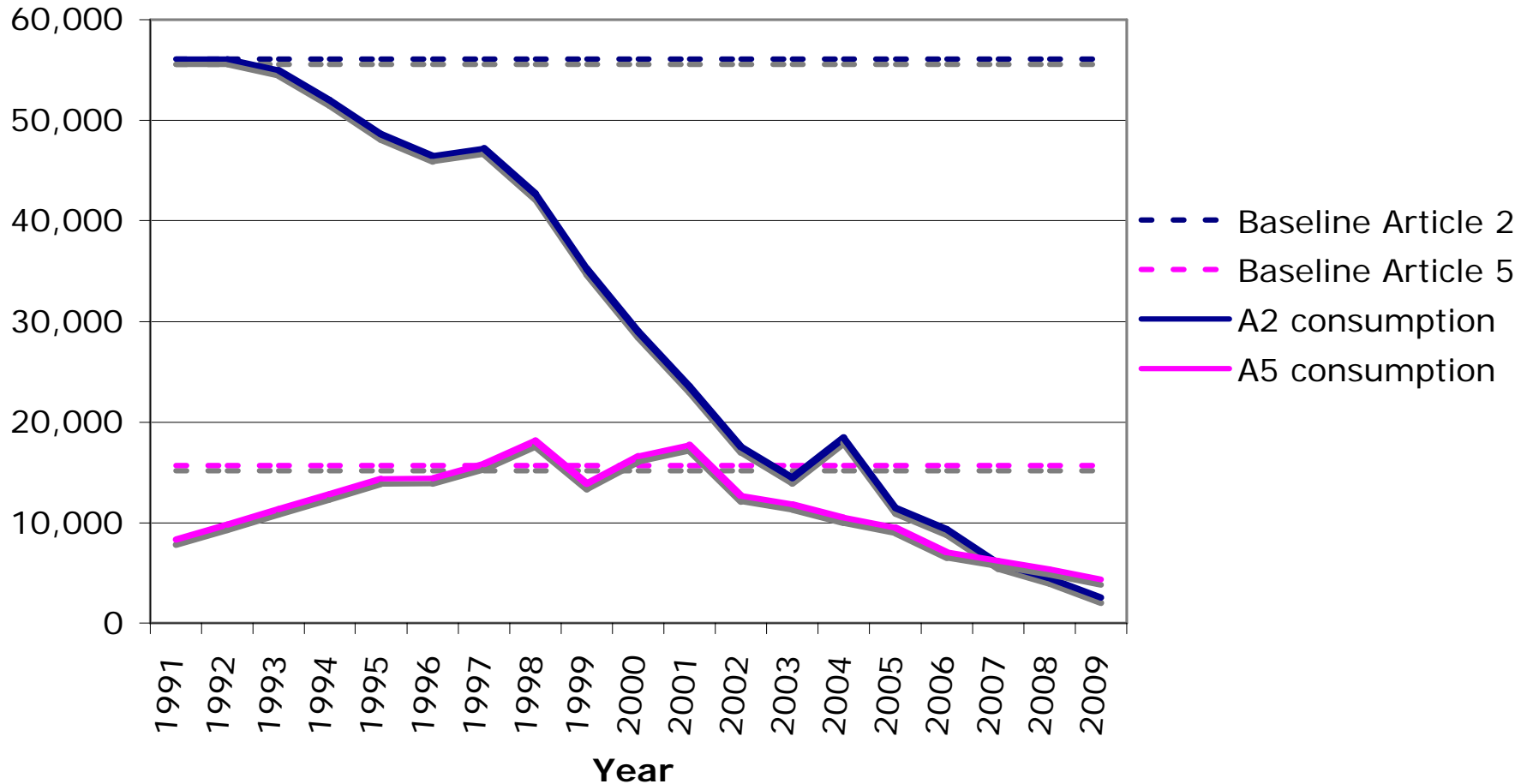
New ERMA Controls

Possible impact of changes

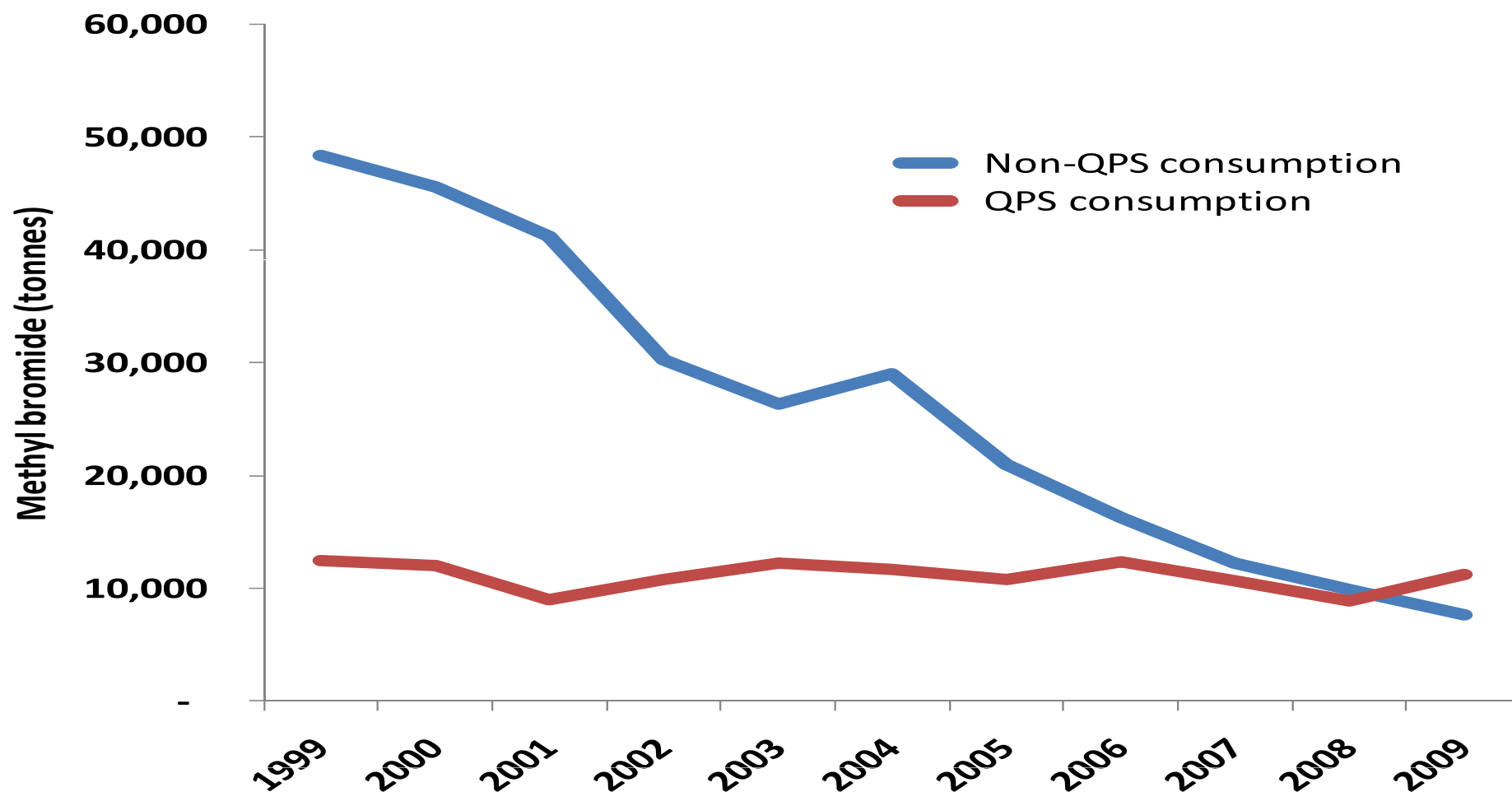
Conclusion



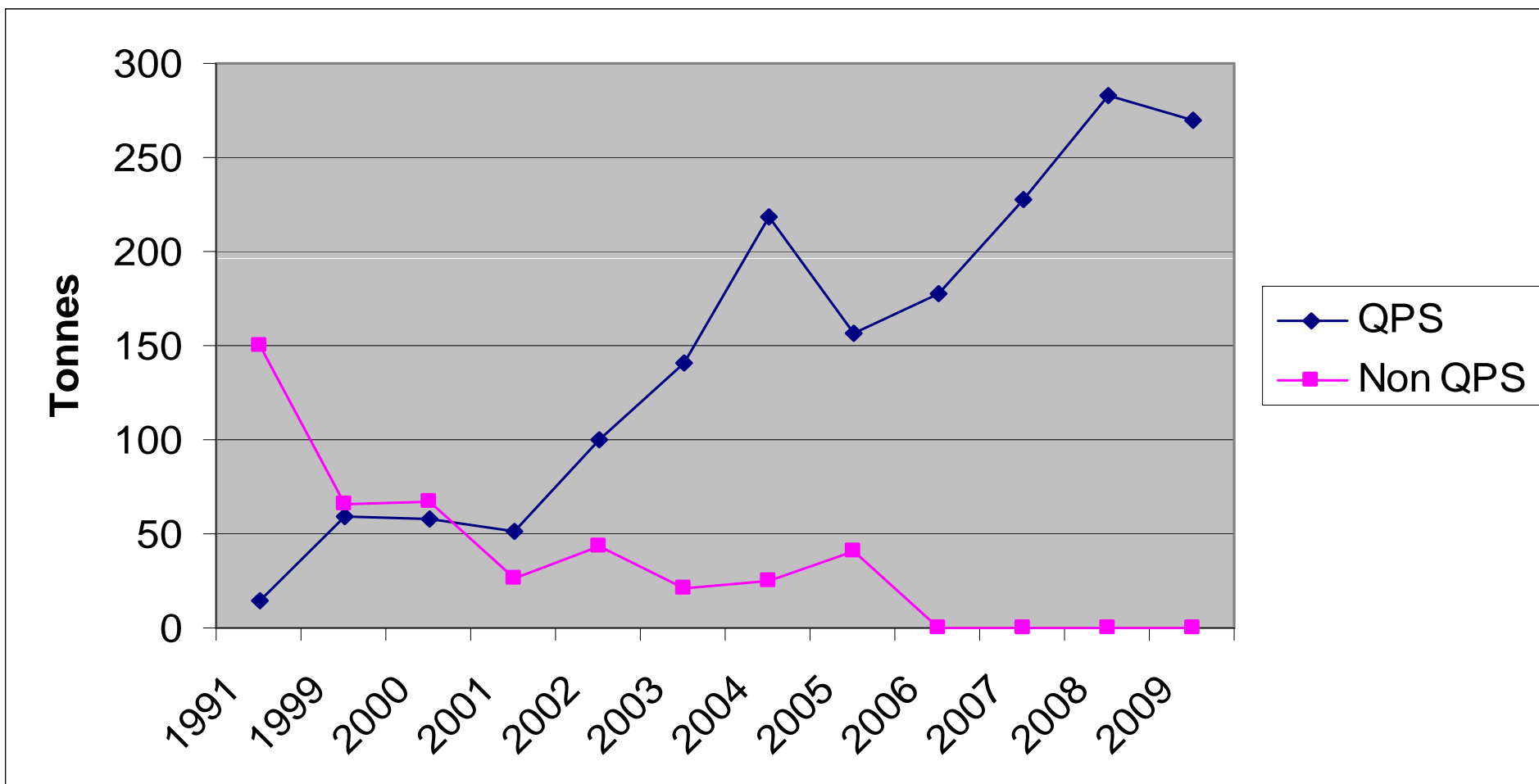
