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# Preventive Safety Precautions When Using and Trading Agrochemicals







## What are Pesticides?

Pesticides are chemical compounds that play a role in the prevention of plant diseases and the control of insect pests, rodents and herbs. It is used in agriculture, public health, environment and animal health. The urgent need, beyond knowing the problems of pests and pathogens and how to diagnose them through modern practical means led to the loss of pesticides with high efficiency and effectiveness in combating insect, medical and veterinary pests. This caused damage to plants and losses ranging from 15 to 35% of world production, as well as the deaths that occur annually due to insect pests that vector diseases that affect humans and animals.





## What are the benefits of Pesticides?

By using pesticides properly in the right direction, it provided great and invaluable services to humanity. Whereas, they were used to combat many dangerous agricultural pests, such as destructive locust swarms, vandalized termite colonies, stored grain pests, insect and animal pests harmful to human and animal health that vector some epidemic diseases such as malaria and others. Misuse of pesticides is detrimental to humans, animals and the environment. They could be beneficial or harmful and dangerous.





## What are the benefits of Pesticides?

Therefore, pesticides have many benefits as they have been used to control many dangerous agricultural pests such as locust swarms, termite colonies, stored grain pests, insect and animal pests harmful to human and animal health that transmit some epidemic diseases such as malaria fever and others, but their misuse may harm humans, animals and the environment. In order to rationalize limiting the use of pesticides and saving their costs, they must be used when the economic damage resulting from pests or diseases is greater or equal to the costs and requirements of control, that is, before the damages reach the critical economic limit, and this

applies to the agricultural field.





## How toxic are agricultural pesticides?

Pesticides are chemical compounds primarily manufactured to kill insect pests that harm crops, humans and animals. They are also toxic to varying degrees for humans and animals. Therefore, appropriate instructions and preventive safety precautions must be followed when handling and using them to avoid its danger and take advantage of its benefits.





## How do agricultural pesticides get into the body system?

### I- Oral ingestion:

It is the most dangerous and harmful poisoning cases as a result of it reaching the digestive system in large and concentrated quantities, and it often occurs by ingesting the pesticide by mistake, especially cases of poisoning children because they are not aware of the seriousness of the substances.

### II- Skin and eye pollution:

As the chemical and physical properties of most pesticides allow them to penetrate through the skin and dissolve in fatty tissues, thus transferring to the liver and blood,

then chronic cumulative damage and

poisoning often occur





## How do agricultural pesticides get into the body system?

### 3- Inhalation through the respiratory system:

Pesticides release toxic vapors and gases, especially when opening and preparing their packaging, as people inhale them through the nose to reach the lungs. The dust and spray of pesticides also cause poisoning through the nose

### 4- Cases of pesticide poisoning:

Pesticide poisoning occurs because of taking a lethal or fatal dose in one go. It has rapid effects and is extremely dangerous for humans and animals. This poisoning often occurs by mistake, especially for children and workers in the preparation and manufacture of pesticides.







# How do agricultural pesticides get into the body system?

## 3- Chronic intoxication

It occurs as a result of taking small consecutive doses and for long periods where the pesticide accumulates until it reaches the stage of danger, so it appears toxic effect and also after the passage of a period of time that may reach several months or years, this type of poisoning often affects workers as a result of negligence in wearing tools and protective clothing.





## What are the rules of agricultural safety and security when using and handling pesticides?

### First: the basic rules for the proper and safe use of pesticides

- The pest and the diagnoses shall be known with perfect accuracy through the apparent symptoms, the phases of the insect, or its observed damages.
- Choosing the proper specialized effective pesticide to fight an insect, disease, Acaricides, Nematode, herbs or rodent pest - with the appropriate concentration. The pesticide is effective, newly produced and not expired.





## What are the rules of agricultural safety and security when using and handling pesticides?

### First: the basic rules for the proper and safe use of pesticides

- Choosing the appropriate timing for the fight is very important when the pest or disease appears, and it is advised to plan a prevention and control program even before the pest or disease appears. The results are assured and certain.
- Read and follow the instructions and guidance written on the pesticide card with complete accuracy, especially the recommended doses and concentrations, the prohibition, and the precautions.





## What are the rules of agricultural safety and security when using and handling pesticides?

### First: the basic rules for the proper and safe use of pesticides

- When preparing and mixing pesticides, it is necessary to make sure that it could mix with spraying a tree or part of the plants, and waiting for two days to sure that no damage occurs to the plants. It is advisable to review the pesticide to mix pesticide.
- Not repeat spraying the same pesticides several times, so that insects, diseases or other pests not acquire immunity to that pesticide. The general or chemical name shall be noted and not concerned with the trade name.





## What are the rules of agricultural safety and security when using and handling pesticides?

### First: the basic rules for the proper and safe use of pesticides

- The use of pesticides is entrusted to us to be guarded with our life, so you shall use the appropriate pesticides at the right moment and take into account the periods of prohibition of these pesticides. This recommendation is indicated on the information card.





