

# **AGRICULTURE**

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# Injuries and ill health in agriculture

Agriculture is a hazardous industry.

Agricultural workers work with potentially dangerous

- machinery
- vehicles
- chemicals
- livestock
- at heights or
- near pits and silos.

They are exposed to the effects of all kinds of weather, noise and dust. The risks also include family members working at the farm and children living at the farm.

**In the Caribbean many workers are involved in agriculture, which includes:**

- farming,**
- forestry,**
- arboriculture, and**
- fish farming.**

**Agriculture has one of the highest fatality rates of all industries and is responsible for perhaps between 15% and 20% of all deaths in many countries.**

## The most common causes of death are:

- transport – being struck by moving vehicles;
- falls from a height;
- being struck by a moving or falling object;
- being trapped by something collapsing or overturning;
- contact with machinery;
- injury by an animal;
- asphyxiation or drowning; and
- occasionally contact with electricity.

## The most common causes of non-fatal injuries are:

- handling, lifting or carrying;
- slip, trip or fall on the same level;
- being struck by moving, including flying or falling, objects;
- falls from heights;
- contact with machinery; and
- being injured by an animal.

**People working in agriculture can also be permanently disabled by ill health by:**

- breathing in dusts,**
- handling loads,**
- being exposed to noise or vibration,**
- using agrochemicals, and**
- working with animals.**

**These can all cause ill health with symptoms that can take years to show. In some cases this can result in premature death.**

## **In agriculture, typically:**

- ■ **80% of workers have some form of musculoskeletal injury (back pain, sprains or strains);**

- ■ **twice the national average of people are affected by asthma;**

- ■ **many workers are affected by zoonoses (diseases passed from animals to humans) each year; and**

- ■ **25% of the workforce suffer some hearing loss from their work.**

**In common with all best practice, you should try to eliminate the agricultural hazard altogether, but if you cannot do this, then you must control the risks in the following order:**

**■■ introduce a less risky option, eg. switch to a less harmful agrochemical;**

**■■ prevent access to the hazard, eg. securely cover or fence any pits or guard any machines;**

**■■ organize work to reduce exposure to the hazard, eg. put barriers between workers and moving vehicles; and**

**■■ provide appropriate personal protective equipment, eg. clothing or footwear and, if possible, provide welfare facilities, eg. first aid and showers for removing any contamination.**



# Agricultural transport

The most common causes of serious and fatal injuries in agriculture involve moving and overturning vehicles. Transport movements in and around the workplace need to be controlled to protect workers, and to prevent damage to equipment and buildings.

Other incidents happen when workers leave a vehicle without making sure it cannot move or cause injury in other ways. The vehicle braking system must be properly maintained and always use the 'safe stop' procedure whenever possible if a vehicle is left. It is important to lower to the ground any raised implements or loaders.

'Safe stop' is the most important safety action of all:

- ■ Handbrake on.
- ■ Controls in neutral.
- ■ Engine off and remove key.

**NO ROLL BAR ON THIS TRACTOR**





**TRACTOR ROLL BARS ARE ESSENTIAL AND ARE  
REQUIRED BY LAW IN SOME COUNTRIES**

**To reduce the risk of an overturn:**

- **make sure that tractors and machines are properly equipped and maintained, especially brakes, steering and tyres. Consider wide wheel settings for work on slopes; and**
- **plan the operation in advance, and make sure operators know the key elements of safe working on slopes.**



**Some kind of shade or cover will help to protect the driver from the excessive temperatures and sunlight.**

**To reduce the risk of injury, the driver should:**

- stay in the cab and not attempt to jump clear, as most deaths and serious injuries involve those who jump or are thrown out of a cab during overturning;**
- check that the safety frame or cab is in good condition and correctly fitted. Corrosion and incorrect mounting bolts can cause the safety frame to fail in an overturn;**
- never remove windows or doors from a safety cab;**
- wear the seatbelts fitted, especially if there is a legal requirement where there is a risk of overturning. Consider fitting belts where not installed as original equipment;**
- don't carry loose items inside the cab as they may cause extra injury in an overturn.**

## Lifting operations

Make sure

- all lifting equipment is thoroughly examined (and tested if necessary) regularly by a competent person;

- safe working loads (SWLs) are usually marked on lifting equipment. Never exceed SWLs, or use damaged, makeshift or worn items;

- overload indicators on handling machines are in working order. Do not ignore them; and

- loading operations are planned to minimize travel with loaders raised and carried out in a safe area. Whenever possible, lower tractor foreloaders for travel;

