



Environment Centre NT

MEDIA RELEASE

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Toxic mangoes?

Call for ban on ‘dirty dozen’ chemicals

The Environment Centre NT says there are a dozen highly dangerous chemicals being used in mango farming in the NT which should be withdrawn from use: some banned outright; others phased out as quickly as possible.

“With mango farming expanding rapidly in the NT (300% increase expected – DBIRD), the NT Government has to get real about the widespread use of so many highly dangerous chemicals with the potential to poison people and the environment.

“The continued widespread use, or potential use, of so many toxic chemicals, including several which are banned elsewhere around the world, could easily undermine the NT’s ‘clean green’ food marketing strategy.

“Our investigations show that there are about 300 chemical products currently approved for use in mango farms in the NT. These 300 or so products are made up of about 40 or 50 ‘active chemical constituents’, and of these active constituents, a dozen are so dangerous we believe they should not be approved for use.

“These **‘dirty dozen’** chemicals (listed below) are a risk to mango growers and their families; to mango pickers; to neighbours; to wildlife including birds and fish; to streams and aquifers; and of course to the end consumers of the fruit.

“Several of these chemicals have been linked with increased risk of cancer and reproductive disorders, while others are known to be highly toxic to birds, fish, and other wildlife. Several are banned elsewhere around the world, and in Australia, or are currently being considered for banning.

“With so many chemicals in use, there is a very real danger that a ‘cocktail effect’ will emerge – where the allegedly safe use of individual chemicals is cancelled out by the cumulative impacts of so many different chemicals being used on the same crop.

“Also of great concern is the fact that the NT Government does not keep a record of how much of these chemicals is actually being used, or where (except perhaps in the case of the highly restricted “S7” poisons).

“Nor is there an adequate system in place for the ‘safe’ disposal of surplus chemicals and used chemical containers. According to the recommended disposal instructions on the container labels – which are legal documents - many of these chemicals are simply poured into pits and the containers taken to landfill sites or buried on farmers properties!

“No testing for residues is conducted in NT. Interstate testing has identified chemical residues in mangoes from NT and Queensland*, but such testing is limited and industry-run. Australia’s main government food safety authority (FSANZ) does not test any foods for chemical residues.

“As well as banning the dirty dozen, the NTG should:

- increase funding to allow for drastically improved chemical use monitoring and compliance enforcement; for residue testing in foods; and for the establishment of a ‘best practice’ residue and drum disposal system, based on the “Drum muster” programme that operates in other States.
- dramatically increase Departmental resources for, and priority given to, developing organic and other low chemical or chemical free growing systems. Mangoes can be grown without toxic chemicals!

****“Freshtest” (industry self-monitoring testing) has shown chemical residues in NT/Qld mangoes in Sydney: 137 samples Aust wide 2002/03; 70 chemicals found; none above MRL**

The Dirty Dozen (more or less in alphabetical order)

1. Carbaryl
2. Carbendazim
3. Chlorpyrifos
4. Dimethoate
5. Endosulphan
6. Fenthion
7. Mirex
8. Mancozeb
9. Methidathion
10. Oxyfluorfen
11. Prochloraz
12. Propachlor

NOTE:

1. IT SEEMS IMPOSSIBLE FOR THE PUBLIC TO FIND OUT FOR SURE WHETHER ALL THE CHEMICALS LISTED ARE IN USE WITH MANGOES AT ANY GIVEN TIME in NT – DUE TO LACK OF GOVERNMENT RECORDS.
2. WE HAVE BASED OUR INFORMATION ON THE APVMA LISTING OF CURRENT CHEMICALS APPROVED FOR USE ON NT MANGOES AND CROSS REFERENCED THIS WITH PHONE CALLS TO RELEVANT NT GOVERNMENT OFFICIALS TO CONFIRM THAT THEY ARE OR COULD BE IN USE.
3. THERE ARE MANY OTHER CHEMICALS IN USE, OR APPROVED FOR USE IN MANGO FARMS, SOME OF WHICH MAY BE AS DANGEROUS AS ‘THE DIRTY DOZEN’, BUT INFORMATION ON THEM IS NOT READILY AVAILABLE.
4. THERE ARE MANY, MANY MORE CHEMICALS, INCLUDING MANY HIGHLY DANGEROUS CHEMICALS, APPROVED FOR USE ON OTHER FOOD CROPS IN THE NT, WITH THE SAME LACK OF REGULATION.

