

PESTICIDE CHOICE FOR SCHOOLS

Gary Fish

Maine Board of Pesticides Control

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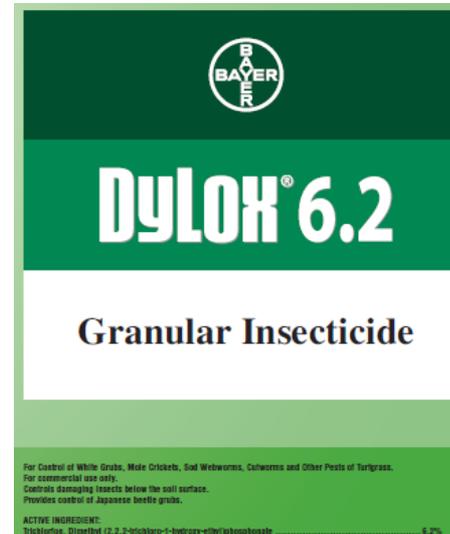
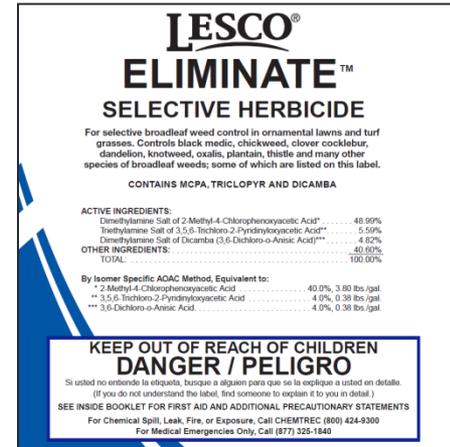
Where do you start?

- Read the labels
 1. The label must list the “site” to be treated
 2. Should also list the pest to be controlled, e.g., weed, insect, fungus, rodent, germ, etc.
- Once you determine the above, then you can look at other product characteristics.



What chemical characteristics are important?

- Toxicity – To humans (children especially), pets, bees and other pollinators, wildlife, plants
 - Acute and chronic
- Formulation – granular, spray or bait
 - Drift potential
 - Volatility
 - Odors
 - Equipment used to apply
 - Injected in crack
 - Sprayed
 - Incorporated into soil
 - Watered into the soil



No endorsement intended or implied

Reduce exposure by using targeted materials

- Enclosed baits & gels
- Spot treatments
- Broadcast treatments

Best



Worst

Environmental Fate

- Will it runoff?
- Is it leachable?
- Is it volatile?
- Will it leave a residue on the surface?

Surface Water Advisory:

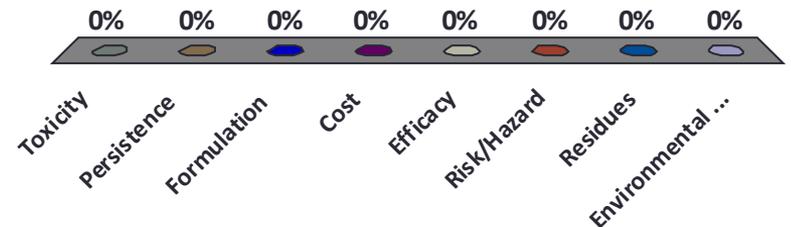
This product may contaminate water through runoff. This product has a high potential for runoff for several months or more after application. Poorly draining soils and soils with shallow water table are more prone to produce runoff that contains this product. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential for contamination of water from runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.

Ground Water Advisory:

This chemical has properties and characteristics associated with chemicals detected in ground water. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground-water contamination.