## What are the rules of agricultural safety and security when using and handling pesticides?

### Second: Precautions shall be taken before using pesticides

- Tools and protective clothing shall be provided for all workers, who carry out spraying or fight works, and wear them, and prepare for the process of preparing and spraying pesticides.
- Choosing the appropriate spraying machine and ensuring the validity of the work, as well as the validity of the spraying mechanisms, the alarms, the pump and the motor to work in a continuous condition.





## What are the rules of agricultural safety and security when using and handling pesticides?

### Second: Precautions shall be taken before using pesticides

- Selection of spray workers from healthy adult workers and not to use children, elder or those who suffer from chronic diseases, a vital test shall be done to ensure the level of cholinesterase enzyme in the blood of workers in the spraying.
- Provide soap and water in the place of spraying for a good washing upon completion of work.





## What are the rules of agricultural safety and security when using and handling pesticides?

### Third: Preventive needs to be taken when using pesticides:

- Selection of spray workers from healthy adult workers and not to use children, elder or those who suffer from chronic diseases, a vital test shall be done to ensure the level of cholinesterase enzyme in the blood of workers in the spraying.
- Workers shall not eat, drink or smoke during the spray process until they complete spraying or washing with soap and water and leaving the place.







## What are the rules of agricultural safety and security when using and handling pesticides?

### Third: Preventive needs to be taken when using pesticides:

- The spraying process should be performed in the early morning or afternoon to avoid high temperatures when using phosphorous pesticides.
- Do not use pesticides on thirsty plants, or on newly irrigated plants, as well as after it rains, except after making sure that the land is dry enough to allow walking on it.





## What are the rules of agricultural safety and security when using and handling pesticides?

### Third: Preventive needs to be taken when using pesticides:

- Ensure that the spray solution covers all parts of the plants, especially in using non-systemic pesticides, and when spraying with systemic pesticides, surface spraying is enough.
- It is not allowed to wash the tools (Spray motor, buckets, and bushers) and do not throw the remaining solution or pesticide containers in ponds, rivers or canals. Metal or plastic packages shall be destroyed and buried, and cartons packages and inner wraps shall be burned.





## What are the rules of agricultural safety and security when using and handling pesticides?

### Third: Preventive needs to be taken when using pesticides:

- Place signs on the edge of sprayed ground to warn of the danger of eating the plantings or providing them to animal until the end of the prohibition period.
- It is not allowed to spray plants during periods of flowering or when vaccinated. The beekeepers shall be informed one or two days before the date of the control to take the necessary measures to prevent the bees from the danger of direct poisoning with pesticides. Livestock are also isolated in safe places away from the spraying areas, especially when aerial spraying using agricultural aircraft.





## What are the rules of agricultural safety and security when using and handling pesticides?

### Third: Preventive needs to be taken when using pesticides:

- It is not allowed to spray during strong winds and avoid standing or spraying against the direction of the wind, but spray with the direction of the wind when it is moderate and its speed is less than 5 km/h. It is known from the movement of trees and plants in the field
- Avoid inhaling pesticide fumes, dust or gases when prepared them or spraying pesticide solutions when spraying, or dusted when dusting them, by wearing a protective mask.





## What are the rules of agricultural safety and security when using and handling pesticides?

### Third: Preventive needs to be taken when using pesticides

- When using pesticides, the instructions shall be followed strictly and under the supervision of a specialized engineer, especially those pesticides (restricted), because the pesticides are highly toxicity and negligence when using may lead to death, such as aluminum phosphide and methyl gasbromide.





## What are the rules of agricultural safety and security when using and handling pesticides?

### Fourth: The precautions to be taken when storing pesticides

- Transferring pesticides from the supplier to the warehouse or store and from the store to the farm for handling and use shall be carried out with full care and pesticide transport vehicles and qualified workers for that.
- Place warning signs in clear places that prevent smoking or the use of any source of heat, also children are not allowed to enter pesticide stores.





## What are the rules of agricultural safety and security when using and handling pesticides?

### Fourth: The precautions to be taken when storing pesticides

- The pesticides should be stored in their original sealed packages in dry, well-ventilated stores away from high heat and humidity that are equipped with exhaust fans, odors, audible alarms, fire extinguishers and water sources.
- The pesticides shall not be stored near food, drinks, poultry or animal feed, or seeds.





## What are the rules of agricultural safety and security when using and handling pesticides?

### Fourth: The precautions to be taken when storing pesticides

- The pesticides shall be placed on wooden bases and in separated groups for ventilate and ease of movement for workers in transportation and storage, and to isolate flammable pesticides.
- The records shall be established to follow the movement of pesticides (their quantities, production date, and expiration date). The pesticides are disposed according to seniority on the date of first production.







