



Integrated Pest Management

Ways to Control Weeds- Heat

Thermal Weed Control

Treating weeds with heat destroys plant cells and causes plant proteins to coagulate, disabling normal plant functions. This can kill or weaken weeds. Sources for this thermal action can come from open flame, hot water, steam, hot foam, or radiant heat.

Weeds vary in their response to heat control. Newly emerged, small, or weeds with small root reserves are more likely to be killed by heat. Well established weeds, perennial weeds, weeds with substantial root systems, and plants adapted to survive natural fire occurrence are more likely to recover from heat control methods. Consistent, repeated treatments are often necessary to keep an area free of weeds. This may not be practical depending on the site.

Use of thermal weed controls may raise serious health and safety issues. Use great care with any of these weed control methods. All thermal devices have the potential to cause severe burns. Flame and radiant heat equipment must also be used with caution due to the fire hazard they can pose. Their use may start fires, particularly in dry vegetation and wood mulches. Mulch fires may not be apparent initially, as they can smoulder for long periods of time before flaring up.

When controlled by flame or radiant heat, plants such as poison oak will emit toxic smoke that can cause the same symptoms as when the plant is touched. If inhaled, smoke from the burning of this plant can be life threatening. Do not burn these plants.

Heat treatments may damage materials such as plastic, asphalt, siding and other surfaces. Heat may also damage nearby desirable plants, and tree trunks and surface roots. Heat treatments affect soil microflora in the affected areas, which may be of concern. Foam methods require the use of surfactants, which may be of concern in sensitive areas, particularly aquatic sites.

Fossil fuel use, combustion emissions and pollution are additional concerns raised when utilizing these methods.

WHAT KINDS OF THERMAL TREATMENTS ARE THERE?

FLAME - Flaming weed control units use an open flame to control weeds by burning them or by disrupting plant cells through heat. Flame weed treatment does not necessarily need to completely



burn a weed to provide top kill of the treated weed. Heat duration long enough to “cook” the weed is usually best.

STEAM AND HOT WATER -Equipment that emits hot water or steam damages plant tissues to weakens or kills the plant.

HOT FOAM - Hot foam is created in special equipment where heated water is mixed with a surfactant. The foaming action helps the heat to surround the target weeds, and it also insulates the area. This helps to lengthen the duration of the heat with an increase in control possible. The best known manufacturer of this kind of equipment is the Waipuna™ Hot Foam System. It consists of a diesel-powered boiler and foam generator, which delivers hot water with a foam surfactant to target weeds through a hose.

RADIATED HEAT - Heat radiating units have metal or ceramic “tiles” that are super heated, usually by propane combustion. Passing this heated surface over weeds causes them to burn without having to use a direct open flame.

DISCLAIMER

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