

# Fertilizer *a common sense guide*

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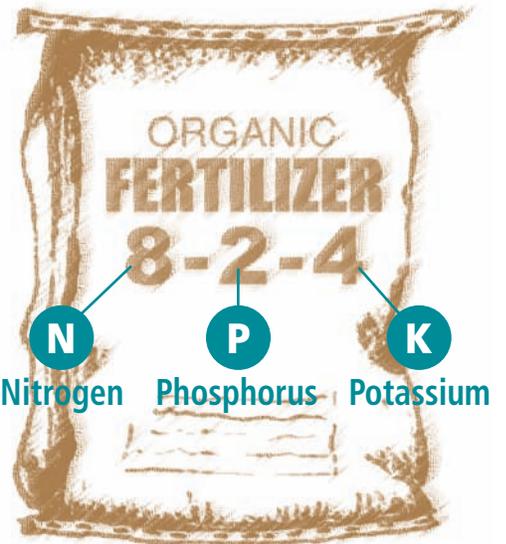
Extra fertilizer does not make stronger plants! Over-fertilization can cause quick, weak growth, leaving plants vulnerable to disease. ”

Fertilizer adds low or missing nutrients to the soil. Here on the rainy side of the Cascades, soil tends to be low in nitrogen, calcium, and sulfur. It also tends to be acidic. This is due to our rains, the rocks that make the soil, and sometimes human disturbance. When we grow demanding non-native plants such as vegetables, lawns, and many garden flowers, fertilizer may be necessary for the garden to thrive.

**Compost builds good soil structure.** While fertilizer can add nutrients, it cannot replace good soil structure. Good soil structure is loose, crumbly, and teeming with life. These conditions help plants take up nutrients and water to thrive. Poor soil is compacted and depleted of organic matter and soil organisms. In these conditions, plants struggle to meet their needs even if fertilizer is added. Add 1-2" of compost to garden beds and 1/4" to lawns each year to improve soil structure and vitality.

## Step 1: Choose slow-release fertilizer

**Nutrients from slow-release fertilizers are available to plants throughout the growing season.** Slow-release fertilizers rely on the work of soil organisms and other processes to release nutrients close to the rate that plants can use them. The nutrients are unlikely to wash away beyond the root zone of the plants.



Primary nutrients are listed in the order N-P-K. The numbers refer to the percentage of Nitrogen (N), Phosphorus (P), and Potassium (K) in the fertilizer.

**Look at the fine print on the label for the percent of water-insoluble nitrogen.** In slow-release fertilizer this number will be at least half the total amount of nitrogen. So if the fertilizer contains 8% total nitrogen, water-insoluble nitrogen should be at least 4%.

Most organic fertilizers are slow-release including aged manure, seed meal, bone meal, rock phosphate, ground limestone, many poultry and fish by-products, and kelp meal. You can also find slow-release fertilizers listed by brand name in [Grow Smart](#), [Grow Safe](#), available on our website.

### 8-2-4

#### GUARANTEED ANALYSIS

(N) Total Nitrogen.....	8.00%		
Water Insoluble Nitrogen .....	7.00%		
Water Soluble Nitrogen.....	0.89%		
Ammoniacal Nitrogen.....	0.11%		
(P) Available Phosphate.....	2.00%		
(K) Soluble Potash.....	4.00%		
Calcium.....	1.50%	Sulfur .....	2.00%
Magnesium.....	1.00%	Iron .....	2.00%
Boron.....	0.02%	Zinc.....	0.05%

#### Primary Nutrients in Fertilizer

**(N) Nitrogen** promotes strong leaf growth. Look for water insoluble nitrogen that is at least half the amount of total nitrogen.

**(P) Phosphorus** encourages roots, flowers, seeds, and fruits.

**(K) Potassium or Potash** is critical for overall plant health.

**Secondary and micronutrients** are also important for overall plant health.



THURSTON COUNTY  
WASHINGTON  
SINCE 1852

Thurston County  
Environmental Health Division  
412 Lilly Rd. NE  
Olympia, WA 98506

**Skip fertilizer-pesticide combinations.** Some fertilizers and mulches are combined with weed or insect killers and are not recommended by most professional landscapers, WSU Extension, or the Health Department.