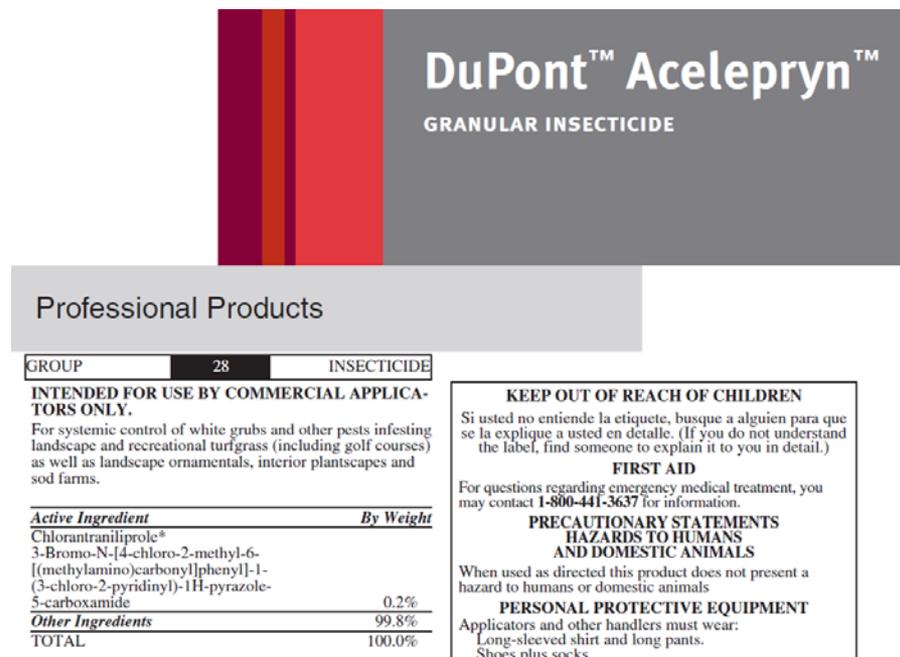
Which characteristics do you think are most important?

1. Toxicity
2. Persistence
3. Formulation
4. Cost
5. Efficacy
6. Risk/Hazard
7. Residues
8. Environmental Fate



Where can you find this information?

- Pesticide label
 - Signal word (Caution, Warning or Danger)
 - Precautionary statements
 - PPE requirements
 - Re-entry statements
 - Environmental hazards
 - Application restrictions
 - Mode of action



The image shows a portion of a pesticide label for DuPont™ Acelepryn™ Granular Insecticide. The label is dark grey with a red and purple vertical stripe on the left. Below the product name, it says 'Professional Products'. A table lists the group as '28' and the product as 'INSECTICIDE'. The label includes instructions for use, a table of ingredients, and safety information.

DuPont™ Acelepryn™
GRANULAR INSECTICIDE

Professional Products

GROUP	28	INSECTICIDE
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INTENDED FOR USE BY COMMERCIAL APPLICATORS ONLY.
For systemic control of white grubs and other pests infesting landscape and recreational turfgrass (including golf courses) as well as landscape ornamentals, interior plantscapes and sod farms.

Active Ingredient	By Weight
Chlorantraniliprole*	
3-Bromo-N-[4-chloro-2-methyl-6-[(methylamino)carbonyl]phenyl]-1-(3-chloro-2-pyridinyl)-1H-pyrazole-5-carboxamide	0.2%
Other Ingredients	99.8%
TOTAL	100.0%

KEEP OUT OF REACH OF CHILDREN
Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

FIRST AID
For questions regarding emergency medical treatment, you may contact 1-800-441-3637 for information.

**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS
AND DOMESTIC ANIMALS**
When used as directed this product does not present a hazard to humans or domestic animals

PERSONAL PROTECTIVE EQUIPMENT
Applicators and other handlers must wear:
Long-sleeved shirt and long pants.
Shoes plus socks.

Where can you find this information?

- MSDS or SDS
 - Flammability
 - Reactivity
 - PPE
 - Long term health effects
 - Carcinogen
 - Teratogen
 - Mutagen
 - Reproductive effects
 - Vapor pressure

LESCO[®]

**MATERIAL SAFETY
DATA SHEET #4026**

1301 East 9th Street, Suite 1300, Cleveland, OH 44114-1849

Emergency Phone: LESCO: (800) 321-5325

CHEMTREC: (800) 424-9300

I. PRODUCT IDENTIFICATION

Product: LESCO Eliminate Liquid Selective Herbicide Chemical
Chemical Name/Synonyms: MCPA, Dicamba, Triclopyr

