

Horticultural Sites

How they can affect your land

Market gardens, glass and tunnel houses, orchards and vineyards are all examples of horticultural activities. Generally, we term any areas used for cultivating fruit, vegetable, flowers or ornamental plants as horticultural.

Canterbury's fertile soils and good climate made horticulture a popular industry. The main areas for horticulture were in and around Christchurch city, Waimakariri, Timaru, Ashburton, Geraldine and Waimate. As cities and towns have expanded, and as lifestyle blocks have become popular, some horticultural areas have undergone redevelopment to residential, business or industrial land uses. This is the same across other areas in New Zealand.

Chemicals used for horticulture

Horticultural practices often include the use of pesticides, herbicides and fungicides to control pests and weeds. There is the potential for contamination in areas where these chemicals were sprayed or applied, as well as the areas where these chemicals were stored, mixed and disposed.

A wide variety of pesticides containing heavy metals and organochlorines have been used in New Zealand over the past 100 years. These substances were used extensively under government regulation to control agricultural pests, until the 1970s when some of the most persistent chemicals, such as DDT, were withdrawn from use. Most modern pesticides and herbicides break down fairly rapidly, so they are not detectable after a few weeks or months. However some of the old-style chemicals that are still in use today, such as arsenic and copper, will stay in the soil indefinitely.



Many glass and tunnel houses were heated by coal boilers or other fuels. This has led to contamination of some sites, particularly from former coal storage areas, or where the coal ash was spread on the ground inside the glasshouses. Some horticultural site boilers burned fuel oil that was stored in above or below-ground tanks that may have leaked over time, causing surface soil or below-ground contamination issues.

Vineyards can become contaminated as a result of the heavy and widespread usage of treated/tanalised timber posts across the site. Arsenic, copper, chromium and pentachlorophenol from these posts can leach into the surrounding soil.

Horticulture can also affect water quality when pesticide contamination is washed off the land by rain or snow melt into lakes, streams and rivers; leaching to groundwater; or spray drift.

Living on a former horticultural site

The risks of living on former horticultural land can come from some chemicals used in horticulture that are known to be hazardous to human health and the environment if they are present in the soil, surface water or groundwater above certain concentrations. Health effects arising from prolonged periods of exposure are generally of most concern.

Because we don't have information on individual properties where the land use is unverified, we can only provide general guidance about your land. Not all land which has been used for horticulture will be contaminated. The only way to find out is to have the soil tested by tested by a suitably qualified and experienced practitioner.

DIY testing kit

If you are concerned about your land and want to know if there are contaminants there, Environment Canterbury can provide testing kits. These kits were provided by a testing laboratory and a special rate for testing costs was negotiated. The kit will contain simple instructions on how to collect a couple of samples from your garden (they're designed for a small area such as a vegetable garden), and where to take them so the samples can be analysed by the laboratory. The kits are only available for those people that may have hazardous substances from past horticultural land use. Contact Environment Canterbury or your local council for more information.

Taking care

The Canterbury District Health Board advises anyone with a garden, regardless of whether the property is on the Listed Land Use Register, to follow some common sense precautions to minimise potential health risks when gardening or when children are playing outside.

Visit www.cph.co.nz/your-health/contaminated-land/ for more information.

If you are weighing up whether to have the soil tested, think about the way you use your garden. If you follow the health board's common sense precautions, the risks are likely to be low.

The following activities may place you at slightly higher risk:

- you eat the eggs of your free range chickens
- you grow and eat root vegetables
- young children play in and may eat your garden soil.

If these activities apply, you may like to change your garden activities, or have the soil tested.

Drinking water quality

Residents in main towns in Canterbury are mostly on a reticulated water supply which means we use piped tap water for drinking and garden watering. All district council drinking water wells are monitored in accordance with the National Environmental Standard for Sources of Human Drinking Water, and by Environment Canterbury.

If you have a well supply contact Environment Canterbury for advice about having your water tested on 0800 677 748.

Responsibility for contaminated land

According to New Zealand property laws, if you own a property, you are responsible for any contamination problems with it, even if you did not cause them, or weren't aware of them when you bought your land. This is called the 'buyer beware' principle. If you are renting a property you can ask your landlord to ensure your health and safety which he/she is bound to do under the Residential Tenancies Act 1986.



Environment Canterbury identifies land which may be contaminated from current or historical uses

Land uses which may be hazardous include former orchards and market gardens, landfills, timber treatment and other industrial sites where harmful chemicals were often used, stored or disposed of. Environment Canterbury records these sites on the Listed Land Use Register www.llur.ecan.govt.nz.

Not all land which has been used for these hazardous activities or industries will be contaminated. The only way to find out is to have the soil tested. For more information, visit www.ecan.govt.nz/HAIL.