

PRIORITISATION OF THE CHIEF EXECUTIVE INITIATED REASSESSMENT LIST

Summary

1. This document reports on ERMA New Zealand's consultation and subsequent prioritisation of its Chief Executive-initiated reassessments priority list.
2. To identify substances for inclusion on the Chief Executive-initiated reassessment list, the Agency prepared evaluation sheets and, in November 2006, consulted on a list of 27 possible substances for reassessment.
3. Taking account of the responses to the consultation, the Agency proposes that twenty substances be placed on a Chief Executive-Initiated Reassessment (CEIR) Priority List.
4. ERMA New Zealand will prepare applications for Grounds for Reassessment for four of these substances during the current financial year, endosulfan and its formulations, azinphos methyl and its formulations, pentachlorophenol and methyl-parathion.
5. Following a decision that grounds for reassessment exist for the above substances, applications for reassessment will then be prepared.
6. Applications for grounds for reassessment and subsequent applications for reassessment will be progressed for all substances on the CEIR Priority List over the next five years, resources permitting.

Consultation

7. The Agency's screening of substances resulted in a short-list of 27 candidates to consider for Chief Executive-Initiated Reassessment. Evaluation Sheets were prepared for each substance in accordance with the criteria for screening substances for reassessment. The list and evaluation sheets were sent out for consultation in November 2006, with submitters being asked three questions:
 - Are there substances on the list that should not be on it?
 - Are there substances not on the list that should be on it?
 - How should the list be prioritised?
8. The closing date for submissions was 30 January 2007. Twenty-eight submissions were received. A summary of submissions is provided in Appendix 1.
9. Submitters presented comments in relation to these questions as follows:

	On original consultation list	Submissions propose		
		Add to list	Remove from list	High priority
2,4D, its salts and esters and formulations containing these substances;	X		X	X
Acephate and its formulations;	X			X
Acetochlor		X		
Anti-fouling paints;	X			X
Atrazine		X		X
Azinphos-methyl and its formulations	X			X
Benomyl and carbendazim and their formulations;	X			X
Bisphenol-A		X		
Carbaryl and its formulations;	X			X
Chlorothalonil and its formulations;	X			X
Chlorpyrifos and its formulations;	X		X	X
Chlorpyrifos methyl				X
Cyhalothrin, lambda cyhalothrin and their formulations;	X		X	X
Cypermethrin		X		
Diazinon and its formulations;	X			X
Dichlorvos and its formulations;	X			X
Dicofol		X		
Dimethoate and its formulations;	X			X
Diuron		X		
EBDC Fungicides		X		X
Endosulfan and its formulations;	X			X
Fenitrothion and its formulations;	X			X
Iprodione		X		
Linuron		X		
Malathion		X		
Methamidophos (60%) and its formulations;	X			X
Methyl-arsenic acid and its formulations;	X			
Methyl bromide;	X			X
Methyl-parathion and its formulations;	X			X
Nonyl phenol, Nonylphenol ethoxylates and Octylphenol ethoxylates	X		X	X
Paraquat and its formulations;	X		X	X
Pentabromodiphenylether, Octabromodiphenylether, and	X		X	X

	On original consultation list	Submissions propose		
		Add to list	Remove from list	High priority
Decabromodiphenylether				
Pentachlorophenol and its salts;	X			
Perfluorocarboxylic acids, Perfluoroalkyl sulphonates	X			
Permethrin		X		
Phthalic acid esters (phthalates) and substances containing these substances;	X			X
Procymidone		X		
Short-chain chlorinated paraffins (C10-C13)	X			X
Simazine		X		X
Trichlorfon and its formulations.	X			X
All organo-phosphate insecticides		X		
Other fumigants		X		
Pesticides Available to the General Public through Retail Outlets		X		

10. On the basis of information contained in the submissions, the Agency has not amended the Chief Executive Initiated Reassessment list of 27 possible substances. A number of substances have been submitted for inclusion on the list. Unless there is a substantiated and compelling case for such substances to be reassessed with priority over the 20 substances already on the CEIR List, these additional substances will be noted and added to a list for evaluation in future revisions of the list.

The Lists

11. The Agency has considered the points raised in the submissions alongside information collated in the original ERMA evaluation sheets and proposes to draw up Grounds for Reassessment for the following substances during financial year 2006/7:
- Endosulfan and its formulations;
 - Azinphos methyl and its formulations
 - Methyl-parathion and its formulations;
 - Pentachlorophenol and its salts.
12. Grounds for the following 16 substances will be developed, as resources permit, over the next 5 years. (listed alphabetically, not in order of priority):
- 2,4-D, its salts and esters and formulations containing these substances

- Acephate and its formulations;
- Anti-fouling paints;
- Benomyl and carbendazim and their formulations;
- Carbaryl and its formulations;
- Chlorothalonil and its formulations;
- Chlorpyrifos and its formulations;
- Diazinon and its formulations;
- Dichlorvos and its formulations;
- Dimethoate and its formulations;
- Fenitrothion and its formulations;
- Methamidophos (60%) and its formulations;
- Methyl bromide;
- Methyl-arsenic acid and its formulations;
- Paraquat and its formulations;
- Trichlorfon and its formulations.

