Homeowner Approaches to Reduce & Eliminate Use of Pesticides, Herbicides, and Fertilizers

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A New Perspective: Improving the Environment from your Back Yard

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Watershed System

How do we reduce and eliminate contaminants?
Soil Test

• Have your lawn and garden soil tested
  – Both UMASS & UCONN have testing programs
  – Test will provide pH & nutrient deficiencies
• Why pay the chemical companies if your soil is just fine?
Mow High

- 3 inches or higher
- Grass roots are as long as the grass is high
  - Healthier grass with fewer weeds
  - Less water required
- Keep mower blades sharp
  - Better recovery
  - Less moisture loss
Leave Grass Clippings on Lawn

- Provides a source of slow release nitrogen
- Reduces fertilizer needs by up to 50%
- Less work
- If you must bag clippings, compost them
- Sweep grass clippings (and any fertilizer, herbicides, or pesticides) back onto lawn
Use Low Input Grasses

• Overseed lawn with fescue grasses
  – Drought tolerant
  – Some are shade tolerant
  – Overseeding helps to ensure dense lawn

• Look for endophyte-enhanced grasses for lawns (naturally pest resistance)

• Consider adding white clover (fixes nitrogen for plant use)
Water Wisely

- Lawns need only 1 inch of water per week
  - Combination of rain and watering
  - If watering, water deeply and in the morning
  - Rain gauges are inexpensive
- Overwatering causes many problems
  - Shallow roots
  - Increased susceptibility to disease
- Grasses go naturally dormant in hot & dry weather - they will come back!
Fertilizer Use

If lawn looks healthy, don’t fertilize
Go really organic
  – Lawn clippings
  – Lime

If you must fertilize (soil test will provide info)
  – Use organic fertilizers (lower in nitrogen)
  – Make sure fertilizer is slow release (more than 50% water insoluble nitrogen)
    – Remember that more is not better
Avoid combination fertilizer and pesticide products
Minimize Lawn Area

- Trees, shrubs, and groundcover absorb up to 14 times more rainwater than a lawn
- Keep shoreline edges naturally vegetated
  - Discourages geese
  - Filters pollutants, sediments and nutrients
- Consider a rain garden to capture stormwater runoff from gutters and allow water to soak into soil
Herbicide & Pesticide Use

Goal: **control** the problem with minimal impact to the environment

- **Mechanical** – handpick insects and weeds, remove infected leaves
- **Organic controls**
  - Insecticidal soaps
  - Natural ingredient based, e.g., Neem, Rotenone
  - Biological controls, e.g., nematodes, parasites
  - *But they can have negative implications*
- **Chemical controls**
  - Some more toxic than others
Major Problems with Lawns - Crabgrass

Instead of Chemicals
Dithiopyr - Dimension
Siduron – Tupersan
Benefin/triflur – Team

Use Organic Approaches
Corn Gluton
Or …
Really Organic
Hand pull
Re-seed bare spots
Maintain dense lawn

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www.ristormwatersolutions.org
Major Problems with Lawns - Grubs

Survey first – you may save yourself a lot of money!

Instead of Chemicals
Imidicloprid
Trichlorfon
4F Carbaryl

Use Organic Approaches
Milky spores
Nematodes
Or …
Really Organic - Hand pick adult beetles

JAN FEB MAR APRIL MAY JUNE JULY AUG SEPT OCT NOV DEC
Major Problems with Lawns – Broadleaf Weeds

Instead of Chemicals
2,4-D dimethylamine salt
Mecoprop
Dicamba

Use Organic Approaches
Hand pull
Re-seed bare spots
Maintain dense lawn

What the weeds say …
Read the Labels!

- Know what fertilizers, herbicides, and pesticides you are using
- Know the active ingredients
- Apply only the amount directed
  - More is not better!
- Read the warnings
  - Toxicity – humans, animals, birds, insects
  - Shelf life and half life

Pesticide Label

Directions
For proper mixing, the spray tank should be at least ¾ filled with water before this product is added. Shake sprayer occasionally or agitate to keep spray particles in suspension during application. Follow spray schedule given in SPRAY CHART. Do not apply this product through any type of irrigation system. For home garden use only.

ENVIRONMENTAL HAZARDS
This pesticide is toxic to fish, aquatic invertebrates, and aquatic life stages of amphibians. Do not apply directly to water. Drift and runoff may be hazardous to aquatic organisms in areas near the application site. Do not contaminate water when disposing of equipment washwaters. This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.