

# Pesticides

## Pesticides - Re-entry Interval

### On this page

[What is a "re-entry interval"?](#)

[Why are "re-entry intervals" important?](#)

[Where do I find information on re-entry intervals?](#)

[Can a certified pesticide applicator enter the treated area?](#)

[Can workers enter the treated area after 12 hours?](#)

[What factors affect the re-entry interval?](#)

[How do you know if you have been exposed?](#)

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### What is a "re-entry interval"?

The re-entry interval (REI) (also known as restricted entry interval or re-entry time) is the minimum amount of time that must pass between the time a pesticide was applied to an area or crop and the time that people can do "hand labour" in that area. Hand labour includes tasks that involve the worker coming into contact with treated surfaces, such as plants, plant parts, or soil. Activities that involve hand labour include harvesting, detasseling, thinning, weeding, scouting, planting, or mowing.

NOTE: The term "pesticide" describes a very large and diverse group of chemicals or products. It is very important to always get specific information about the exact product you are using.

For more information, other OSH Answers documents in this series include:

- [Pesticides - First Aid](#)
- [Pesticides - General](#)
- [Pesticides - Labels](#)
- [Pesticides - Health Effects](#)
- [Pesticides - Working Safely](#)

## Why are "re-entry intervals" important?

Re-entry intervals are set to protect people (and animals, for example in a kennel) against poisoning by pesticides if they enter a treated area too soon after application without proper protective equipment.

There are many ways a person can come in contact with a pesticide. In general, exposure to pesticides may occur by:

- Inhalation of vapours, dusts, or mists.
- Skin contact with residues.
- Eye contact with vapours, dusts, or mists, or by rubbing your eyes with your hand, a glove or clothing that is contaminated with pesticide residue.
- Ingestion (eating food that has been treated or eating without first washing hands).

When treated plants or soils are touched during work activities such as weeding, thinning, or brushing against plants, some pesticide may be transferred to the skin or clothes. Workers in a field can also cause residues on plants and on the soil surface to "fly up" as dust. The dust then settles on the worker's skin or is inhaled. People in treated areas may also breathe vapours from a recent pesticide application.

Sometimes it is not as easy to avoid residues. For example, it is also important to be aware of spraying activities on neighbouring properties. On windy days, spray drift can travel a surprising distance. If you smell a "solvent" smell or if you notice a residue on the leaves of the plants you are handling, leave the area and ask the grower if the area has been sprayed recently.

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## Where do I find information on re-entry intervals?

The label on the pesticide container provides information on the re-entry intervals. A pesticide container label consists of several panels of information. If all the information does not fit on these container panels, then additional information related to the re-entry time may be found in a separate booklet. There could also be stickers, tags, seals, leaflets, brochures and wrappers on, or attached to a container. For more information on labels, please see the OSH Answers [Pesticide - Labels](#).

Provincial re-entry guidelines may also be available. For example, the WorkSafeBC Occupational Health and Safety Regulations (section 6.89) state that a person must not enter a treated area until the restricted entry interval has expired. This length of time is determined by what is stated on the label of the pesticide used. If the label states different re-entry times for different types of activities, choose the activity that most closely matches. If more than one pesticide is being used, use the longest time. If the label does not state a re-entry time, the regulations state the restricted entry interval is:

- 24 hours if the pesticide is classified as a slightly toxic pesticide (label identification - skull and crossbones symbol in triangular or diamond shapes).
- 48 hours if the pesticide is classified as moderately (label identification - skull and crossbones symbol in octagonal or diamond shape) or very toxic (label identification - skull and crossbones symbol in octagonal shape).

See Table 2 in the OSH Answers [Pesticide - Labels](#) document for examples.

For some pesticides, longer restricted intervals may be indicated on labels, and this interval must be followed.

Signs should also be posted that indicate spraying has occurred and what the re-entry interval is.

