



"Protecting water quality through community planning"



Nonpoint Education for Municipal Officials

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POW: Protecting Our Water ACTION GUIDE SERIES
ACTION GUIDE #3

What to Do About Fertilizers and Pesticides

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"A more practical approach focuses on maintaining weeds and garden insects at nondamaging levels and encouraging healthy plant populations that are adapted to Nevada's climate and soils."

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icture-perfect pest-free gardens and lush, green, weed-free landscapes are common goals for many homeowners. In reality, achieving this vision can be expensive, impractical and environmentally unsound. Fertilizers, herbicides and insecticides cost money. If they are improperly or unnecessarily applied, they also contribute to nonpoint source pollution. A more practical approach focuses on maintaining weeds and garden insects at nondamaging levels and encouraging healthy plant populations that are adapted to Nevada's climate and soils.

Follow these tips:

- Accept that a certain level of weed and insect pests are part of the natural balance.
- Read fertilizer, insecticide and herbicide labels, and apply them only as directed. Remember, more is not better!
- When possible, purchase only the amount of insecticide or herbicide you need for the job.
- Store fertilizers, herbicides and insecticides in their original containers in an area that maintains the suggested temperature ranges.
- Store fertilizers, herbicides and insecticides away from water, kids and pets.
- Test your soil before applying fertilizers. Overfertilization is a common problem, and excess nutrients can leach into groundwater or contaminate rivers or lakes.
- Consider using organic fertilizers, such as bone meal, blood meal, organic mixes and compost.
- Avoid using fertilizers or pesticides within 75 feet of waterways or wetlands.
- Avoid using fertilizers or pesticides near cisterns and wellheads.
- Do not apply insecticides, herbicides or fertilizers before or during rain to avoid runoff.
- Keep fertilizers and pesticides off sidewalks and driveways, where they may be washed into storm drains.

Learn the Lingo:

A pesticide is one of a class of chemicals that kills pests. Insecticides kill insects, herbicides kill plants, fungicides kill fungi and so on...



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- ➔ Use slow-release fertilizers on areas where the potential for water contamination is high, such as sandy soils, steep slopes, and compacted soils. In such areas, low-phosphate or phosphate-free fertilizers are good choices. If your favorite garden supply store does not carry such items, request that they do. These products may also be ordered through the Internet.
- ➔ Select the proper season to apply fertilizers. Incorrect timing may encourage weeds to grow or may stress grasses.
- ➔ Calibrate your applicator to the appropriate rate before applying insecticides, herbicides or fertilizers. As equipment ages, annual adjustments may be needed.
- ➔ If you elect to use a professional lawn care service, select a company that employs trained technicians and follows practices designed to minimize the use of fertilizers and pesticides.

Alternatives to Pesticides

Integrated Pest Management, or IPM, is a popular method of pest management. IPM considers all the types of controls available for a specific pest, not just chemical controls. Other methods include cultural, mechanical, physical and biological controls. One of the most important tenets of IPM is the establishment of an "action threshold" or a level of infestation beyond which some type of pest control needs to be implemented. This is an important concept that most farmers, orchard owners and ranchers understand, but many homeowners do not. **If the pest is only going to affect 5 percent of your crop or landscape, is it economical to spend a lot of money on pesticides? At what level of pest infestation should you choose to apply a pesticide? If the level of infestation is low, can you hand-pull or pick off the pests?** For more information, contact your local Cooperative Extension office.

IPM ALTERNATIVES:

- ➔ **Remove the pests by hand:** This method works well for larger pests, such as tomato hornworms.
- ➔ **Biological pest controls:** Other organisms such as beneficial insects that attack pests can be used to reduce pest populations. Examples include ladybugs and lacewings that attack aphids. See www.unce.unr.edu/publications/FS96/FS9649.pdf for more information. Apply microbial insecticides, such as *Bacillus thuringiensis*, to plants or soil to control caterpillars. See www.ext.colostate.edu/pubs/insect/05556.html for more information.
- ➔ **Traps:** Use sticky traps, pheromone traps, rodent traps, etc. to catch pests. A shallow pan of beer will attract and drown slugs.
- ➔ **Floating row covers:** These lightweight barriers keep pests off plants. In our hot climate, row covers have the added benefit of providing a little shade for the plants.
- ➔ **Less toxic chemical controls:** Dehydrating dusts, such as diatomaceous earth, will control soft-bodied insects. Boric acid powder is an effective insecticide. Insecticidal soaps, which control soft-bodied insects such as aphids, whiteflies and thrips, are also effective insecticides. Go to www.ext.colostate.edu/pubs/insect/05547.html for more information on insecticidal soaps. Horticultural oils are also very low in toxicity. These products are used when plants are dormant to avoid pest outbreaks. See www.ext.colostate.edu/pubs/insect/05569.html for more information on horticultural oils.
- ➔ **Natural insecticides:** These products are derived from natural plant extracts, such as pyrethrin or sabidilla, and biodegrade quickly. Be aware that such products may still be toxic if misused. Use sparingly and carefully follow label directions.

For more information:

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