II. PRODUCT INFORMATION: INGREDIENTS

Chemical Name	TLV/TWA % (by wt.)	CAS
Dimethylamine Salt of 2-Methyl-4-Chlorophenoxyacetic Acid	NA	48.96
Triethylamine Salt of 3,5,6-Trichloro-2-Pyridinyloxyacetic Acid	NA	5.56
Dimethylamine Salt of Dicamba (3,6-Dichloro-o-Anisic Acid)	NA	4.86
Water and Sequestrants	NA	40.60

III. PHYSICAL AND CHEMICAL CHARACTERISTICS

Boiling Point: >212° F	Specific Gravity (water = 1):
Melting Point: Liquid	Density (lb/gal):
Vapor Pres. (mm Hg): Equal to Water	Evaporation Rate:
Vapor Density (air = 1): NA	Percent Volatile:
Solubility in Water: 100%	Appearance and Odor: Dark amr
pH: 7.5 - 8.5	

IV. FIRE AND EXPLOSION HAZARD DATA

Flash Point (method Used): None - aqueous solution	Auto Ignition Temperature:
Lower Explosion Limits: NA	Upper Explosion Limits: NA
NFPA/HMIS RATING: HEALTH 2 FIRE 1 REACTIVITY 0	
Extinguishing Media: <input type="checkbox"/> Foam <input type="checkbox"/> Alcohol Foam <input checked="" type="checkbox"/> Dry Chemical <input checked="" type="checkbox"/> CO ₂ <input checked="" type="checkbox"/> Water Spray <input type="checkbox"/> Other	

No endorsement intended or implied

Where can you find this information?

- [Windows Pesticide Screening Tool WIN-PST](#)
 - Relative leaching potential
 - Relative surface loss potential
 - Potential loss attached to eroded soil
 - Relative risk to humans in drinking water
 - Relative risk to aquatic organisms in water or sediments

WIN-PST Ratings for Turf Products

Brand Name	Active Ingredient Name(s)	Leaching Potential
0.10% DIMENSION PLUS FERTILIZER		
18 PLUS FUNGICIDE	Dithiopyr	HIGH
3336 F	Iprodione	LOW
3336 G	Thiophanate-methyl	LOW
ACCLAIM EXTRA HERBICIDE	Thiophanate-methyl	LOW
ACELEPRYN	Fenoxaprop-p-ethyl	LOW
ACELEPRYN G INSECTICIDE	Chlorantranilprole	VERY LOW
ACEPHATE 75SP	Chlorantranilprole	VERY LOW
AFFIRM FUNGICIDE	Acephate	LOW
	Polyoxin D zinc salt	HIGH

No endorsement intended or implied

Where can you find this information?

- [Turf Pesticide & Cancer Risk Database - Cornell University](#)
- [Pesticide Action Network Database - PANNA](#)

PAN Pesticide Database

Home

The Pesticide Action Network (PAN) Pesticide Database is your one-stop location for toxicity and regulatory information for pesticides. To find out more about the choices below. To learn more about our comprehensive collection of data sources see [About the Data](#).

The database and website are updated and enhanced by [Pesticide Action Network North America](#) (PANNA). The project is made possible by our [Sponsors](#) and improve this system. Please support the database and website — [donate to PANNA](#).

Search

- [Chemicals](#) or [Alphabetized Chemical List](#)
- [Products](#) (a product can contain multiple chemicals)
- [International Pesticide Registration](#)
- [Poisoning Diagnostics](#)
- [Aquatic Ecotoxicity](#)

California Data

- [Pesticide Use Reports](#)
- [Pesticides and Air](#)

Help and Other Resources



Cornell University

SEARCH: go

BCERF Cornell

[New](#) [Program](#) [Learning Resources](#) [Events](#) [Maps & Stats](#) [Research Resources](#) [BCERF Research](#)

Program on
Breast Cancer and Environmental Risk Factors

SPRECHER
INSTITUTE
for Comparative
Cancer Research

ATTENTION: THIS IS AN ARCHIVAL WEB SITE.

