



PLANTS

A resilient landscape is **fire-wise**, water wise and promotes biodiversity by using California native plants. These gardens use **sustainable practices**, **plant selection**, and **maintenance** to reduce the risk of fire in the defensible space zone. Resilient gardens save water, protect us from fire and promote biodiversity.

PLANT SELECTION	WATER & IRRIGATION	NATIVE PLANTS & COMMUNITIES	INVASIVE SPECIES	IMPORTANCE OF OAK WOODLAND	P MANA
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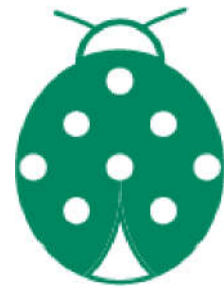
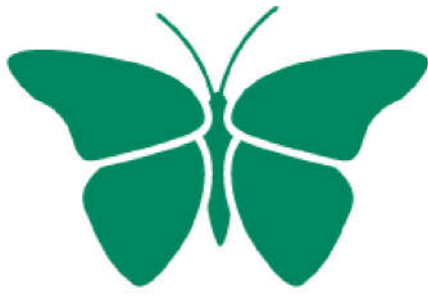
Pest Management

What is Integrated Pest Management (IPM)?
Insects, diseases, and weeds threaten California’s natural environments as well as homes, gardens, and agriculture. This page contains links to articles, fact sheets, and other information prepared by UC scientists on topics related to pests in natural environments.

Integrated Pest Management -or IPM- is an ecosystem-based strategy that gardeners can use to solve pest problems while minimizing risks to people and the environment. A fundamental concept of IPM is that a limited amount of pest damage to plants can be tolerated. Home gardeners using IPM strategies are usually willing to accept minor insect damage to avoid pesticide application. It’s good to remember that insects play a huge role in food webs, and are a tremendous food source for birds and other wildlife.

The University of California defines IPM as:
“An ecosystem-based strategy that focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control, habitat

manipulation, modification of cultural practices, and use of resistant varieties. Pesticides are used only after monitoring indicates they are needed according to established guidelines, and treatments are made with the goal of removing only the target organism. Pest control materials are selected and applied in a manner that minimizes risks to human health, beneficial and nontarget organisms, and the environment.”



Integrated Pest Management Recommendations



Identify your pest

Pest identification is always the first step in IPM. The University of California has developed resources to help gardeners identify their pests and find the most effective and sustainable treatment methods. Consult the pages below if you need help with pest identification:

- [Home, garden, turf, and landscape pests](#)
- [Natural environment pests](#)
- [Invasive and exotic pests](#)

Weed management

All plant pests contribute to fire risk in the landscape as they weaken or kill plant parts. Weeds, however, are themselves flammable and special attention to weed management is needed.

In California, many landscape weeds become established in the winter, as their seeds germinate with winter rain. Most annual weeds will complete their life cycle by spring or summer, when they die and become dry and easily ignitable. In wildlands and parts of the landscape that are less intensively managed, larger invasive weedy vines, shrubs, and trees may create special weed problems. See our Invasive species section for more information.

Weed management strategies

Exclusion

Most weeds spread by seeds, and many common weeds can produce hundreds of thousands of seeds per plant! It may seem daunting, but a “zero tolerance” approach to weeds, preventing them from setting seed, will definitely pay off over time. Seeds will always blow in from the surrounding area, but near total exclusion for a few years will make weed control much easier in the future.

Hand weeding and cultivation

Hand weeding is an ancient weed control method, and many tools help to make the job easier, including garden hoes, shovels, and hand weeders. Many find a “hula hoe” to be a valuable addition to the tool shed. Hand weeding and most other forms of weed control are much easier when weeds are young seedlings. With a small root system they’re much easier to pull or dislodge. While hand weeding in the winter season is important, weeds removed and left laying on the soil surface may reroot in damp weather before they die completely. While it’s



possible to use weeding tools in areas covered by wood mulch and small gravel, larger gravel and cobble can not be hoed. Likewise, the use of weed fabric makes mechanical weeding difficult.

Mulching can be a great way to reduce weed pressure and has many other benefits. See our Mulch section for more information. ([link to Mulch](#))

Flaming

Flaming is the use of a handheld propane torch to kill weeds by heating them and causing the cells to burst. It should be used with great care and is most appropriate for use during very damp winter weather. Flaming is not recommended during fire season or at under any circumstances when fire may escape control. Despite the high heat produced, the best effects are with weeds that are at a very small seedling stage. It can be a particularly useful tool for removing weeds from areas of gravel and rock, and in spaces between patio and walkway pavers.

Herbicides

The use of synthetic herbicides in home landscapes should be very limited given the risks they present to humans and the environment, and we do not recommend their use. Organic herbicides, often based on vinegar and certain essential oils, don't persist in the environment, but should still be used with caution as they can injure the eyes and skin. Many find that organic herbicides work best with very young seedlings, and they will cause damage if they contact desirable plants.



We appreciate the contributors to this section:

[California Flora Nursery](#)

[alscape.org](#)

ources:

[C Master Gardener Program of Sonoma County](#), [California Natives](#)

[arin Chapter](#), [California Native Plant Society Plant Replacement List](#)

[California Flora Nursery](#)

[alscane](#) a native plant database from the California Native Plant Society



Sonoma Ecology Center works to address challenges related to water supply and quality, open space, rural character, biodiversity, energy, climate change, and a better quality of life for all residents.

<https://sonomaecologycenter.org/>



The UC Master Gardener Program of Sonoma County has been extending educational outreach and providing technical assistance to home gardeners since 1981.

<https://sonomamg.ucanr.edu/>



The mission of the Habitat Corridor Project is to create and promote California native plant restoration gardens in the urban environment.

<http://habitatcorridorproject.org/>



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Funding for the Resilient Landscapes Coalition is provided by a Vegetation Management Project Grant from the County of Sonoma