**Never use grain buckets, pallets or other makeshift equipment for lifting people off the ground.**

## **Agricultural workplaces can cause health problems, so provide:**

- seats with a backrest supporting the small of the back and, if needed, a footrest, where work can be done seated, eg. vegetable or fruit grading;**
- machine controls designed and arranged to provide a comfortable working position;**
- engineering controls, eg. local exhaust ventilation systems, to reduce health risks from dangerous substances such as grain/bagasse dust; and**
- well-designed tools and working areas to reduce hand and forearm injury caused by repetitive movements, eg. on vegetable or fruit grading lines.**

## Toilet and welfare facilities

There is a risk of illness from hazardous substances and from muck or other animal products carrying potentially hazardous micro-organisms. If possible rest facilities should be provided as well as:

- clean, well-ventilated toilets;
- wash basins with hot and cold (or warm) running water, soap and towels;
- portable washing facilities for workers working away from base;
- changing facilities where special clothing is worn; and
- a clean drinking water supply (marked to distinguish it from any non-drinkable supply).



## Health issues in agriculture

Using chemicals or exposure to other hazardous substances in agriculture can affect workers' health – these include:

- substances used directly in work activities, eg. cleaning chemicals, dairy disinfectants, fertilizers, many pesticides/herbicides and veterinary medicines;
- substances generated during work activities, eg. fumes from welding;
- naturally occurring substances, eg. grain dust, poultry dust, silo and slurry pit gases; and
- biological agents, eg. bacteria and fungi.

## Prevent exposure

The priority is to eliminate exposure to hazardous substances by methods such as:

- change the way work is done so that the hazardous substance is not needed or generated, eg. don't use corrosive silage additives;
- replace a hazardous substance with a safer alternative, eg. use water-based paint rather than solvent-based paint; and
- use the hazardous substance in a different form, eg. introduce a liquid or wet feed in place of a dusty meal or crumb.

## Control exposure

If a hazardous substance is being used, then ensure that appropriate control measures, including, in order of priority, one or more of the following:

- ways of working that minimize the amount of substance used or produced;
- engineering controls, eg. enclosing the process or fitting local exhaust ventilation to remove any toxic fume or dust at source;
- minimizing how long workers may be exposed, or how many;
- good housekeeping to minimize accidental contact;
- personal protective equipment, eg respirators, gloves etc, but never as a replacement for other measures and good washing facilities; and
- training in the use of engineering controls, good practice, and protective equipment.

M2

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**M2**

Some dust masks (with one string) are not approved/recommended as respirators. Only respirators must be used for protection against dusts/particulate hazards.

