



Russian River Watershed Association

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Pesticides and Fertilizers – Do We Really Need Them?

It's time we raise our awareness about the potential hazards of pesticides and fertilizers in our environment. These two types of garden products can be produced synthetically or organically, and can range from relatively benign to extremely toxic. We all need to be aware that they have the potential to cause harm to our environment and be concerned with the amount of pesticides and fertilizers used in our community.

Pesticides are chemicals or compounds used to kill or deter pests, such as insects, rodents, weeds, and plant pathogens like bacteria. Scientists now know that there are many non-chemical ways to ward off unwanted pests in our gardens. The study of "Integrated Pest Management," also known as IPM, focuses on the least-toxic way to rid our gardens of unwanted pests. Great information about IPM is available from the University of California Cooperative Extension at www.ipm.ucdavis.edu.

Why do we turn to pesticides? Is it because we don't know of another method? Think about it. Do you really have a pest problem? Did you know that not all insects in your garden are harmful to plants? In fact, there are some you *want* to find in your garden - "beneficial insects". These insects can replace harmful pesticides by eating harmful insects that destroy plants. Garden "beneficials" include ladybugs, centipedes, ground beetles and spiders. Some you can even buy at your local garden shop. In addition, welcome into your garden toads, dragonflies, and birds - all natural allies in pest control that are increasingly being used instead of pesticides.

Weeds are pests that are often controlled with chemical sprays. In most cases, weeds can be controlled with cultural methods such as mulching and surface cultivation. Mulch has multiple benefits in the garden; in addition to keeping weeds away, it adds soil nutrients and increases the water absorption rate of the soil. Mulch helps keep plants healthy and disease free.

Fertilizers are organic or inorganic materials that are added to the soil to supply plant nutrients. Not all fertilizers are created equal, however. Synthetic quick-release fertilizers can wash through the soil before they can be taken up by the plant. Slow-release organic matter has the potential to supply plant nutrients at a rate the plant can use. The goal in feeding plants is to provide the nutrients at the time and in a manner the plant requires. More information about effective use of fertilizers can be found in the Russian River-Friendly Landscape Guidelines at www.rrwatershed.org/programs/land-use-guidelines.

One garden option that often requires less fertilizer and pest management is to use native landscaping, which uses plants that are indigenous to your region and suited to your local climate. Native landscapes have the added benefit of attracting native wildlife, which can provide a truly balanced system in a garden.

Garden practices can also help minimize problems. For example - it is best to water the garden in the early morning hours to help prevent diseases such as rust and mildew from setting in. You will probably be able to avoid using a fungicide if you water at the proper time of day.

Be proactive. Monitor your yard and look for early warning signs of problems. Take the time to identify pests and the reason for their presence. Correct the source of the problem rather than resorting to pesticides and synthetic fertilizers. With patience, non-chemical methods can be as effective, if not more effective, than chemical pesticide and fertilizer use.

Let's all learn to use the least toxic approach to pest control and nutrient application in our gardens. Residues of pesticides and fertilizers can build up in our soils and eventually leach into our groundwater; excess application of these products can run off our gardens into surface waters during rainstorms. These products can harm the environment by adding excess nutrients and adding long-lived contaminants to aquatic and terrestrial systems. The Russian River watershed is our home, and the home of the plants and animals that keep it so rich and diverse. Let's all do our part in keeping our watershed a balanced healthy system.

This article was authored by Lauren McPhaul, Water and Sewer Project Coordinator for the City of Ukiah, on behalf of RRWA. RRWA (www.rrwatershed.org) is an association of local public agencies in the Russian River Watershed that have come together to coordinate regional programs for clean water, fisheries restoration, and watershed enhancement.