



# WASTE MANAGEMENT





## Section 6: Waste Management

The Expected Environmental Outcome for Waste states

*All reasonable and practicable measures should be adopted, within the constraints of a sustainable agricultural system, to manage waste from on-farm activities (QFF 1998).*

### 6.1 CLEAN AND DECONTAMINATE EQUIPMENT APPROPRIATELY

Guidelines for cleaning up equipment include (Rural Chemicals Code 1994),

- removing any remaining chemical mix from the tank by rinsing with clean water
- wearing the same personal protective equipment needed for spraying
- removing and washing the suction filter, flushing spray lines and washing nozzles and nozzle filters
- spraying rinsate in the tank over the crop or fallow ground

SPRAYpak contains a useful table on decontaminating equipment following the use of the major chemical groups including organophosphates and carbamates, organo-chlorines, hormone type herbicides, sulfonylureas and other herbicides or chemicals (Whitehead and Pyke 1994).

### 6.2 DISPOSE OF CHEMICALS APPROPRIATELY

#### ■ *Store unwanted chemicals safely.*

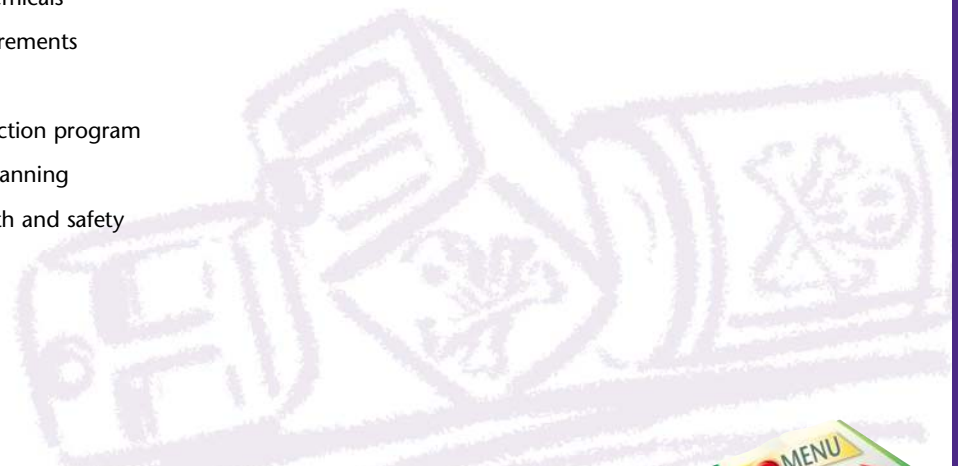
The Agricultural Chemicals Working Group has developed Guidance Notes for the storage of Unwanted Farm Chemicals (Agricultural Chemicals Working Group 1997).

These guidance notes acknowledge that unwanted chemicals, 'may have to be stored on farms for a considerable period of time.'

The guidance notes provide general advice on the safe storage of unwanted chemicals to minimise the risk of a spill or harm to people, property or to the environment.

Issues covered in the guidance notes include (Agricultural Chemicals Working Group 1997),

- Packaging and maintenance of packaging
- Maintenance of information (about what products are stored)
- Mixing of chemicals
- Storage requirements
- Bunding
- Regular inspection program
- Emergency planning
- Personal health and safety





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### ■ *Dispose of chemicals with a pit on farm if needed.*

Otherwise, unwanted dilute agricultural chemicals should be discharged into a disposal pit. Pit sites should be located in suitable areas of impermeable soils and be between a half metre to 1 metre deep and have lime spread at the bottom.

The same personal protective equipment used when manually spraying should be worn. Disposal pits should be chosen carefully being at least 2 metres above groundwater and 50 metres away from streams, channels, wells, boreholes and water courses (Rural Chemicals Code 1994).

Pits should not be in danger of contaminating dwellings, surface water, groundwater, crops or livestock. The land should be level and a clay liner is preferred. A heavy-duty plastic or pit liner may be used where there is a risk that chemicals will leach from the immediate area of the pit (Rural Chemicals Code 1994).

If chemicals are not biodegradable then some contamination of the land will occur. Under Contaminated Land legislation, future sale and subsequent land use may be affected, and land registered with the QDoE.

### ■ *Dispose of post-harvest dips according to Guidelines*

The QDPI have specific guidelines for disposal of dimethoate (Rogor®) and fenthion (Lebaycid®) mixture dips.

Dimethoate can be disposed by mixing 3 kg hydrated, slaked or quick lime with every 1000 litres of dip solution in a separate vessel and leaving the mixture to neutralise for 2 hours (QDPI 1996a). The inactivated mixture is best exposed to sunlight, organic matter and organisms. Pouring the inert mixture into a trench or spraying it on unproductive ground will do this. See the guidelines for more details (QDPI 1996a).

Fenthion mixture dips should have 3 kg of hydrated, slaked or quick lime added to every 100 litres of waste solution (QDPI 1996b). It then needs to be stored in a dedicated tank for 2 months. After this period it can be poured into a trench or sprayed on fallow or unproductive ground (QDPI 1996b). See the guidelines for more details.

Where QDPI guidelines do not exist, consult the label or MSDS of the chemical product for help on disposal.

### **6.3 DISPOSE OF CHEMICAL CONTAINERS APPROPRIATELY**

Un-rinsed containers can hold as much as 3% of product concentrate that is not being applied to where it should be (Spray Sense #8 1995). As well as economic waste, un-rinsed containers can be classified as hazardous waste. This means they can present a hazard to people who handle them and have potential to contaminate the environment.

Rinsing can occur several ways (Whitehead and Pyke 1994). Triple rinsing is done manually and involves filling the container to 1/4 capacity with clean water, shaking and then adding the waste water to the spray tank. This is done three times.

Pressure rinsing generally involves the use of one of three methods including (Spray Sense #8 1995),





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- a piercing nozzle - a specially designed nozzle to pierce and force remaining product from plastic and non-pressurised metal containers
- a probe and 'sucker flusher' system - these extract the chemical concentrate while enabling water to be introduced into the container to assist with the removal of thicker products
- a transfer and rinsing system - nozzles or probes are used to spray water into the container while the rinsate is caught in the hopper and transferred to the spray tank



*Pierced, triple rinsed and dry containers should be taken to a local government or commercial waste management facility for collection, transfer, disposal or recycling  
(Photo courtesy Agsafe)*

Once containers are rinsed, they should be punctured so they cannot be re-used and can also drain properly (Spray Sense #8 1995). It is preferable to puncture them from the inside using a crowbar or spike so that the puncture faces the outside of the container enabling drainage of rinsate. Once dry, take containers to a facility or program provided by a local government or a commercial waste management business for collection / transfer / disposal or recycling of containers.

For further information Contact Avcare (the National Association for Crop Protection and Animal Health).

### 6.4 DISPOSE OF WASTE OIL APPROPRIATELY

Waste oil from farming activities may have become contaminated with substances such as metal particles from engine wear, fuel from incomplete combustion, rust, dirt, carbon, heavy metals and water.

Waste oil if not disposed of effectively can lead to pollution of the environment and potential risk to public health and safety.

Wherever practicable, waste oil should be recovered for reuse and recycling. It should be stored in a leakproof container in a bunded area prior to collection by a reputable recycling business or delivery to a recognised disposal facility such as a Local Government collection depot or a service station.