The BCERF program on the Cancer Risks of Environmental Chemicals in the Home and Workplace closed on March 31, 2010. No further updates will be made to this web site. Please go Cornell University's eCommons web site to access BCERF's archived research and educational materials (<http://ecommons.library.cornell.edu/handle/1813/14300>).



Turf Pesticides and Cancer Risk Database

Search the database three ways to find the cancer-causing potential of active ingredients in turf pesticide products.

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Last Update 12.12.08

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Program on Breast Cancer and Environmental Risk Factors
Cornell University, College of Veterinary Medicine
Vet Box 31, Ithaca, NY 14853-6401

We comply with the HONcode standard for trustworthy health information: [Verify here.](#)



Search & Help

[Home/Search](#)
[Search Help](#)
[Database Overview](#)
[Questions & Answers](#)
[Glossary](#)

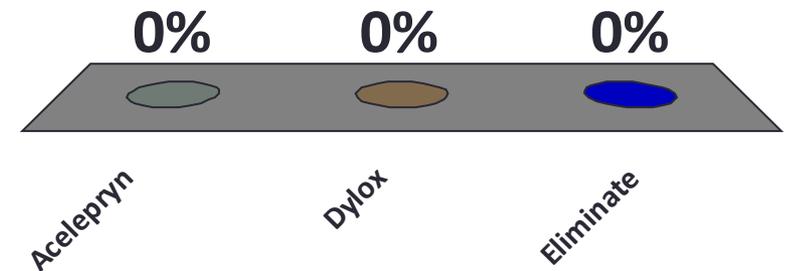
More Info

[Interpreting Cancer Risk](#)
[Pesticide Registration](#)
[Cancer Risk Categories](#)
[Bibliography](#)
[Links](#)
[Information Sheet](#)
[Acknowledgments](#)

No endorsement intended or implied

Which product is least hazardous to humans?

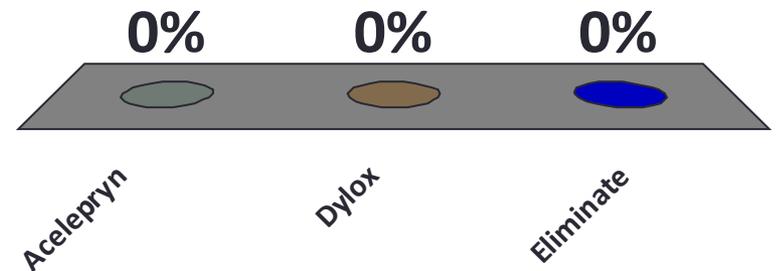
1. Acelepryn
2. Dylox
3. Eliminate



No endorsement intended or implied

Which product is more likely to leave a residue that poses some risk to students?

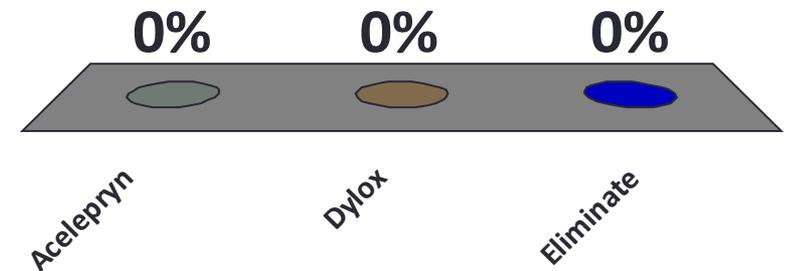
1. Acelepryn
2. Dylox
3. Eliminate



No endorsement intended or implied

Which product has the lowest drinking water risk?

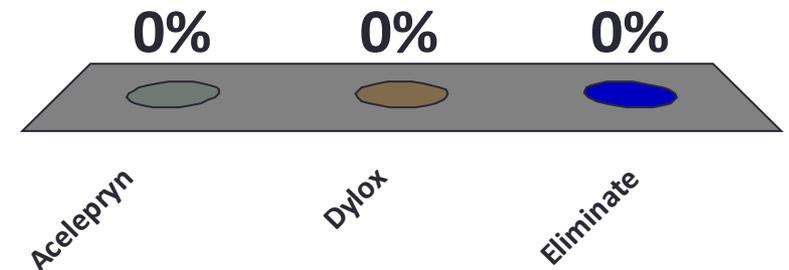
1. Acelepryn
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3. Eliminate



No endorsement intended or implied

Which product has the greatest risk to aquatic life if it gets into a stream?