World Non QPS use of MB Trend



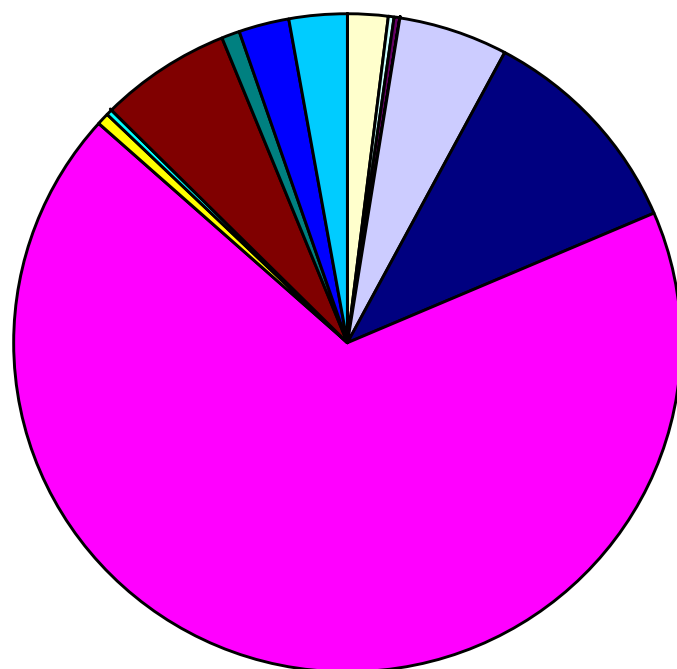
World Trend in MB Use



New Zealand's Methyl Bromide Use



NZ Methyl Bromide Use 2007

