



School Integrated Pest Management: Weed Control

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Before you apply:

- Send out an announcement of the application and post required signage.
- Make sure the area where application is taking place is vacated.
- **Log what you are going to spray, how much of it, where it is being applied, when the application will take place, time of reentry, and why it is being used.**

When to Apply Herbicides to Established Turfgrass:

- Pre-emergents (Pre): apply before seeds germinate as a preventative measure.
 - Examples: *mesotrione*, *pendimethalin*, *isoxaben*, *dithiopyr*, *simazine*, *etc.*
- Post-emergents (Post): apply to already established plants. Treat when needed.
 - Examples: *2,4-D*, *glyphosate*, *dicamba*, *triclopyr*, *sulfentrazone* *etc.*

How to Apply Herbicides:

- Wear proper personal protective equipment (gloves, rubber boots, goggles, fully protective clothing).
 - The minimal personal protective equipment is listed on the herbicide label.
 - Wash clothes used to apply chemicals in a separate load.
- Wash hands after applying, even if wearing gloves.
- Refer to label for application rate, how to mix, and how to store.
- Alternate which chemicals you use to reduce the risk of herbicide resistance.

Weed Life Cycle:

- **Annual:** Completes one growth cycle.
 - **Winter Annual:** Germinates in the fall, dies in the summer.
 - **Summer Annual:** Germinates in the spring, dies in the fall.
 - Apply pre-emergent herbicides when possible for annual weeds.
- **Biennial:** Completes two growth cycles. In the first year, vegetative structures form, and the second year comes the reproductive structure.
- **Perennial:** Completes two or more growth cycles. These typically are harder to manage and have a taproot.
 - Apply a post-emergent herbicide in the fall for perennial weeds, if unable to apply in the fall, do two applications of the herbicide in the spring.

Cultural Control:

- Refer to School Integrated Pest Management: Turfgrass Maintenance document.

Fall or Spring

Common Turfgrass Weeds in the PNW and Chemistries to Manage Them:

Weed	Weed Lifecycle	Herbicide Timing	Active Ingredient
Barnyardgrass (<i>Echinocola crus-galli</i>)	Summer annual	Pre-emergent: Spring	Pendimethalin or Quinclorac
Black Medic (<i>Medicago lupulina</i>)	Summer annual	Pre-emergent: Spring	Pendimethalin or Dithiopyr
Broadleaf and Buckhorn Plantains (<i>Plantago major</i> , <i>P. lanceolata</i>)	Perennial	Post-emergent: Fall	2,4-D or Carfentrazone-ethyl
Bull Thistle and Canadian Thistle (<i>Cirsium vulgare</i> , <i>C. arvense</i>)	Perennial	Post-emergent: Fall	Tricolpyr or 2,4-D
Clover (<i>Trifolium spp.</i>)	Perennial	Post-emergent: Fall Fertilizer: 4 lbs N/ 1000 sqft annually	Triclopyr Fertilizer: 4 Nitrogen
Crabgrass (<i>Digitaria spp.</i>)	Summer annual	Pre-emergent: Spring	Dithiopyr
Curly Dock (<i>Rumex crispus</i>)	Perennial	Post-emergent: Fall	2,4-D
Dandelion (<i>Taraxacum officinale</i>)	Perennial	Post-emergent: Fall	Triclopyr or 2,4-D
Purple Deadnettle and Henbit (<i>Laminum purpeum</i> , <i>L. amplexicalule</i>)	Winter annual	Pre-emergent: Fall	2,4-D or Dicamba
English Lawn Daisy (<i>Bellis perennis</i>)	Biennial	Post-emergent: Fall	2,4-D, Dicamba, or Triclopyr
Knotweed (<i>Polygonum aviculare</i>)	Perennial	Post-emergent: Fall	Dicamba or Triclopyr
Lawn Violet (<i>Viola papilionaceae</i>)	Perennial	Post-emergent: Fall	Tricolpyr, 2,4-D, or Dicamba
Pineappleweed (<i>Matricaria matricarioides</i>)	Summer and Winter annual	Pre-emergent: Spring or Fall	Pendimethalin or Dithiopyr

Prickly Lettuce (<i>Lactuca serriola</i>)	Biennial	Post-emergent: Fall	2,4-D, Dicamba, or Triclopyr
Puncture vine (<i>Tribulus terrestris</i>)	Summer annual	Pre-emergent: Spring	Pendimethalin or Dithiopyr
Purslane (<i>Portulaca oleracea</i>)	Summer annual	Pre-emergent: Spring	Pendimethalin or Dithiopyr
Shepherd's Purse (<i>Capsella bursa-pastoris</i>)	Winter annual	Pre-emergent: Fall	2,4-D, Dicamba, Imazapic, or Triclopyr
Sowthistle, Annual (<i>Sonchus oleraceus</i>)	Summer annual	Pre-emergent: Spring	Mesotrione or Sulfentrazone
Speedwell (<i>Veronica spp.</i>)	Perennial	Post-emergent: Fall	Triclopyr or Dicamba
Spotted Spurge (<i>Euphorbia maculata</i>)	Summer annual	Pre-emergent: Spring	Pendimethalin, or Dithiopyr
Woodsorrel (<i>Oxalis spp.</i>)	Perennial	Post-emergent: Fall	2,4-D, Triclopyr, or Dicamba

Footnote: Fall is the optimum time to control perennial weeds with a single post-emergent application. Spring treatments will often require two applications, if you are unable to apply a treatment in the fall. Do not apply these products when temperatures are greater than 80 degrees. For annuals apply a pre-emergent herbicide

For Questions Contact:

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