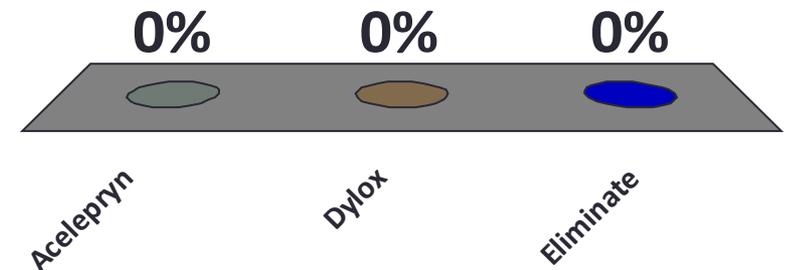
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2. Dylox
3. Eliminate



No endorsement intended or implied

Which product is more likely to give off vapors?

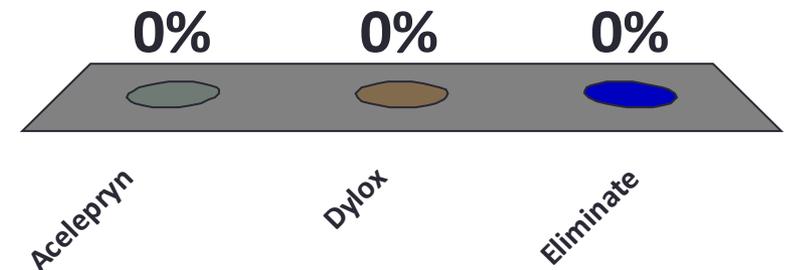
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3. Eliminate



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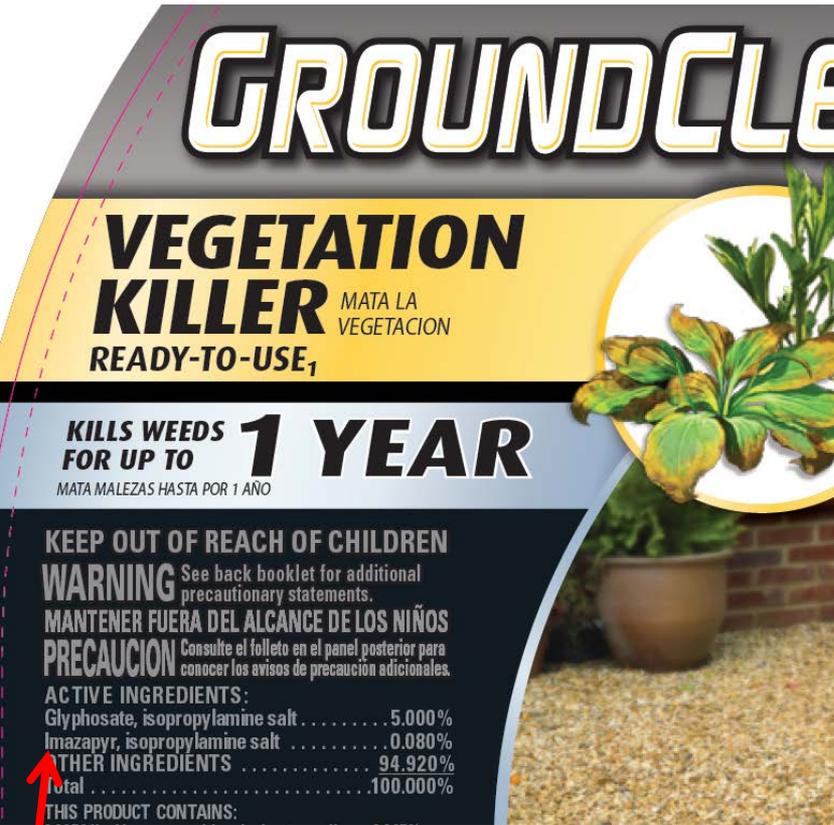
Which product would you choose if you identified European chafer grubs in an athletic field at 10/sq. ft. in late July?

