

Organic weed control for dandelions

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Spring and summer often find homeowners out in their yards, busily attempting to control the onslaught of dandelions in a quest for green, weed-free lawns. Dandelions, broadleaf perennial plants that have a questionable reputation as lawn wreckers, can make even the most patient gardener reach for chemical weed killers to control the onslaught of the ubiquitous weeds. Now, the answer to an environmentally responsible way to control dandelions could be right on the front lawn.

Responding to criticism that synthetic herbicides can be harmful to the environment, researchers around the world are experimenting with organically derived weed control methods. A team at Michigan State University recently studied the effectiveness of pesticide-free mulched maple and oak leaves on common dandelions in established Kentucky bluegrass comparable to residential lawns.

Previous research indicated that mulched maple leaves resulted in fewer dandelions when incorporated into established turfgrass, but the leaves used in that research may have contained herbicide residues. These findings triggered a subsequent study designed to compare the effects of mulched leaves from herbicide-free maple and oak species on established turfgrass as an organic broadleaf weed control method, according to Alexander R. Kowalewski, lead author of a study published in *HortTechnology*.

"The objectives of our research were to quantify the effectiveness of four maple and one oak species leaf mulch as an organic broadleaf weed control method in an established Kentucky bluegrass turfgrass stand, then to identify specific maple species that provide effective broadleaf weed control. The final two objectives of this research were to determine the optimum leaf litter particle size and rate per unit area for the most effective broadleaf weed control", Kowalewski explained.

The scientists compared the effects of pesticide-

free mulched maple and oak leaves on dandelion populations in an established Kentucky bluegrass lawn in field experiments at the Hancock Turfgrass Research Center in East Lansing. The team tested red maple (*Acer rubrum*), silver maple (*A. saccharinum*), sugar maple (*A. saccharum*), high sugar content sugar [maple](#), and red oak (*Quercus rubra*) in coarse and fine particle sizes and differing application rates.

Mulch applications were made in fall and data collected beginning in spring on Kentucky bluegrass spring green-up and common dandelion plant counts. The data showed that the high application rate, regardless of tree genus or species, resulted in the highest green-up ratings. Common dandelion plant counts after one and two mulch applications at the high rate showed that up to 80% and 53% reduction was achieved, respectively.

Although the results from the research do not suggest that mulched leaves can be used exclusively as an alternative to herbicides to provide high-end weed control, Kowalewski stated: "If home owners want to incorporate this practice into an annual maintenance program, the findings of this study suggest that an increased spring green-up and a reduction in common dandelion population could be observed."

More information: The complete study and abstract are available on the ASHS HortTechnology electronic journal web site: horttech.ashspublications.org/...nt/abstract/19/2/297

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