Combination products spread pesticides all over, even where not needed, wasting much of the product. Double check the label and use 'straight' fertilizer or mulch. Save weed and insect killers to spot treat specific problem areas after trying less-hazardous methods first. Why add to concerns about water and soil contamination or risk exposure to kids, pets, and wildlife?

## Step 2: Follow package directions

**Each fertilizer is blended differently. Follow the directions on how much fertilizer to apply, and how often it is needed.** For lawns, use the proper spreader settings described on the package. Important precautions (especially for dogs who like to eat almost anything) are also found on the label. Sweep fertilizer off sidewalks or driveways and spread back onto the lawn or garden. Follow directions for watering. Store any extra fertilizer in a cool, dry place for use in the future.



### Too much fertilizer does not make stronger plants!

In fact, over-fertilization can cause quick, weak growth, leaving plants vulnerable to disease and wind damage. In addition, extra fertilizer washes away and can pollute streams, lakes, Puget Sound, and ground water – our source of drinking water.



**Consider a soil test.** Soil tests provide the most accurate information about your fertilizer needs. The relatively low cost of a soil test may save you money because you can avoid applying unneeded nutrients.

#### Soil tests are available from:

Thurston County Conservation District:  
360-754-3588 / [www.thurstoncd.com](http://www.thurstoncd.com)

Black Lake Organic:  
360-786-0537 / [www.blacklakeorganic.com](http://www.blacklakeorganic.com)  
Contact them for prices and instructions.

## When to Fertilize:

### Lawns

- mulch-mow, or leave grass clippings on the lawn, all growing season
- if you only fertilize once a year, do so in early fall (Sept through mid-Oct)
- once in April-May
- if needed, fertilize in early summer (around the 4th of July)

### Flower/Vegetable Gardens

- before planting, mix fertilizer into soil below plant or seed
- fertilize established plants in spring
- high demand plants may need a second fertilization in early summer

### Berries

#### Raspberries and Blackberries:

- in spring when growth begins

#### Strawberries:

- June harvest: after harvest
- day-neutral and everbearing: small amounts throughout growing season

#### Blueberries:

- at bud break, in May, and in late June

**What about lime?** Lime is ground limestone or calcium carbonate, which also adds calcium to the soil. Another form, dolomite lime, adds magnesium as well as calcium.

Lime is often used to raise the pH, or "sweeten" the soil. Many garden plants do best when the soil pH is between 5.5 and 7.5. However, blueberries, rhododendrons, and some native plants prefer more acidic soil (lower pH), so do not add lime near these plants. Soil pH is important because it affects the availability of plant nutrients and toxic metals, and the activity of important soil microorganisms.

A general guideline, if you have not yet tested your soil, is to add 30 lbs of lime per 1,000 square feet every 2-3 years in the fall.

## For More Information

For more information on Common Sense Gardening, contact Thurston County Environmental Health at 360-867-2674 (TDD: 360-867-2603) or online at [www.co.thurston.wa.us/health/ehcsg](http://www.co.thurston.wa.us/health/ehcsg)

## Resources

**Calibrating a Fertilizer Spreader**  
<http://aggieturf.tamu.edu/aggieturf2/calibration/calibration.html>

**WA Dept. of Agriculture Fertilizer Database**  
For data on nutrients and concentrations of nine heavy metals, visit  
<http://agr.wa.gov/PestFert/Fertilizers/ProductDatabase.htm>

**Home Gardener's Guide to Soils & Fertilizers**  
(WSU Extension bulletin EB1971E)  
<http://gardening.wsu.edu/library/lanb003/lanb003.htm>

**Composting Information**  
Call 360-867-2491 or visit  
[www.thurstonsoildwaste.org](http://www.thurstonsoildwaste.org)

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