

Recommendations are developed for the officials and farmers

Recommendations on pesticide management:

Pesticides, the chemical means of plant protection, are chemical substances which are intended to be used for the control of harmful living organisms of crops (pests, diseases, weeds).

Pesticides are toxic to the living organisms; therefore they represent a potential threat to human health and the environment.

An additional threat to the environment is posed by the stocks of unfit for use pesticides including:

- expired pesticides,
- pesticides that are disqualified due to improper maintenance, and
- high toxicity pesticides banned by international conventions.

Everyone should be informed about the instructions on purchase, proper use, storage and disposal of the chemical means of plant protection.

The use of expired chemical means of plant protection must be avoided.

When purchasing chemical means of plant protection it is necessary:

- to have at hand the nominal list of the chemical means of plant protection permitted for use which is approved by the state authority and is periodically updated,
- to purchase the pesticides from the licensed stores. They must never be purchased from random people,
- to buy the necessary amount of the chemical means of plant protection in prepackaged packs,
- to check the availability of the label on the packages, which should include the name of the chemical means of plant protection and the using instructions,
- to study in detail the instructions and strictly follow their implementation.

When handling with pesticides it is necessary:

- to use an appropriate overall and personal protective equipment
- to avoid smoking, eating and drinking,
- to perform sprayings on the area only in the morning until 10:00 a.m. and after 18:00 p.m., when the weather is neither rainy nor windy,
- to previously cover with polyethylene the beds, which do not need any treatment,
- to perform sprayings in the hot houses after finishing all the remaining works,
- to lock the door of the green house, hang a warning sign and avoid entering there until the end of the waiting period designed for the given preparation,
- to use a sprayer with a pole of no less than 1.2 m length, so that solution drops do not fall on the skin, in the eyes and penetrate the respiratory tract,
- to avoid using the same chemical means of plant protection, as pests acquire resistance to them and do not die,

After finishing the work it is necessary:

- to take a bath, rinse a mouth, and change the clothes,

- to keep the working clothing separately from other clothes,
- to wash all working clothing with household soap and what cannot be washed should be cleaned with household soap, and then rinsed with clean water,
- to wash the equipments, that have been in contact with pesticides, with a soapy water or a vinegar solution,
- to close carefully each package, leave it with the label and using instructions.

The metal and plastic containers of the chemical means of plant protection must never be used for domestic needs.

The chemical means of plant protection must be kept away from the residential area, inside a closed outbuilding, on the shelves not accessible to outsiders, children and animals. These substances must never be left out of control in the open-air.

Recommendations for the sites with obsolete pesticides stocks:

- Establishing a periodic engineering, geological and laboratory control and a guard over the area of Nubarashen burial site
- The stakeholders should conduct negotiations with international donor organizations and countries interested in the problem for funding and implementing the destruction works of the buried pesticides.
- Elimination/disposal of all obsolete pesticides remaining in the localities to avoid the risk of a further spread
- Remediation of the contaminated sites and their surroundings
- Conducting a monitoring of wider surrounding areas of the contaminated sites; implementing a monitoring of pesticides in a food chain; biological sampling
- Informing local inhabitants about the hazardous properties of these substances and risks to their health
- Searching for other contaminated localities in Armenia and making an inventory of all the new „hot spots“ in Armenia
- Repacking the obsolete pesticides and storing them in a safer place (best option is the centralized safe storage – not necessarily expensive)
- Fencing in the contaminated areas
- Banning the use of contaminated buildings for storing the fertilizers and the pesticides currently in use
- Provision of protective clothes for the personnel working in the contaminated area

A suitable destruction process/technology should:

- Prevent the formation of dioxins, furans and other by-products of POPs
- Prevent the release of dioxins/furans and other by-products of POPs
- Not generate any wastes with POPs characteristics
- Not utilise any POPs disposal methods which are non-destructive, such as landfills or recycling in any form
- 100% destruction efficiency - taking into account all inputs and releases
- Complete containment of all process streams to enable testing and reprocessing if necessary

- Exclude uncontrolled releases from the process

Considerations when evaluating technologies:

- Eliminate inappropriate technologies (based on guidance/criteria); E.g. formation of POPs/releases of POPs/POPs wastes/landfill etc
- Destruction Efficiency (based on inputs vs. all outputs)
- Ability to contain all process streams
- Ability to reprocess materials, residues, gases, liquids if required
- Availability of complete process information (analytical data)
- Track record/commercial availability
- Safety/OH&S
- Hazardous materials use
- Community acceptability

Recommendations on households wastes handling:

- Households waste should not be burned either in stoves or by open burning in order to prevent toxic chemicals emissions of dioxins and furans as well as some other toxic chemicals such as styrene, which can occur by burning of plastic wastes mainly (e.g. PVC or polystyrene)
- It is suggested to collect separately also compostable biological waste in households and to support its composting by inhabitants, it can help to prevent landfill gas creation
- It is also suggested to collect separately hazardous waste (e.g. batteries, thermometers, package from used paints and other chemical products used by general public etc.) from inhabitants in order to prevent leakages of hazardous substances from landfills; this waste should be safely stored at least
- To prevent releases of toxic substances in construction products and/or daily products village can prepare a special guidance for conditions for new buildings and to prevent use of PVC, which can contain many unwanted additives such as phthalates or heavy metals; it can also help to avoid creation of dioxins and furans during accidental fires of buildings