



## Spray-free streets & parks

# List of Alternatives for Households

One great action you can take to reduce glyphosate in our environment is to use alternatives at home. There are plenty of alternatives available. You can use:

- |            |             |
|------------|-------------|
| ✓ Vinegar  | ✓ Mulching  |
| ✓ Pine oil | ✓ Salt      |
| ✓ Soda Ash | ✓ Hot water |

Alternative herbicides are generally considered contact herbicides, not systemic like glyphosate. They generally work by burning plant foliage, but only foliage that is contacted by the product (although chelated iron products claim weed kill down to the root). They only kill weeds that have emerged and have no residual activity on those emerging after application.

Alternative herbicides fall into 7 product categories: Natural acids (vinegar + citric acids), Herbicidal soaps, Iron-based herbicides, Salt-based herbicides, phytotoxic oils (clove, peppermint, pine, citronella), corn gluten, and combination products (including ingredients from multiple categories). [1]

Ways to improve effectiveness when using alternative herbicides include [1]:

- Thorough spray coverage (to runoff);
- Add the high label amount of surfactant/adjuvant to improve control
- Treat when weeds are small (2-5 leaves)
- Repeat applications for larger weeds are necessary in most instances.
- Lower concentrations at high spray volumes

### Vinegar

Household vinegar at 5% will not kill weeds – stronger vinegar acidity of between 10-20% works well for herbicidal use. Vinegars may need an adjuvant/surfactant as a sticking agent. Wendyls.co.nz stock a 1 litre double strength vinegar at 9.9% acidity –

Wendyls state 'spray neat on weeds to kill them fast.'

New Zealand doesn't appear to retail vinegar at 20% acidity. It is considered a 'dangerous good.' However at under 25% acetic acid is only considered an irritant (to skin, the digestive and respiratory tracts) rather than corrosive (at over 25%). There exists an opportunity to investigate New Zealand regulations regarding higher acidity vinegar and its potential to market as an affordable horticultural vinegar and herbicide. Note: Vinegar also will kill beneficial micro-organisms and contribute to soil sterility. Spray where you don't want to grow.

### **Pine Oil**

Many products consisting of pine oil and fatty acids are on the market today. Pine oil mixtures kill weeds and grasses and they seem to work effectively.

Repeat spraying can kill larger, perennial weeds.

Eg. Kiwicare Organic Weedfree Rapid; Interceptor Organic Herbicide; KCL Commercial Organic Weedkiller concentrate; Weedenz Organic WeedKiller Concentrate.

### **Soda Ash**

Eg. Wendy's Weedkiller: 1kg Premium Soda Ash, 3 litres water, 2 tbsp dishwashing liquid

Put soda ash into your bucket or sprayer then add enough warm water to make it up to 3 litres. At the end mix in the dishwashing detergent. Spray on weeds on a fine, dry day and leave.

Soaps used in many weed killing recipes act as surfactants to help the toxic part of the mixture (the active ingredient) stick to the weeds and then kill them.

### **Mulching**

Mulching with bark chips and paper products help reduce weed infestation.

Commercially, Eco Cover Mats are now available. They are produced from waste paper; they richly benefit the plants, soil and environment. They are fertilizer enriched and cost effective. The benefits include: Up to 80% water conservation, excellent weed control, moderate soil temperature fluctuations, and help control erosion

### **Salt**

Salt would only be recommended in areas where you never want plants to grow again – for example on driveways. Too much over time may affect deep rooted plants.

### *Home-use steam or hotwater*

For those of you constantly seeking equipment that really works – we will soon have access to home use steam/foam/hotwater weed control devices. Over the last 2 decades manufacturers and operators have been refining and re-engineering the mechanics to ensure the product works well. For example, that the hot water is at a level where it will penetrate the meristematic crown of the plant; or where the foam which includes an organically certified adjuvant, can be applied easily and efficiently. As well as council management contracts, we are seeing uptake of these products by vineyards and in New Zealand – lavender farms.

Entrepreneurs absolutely want to get these products into the home use market. Over the next two years keep an eye out for these home use applications that will radically change the way we garden – in a healthy and toxin free-way.

### *Other:*

**Gas powered heat/flame gun** – Eg. LPG Weed Burner – Domestic. Available from Hunkin.co.nz

**Boiling water** – constant attention will reduce weed population

**Smothering weeds** – old carpets can work wonders

**Sodium bicarbonate** – can be bought in bulk from Gilmours

### *References*

[1] Vinegar information sourced from: [Vinegar: An alternative to glyphosate?](#) D Smith-Fiola & S Gill. University of Maryland.