

**Current City of Calgary Dandelion and Weed Control Practices
on City Property**

The following is a summary of conventional turf management practices at The City of Calgary along with summaries of the costs and benefits of other Integrated Pest Management pilot projects used to evaluate alternatives to “traditional” herbicide broadleaf weed control. Best practices are pulled from the Parks Activity Standards Manual. Approximately \$10,000 per ha a year is required to maintain turf at the highest standard, not including irrigation. Herbicide treatment is used on turf that has exceeded weed tolerance thresholds. The role of herbicide on well maintained turf is only used for spot spraying.

Table 1: Conventional Turf Management Practices

City Asset	Use Level	Level of Service	Weed Coverage Threshold	Traditional Techniques					
				Mowing Frequency	Aerating	Top-dressing	Fertilizing	Herbicide Treatment	Irrigation
Class A parks	High	Premium	5-10 per cent	Weekly	Twice a year	Every four years	Twice a year	Once a year if over threshold	735 mm of irrigation per season per ha
Class B parks	Medium	High to moderate	20-30 per cent	Biweekly / monthly	Once a year	Every four years	Once a year	Once every two years if over threshold	735 mm of irrigation per season per ha

Note: Roads performs five cuts per year (three in spring/two in fall).

Several other non-traditional turf management treatments have been implemented with varying levels of effectiveness.

- A. Compost Tea:** A compost extract that is applied to increase soil biological activity and the availability of micronutrients to the plants. It promotes root growth and moisture retention in the soil. Healthier turf out-competes most broadleaf weeds. The program is a relatively new trial for Calgary Parks. Results have thus far been mixed. More work will be required to fully evaluate its efficacy.
- B. Corn Gluten Meal:** Corn gluten meal is a by-product of the corn milling process. It is a 100 per cent organic fertilizer. A protein compound in the cornmeal inhibits roots from forming in newly germinating seeds, and therefore is only effective before weed growth. It is applied in early spring before dandelion seeds germinate. Generally, multiple season application is necessary for it to be effective.
- C. Seed Trials on Calgary Roadways:** Calgary’s winter roadway management programs and the salt and gravel that are required to keep roads safe and drivable result in soil condition problems. These arise along boulevards that make for poor turf growing conditions and perfect environments for weeds. Saltgrass seed trials have been performed along test areas of Calgary Roads boulevards. Results suggest that saltgrass

seed germination is difficult. Even after a complete test plot soil overhaul the compounding effects of winter roadway maintenance practices turn areas saline. Saline environments are difficult environments for grass seed germination; however certain weeds prosper in saline soils.

D. Alternative herbicides:

- **Fiesta Herbicide (Chelated Iron):** Iron is an important micronutrient for plants, but can be toxic to them in high concentrations and has a selective effect on broadleaf weeds. This product is considered to be a “green alternative pesticide”. However, trials in Calgary have shown it to be relatively ineffective on many weed species, and only slightly effective on dandelions. Adequate broad-leaved weed control tends to require six to eight repeat applications per season, or more.
- **EcoClear:** This product is a proprietary mixture of acetic acid and citric acid (components of vinegar and lemon juice). The high concentrations acid will non-selectively control herbaceous broadleaf and grass weeds in non-crop areas, right of ways and industrial land sites. It is a herbicide used after the weed has emerged.