



Integrated Pest Management

Ways to Control Weeds

Manual and Mechanical Methods

Manual control is removal of weeds by hand or through the use of non-powered tools such as hoes, shovels, or cultivators. Mechanical control is removal of weeds through the use of powered machinery such as line trimmers, mowers, and rototillers.

HOW DO THEY WORK?

Physical weed control by manual and mechanical means damages weeds by cutting tops off or removing them from the soil by pulling. Removal of the tops or vegetative portion of weeds with developed root systems will deplete the roots of energy and nutrients, weakening the weeds, but it usually does not kill them outright. Most weeds are able to regenerate from the root mass that is left in the ground. Removal of weed tops may also stimulate growth of rhizomatous or other perennial species. Pulling weeds up out of the ground usually provides better long term weed control than cutting because the entire plant is being removed, however root fragments are often created by treatments that employ pulling. Weeds are then able to regenerate from the root fragments.



Weed removal by hand or mechanical means such as tilling results in soil disturbance. Disturbing soil in this way may bring existing weed seeds to the surface so they can germinate. To achieve long term weed control using manual or mechanical methods, the sites must be retreated regularly during the growing season or additional weed control techniques such as mulching to extend control are needed.

Manual methods can be a very selective way of controlling weeds and depending on the site and the target weed it can keep non-target impacts to a minimum. Often used in home and small landscape care, hand weed control is very labor intensive and may not be practical for large scale landscapes or for certain weed targets. Sometimes specialized tools are needed for hand removal. Tools that have been developed for removal of woody plants include the Weed Wrench and the Root Talon.

Mechanical weed control can be less selective than manual weed control, especially when using large equipment. It can be difficult to avoid individual desirable plants while operating machinery. Potential for operator injuries from use of mechanical weed control equipment is an issue of concern as well. Other issues include creation of erosion problems particularly on steep sites or sites where significant soil distur-

bance takes place. There are also pollution issues arising from fuel use in powered equipment, particularly in 2-cycle engines commonly used in such tools.

DISCLAIMER

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