13. An application for Grounds for Reassessment does not necessarily mean that an application for reassessment will be prepared, but that the substance and the risks and benefits arising from its use will be examined in more detail.

Next Steps

14. When the Agency initiates each application for Grounds for Reassessment, affected parties will be notified.
15. The overall process is shown in Appendix 2.

**UPDATE OF THE PRIORITY LIST
FOR CHIEF EXECUTIVE
INITIATED REASSESSMENTS**

SUMMARY OF SUBMISSIONS

CONTENTS

	Pg
Original List of Chief Executive Initiated Reassessments	3
Executive Summary of Submissions	4
Question One: Are there any substances that do not appear on the list that you believe should be on it? Please state why you think these additional substances should be on the list.	6
Substances Addressed in Submissions Summary of Arguments	
Question Two: Are there any substances that you believe should not be on the list? Please state why you think these substances should not be on the list.	8
Substances Addressed in Submissions Summary of Arguments	
Question Three: Which substances would be your highest priority for reassessment? Please state why you would prioritise these substances.	11
Substances Addressed in Submissions Summary of Arguments & Recommendations	
Further Comments	20

ORIGINAL LIST FOR CHIEF EXECUTIVE INITIATED REASSESSMENTS

The current list includes the following substances:

2,4D, its salts and esters and formulations containing these substances	Methyl-parathion and its formulations
Acephate and its formulations	Nonyl phenol, Nonylphenol ethoxylates and Octylphenol ethoxylates and substances containing these substances
Anti-fouling paints	Paraquat and its formulations
Azinphos-methyl and its formulations	Pentabromodiphenylether, Octabromodiphenylether, and Decabromodiphenylether and substances containing these substances
Benomyl and carbendazim and their formulations	Pentachlorophenol and its salts
Carbaryl and its formulations	Perfluorocarboxylic acids, Perfluoroalkyl sulphonates
Chlorothalonil and its formulations	Phthalic acid esters (phthalates) and substances containing these substances
Chlorpyrifos and its formulations	Short-chain chlorinated paraffins (C10-C13) and substances containing these substances
Cyhalothrin, lambda cyhalothrin and their formulations	Trichlorfon and its formulations
Diazinon and its formulations	
Dichlorvos and its formulations	
Dimethoate and its formulations	
Endosulfan and its formulations	
Fenitrothion and its formulations	
Methamidophos (60%) and its formulations	
Methyl-arsenic acid and its formulations	
Methyl bromide	

EXECUTIVE SUMMARY OF SUBMISSIONS

ERMA NZ maintains a short-list of substances, known as the Chief Executive Initiated Reassessment List, for which there is evidence that the risks may not be adequately managed by existing controls. Substances on this list are candidates for reassessment.

This list is periodically updated and consultation is an integral part of this process. In preparation for the next update ERMA recently made a detailed Evaluation Sheet publicly available for each substance and sought submissions from organisations and individuals regarding the composition of the list.

Q1: ARE THERE ANY SUBSTANCES THAT DO NOT APPEAR ON THE LIST THAT YOU BELIEVE SHOULD BE ON IT?

Acetochlor	Malathion
Atrazine	Permethrin
Bisphenol-A	Procymidone
Cypermethrin	Simazine
Dicofol	'All organo-phosphate insecticides'
Diuron	'Other fumigants'
EBDC fungicides	'Pesticides available to the general public through retail outlets'
Iprodione	
Linuron	

Q2: ARE THERE ANY SUBSTANCES THAT YOU BELIEVE SHOULD NOT BE ON THE LIST?

ALL substances on the list should be reassessed as soon as possible.	Nonylphenol (NP), nonylphenol ethoxylates (NPE), octylphenol (OP) and octylphenol ethoxylates (OPEs) and substances that contain them
2,4 D	Paraquat
Chlorpyrifos	
Decabromodiphenylether	
Lambda-cyhalothrin	

Q3: WHICH SUBSTANCES WOULD BE YOUR HIGHEST PRIORITY FOR REASSESSMENT?