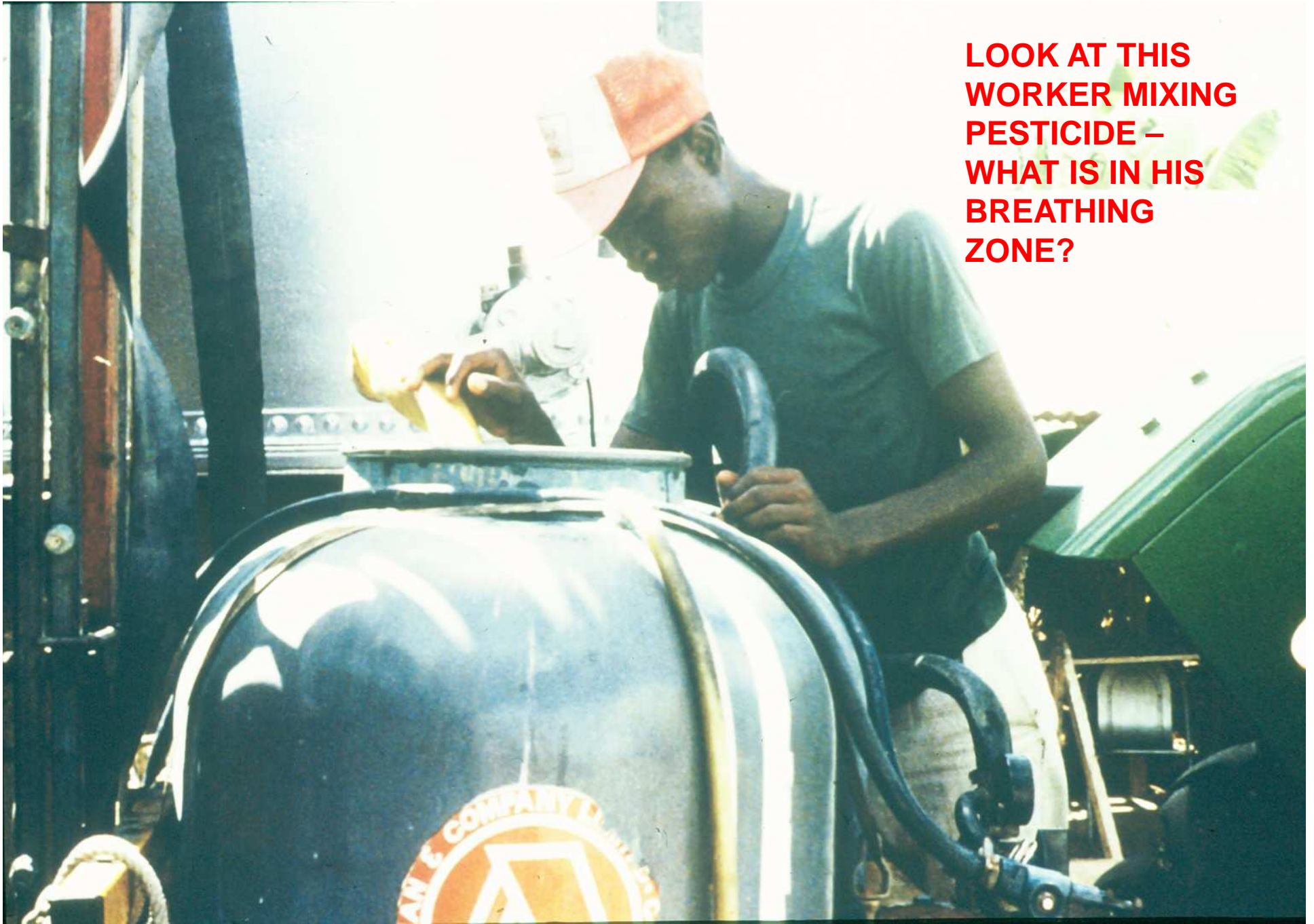
Michael, 22/10/2011

## Pesticide use – some rules

- Always read and make sure you understand the instructions on the label, MSDS, and in any leaflet supplied with the product.
- Make sure you use any personal protective equipment (PPE) identified in the instructions.
- Only spray when weather conditions are suitable to reduce spray drift.
- Try to avoid walking through treated areas.
- Do not eat, drink or smoke when applying pesticides.
- Wash hands before taking a rest break.
- Do not use faulty application equipment. All equipment should be maintained to a high standard to prevent leakage and calibrated to ensure accurate application.
- Do not overfill sprayer tanks and secure all caps and lids before use.