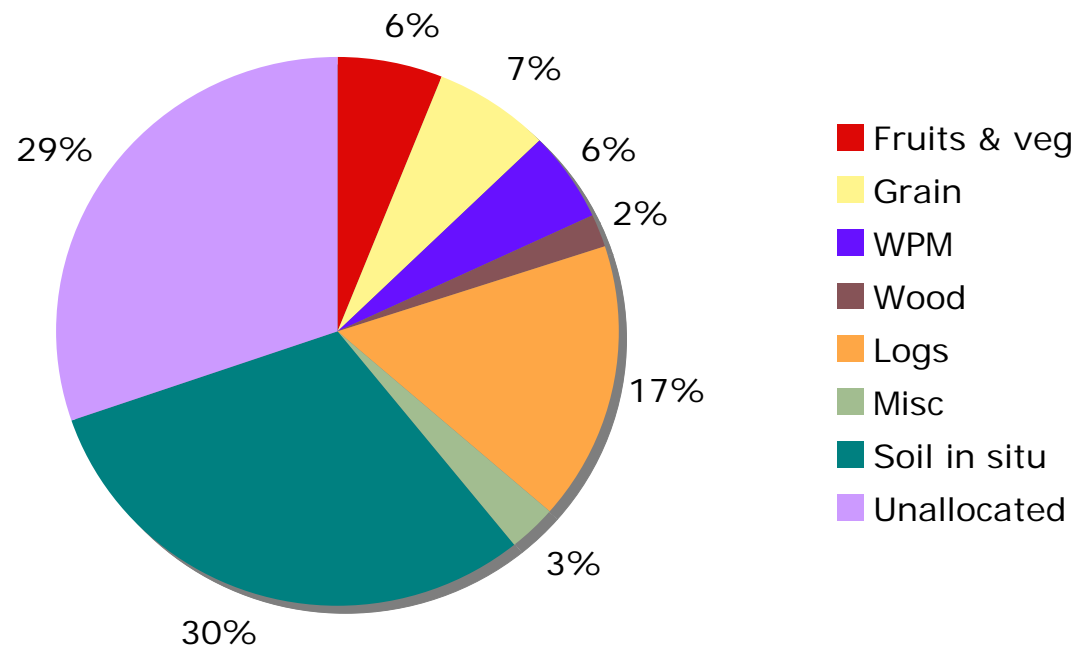


- Bulbs
- Cut flowers
- Fresh fruit and vegetables
- Grain and cereals
- Dried foodstuffs
- Nursery stock
- Seeds
- Wooden packaging materials
- Wood
- Whole logs
- Animal fodder
- Other fibre crops
- Buildings
- Equipment, shipping containers
- Tyres
- Personal effects
- Other
-

