



CONTROL OF PRICKLY PEAR

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The spiny prickly pear (*Opuntia ficus-indica*) can become a troublesome weed in some parts of the Republic. In some cases chemical control is the appropriate method to control infestations.

Chemical control

Monosodium methanearsonate (MSMA) and glyphosate are currently registered for the control of prickly pear. Both these herbicides must be injected into the stems of plants as concentrated solutions.

The Department of Agriculture and Water Supply assists farmers who wish to control the weed by supplying them with MSMA (720 g/l) concentrate at a subsidised price. Before application the MSMA is diluted with an equal volume of water, i.e. 1 part MSMA and 1 part water. This solution is then injected into holes which are punched in the main stems of prickly pear plants.

The recommended rate for glyphosate is 1 part glyphosate (359 g/l) in 2 parts water. The use of glyphosate for prickly pear control is,

however, not subsidised by the Department of Agriculture and Water Supply.

Method of stem application

Any sharp metal plunger can be used to make the necessary holes in the prickly pear stems as illustrated in Fig. 1.

The MSMA solution is then injected into these holes. The holes must be at an angle and big enough to hold 2 ml of the solution; too small holes will cause spillage. An ordinary, inexpensive sheep-dose applicator with a rucksack reservoir is ideal for application (Fig. 2).

A rucksack spray pump can also be used provided the nozzle is replaced with a thin pipe with a small orifice which fits into the hole. To avoid spillage, the herbicide should be transferred into the hole by gravitation flow.

The number of injections needed to kill a plant will depend on its size, as illustrated in Fig. 3. Small trees with 15 to 50 leaf pads will require one (= 2 ml

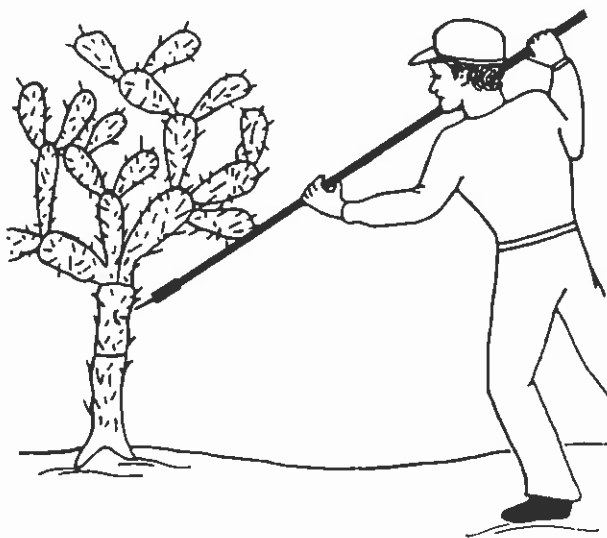


FIG. 1 - A sharp metal plunger is used to make holes in prickly pear stems

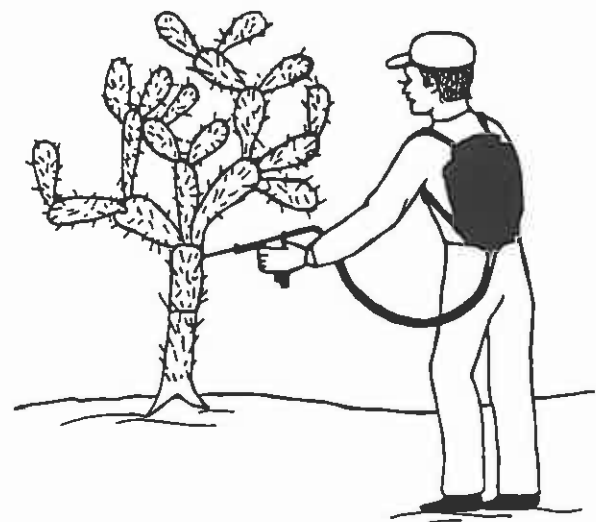


FIG. 2 - Sheep dose applicators are ideal to inject the herbicide into the holes

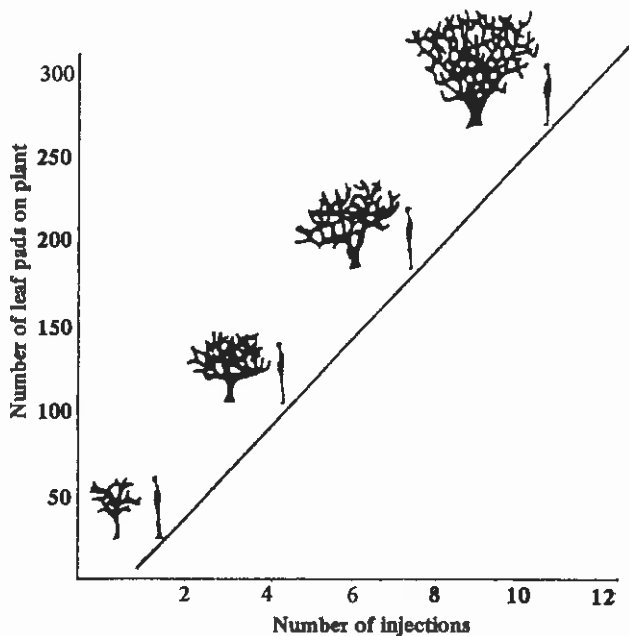


FIG. 3 - The number of injections necessary to kill prickly pear plants of various sizes



FIG. 4 - Injecting terminal leaf pads of prickly pear

solution) or two ($\approx 4 \text{ m}^l$ solution) injections to kill them, while large plants with about 250 leaf pads will require approximately 10 injections ($\approx 20 \text{ m}^l$ solution).

It is important that the injections are spaced evenly over the entire surface area of the lower stem or stems. Only the main stem and, if necessary, the primary branches should be treated. Where the injections are placed too high, the plants may break apart and scatter their leaf pads over a large area and these may then root and grow.

Where the main stems of plants are totally inaccessible, the injections may be administered to some terminal leaf pads (Fig. 4).

Treat one leaf pad on each of the main branches of the plants. This method will not kill the entire plant, but will cause abscission of most of the leaf pads, eventually exposing the main stem. These plants can then be treated according to the normal, recommended stem injection method, as described above.

First symptoms become visible a few weeks after the plants have been injected, when the terminal leaf pads turn brown and start falling off. Treated plants may take from 2 to 8 months to die, depending on their size.

Farmers who wish to control prickly pear with MSMA should contact their nearest agricultural

extension officer or weed inspector for details on the subsidy scheme available to them.

Precautions

MSMA is corrosive on metals and all application equipment should therefore be dismantled and thoroughly rinsed in clean water after use. Although MSMA has a relatively low mammalian toxicity, it can nevertheless be harmful, or even fatal, to animals if swallowed. Keep all MSMA containers closed and out of the reach of children and animals. It is also advisable to withdraw all stock from treated areas for a period of 3 months. Fruit from treated plants may not be consumed.

Biological control

The prickly pear moth *Cactoblastis cactorum* together with the cochineal *Dactylopius opuntiae* remain very efficient enemies of, mainly, small prickly pear plants (14 leaf pads and less). Once plants have outgrown the 14 leaf pad size the insects find it increasingly difficult to destroy the plants. Chemical control should therefore be concentrated on plants of this size, and larger, leaving smaller plants to the insects.