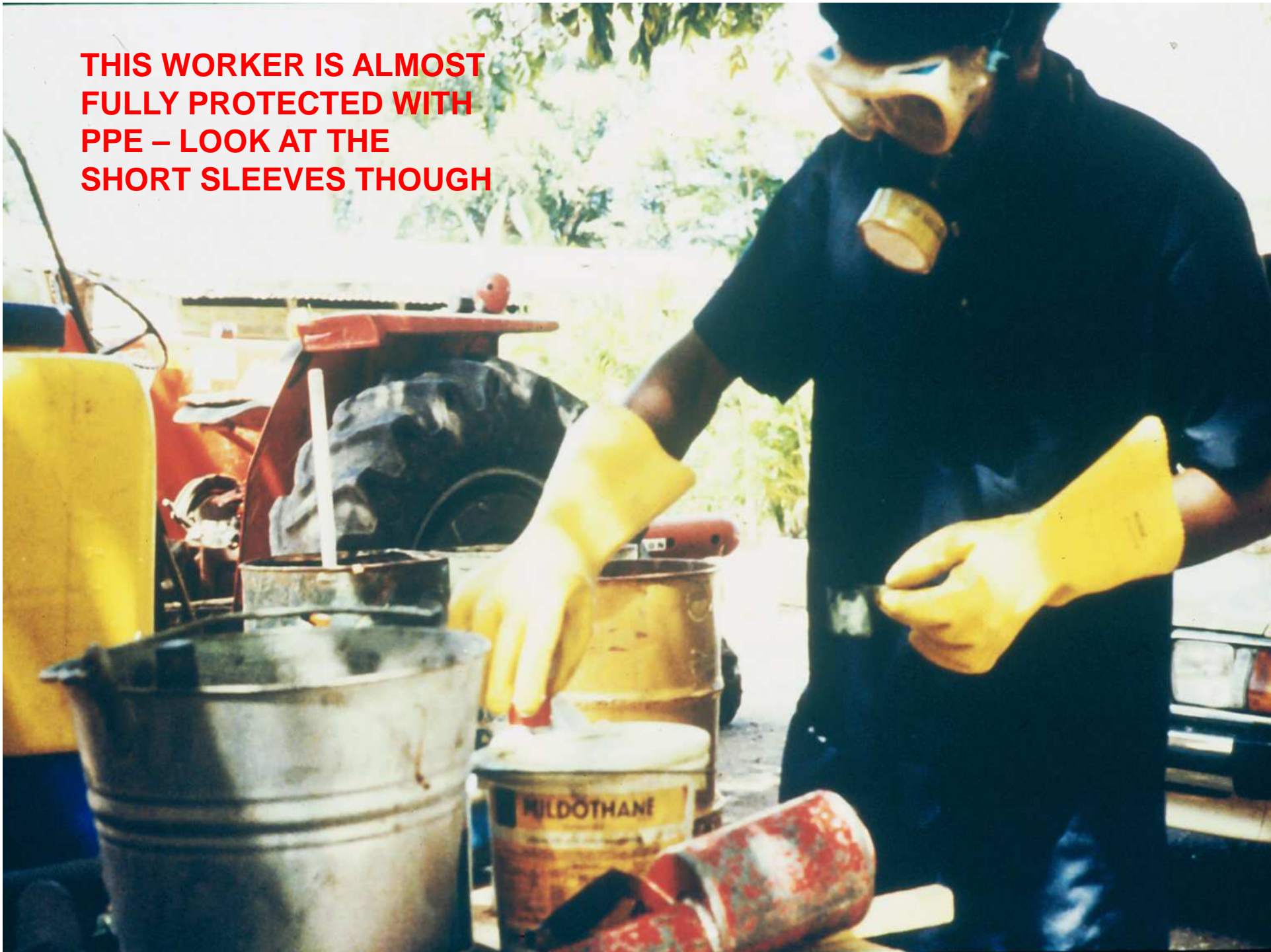
After use, clean all equipment inside and out, preferably before leaving the treatment area. Return any unused pesticide to the store or dispose of it safely and legally.

- Follow advice on the disposal of waste pesticides including packaging and pesticide washings.
- Keep a record of all pesticide use.



**LOOK AT THIS  
WORKER MIXING  
PESTICIDE –  
WHAT IS IN HIS  
BREATHING  
ZONE?**

**THIS WORKER IS ALMOST FULLY PROTECTED WITH PPE – LOOK AT THE SHORT SLEEVES THOUGH**



**LOOK CAREFULLY AT THIS TRACTOR DRIVER – HE IS WEARING A SUITABLE RESPIRATOR BUT HIS FELLOW WORKER ADJUSTING THE NOZZLES ON THE BOOM SPRAY HAS NONE.**







**LOOK AT THIS TRADITIONAL FARM WORKER SPRAYING HIS CROPS. NO PPE. LEAKING NOZZLES AND BACK PACK SPRAYER ALL ADD TO HIS EXPOSURE TO PESTICIDES. AT LEAST HE IS WEARING A HAT AGAINST THE SUN.**

## Storing and transporting pesticides

All pesticides should be stored in the original containers with the approved product labels.

Never decant pesticides into drinks bottles or other similar containers. Also:

- Practise good store management, including keeping an up-to-date stock record.
- Keep a copy readily available in the event of an emergency.
- Always check containers for leakage before removing them from storage.
- Do not remove leaking containers, but either overdrum or transfer the contents to a sound container.
- Do not leave stores open when unattended.
- Supervise all deliveries to ensure that new stock is stored safely and securely.

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**M1**

I am not sure what is meant here

Michael, 22/10/2011

## PPE in agriculture

Personal protective equipment (PPE) includes coveralls, eye protection, footwear, gloves, hearing protection and respiratory protective equipment (RPE), safety helmets and weather-clothing if necessary.

Ensure that PPE:

- is effective and gives adequate protection against the hazards in the workplace, eg. for handling acids do the gloves resist acid penetration? Or does the respirator have the correct cartridges for the air contaminant?
- is readily available for use;
- is suitable and matches the wearer, the task and the working environment, so that it does not get in the way of the job being done or cause any discomfort;
- does not introduce any additional risks, eg. limits visibility or causes heat stress especially in the hot climate of the region;
- it has been manufactured to an appropriate standard, and approved by a recognized body;
- is compatible with any other PPE that has to be worn. Safety spectacles may interfere with the fit of respirators;
- is checked before use and cleaned, maintained and stored in accordance with the manufacturer's instructions. Workers must be trained properly in its use so they can use the equipment effectively.