2,4 D	Dimethoate
Acephate	EBDC fungicides
Anti-fouling paints	Endosulfan
Atrazine	Fenitrothion
Azinphos-methyl	Methamidophos
Benomyl and Carbendazim	Methyl bromide
Carbaryl	Methyl-parathion
Chlorothalonil	Nonyl phenol, Nonylphenol ethoxylates and Octylphenol ethoxylates and substances containing these substances
Chlorpyrifos	Paraquat
Chlorpyrifos methyl	Pentabromodiphenylether,
Cyhalothrin	
Diazinon	
Dichlorvos	

Octabromodiphenylether, and
Decabromodiphenylether and
substances containing these substances
Phthalic acid esters (phthalates) and
substances containing these substances

Short chain chlorinated paraffins (C10-
13)
Simazine
Trichlorfon

FURTHER COMMENTS

(See Pg 21)

SUBMISSIONS: UPDATE OF THE PRIORITY LIST FOR CHIEF EXECUTIVE INITIATED REASSESSMENTS

Q1: ARE THERE ANY SUBSTANCES THAT DO NOT APPEAR ON THE LIST THAT YOU BELIEVE SHOULD BE ON IT? PLEASE STATE WHY YOU THINK THESE ADDITIONAL SUBSTANCES SHOULD BE ON THE LIST.

SUBSTANCES ADDRESSED IN SUBMISSIONS

Acetochlor	Malathion
Atrazine	Permethrin
Bisphenol-A	Procymidone
Cypermethrin	Simazine
Dicofol	'All organo-phosphate insecticides'
Diuron	'Other fumigants'
EBDC fungicides	'Pesticides available to the general public through retail outlets'
Iprodione	
Linuron	

SUMMARY OF SUBMISSIONS

ACETOCHLOR

- Carcinogenicity, endocrine disruption, banned in the EU, exposure through residues in food.

ATRAZINE

- Carcinogenicity, especially linked to breast cancer, endocrine disruption, groundwater contamination, neurotoxic and possibly contributes to Parkinson's Disease.

BISPHENOL-A

- Endocrine-disrupting chemical used in plastics such as baby bottles, food, drink containers. May affect the cellular environment of the foetus in the womb, increasing breast cancer risk and risk of other disorders.

CYPERMETHRIN

- Carcinogenicity, endocrine disruption, neurotoxicity, exposure through residues in food.

DICOFOL

- Carcinogenicity, endocrine disruption, neurotoxicity, exposure through residues in food.

DIURON

- Carcinogenicity, endocrine disruption, exposure through residues in food.

EBDC FUNGICIDES

- Carcinogenicity, endocrine disruption, exposure through residues in food.

IPRODIONE

- Carcinogenicity, endocrine disruption, exposure through residues in food.

LINURON

- Carcinogenicity, endocrine disruption, exposure through residues in food.

MALATHION

- Carcinogenicity, endocrine disruption, neurotoxicity, immune effects, exposure through residues in food and home garden use.

PERMETHRIN

- Carcinogenicity, endocrine disruption, neurotox, exposure through residues in food, home garden and household use, EU ban.

PROCYMIDONE

- Carcinogenicity, endocrine disruption, exposure through residues in food.

SIMAZINE

- Carcinogenicity, endocrine disruption, exposure through residues in food, groundwater contamination.

ALL ORGANO-PHOSPHATE INSECTICIDES

- Surprise was expressed that these were not being reviewed as a group.

OTHER FUMIGANTS

- Some of these have considerable adverse human and environmental health impacts.

PESTICIDES AVAILABLE TO THE GENERAL PUBLIC THROUGH RETAIL OUTLETS

- The end users have no training in the use or handling of pesticides. Many of the pesticides are not available for use in other countries and many are implicated in serious health and environmental damage.

SUBMISSIONS: UPDATE OF THE PRIORITY LIST FOR CHIEF EXECUTIVE INITIATED REASSESSMENTS

Q2: ARE THERE ANY SUBSTANCES THAT YOU BELIEVE SHOULD NOT BE ON THE LIST? PLEASE STATE WHY YOU THINK THESE SUBSTANCES SHOULD NOT BE ON THE LIST.

SUBSTANCES ADDRESSED IN SUBMISSIONS

ALL substances on the list should be reassessed as soon as possible.
2,4 D
Chlorpyrifos
Decabromodiphenylether (Deca-BDE)
Lambda-Cyhalothrin

Nonylphenol (NP), nonylphenol ethoxylates (NPE), octylphenol (OP) and octylphenol ethoxylates (OPEs) and substances that contain them
Paraquat

SUMMARY OF SUBMISSIONS

ALL substances on the priority list should be reassessed as soon as possible.

2,4-D The following points were raised by submission[s]:

- Agencies with far more resources than ERMA have already received all the available data. Those agencies have reviewed, or are in the process of reviewing, their registration decisions. Data summaries, with conclusions, are publicly available. Furthermore, the owners of the data that are unpublished and proprietary will not make them available to ERMA in the absence of any data protection, in case free riding should occur.
- If ERMA reclassified 2,4 D products to bring them into line with the decisions of the EU, USA, Canada and Australia there would be no objection.