Workers who are trained and certified in handling pesticides may be allowed to enter the treated area to do short-term work before the re-entry interval is finished. Special precautions must be taken in these situations depending on how early the area is entered. However, nobody should enter the area in the first four hours after the application.

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## Can a certified pesticide applicator enter the treated area?

Yes, under some restrictions. A certified pesticide applicator can enter a treated area between four and twelve hours after the application if they wear the appropriate personal protective equipment as listed on the pesticide label (including a NIOSH-approved respirator). They may not spend more than one hour in a 24-hour period in the treated area.

For example, a certified pesticide applicator may need to enter the treated area to assess the spray coverage or to operate or repair field equipment (such as irrigation or weather monitoring equipment).

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## Can workers enter the treated area after 12 hours?

In some cases, yes. If the REI period is over, workers may enter to do their regular duties. If the REI is longer than 12 hours, workers may enter after 12 hours, but they must not contact surfaces that are likely to have residue. They are not allowed to do hand labour until the REI period has ended. Wear any personal protective equipment as listed on the pesticide label.

Workers and others may be in a vehicle (open or closed cab tractor or truck) and drive, or a worker may walk on the roads, aisles, or footpaths through the treated area. The route must be wide enough to make sure that treated surfaces do not brush against the worker or that the pesticide residues will not drip on them. If the pesticide is applied or injected in the soil, a worker may do tasks that do not involve touching or disrupting the soil surface until the REI period is over.

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## What factors affect the re-entry interval?

Different pesticides will have different re-entry intervals. In addition, each pesticide may have one or more different re-entry intervals. These intervals are established by considering the following:

- The toxicity of the active ingredient (actual poison) of the pesticide.
- If it is a mixture, what remains in the residue after the application.
- How the pesticide is formulated (including adjuvants) - for example, organic solvents in pesticide formulations may increase the skin toxicity of some insecticides.
- If the pesticides are converted into more toxic compounds under certain environmental conditions.
- The rate and method of application including whether it is applied outdoors or in a confined space (such as greenhouses or barns).
- Characteristics of the plant being sprayed (type of crop, height of crop at maturity, density of leaves, how the plant will be handled, and how close the pesticide is applied to harvest). Since different rates are used for each crop, the REI can vary between crops. For example, the REI for raspberries could be 7 days while the REI for apples could be 14 days.
- Weather conditions may change how the pesticide disperses and dissipates (such as variations in temperature, sunshine, moistness and wind). For example, organophosphates and carbamates in hot and dry climates take longer to break down and longer re-entry intervals (1-2 weeks) are sometimes necessary to prevent acute poisoning of field workers.
- The type of work being done after the pesticide is applied. Human contact with treated plants can vary. For example, a REI could be 14 days for thinning, but only 48 hours for irrigating.

If several pesticides are applied at the same time, the longest re-entry interval should be followed.

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## How do you know if you have been exposed?

Recognizing symptoms of pesticide exposure helps you know to leave the area immediately and to begin first aid treatment if required. For a list of health effects, please see the OSH Answers document [Pesticides - Health Effects](#).

Some health effects can be vague and be confused with other illnesses such as flu, excess heat, or food poisoning. Be aware that symptoms may appear within a few minutes of exposure or may not be evident for hours. Use the "buddy system" and keep an eye on your co-workers as well. If anyone is acting or feeling unusual, or showing signs of health effects, see a doctor and call your local Poison Control Centre.

If you notice symptoms in yourself or a co-worker:

- Leave the area immediately. Find out what pesticide had been applied.
- Get medical help. Take any information you have about the pesticide (e.g., bring a clear picture of the label or container) to the doctor or hospital.
- If exposure happens on the job, report your condition to your supervisor immediately.
- Thoroughly wash any exposed areas with soap and water, especially hands, including under fingernails.
- Launder any contaminated clothing (wash twice separately from uncontaminated clothing; do an "empty" rinse cycle afterwards to clean your washing machine).

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