



CC guidance note on the use of pesticides*

In response to concerns about the impacts of pesticides on wildlife and human health, Cornwall Council encourages local authorities to use alternatives to chemicals to control unwanted vegetation and other pests. 'Pesticides' can be classified by target organism into herbicides, insecticides, rodenticides and fungicides (amongst others).

Glyphosate based herbicides (weedkillers) are the most common type of pesticide used by local authorities. By using a combination of weed control techniques, local authorities can tailor their approach according to asset type, environmental conditions, resources and community engagement. This is known as Integrated Weed Management.

Alternatives to herbicides include:



Hot foam systems, like **hot water systems**, kill plants using heat, but can be used in all weather conditions. This gives them a major advantage over chemical herbicides which can only be sprayed under ideal weather conditions.



Hand weeding (eg. using mechanical weed pullers) is an option particularly for smaller areas such as playgrounds, and where there are active volunteers to assist.



Other manual approaches include of differing types of **mulches**. Mulching is a particularly useful approach in ornamental beds and in parks, and you can even use grass clippings!



Acetic acid dilutions have been used very effectively to control weeds on hard surfaces in a variety of situations. Acetic acid is biodegradable and poses no risk of bioaccumulation.



Flame treatment (or **thermal weed control**) has been used successfully to eliminate weeds.



Steel brushing can be used for large scale areas such as pavements and roads. In combination with the use of acetic acid spraying can be a very effective alternative.



High pressure hot water treatments can be particularly effective and also have other uses such as chewing gum removal.



Electronic control systems that kill stems and roots instantly and are particularly suited to dealing with invasive species, or plant control around historic structures.

Alternatives to other pesticides include:

Alternative insecticides

Natural (organic) insecticides are derived from plants or other natural substances. They mainly rely on direct contact and require thorough application, especially to the undersides of leaves.

They can affect a broad range of small invertebrates, including some beneficial ones if they are present at the time of treatment. The short persistence of these compounds may mean that frequent applications are required.



They are safe to use on most plants, including listed fruits and vegetables which can be treated close to harvest (see label instructions) and include;

- a) Natural pyrethrum/pyrethrins. Derived from chrysanthemum flowers, this broad spectrum insecticide controls a wide range of insects including whitefly, aphids, thrips, capsids, ants and some beetles.
- b) Insecticidal soaps. Homemade recipes include garlic, chilli, or washing up liquid and lemon juice in a spray bottle. Effects are Though variable, effective against aphids, whitefly, thrips, mealybugs, scale insects, leafhoppers and red spider mite.
- c) Plant oils and extracts. Refined plant oils, such as those derived from rape seed and sunflower, block the breathing pores (spiracles) of small insects and mites, including aphids, whitefly, thrips, mealybugs, scale insects and red spider mite. Bees and ladybirds are less likely to be harmed. No harvest interval required

but do not use on fuchsia or begonia. Also available as winter wash for use against overwintering aphid eggs on dormant deciduous fruit trees and bushes.

- d) Garlic extract. Products based on garlic available as a fumigant for dispersing insect pests in glasshouses.
- e) Seaweed extract. Products based on seaweed with a physical action for control of glasshouse whitefly.
- f) Physical control methods include blasting insects off plants with a hose, or using a hand-held vacuum to suction up the pests.

Alternative molluscicides (snails and slugs)

Although slugs and snails are often regarded as the enemy of gardeners, they play a fundamental role in clearing up detritus and decaying material. They are a vital food source for many species of birds and small mammals such as hedgehogs, and recycle nutrients back to the soil. Sacrificial planting, companion planting or planting varieties that slugs and snails avoid will all reduce the need to resort to slug pellets. But if you need to take a proactive approach you could try;



1. Encouraging enough natural predators to inhabit your garden: frogs, birds, hedgehogs.
2. Coffee grounds. Spread round plants you want to protect do deter slugs and snails.
3. Beer Trap. A container sunk into the ground so the rim is at or just above soil level, filled with beer acts as a slug trap.
4. Egg shells and sea shells. These are effective for a while when spread in a barrier ring around precious plants.
5. Copper tape. Slugs can't cross copper, so copper tape acts as a barrier. It can be used in soil surrounding an individual plant; however it works best to protect plants in pots.
6. Recycled wool waste pellets. They swell up and reveal fibres that are irritant to slugs. Over a period of time the pellets degrade and act as a plant food. Effective when protecting newly planted seedlings and emerging perennials.
7. Nematodes. Biological control of slugs and snails is effective in small gardens if carried out with care early in the season. The nematodes are added to water, once in contact with the slug or snail they infect it and kill it. Effective and targeted action.
8. Organic slug pellets based on Ferric (iron) phosphate. Pelleted bait for use against slugs and snails. Less toxic to birds and mammals than metaldehyde and is approved for use by organic growers around ornamental and edible plants. They are not completely non-toxic to other animals.



Alternatives to pesticides for the control of rats (rodenticides) include ultrasonic repellents, natural predators (birds of prey), terriers and carbon dioxide. More info on <https://www.barnowltrust.org.uk/hazards-solutions/rodenticides/safer-rat-control/>