CHLORPYRIFOS The following points were raised by submission[s]:

- Some statements currently being made in reference to chlorpyrifos in the ERMA Evaluation Sheet are incorrect or misleading. For example the fact that chlorpyrifos has not been banned internationally by the USA, Canada, Australia and EU but, rather, voluntarily cancelled by its registrants. Safety and environmental evaluations of chlorpyrifos by the USA, Canada, Australia, EU, FAO and WHO, have resulted in very strong endorsements of the continued use of chlorpyrifos in agriculture. The statistics regarding reported incidents were also considered misleading and uninformative. For example, inquiries to poison control centres include many simple requests for information related to exposures and do not involve a follow up to verify that chlorpyrifos related effects occurred or what the outcome of the exposure was.
- Agencies with far more resources than ERMA have already received all the available data. Those agencies have reviewed, or are in the process of reviewing, their registration decisions. Data summaries, with conclusions, are publicly

available. Furthermore, the owners of the data that are unpublished and proprietary will not make it available to ERMA in the absence of any data protection, in case free riding should occur.

- IF ERMA used those classifications determined by other regulatory agencies to conduct the necessary risk management assessments for chlorpyrifos used under NZ conditions there would be no objection.

DECABROMODIPHENYLETHER The following points were raised by submission[s]:

- Deca-BDE is not listed as a hazardous chemical substance of potential concern in any of the key comparable priority chemicals listings established internationally. Deca-BDE has been subject to a thorough 10-year environmental and human health risk assessment by the European Union authorities, covering over 558 studies, which identified no significant environmental or human health risks related to the use of this substance. There are currently no bans worldwide in all of the commercial Deca-BDE's applications and there is currently no data indicating that any of the possible substitutes of commercial Deca-BDE are any better for environment or health.

LAMBDA-CYHALOTHRIN The following points were raised by submission[s]:

- The introduction of microencapsulated lambda-cyhalothrin formulations has considerably reduced the environmental and occupational exposure risks associated with the use of this product in agricultural settings. On this basis, the value of reassessing this product may be questionable.

NONYPHENOL (NP), NONYPHENYL ETHOXYLATES (NPE), OCTYLPHENOL (OP) & OCTYLPHENOL ETHOXYLATES (OPEs) & SUBSTANCES THAT CONTAIN THEM

The following points were raised by submission[s]:

- Information in the ERMA Evaluation Sheet includes outdated mischaracterizations of the hazards of these compounds, for example, with regard to persistence, toxicity, eco-toxicity and endocrine disruption. As such the ERMA information overstates the need for prioritization. [Note: Extensive data was provided in support of this; refer to submissions]

PARAQUAT The following points were raised by submission[s]:

- There is strong evidence that the risks associated with paraquat use in NZ are being adequately managed through existing controls.
- New Zealanders have a proven track record in the safe use of paraquat products.
- Paraquat registrations have been extensively reassessed and reaffirmed in developed countries around the world.

- Some of the data from the ERMA Evaluation Sheet, especially regarding incidents, exposure and eco-toxicity, presents paraquat as more dangerous than it actually is.

SUBMISSIONS: UPDATE OF THE PRIORITY LIST FOR CHIEF EXECUTIVE INITIATED REASSESSMENTS

Q3: WHICH SUBSTANCES WOULD BE YOUR HIGHEST PRIORITY FOR REASSESSMENT? PLEASE STATE WHY YOU WOULD PRIORITISE THESE SUBSTANCES.

SUBSTANCES ADDRESSED IN SUBMISSIONS

2,4 D
Acephate
Anti-fouling paints
Atrazine
Azinphos-methyl
Benomyl and Carbendazim
Carbaryl
Chlorothalonil
Chlorpyrifos
Chlorpyrifos methyl
Cyhalothrin
Diazinon
Dichlorvos
Dimethoate
EBDC fungicides
Endosulfan
Fenitrothion
Methamidophos

Methyl bromide
Methyl-parathion
Nonyl phenol, Nonylphenol
ethoxylates and Octylphenol ethoxylates
and substances containing these
substances

Paraquat
Pentabromodiphenylether,
Octabromodiphenylether, and
Decabromodiphenylether and
substances containing these substances

Phthalic acid esters (phthalates) and
substances containing these substances

Short chain chlorinated paraffins (C10-13)
Simazine
Trichlorfon

SUMMARY OF SUBMISSIONS & RECOMMENDATIONS

2,4 D The following points were raised by submission[s]:

- A known endocrine disruptor there is also evidence to link 2,4 D with breast cancer, soft tissue sarcoma, lung cancer, bronchial carcinoma, Hodgkin's and non-Hodgkin's lymphoma (NHL), fertility reduction and birth defects. 2,4 D is eco-toxic and, internationally, it is known to contaminate groundwater and rivers. Concerns were raised regarding the lack of strong evidence as to whether 2,4-D is itself contaminated with dioxin.
- The major cause of spray drift in NZ, the aerial application of 2,4 D has inflicted both serious economic losses and health problems on the population.
- Recommendations from submission[s]:
 1. Ban 2,4 D
 2. In the absence of a total deregistration of 2,4-D, we would be looking for a number of controls including a prohibition on aerial spraying, deregistration of all ester formulations, deregistration of any formulations containing any amount of dioxin, a prohibition on home garden use, strict notification requirements, and other risk mitigation measures such as buffer zones and/or spray reducing shelter belts.