The Dirty Dozen (in more detail)

Carbaryl (insecticide)

- Poison rating: S6
- Carbaryl is moderately to very toxic
- In the UK, in November 1995, company data indicated carbaryl could cause cancer in humans. The studies were assessed by the Committee on Carcinogenicity and the Advisory Committee on Pesticides, which, in reporting to the government, concluded that it would be "prudent to consider carbaryl as a potential human carcinogen".
- Carbaryl is lethal to many non-target species
- Use is "under review" in Australia – may be withdrawn for mangoes
- Chemical companies are resisting withdrawal of product

Carbendazim (fungicide – for dipping mangoes)

- Poison rating: S6
- Recommended disposal after use as mango dip: pour into a pit!
- Very highly toxic to fish
- Carbendazim is a fungicide of major concern due to its suspected hormone disrupting effects. It has been highlighted by Friends of the Earth as one of their 'filthy four' pesticides as it could be harmful to human health and the environment
- Linked with cancer

Chlorpyrifos (insecticide)

- Poison rating S6: very toxic to humans
- Banned in other countries
- US Environmental Protection Agency's (EPA) Office of Pesticides Program (OPP) reported disturbing acute and chronic adverse effects stemming from misuse and misapplication of chlorpyrifos by householders and professional pesticide applicators
- A national survey of pesticides and their metabolites in the US found that the primary chlorpyrifos breakdown product, 3,5,6-trichloro-2-pyridinol was the second most commonly detected chemical in food
- Chlorpyrifos is moderately to very highly toxic to birds
- Chlorpyrifos is very highly toxic to freshwater fish, aquatic invertebrates and estuarine and marine organisms

Dimethoate (fungicide – for dipping mangoes)

- Poison rating: S6
- Dimethoate is very toxic to birds, highly toxic to fish and to aquatic invertebrates, highly toxic to honey bees and very toxic to livestock
- Use is "under review" in Australia due to health and environmental concerns
- Highly restricted in other countries
- Neurotoxin
- Systemic

- Recommended disposal after use as dip: dispose in pit!
- Its acute effects on the nervous systems of humans and wildlife have been widely observed.
- Linked with cancer

Endosulphan (insecticide)

- Poison rating S7: authorisation by Health Department required for use
- Recent review led to withdrawn for use on leafy vegetables, but still in use on mangoes
- Endosulfan is a highly toxic pesticide in EPA toxicity class I
- Endosulfan is very highly toxic to fish and birds
- Endosulfan is easily absorbed by the stomach, by the lungs and through the skin, meaning that all routes of exposure can pose a hazard. Exposure to endosulfan may result from, for example: breathing air near where it has been sprayed; drinking water contaminated with it; eating contaminated food; touching contaminated soil; smoking cigarettes made from tobacco with endosulfan residues; or working in an industry where endosulfan is used
- Endosulfan has been banned in at least the following countries: Denmark, Germany, Netherlands, Sweden, Belize and Singapore

Fenthion

- Once used extensively in the U.S. for controlling intestinal worms, fenthion no longer has FDA approval due to poisoning deaths
- Fenthion is highly toxic to birds
- Fenthion is moderately toxic to fish
- Other effects reported in workers repeatedly exposed include impaired memory and concentration, disorientation, severe depressions, irritability, confusion, headache, speech difficulties, delayed reaction times, nightmares, sleepwalking and drowsiness or insomnia

Mirex (for termites in mango plantations)

- Poison rating S7: restricted use –highly toxic
- Same class of chemicals as chlordane, DDT, dieldrin, dioxins: “Persistent organic pollutants”
- Banned just about everywhere else in the world
- Australia is the only country applying for exemption; NT one of the few places in Australia still in use
- Testing has shown mirex in mangoes – so it can be absorbed by the trees and fruit

Mancozeb (fungicide)

- Poison rating S5
- Linked to cancer
- Highly toxic to fish
- Registered for use on crops which may present a great deal of residue exposure and the mancozeb metabolite, ETU, has been shown to produce tumors, birth defects, cell mutations and thyroid effects
- The US authorities banned maneb and mancozeb use on apricots in 1992 because of concerns over consumer exposure.

Methidathion

- Poison rating S7
- Methidathion is an highly toxic compound in US EPA toxicity class I
- Moderate amounts of methidathion caused a number of adverse reproductive effects
- “Deleterious to beneficial insects”
- Dangerous to fish: The compound is very highly acutely toxic to aquatic organisms
- Linked to cancer

Oxyfluorfen

- Poison rating: S5
- Oxyfluorfen is highly toxic to aquatic invertebrates, freshwater clams, oysters, aquatic plants, and fish.
- Linked to cancer
- Persistent
- All fluorinated chemicals should be banned

Propachlor (herbicide)

- Poison rating S6
- Banned in Denmark due to concern over residues in ground water and water ecosystems
- Linked with cancer

Prochloraz (fungicide dip)

- Poison rating: S6
- Disposal of chemical post-dip: pour into pit!
- Toxic to fish
- Endocrine disrupting chemicals (EDCs), such as prochloraz, are substances that can cause adverse effects on the body's hormones or chemical messengers. These substances are therefore called hormone disruptors or endocrine disruptors, as it is the endocrine glands that secrete the hormones
- Linked with cancer

SELECTED INFORMATION SOURCES

- **Australian Pesticides and Veterinary Medicines Authority (APVMA)**
- EXTOXNET (UCLA)
- Pesticides Action Network (UK)
- DBIRD Primary Industries section, NT Government
- Food Standards Australia & New Zealand (FSANZA)
- Commonwealth Office of Chemical Safety
- National Toxics Network Australia