



Alternative Weed Control Field Studies

The Alternative Weed Control Field Studies are a summary of applications performed by the Park District of Oak Park in Oak Park, by licensed Illinois State herbicide applicators.

2015 Field Trial Report

During 2015, the Park District of Oak Park Greening Advisory Committee¹ made recommendations to the Park District of Oak Park on alternative weed control products to consider in place of glyphosate. Upon the recommendations, the Park District embarked on a trial study of Avenger AG Weed Control² on two test sites, Field Park Native Gardens and a District 97 ball field fence line. Avenger AG weed control was applied to fence lines at District 97 school ball field. Avenger Weed control and Glyphosate were applied in test plot sections to Field Park Native Garden.

Product Summary: Avenger Organics Weed Killer, EPA registered # 82052-4 and OMRI listed, is a non-selective, post-emergence liquid concentrate herbicide with active ingredient: Citrus Oil, d-Limonene.

Application Methods: Spot Application: Mixing Rate for 1:3 Dilution.

Environmental Conditions: Avenger AG is effective over a wide range of environmental conditions. Cool weather may slow the activity of Avenger A. For best results, spray when ambient high temperatures are expected above 50 F and lows above freezing. On cooler days, spray during the warm part of the day. Allow heavy dew to evaporate prior to Avenger AG applications. Do not apply if windy conditions exist or rain is expected within 2 hours.

Rating System: Caution!

¹ The Greening Advisory Committee acts as a liaison between the Park District and the community, helping implement the Park District's [Environmental Policy](#), assisting the Park Board in identifying and exploring sustainability issues and environmental initiatives, helping determine annual projects, and maintaining the Green Team, the Park District's park stewardship program. For more information on the GAC, visit [www.pdop/ Citizens Committee](http://www.pdop/CitizensCommittee) page.

² Avenger AG Weed Control: Cutting Edge Formulations, Inc., 3057 Summer Oak Place, Buford, GA, 30518
Telephone: 678-546-5009 • **Website:** avengerorganics.com



2015 Result Summary: Applications were made in July 2015 with a 1:3 dilution, spot application. Observed results over a 7 day period were recorded with a less than 25% effect at District '97 ball field fence line.

Field Park resulted in a greater effect of the AvengerAG on weed species including *Viola odorata* and *Glechoma hederacea*. *Viola* spp. showed appearance of a stippled burned effect to 50% of the vegetation while *Glechoma hederacea* showed yellowing over a 7-10 day period. With both species, the application of Avenger did not result in an overall death of the weed species. Applications were made on the same weed species using Roundup QuickPro at a 1:100 dilution. Roundup QuickPro resulted in a death of the weed species on the particular plant it was applied to within a 48 hour period.

2016 Field Trial Report

During 2016, the Park District of Oak Park Greening Advisory Committee¹ made recommendations to the Park District of Oak Park on alternative weed control products to glyphosate. Upon the recommendations, the Park District embarked on a trial study of OSM Horticultural Vinegar on test sites at Rehm Park, Carroll Park, and Cheney Mansion.

Product Summary: OSM Horticultural Vinegar, concentrated is a non-synthetic white distilled vinegar pH>2.2, 20% Acetic Acid. Yucca extract added as a natural surfactant sticking agent. This product is exempt from registration by the EPA as a pesticide under EPA "minimum Risk Pesticide" FIFRA 25B, List 4A.

Application Methods: Spot Application: 1:1 mix ratio to full strength.

Environmental Conditions: Most effective on warm, sunny days. The heat of the midday sun will turn most plants totally brown 2 to 6 hours after application.

Rating System: Use Caution

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Result Summary: Applications made to pavement cracks were most effective, resulting in the above ground vegetation turning brown. Weeds did not appear to effectively be suppressed with results of regrowth within a 1-4 week time period. Succulent weed species such as purslane, were least affected with a result of a stippling appearance of burn. Perennial weeds such as dandelion appeared to have a fast regrowth of 7-10 days. Multiple applications were performed in varying environmental conditions and timing. Dilutions of full product strength and 1:1 ratio were performed at all sites resulting in best results with full product strength.

2015-2016 Research Alternative Weed Control Summary

Through this two year field study, horticulturists have concluded that small, young weeds, generally within 2 weeks of germination are less likely to survive treatment than larger weeds with all three products, Roundup QuickPro, Avenger AG and Horticulture Vinegar. Broadleaf and annual weeds tend to be more susceptible to the effect of the alternative products than grassy weeds and perennial weeds, which had sometimes shown initial signs of damage but generally, recover. Nonetheless, alternative weed controls trialed on weeds with tap roots (dandelions, Canada thistle) resulted in little effect to kill of top growth. Although the overall cost is considerably higher than traditional herbicides, careful weed monitoring and spot applications to select annual and broadleaf weeds as part of an IPM program could be useful in difficult sites while systemic herbicides serve a better result to perennial weeds with tap roots. The Park District continually strives to evaluate alternative practices and IPM procedures, keeping abreast of current scientific findings with use to the practice of chemicals and Integrated Pest Management.

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PARK DISTRICT
of OAK PARK

218 Madison Street
Oak Park, IL 60302
Phone: 708.725.2000
Fax: 708.725.2301
www.pdop.org

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