ACEPHATE The following points were raised by submission[s]:

- One of the worst insecticides.

ANTI-FOULING PAINTS The following points were raised by submission[s]:

- Broad environmental impact in a sensitive environmental sector.

ATRAZINE The following points were raised by submission[s]:

- Exceptionally persistent herbicide.

AZINPHOS-METHYL The following points were raised by submission[s]:

- High mammalian toxicity.
- Safer alternatives are available.

BENOMYL and **CARBENDAZIM** The following points were raised by submission[s]:

- The two substances should not be assessed together. While carbendazim is the primary degradate of benomyl the toxicology of this compound differs from benomyl as well as thiophanate methyl.

- There is a need to address toxicological issues in regard to recent evaluations by the Canadian PMRA and European Union.
- Contrary to the ERMA reference, carbendazim has been registered in the US by Troy Chemical Corporation and has been under company number 5383 since 1990. Technical carbendazim as well as a number of its formulations containing this active ingredient have been registered by Troy with the EPA.

CARBARYL The following points were raised by submission[s]:

- Affecting both humans and animals, carbaryl is neurotoxic as well as being an endocrine disruptor, mutagen and carcinogen. It can also have effects on reproduction. Carbaryl contaminates the environment and as a result it has been detected in 12 food groups. Strict regulations concerning carbaryl have recently been established in Canada, US, UK and Australia. The chemical has not been reviewed, or conditions of use adjusted, for New Zealand.
- Recommendations from submission[s]:
 1. This pesticide needs to be taken off the market.
 2. At the very least much more stringent restrictions need to be put in place.

CHLOROTHALONIL The following points were raised by submission[s]:

- New Zealand farmers rely on chlorothalonil for the control of fungal diseases in fruit, ornamentals, turf, vegetables and wheat.

CHLORPYFIROS The following points were raised by submission[s]:

- Evidence demonstrates chlorpyrifos produces neurotoxic effects and has the ability to affect breast tissue development or increase breast cancer incidence. Regulations concerning chlorpyrifos are lacking. Even though the substance has been found in 12 food groups no attempts have been made to lessen this exposure and the substance is publicly available to be used without training.
- Internationally the use, and registration, of all organophosphates is being considerably reduced. EPA scientists have urged their agency to either adopt maximum exposure protections for organophosphates or take them off the market.
- Recommendations from submission[s]:
 1. We would expect an ERMA reassessment to put a stop to all household, garden and companion animal use and to apply restrictions aimed at reducing the exposure of the general public to this insecticide by reducing food residues and opportunities for spray drift.
 2. We would expect to see warnings and other measures to prevent the exposure of pregnant women and small children.
 3. Ideally a reassessment of chlorpyrifos should be done in junction with other organophosphate insecticides particularly the worst ones – acephate, methamidophos, azinphos-methyl, dichlorvos, trichlorfon, fenitrothion, diazinon and dimethoate.

4. All organochlorines [sic] should be reassessed collectively.

CHLORPYRIFOS METHYL The following points were raised by submission[s]:

- This chemical features extensively in our foodchain, having been detected in 21 food groups in the last Total Diet Survey. It has the eighth highest concentration of all pesticides found in the estimated daily intake of babies.

CYHALOTHRIN The following points were raised by submission[s]:

- Has been shown in research experiments to either affect breast tissue development or increase breast cancer incidence.

DIAZINON The following points were raised by submission[s]:

- Has been shown in research experiments to either affect breast tissue development or increase breast cancer incidence.
- One of the worst insecticides.

DICHLORVOS The following points were raised by submission[s]:

- Has been shown in research experiments to either affect breast tissue development or increase breast cancer incidence.
- One of the worst insecticides.

DIMETHOATE The following points were raised by submission[s]:

- One of the worst insecticides.

EBDC FUNGICIDES The following points were raised by submission[s]:

- These fungicides need to be urgently reassessed. The EBDC fungicide mancozeb is used extensively in New Zealand, with an estimated 10.37% of total active ingredient use and 12 registered products. The estimated tonnage of 441.9 of active ingredient per year is similar to that of Sweden in 1991 (500 tonnes), before they restricted their usage to less than a 100 tonnes by 1996. Dithiocarbamates generally were found in 27 food groups in the last Total Diet Survey and had the highest estimated daily intake for babies and other age groups of any pesticide. The metabolite, ethylene thiourea (ETU), has been found to be a goitrogen, teratogen and carcinogen in exposed experimental animals. ETU has been classified as a probable human carcinogen by the US EPA. The 1997 FAO/WHO International Codex Committee Joint Meeting on Pesticides Residues agreed that EBDCs were toxic to the thyroid. The EU has put mancozeb in its category 1 endocrine disruptors list (ie there are studies confirming its endocrine disruptor potential). There are several data gaps, for example, the mutagenicity tests for mancozeb and ETU have not been done and the environmental fate of ETU has not been studied. Exposure to heat increases the concentration of ETU, a concern when foods containing it are cooked. EBDC fungicides have been restricted and/or phased out in a number of Scandinavian countries and the US. The US does not allow them for home use.

