

NUTRIENTS:

Good soil nutrient content is necessary if you want strong hearty plants. Correct pH, nitrogen phosphorus, and potassium are needed for healthy, sturdy plants which must be applied in the correct amounts.

- **Nitrogen (NO₃)** is necessary to generate healthy stalk, stem, leaf and grass growth, but too much nitrogen creates quick growth, slows seed and flower production while causing plant tissues to become weak. Too little nitrogen creates a sickly plant.
- **Phosphorus (P)** gives plants a good, quick start, intensifies the development of roots, speeds maturation, and helps with flowering and seed creation.
- **Potassium (K)** or potash expedites root and tuber development, which is important for root vegetables and tuberous flowers. On the other hand, too much potassium weakens frost and drought resistance and retards ripening.
- **Correct soil pH** is necessary for plants to absorb nutrients. If the pH is incorrect the plant cannot absorb the nutrients and the plant will become weak and die off.

Over application of these nutrients creates run off causing pollution o groundwater. In order to prevent over or under application of nutrients and reduce nutrient run off soil testing is recommended.

The Umpqua Soil and Water Conservation District offers **FREE** soil testing to District residents for nitrogen, phosphorous, potassium, and pH.

Periodic Definitions:

P	Phosphorus
K	Potassium
Ca	Calcium
Mg	Magnesium
B	Boron
NO ₃	Nitrate
NH ₄	Ammonium
SO ₄	Sulfate
Zn	Zinc
Mn	Manganese
Cu	Copper
Fe	Iron
OM	Organic Matter



Soil & Water
Conservation District

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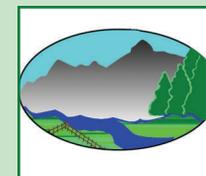
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TESTING YOUR SOIL

*“Essentially, all life depends upon the soil ...
There can be no life without soil and no soil without life;
they have evolved together.”*

~ Charles E. Kellogg,
USDA Yearbook of Agriculture, 1938



Umpqua
Soil and Water

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TESTING YOUR SOIL

What is a Soil Test?

A soil test is a process by which elements such as phosphorus, potassium, calcium, magnesium, sodium, sulfur, manganese, copper and zinc are chemically removed from the soil and measured for their “plant available” content within the sample.

The quantity of available nutrients in the soil sample determines the amount of fertilizer that is recommended.

A soil test can also measure soil pH, organic matter and exchangeable acidity and this analysis will indicate whether lime will be needed and in what quantity.



Why Test Your Soil?

- A soil test provides lime and fertilizer recommendations. Providing the correct soil amendments to the soil encourages plant growth.
- When growers guess about the need for lime or fertilizers, too much or too little is likely to be applied.
- Removes the guess work.
- Diagnoses whether there is too little or too much of a nutrient.
- Promotes environmental quality. When gardeners apply only as much fertilizer as is necessary, nutrient runoff into surface or ground water is minimized and natural resources are conserved.
- Saves money. Unneeded fertilizer and lime is no longer applied.



The Soil Test Report

Soil samples are generally analyzed within one week of the time they are received. However, from late fall through early spring, processing may take several weeks due to the heavy sample influx from farmers during this time of year.

A cover sheet and crop-specific note are sent with the report. The cover sheet explains the technical terms and index values.

The note provides extra details on fertilizer application schedules and rates for specific kinds of plants.