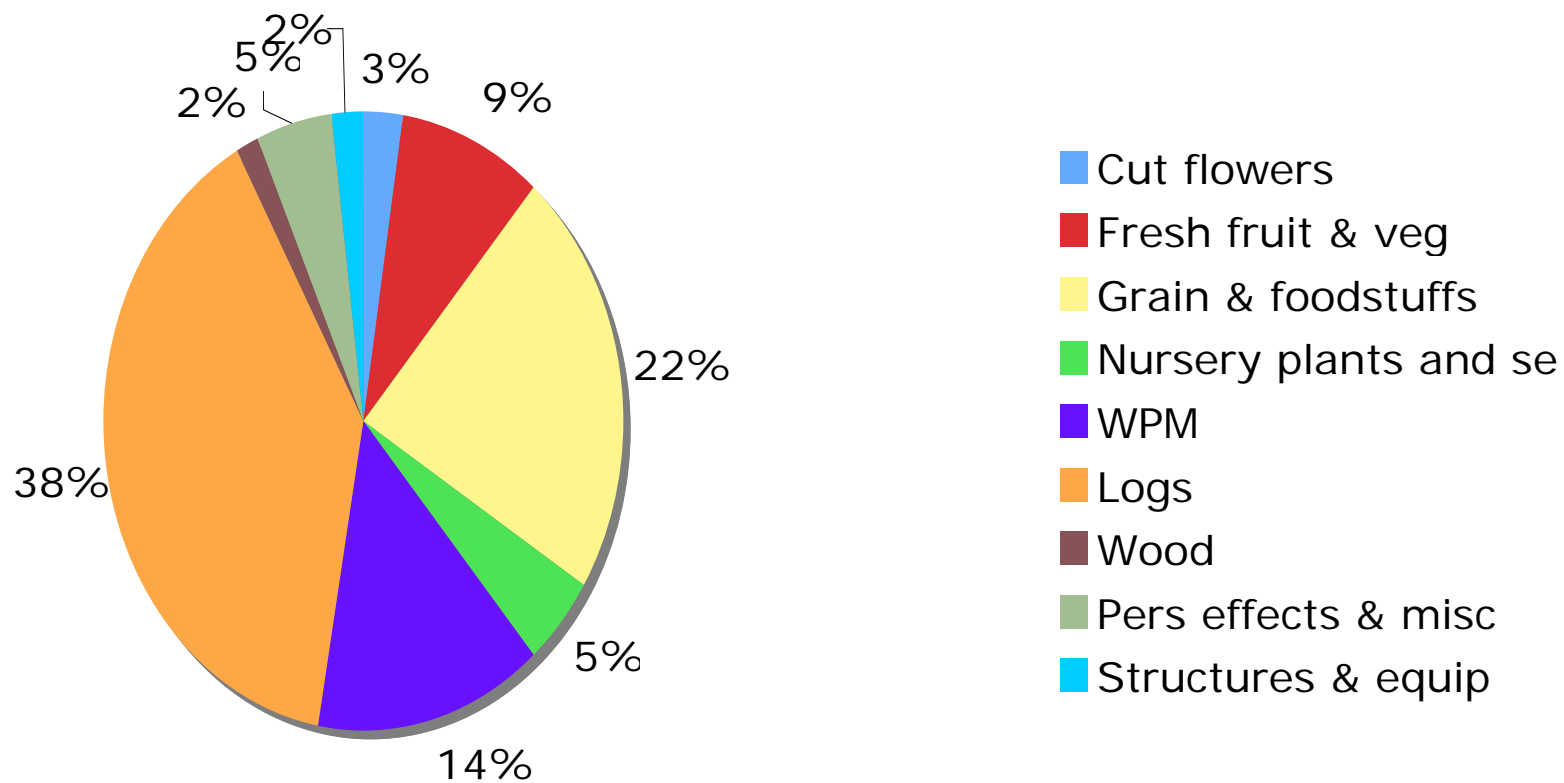
Developed Countries QPS MB Use



Main categories of MB use for QPS purposes in non A5 Parties



Developing Countries MB QPS Use



Summary Of New ERMA Controls



ERMA has revised the controls on methyl bromide (MB) following an extensive reassessment period.