It is not inconceivable that the 'safety' margin for mancozeb would be significantly eroded by its concentration (18.5% of estimated daily dietary exposure for babies to ADI) and its ubiquitous presence in the foodchain. The UK Working Party of Pesticide Residues found in their 1996 report that the ETU ADI would be exceeded for a high level infant consumer of apricots. The ETU content for produce or prepared foods has never been measured in New Zealand.

- Recommendations from submission[s]:
 1. We would prefer a ban on mancozeb and the other EBDC fungicide registered in New Zealand, metiram, or at least a phasing out and restrictions. Not allowing it for home use and in foods which children are more likely to eat such as apricots would be a good start.

ENDOSULFAN The following points were raised by submission[s]:

- Endosulfan is genotoxic and highly neurotoxic, as well as being carcinogenic and an endocrine disruptor at very low concentrations. Evidence suggests it can cause birth defects and have effects on behaviour. Believed to be contaminated with dioxins and furans, endosulfan is itself a contaminant. It bioaccumulates in both soil and groundwater. The incidence of endosulfan in the New Zealand food supply may be rising as a result. Use of this chemical in NZ is outdated compared to international practice. It has been banned in many countries and replaced by safer alternatives.
- Recommendations from submission[s]:
 1. A complete ban on endosulfan in New Zealand.
 2. A reassessment should determine levels of dioxins and furans in all formulations of this pesticide.

FENTROTHION The following points were raised by submission[s]:

- Found in 16 food groups, with the fifth highest concentration of all pesticides found in the estimated daily intake of babies.
- One of the worst insecticides.

METHAMIDOPHOS The following points were raised by submission[s]:

- High mammalian toxicity
- Safer alternatives are available.
- One of the worst insecticides.

METHYL BROMIDE The following points were raised by submission[s]:

- Until agreed and tested alternatives are found the economic survival of the Industry, and that industry's substantial contribution to the NZ economy, is dependent upon the continued use of methyl bromide.

- Methyl bromide should be reassessed due to the dangerous properties of the chemical, the amount of exposure to it that New Zealanders face and the lax regulations surrounding it.
- Methyl bromide is a very dangerous chemical. Not only is it ozone-depleting, it is also extremely toxic, with an ability to inflict severe health effects, including neurological damage. With no known cure for methyl bromide exposure, it poses a serious health risk.
- Workers using the chemical are at risk. Although it was suggested that the Department of Labour may under-report workplace incidents there have still been many recorded incidents involving occupational exposure over the years. Despite the availability of alternatives, and the UN intention to phase it out of use by 2005, the use of methyl bromide is an established part of the import/export business in NZ, and thus the workplace environment. In fact, methyl bromide use for quarantine and pre-shipment has increased in recent years.
- Methyl bromide exposure poses a question of safety to the general public. The chemical is in use at thousands of sites around the country and these are often situated very near to public areas. Methyl bromide is extremely volatile and, therefore, drift prone. As such the inhabitants of nearby areas are placed at some risk. This risk is exacerbated by a lack of strict regulations regarding the use of methyl bromide, such as an Environmental Exposure Limit or even the enforced display of HAZCHEM signs.
- Information regarding the effects of methyl bromide in New Zealand is lacking or unreliable as demonstrated by, for example, the Kiddle Cluster Study. Alternative exposure pathways, such as food or desorption, largely remain unacknowledged.
- Although ERMA has recommended a reassessment of methyl bromide showing the results of a capture and destruction trial being undertaken in Nelson '*this season*,' no trial is being undertaken in Nelson.
- Recommendations from submission[s]:
 1. No permitted uses in horticulture.
 2. Use of methyl bromide should only be permitted in facilities equipped with either scrubbing or capture and reuse/destruction technology.
 3. A mandatory 2-day wait before re-opening the fumigation chamber.
 4. No fumigation in residential areas.
 5. Safer alternatives should be used where they are available and practicable.
 6. A requirement for decreasing usage as other options come on stream.
 7. There needs to be a re-evaluation and modification of worker protection under OSH to protect from acute, chronic and sub-chronic exposures.