1. Acelepryn
2. Dylox
3. Eliminate



No endorsement intended or implied

What about persistence?



GROUND CLEAR[®]

VEGETATION KILLER MATA LA VEGETACION
READY-TO-USE₁

KILLS WEEDS FOR UP TO 1 YEAR
MATA MALEZAS HASTA POR 1 AÑO

KEEP OUT OF REACH OF CHILDREN
WARNING See back booklet for additional precautionary statements.
MANTENER FUERA DEL ALCANCE DE LOS NIÑOS
PRECAUCION Consulte el folleto en el panel posterior para conocer los avisos de precaucion adicionales.

ACTIVE INGREDIENTS:
Glyphosate, isopropylamine salt 5.000%
Imazapyr, isopropylamine salt 0.080%
OTHER INGREDIENTS 94.920%
Total 100.000%

THIS PRODUCT CONTAINS:



WEED B GON

PLUS CRABGRASS CONTROL

MATA MALEZAS, NO EL CESPED

KILLS THE ROOT | **KILLS OVER 200 WEEDS INCLUDING CRABGRASS!**

ACTIVE INGREDIENTS:
2,4-D, dimethylamine salt* 6.42%
Quindorac** 2.13%
Dicamba, dimethylamine salt*** 0.60%
INERT INGREDIENTS: 90.85%
TOTAL 100.00%

FOR HOME LAWN CARE

KEEP OUT OF REACH OF CHILDREN
CAUTION SEE NEXT PANEL FOR ADDITIONAL PRECAUTIONARY STATEMENTS AND FIRST AID.

See back panel for substatement of ingredient statement.



WIN-PST shows half-life in days



1/14/2014

3:40PM

Page 1 of 1

Pesticide Active Ingredient Rating Report

Active Ingredient Common Name	pH	Solubility in Water (ppm)	Half Life (days)	KOC (mL/g)	Human Toxicity (ppb)	Fish Toxicity		SPISP II Pesticide Ratings				Exposure Adjusted Toxicity Category		
						MATC*	STV	Leaching Solution	Runoff Adsorbed	Human	Fish	Sediment Fish		

ACTIVE INGREDIENTS

100% Quinclorac

Reg No:

PC_Code: 64 913 32 2,660.00 22,271.00 712,672.00 H H I V V V

Method: Surface Applied

Area: Broadcast

Rate: Standard

100% Imazapyr, isopropylamine salt

Reg No:

PC_Code: 500000 90 100 251,189.00 25,118,900.00 H H I V V

Method: Surface Applied

Area: Broadcast

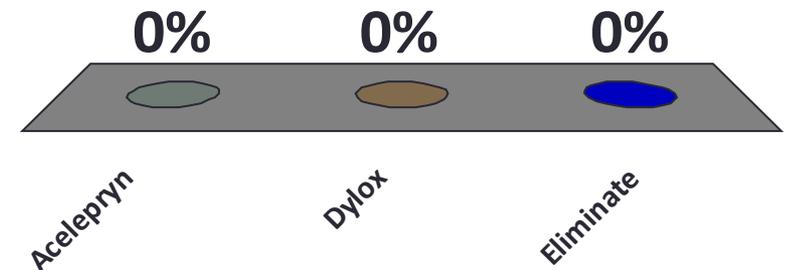
Rate: Standard

Where can you go for product efficacy and pest management information?

- [School IPM website](#)
- [Got Pests website](#)
- [University of Maine Pest Management](#)
- [YardScaping website](#)
- [U-Mass Turf Program](#)
- [U-Mass Landscape & Nursery Program](#)
- The label
- Research articles in journals
- Pesticide dealer
- Pesticide manufacturer

Which product is least likely to leach into groundwater?

1. Acelepryn
2. Dylox
3. Eliminate



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