

Safety Note # 197

## FLAME WEEDING SAFETY



Farmers for centuries have used controlled burning to manage weeds. Though flaming technology has been around since the 1940s, recently gardeners have begun to use mechanical flame torches, or flamers, to kill weeds. Flamers are portable gas torches with a portable tank and a wand with a tip that produce intense heat (about 2,000 degrees Fahrenheit). Thermal weed control is based on flash heating to rupture cell membranes within the weed, thus stopping the plant's capacity for photosynthesis. The weeds should not be burned to ash. The weeds should droop, wilt and die within a few hours.

For effective weed control, use flamers in the spring and early summer as perennial weeds emerge. Killing larger, mature weeds requires more heat, so save time and fuel by flaming weeds when they are small and young.

### The following are tips for using a flamer safely:

- Recommend starting with a complete flaming unit to ensure the components are well fitted and mounted together properly. Manufacturers provide assembly, which can include pressure testing the valves and fittings for leaks. For an example of a commercially available flame weeding kit, see <https://flameengineering.com/>.
- The safest applications of flame with the best results are accomplished within walking speed of 2-3 mph and at a gas output of 40-60 psi. Position the flame head approximately 6 inches off the ground. These parameters are most effective on 1-inch to 4-inch weeds in their early stages of growth.
- The operator of the flaming equipment must be trained in the proper use of the equipment.
- Wear thick work gloves and work boots when operating flaming equipment.
- Have a fire extinguisher or other means available to extinguish an accidental fire.
- Never flame weeds during extremely dry periods or windy conditions. Don't flame with flammable or combustible materials in the vicinity.
- If using a flamer with an extension hose, keep the flame away from both hose and tank.
- Always be cautious when lighting the flamer. Though the flamer's handle doesn't get hot, the flaming tip does. Keep the flame wand away from people.
- Do not torch poisonous weeds! The vapor caused when flaming poisonous weeds is released into the air and can cause skin irritation, as well as being inhaled, which may cause serious health issues.
- The UC Integrated Pest Management (IPM) program has additional information about specific pests and control methods, including applications for flame weeding. See <http://ipm.ucanr.edu/PMG/PESTNOTES/pn7441.html>