8. Buffer zones to the actual site of discharge must be established – minimum 50 metres from areas that public can access. Constraints must be put on use in relation to wind, speed and direction. Modelling for a specific site can ascertain the parameters.
9. Release/aeration should only occur in daylight hours with public notice postings on site entries with public newspapers advising 48 hours in advance of fumigation to allow the public to take protective measures.
10. Setting an Environmental Exposure Limit.
11. Setting comprehensive MRL's for food products.
12. Testing for residual methyl bromide in food products and other products that may retain methyl bromide. This is of particular concern for items such as infant food and clothing.
13. Developing a Code of Practice for use of methyl bromide with stringent enforcement for non-compliance.
14. Testing capture and destruction technology under strict scientific study conditions. Legislating for compulsory use of the technology if it provides to be effective in minimising the release of methyl bromide post fumigation.
15. Note: Australian authorities have undertaken a preliminary review of the registration of methyl bromide products, and their review recommended a considerable tightening of controls on the use of methyl bromide including the cancellation of methyl bromide registration for many uses and, in regard to quarantine and pre-shipment fumigation, the use of recapture technology where possible.

METHYL-PARATHION The following points were raised by submission[s]:

- Extreme mammalian toxicity.
- Safer alternatives available.
- Has been shown in research experiments to either affect breast tissue development or increase breast cancer incidence.
- Recommendations from submission[s]:
 1. As there are no registered products in New Zealand, we expect ERMA might find an administrative approach to removing its name without wasting precious resources on a full review.

NONYL PHENOL, NONYLPHENOL ETHOXYLATES & OCTYLPHENOL ETHOXYLATES AND SUBSTANCES CONTAINING THESE SUBSTANCES

The following points were raised by submission[s]:

- NP/NPE, OP/OPE, and substances that contain them, do NOT warrant a high ranking for reassessment. Information in the ERMA Evaluation Sheet includes

outdated mischaracterizations of the hazards of these compounds, for example, with regard to persistence, toxicity, eco-toxicity and endocrine disruption. As such the ERMA information overstates the need for prioritization. [Note: Extensive data was provided in support of this; refer to submissions]

- NP/NPE, OP/OPE warrant a high priority for reassessment on the basis that they are endocrine disrupting chemicals. There is growing evidence that exposure to endocrine-disrupting chemicals from the environment begins in the womb, tissue changes can occur, and that such changes may adversely affect life time breast cancer risk.
- Recommendations from submission[s]:
 1. A reduction in use of these substances and their replacement with less harmful chemicals.

PARAQUAT The following points were raised by submission[s]:

- Has been shown in research experiments to either affect breast tissue development or increase breast cancer incidence.

PENTABROMODIPHENYLETHER, OCTABROMODIPHENYLETHER & DECABROMODIPHENYLETHER & SUBSTANCES CONTAINING THESE SUBSTANCES

The following points were raised by submission[s]:

- Endocrine disrupting chemicals. There is growing evidence that exposure to endocrine-disrupting chemicals from the environment begins in the womb, tissue changes can occur, and that such changes may adversely affect life time breast cancer risk.
- Recommendations from submission[s]:
 1. A reduction in use of these substances and their replacement with less harmful chemicals.

PHTHALIC ACID ESTERS (PHTHALATES) & SUBSTANCES CONTAINING THESE SUBSTANCES

The following points were raised by submission[s]:

- Endocrine disrupting chemicals. There is growing evidence that exposure to endocrine-disrupting chemicals from the environment begins in the womb, tissue changes can occur, and that such changes may adversely affect life time breast cancer risk.
- Recommendations from submission[s]:
 1. A reduction in use of these substances and their replacement with less harmful chemicals.

SHORT CHAIN CHLORINATED PARAFFINS (C10-13) The following points were raised by submission[s]:

Issues were raised regarding information included on the ERMA supplied Evaluation Sheet for short chain chlorinated paraffins (C10-13).

- The ERMA supplied Evaluation Sheet claims that ‘*[t]here are a number of transferred pesticide products that contain SCCPs,*’ The veracity of this statement is questionable.
- The ERMA claim that ‘*Public exposure could occur since there are a range of products containing SCCPs available to the public including sealers, fillers and leather finishing products which can contain up to 50% SCCPs*’ is misleading as the public is unlikely to be exposed to more than a trace level; by the time the public comes in contact with the products manufactured with SCCPs, there is little, if any, available for exposure.
- There is insufficient information on the Evaluation Sheet to understand the basis for the Hazardous property classification, especially with regard to 6.7B and 6.8B.
- While the ERMA document correctly notes that the use of SCCPs in metal working and leather treatment have been restricted in the European Union, such assessments are based on worst-case assumptions that are not relevant to handling practices in most parts of the world.
- An issue that often arises when addressing chlorinated paraffins, concerns the appropriate CAS# and description of the substance. There is at times confusion over whether a single chain length chlorinated hydrocarbon in the same carbon chain range should be considered a CP. Traditionally the industry and most regulatory agencies do not consider such substances to be CPs. Similarly, substances that have broader chain length distributions that C10-C13 are not considered to contain SCCPs.

SIMAZINE The following points were raised by submission[s]:

- Exceptionally persistent herbicide.

TRICHLORFON The following points were raised by submission[s]:

- One of the worst insecticides.