## What are the rules of agricultural safety and security when using and handling pesticides?

### Fourth: The precautions to be taken when storing pesticides

- In case of high temperatures, the air conditioner shall be operated to adjust the temperature to more than 30°C.
- When opening the pesticides warehouses, they should be left open for 15 minutes to ventilate before entering them. The workers shall wear protective clothing, and children are strictly prohibited from entering.





## What are the rules of agricultural safety and security when using and handling pesticides?

### Fifth: Disposal of damaged and expired pesticides that prove to be control for control work

- The old and expired pesticides shall be disposed of in a safe manner without causing environment contamination, by using special incinerators that operate at high temperatures up to  $1000^{\circ}\text{C}$ . This is an effective method to completely eliminate obsolete pesticides without the slightest pollution to environmental, human, animal and plant health. This method is approved and applied in developed countries and countries that are keen on the safety and cleanliness of the environment.





## What are the rules of agricultural safety and security when using and handling pesticides?

### Sixth: The Precautions to be taken when handling pesticides:

- Since pesticides are mainly toxic compounds manufactured to kill agricultural insect pests and control plant diseases, rodents, wood, etc., therefore, they shall be handled with great care on a scientific basis that guarantees the safety of the farmer used on the one hand and the right of the citizen consuming agricultural food that usually contain pesticide residues on the other hand.





## What are the regulations and laws of the Ministry of Agriculture for the use of pesticides in a correct manner?

- All types of pesticides shall be registered before being traded and used throughout the Kingdom, so these pesticides are registered and allowed to be used in the country of origin.
- These pesticides shall be authorized and allowed to be used by specialized international organizations such as the Environmental Protection Agency, the World Health Organization and the US Food and Drug Administration.





## What are the regulations and laws of the Ministry of Agriculture for the use of pesticides in a correct manner?

- Pesticides shall be traded in their original sealed containers, provided that they are used directly in the spraying, dusting, fogging or injecting device according to the recommended method of use when mixing or dilution is carried out, instructions shall be followed very carefully.
- The registration number, production date, expiry date and manufacturing unit number shall be indicated on the pesticide card in a clear font. Expired pesticides shall not be traded.





## What are the regulations and laws of the Ministry of Agriculture for the use of pesticides in a correct manner?

- A label shall be placed on the pesticide package showing instructions and technical guidelines for its use, including the appropriate concentration, appropriate pests, prohibition periods - preventive precautions, warning toxicity sign and first aid, the extent of damage it causes to the environment, humans and animals, symptoms of poisoning, antibiotics, treatment and the method of disposal of empty containers.





## What are the regulations and laws of the Ministry of Agriculture for the use of pesticides in a correct manner?

- Pesticides trading shops and places shall be specific to pesticides only and subject to the supervision of the Ministry and other concerned authorities. No Foodstuffs or feed are allowed to be traded in the same place. Special warehouses with good ventilation, heat and humidity shall be provided to store pesticides with specifications approved by the security and safety authorities.





## What are the necessary first aid that must be performed in cases of pesticide poisoning?

- Transfer the injured person away from the place of poisoning and contamination with pesticides to a warm and well-ventilated place. The injured person is transferred to the hospital or the doctor is called immediately in cases of serious poisoning to perform the necessary treatment.
- Remove the clothes contaminated with the pesticide - wash the skin thoroughly with water, soap and eyes with heavy clean water for **10-15 minutes** and then drip with a special solution under the supervision of the doctor.







## What are the necessary first aid that must be performed in cases of pesticide poisoning?

- In case of inhalation of the pesticide and difficulty or cessation of breathing, the injured person undergoes artificial respiration and is transferred to the oxygen resuscitation room with the doctor's supervision
- If the poisoned person swallows a highly toxic pesticide, he gets vomited and washes the stomach under the supervision of the doctor if he does not lose consciousness.





## What are the necessary first aid that must be performed in cases of pesticide poisoning?

- The poisoned person is given medical treatments and anti-poisoning according to the type of pesticide that causes poisoning and symptoms immediately apparent under doctor's supervision
- The person who is poisoned and unconscious should not be given any medicines or solutions orally, but should be given an injection into the muscle or vein until he regains consciousness and then completes the treatment.





## What are the necessary first aid that must be performed in cases of pesticide poisoning?

### Warning:

- The unconscious person should not be given any solution or tablets by mouth, but should be given intramuscularly or intravenously.
- In all cases in which the poisoned person has inhaled poisoning, he is transferred to a well-ventilated place quickly. if breathing becomes difficult or stops, he should be provided with artificial respiration and be transferred to the hospital, or call the doctor immediately.





## What are the necessary first aid that must be performed in cases of pesticide poisoning?

### Warning:

- In case of poisoning with Carbamate Insecticides, oxime compounds should not be given to the poisoned person.







Sources and references:

Preventive Safety Precautions Bulletin When using and handling  
agricultural pesticides.

Agricultural Extension Department

Agricultural Awareness and Education Division

Review and audit:

The content of this booklet has been reviewed by the Green Spaces  
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**Green Spaces Management**  
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