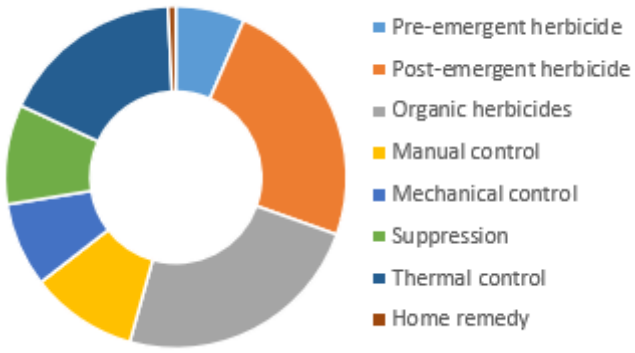
Benefits and Limitations of Weed Control Treatments

Building the capacity of Local Government to implement accountable and effective weed control programs

The Local Government Integrated Weed Management Working Group collated data from trials of weed control treatments to share information on the number of trials undertaken and each treatments cost and effectiveness. 25 Local Governments from across Western Australia participated in the survey in 2022. Qualitative ratings (0 low - 5 high) were used to evaluate the efficacy and cost effectiveness of each treatment, and quantitative data was provided on cost per hectare and percentage weed control for up to 42 days following treatment. The survey focused on weed control methods trialled in natural areas, parks, streetscapes and urban landscapes, and road reserves. The survey did not collect data on weed control treatments trialled in turfed areas (e.g. sporting ovals).

The survey showed that across these Local Governments, a total of 138 trials of 30 different weed control treatments have occurred. Weed control treatments trialled included pre-emergent and post-emergent herbicides, organic herbicides (pine oil, acids and salts), manual control (hand weeding), mechanical control (slashing, grazing and cut and paste), weed suppression (mulching and competitive planting), thermal control (hot water, steam and solarisation) and home remedy treatments (white vinegar, salt and dishwashing liquid).



Local Government trials of weed control treatments (percentage of total trials)

Pre-emergent herbicides have not been widely trialled or adopted for use by Local Government. The City of Wanneroo uses pre-emergent herbicides in road verges and medians to suppress weed emergence over extended periods, resulting in fewer follow-up treatments and a reduction in pesticide use and labour.

Post-emergent herbicides are commonly used in integrated weed management programs, with glyphosate, fusillade and metsulfuron demonstrating high efficacy and cost effectiveness. Several Local Governments have identified specific areas in which glyphosate is excluded from use, including Augusta Margaret River, Claremont, Cottesloe, Joondalup, Kwinana, Subiaco and Stirling.

Organic herbicides, particularly pelargonic acid, have been widely trialled but showed low to medium effectiveness in controlling weeds, with most products not adopted for ongoing use by Local Government. Some of these products also had negative attributes reported by Local Government, such as being highly odorous or creating slippery surfaces and stains when used in hardstand areas.

The majority of Local Governments have incorporated non-chemical weed control methods such as manual hand removal, slashing and competitive planting and mulching into their integrated weed management programs. The City of Fremantle reported that manual weed control in bushland areas was beneficial in reducing herbicide use and off-target vegetation damage.

There were 18 Local Governments that had reviewed the use of steam weed treatment. All found that steam weed treatment was a costly option compared with other weed control methods. The City of Joondalup uses steam in conjunction with hot water, which has better ground penetration and lower water use than steam alone. Some Local Governments have adopted the use of steam as an ongoing treatment in their integrated weed management programs, including Bassendean, Joondalup, Subiaco, Stirling and Victoria Park. As this treatment is not selective, application is restricted to specific areas such as garden beds and paved areas to avoid off target damage.