The main controls will come into effect from 1 May 2011.

Soil Fumigation

- The remaining chloropicrin methyl bromide mix used for soils was to be completely used up or be disposed of by 1/1/2011.
- The use of MB for quarantine eradication in soil is specific to potato wart with buffer zones and associated notifications.



Incursion in a forest nursery?



- No methyl bromide/chloropicrin mix available
- Need ERMA permission for emergency or experimental use of MB
- Need ERMA permission for emergency or experimental use of methyl iodide for other than strawberry fields
- Start planning now!



Summary of new ERMA Controls



- New Tolerable Exposure Limit (TEL) for the public is 1ppm average per hour and 0.333ppm per 24 hours at the boundary of the buffer zone.
- The Work Place Exposure Standard (WES) is still 5ppm.
- The fumigator needs to record more detail including:
 - how much gas used,
 - annual exposure level,
 - GPS coordinates for fumigation site and monitoring site,
 - monitoring equipment used,
 - 1 hr TEL and 24hr TEL achieved at the boundary,
 - the wind speed and direction every 3 minutes.
- Record any discharges such as when covers or hoses blow off during fumigation.
- The person in charge of the site must keep records of ventilation exposure levels and notify DOL and MOH if above the specified control levels.
- Where recapture is used monitoring for MB and wind is **not** required.
- An annual monitoring report to ERMA, DOL and MOH by the site operator is required where the use is over 500kg/year.



Establishment of buffer zones



The **person in charge of a site** must set a buffer zone for each fumigation. The buffer zone must be equal or greater than the following distances:

- Ship's hold (1000 kg or more of methyl bromide applied per site in any 24 hour period) - 100m
- Ship's hold (<1000 kg methyl bromide applied per site in any 24 hour period) - 50m
- Fumigation under sheets - 50m
- Containers (> 77 m³ in any 60 minute period) - 25m
- Containers (< 77 m³ in any 60 minute period) - 10m



More Controls



- Buffer zones are for exclusion of the public, don't include those working at the site.
- Buffer zone applies for the whole fumigation period not just venting and in all directions from the enclosure under fumigation.
- The person in charge of the site sets the buffer zones.
- Mandatory 25m for sensitive sites (schools etc).
- Lit signs are needed at the buffer zone boundary.
- Buffer zones are **not** needed where recapture is used.
- Notification to neighbours is required to 25m but if more than 100kg of MB is used then notification to neighbours is required to 100m if fumigating weekly.
- Recapture will be mandatory in 10 years and a yearly progress report by fumigators to ERMA is required.
- ERMA has requested more research into alternatives and recapture, and an assessment of a levy on all methyl bromide used to fund it.
- The full ERMA decision is available on ERMANZ.govt.nz



Recapture system



Recapture



- Have yet to develop a recapture system big enough to cope with ship size fumigations but theoretically possible
- Need to manage contaminated carbon
- Adds time to fumigating
- Significantly increases the cost of fumigation

Some Alternatives have Issues



- Methyl iodide
 - registered in NZ for strawberry fields only
 - registered in several countries
 - NGO's taking California State to court to reverse approval on safety grounds
- Sulfuryl fluoride
 - USA EPA recently announced a 3 year phase out for contact with food, flour and pasta mills etc.
 - Issues with egg mortality at lower than 26°C
 - 4,800x CO₂ GWP
- Phosphine – some grain pests are totally resistant e.g. in India



Conclusion



- New Controls require changes in procedures for both fumigators and facilities.
- Some sites may not be able to fumigate unless the gas is recaptured
- Some will need to have the fumigation occur at another site e.g. the port.
- The decision will mean extra costs (could more than double)
- Some interceptions won't be reported due to extra cost and hassle
- More incursions likely
- Already noticing higher incidence of pests in pasta etc.
- Any new soil organism incursion needing treatment will need to go through an emergency or experimental use process
- Alternatives need to be investigated



Thank You- any questions?