FURTHER COMMENTS

- Various submissions reported an interest in specific substances on the reassessment list and asked to be notified if these substances are prioritised for further reassessment.
- Many of the substances on the draft list for reassessment are used by a range of primary sectors for the control of weeds, pests and diseases. A summary of use in various sectors is available in the *Trends in Pesticide Use in New Zealand: 2004* report (available on <http://www.hortresearch.co.nz/files/science/ifp/nz-pesticide-trends.pdf>). From the data used in this report, we have summarised the use patterns of the substances listed for reassessment to develop a list of their relative role in a range of horticultural sectors (see attached spreadsheet). For example, 30.88% of the total insecticide use (a.i. /year) in sweetcorn is estimated to be diazinon; and 77.1% of the total insecticide use (a.i. /year) in Tamarillos is estimated to be dichlorvos. Clearly crop-specific plant protection programmes which rely to such a large extent on any of the products listed for reassessment would need to be substantially redesigned, depending on the nature of any controls. Further analysis of agrichemical use in horticulture, can be used to estimate the wider 'reach' of the substances potentially being reassessed. For example, 2.84% of fungicide/bactericide use (a.i./year), and 0.33% of herbicide use (a.i./year) in horticulture is estimated to include substances potentially being reassessed. However, **42.99% of all insecticide use** in horticulture (a.i./year) involves substances on the reassessment list. This highlights the particular impact of the reassessment process on insect pest control, as opposed to disease or weed control. In making these comments, it needs to be kept in mind that the date covered in the Pesticides trends report is 2003 data, and in some cases will no longer be representative of industry practice. However, the potential use of such data highlights the value in continuing to update pesticide use data on a regular basis.
- How many pesticides does ERMA expect to reassess this coming year? As the Select Committee remarked in their report last year: "We do not believe that four reassessments in a year is enough given the number of pesticides used in New Zealand and their potential health and environmental effects."
- All the chemicals on the list are a high priority for reassessment, and ERMA must find ways of achieving their reassessment over the next five years.
- The evaluation sheets highlight the need for objective, up-to-date, New Zealand data on adverse events and incidents with potential impact in order to properly assess the risk involved in chemical use in a way that reflects the current controls imposed in this country to mitigate such risk. Use patterns in overseas countries can be substantially different to that here, and both usage and controls have changed over time. Some of the data used here is very dated, limiting its usefulness. As well relevant local data would help meet the clear need to evaluate the impact and effectiveness of measures imposed over recent years to better manage risk, particularly the package of requirements instigated under the HSNO Act; measures which have only just come into effect.

- The evaluation process has shown that there is a tremendous gap in the available information relating to local adverse incidents and situations of particular concern. I do hope some effort and priority is given to establishing appropriate systems for capturing such data, which is critical to assess both the risk implied in current use and the impact of any controls applied. Without such information it will not be possible to readily evaluate even the success or failure of controls recently applied in New Zealand to manage the risk of hazardous substances. Overseas data reflects different use patterns and controls, and can be badly dated in both these regards.
- The actual re-assessment is seen as the more important stage for user involvement.
- Some of the [Evaluation Sheet] information on anti-fouling paints is outdated:
 1. In Denmark the regulations are only for pleasure craft (not big ships) so the revocation of use for DIURON and IRGAROL 1051 only applies to ships < 25m long.
 2. In the Netherlands, the ban on copper [-containing antifouling paints] for pleasure craft has been lifted in response to a court case.
- Our submission’s focus is to critique of the current frame of reference, the process, for determining where scarce reassessment resources will be placed. the focus of this submission is how ERMA should structure its reassessment programme so as to best operate within the confines of the existing law, as is its role. ERMA has scant resources to undertake CEO initiated reassessments – a budget for the current year of the order of \$200,000. On the basis of the cost of the first full reassessment, ERMA believes it can undertake no more than two full reassessments a year on such a budget (although it may be able to squeeze in some lesser reviews or a combination of lesser reviews and a full reassessment). Recognising that on this basis, even the 25 listings on the current priority schedule likely constitute more than a decade’s work. When talking about the time to complete the remaining review or even the “long list” of some 500 substances, one is tempted to speak in epochs. HSNO does not however require ERMA to reassess “substance by substance”. This is a framework that ERMA has adopted through a failure to prioritise the work required to determine an optimised allocation of resources. We raised with ERMA early last year the need to conduct an analysis of the potential for gains to the environment and human health through reassessing groups of similar substances with a view to adjusting one or more controls across all the substances. ERMA acknowledged this potential at that point, and in subsequent exchanges. Taking cognizance of the balance of the Act and the ERMA Decision-making Methodology in particular, ERMA arguably has a derived duty to deploy its resources so as to deliver the best protection that can be had from the resources made available to it. We recommend that ERMA give priority to scheduling the work required to develop a framework for “horizontal” as well as “vertical” assessment, and that it not commit to further CEO initiated reassessments until it has completed that work and reviewed the priority list in light of it.

Appendix 2 – Overview of Process for Chief Executive Initiated Reassessments

