

Burlington Community Gardens

Dig in. Eat fresh.

Benefits of Wood Ash for the Garden

Calcium is the most abundant element in wood ash and gives ash properties similar to agricultural lime. Ash is also a good source of potassium, phosphorus, and magnesium. In terms of commercial fertilizer, average wood ash would be about 0-1-3 (N-P-K). In addition to these macro-nutrients, wood ash is a good source of many micronutrients needed in trace amounts for adequate plant growth. Wood ash contains few elements that pose environmental problems.

"Since wood ash is derived from plant material, it contains most of the 13 essential nutrients the soil must supply for plant growth," said Sullivan. "When wood burns, nitrogen and sulfur are lost as gases, and calcium, potassium, magnesium and trace element compounds remain. The carbonates and oxides remaining after wood burning are valuable liming agents, raising pH, thereby helping to neutralize acid soils."

Where soils are acid and low in potassium, wood ash is beneficial to most garden plants except acid-loving plants such as blueberries, rhododendrons and azaleas. Use wood ash on flower beds, lawns and shrubs.

The fertilizer value of wood ash depends on the type of wood you burn. As a general rule, hardwoods such as oak weigh more per cord and yield more ash per pound of wood burned. Hardwood ash contains a higher percentage of nutrients than ash from softwoods such as Douglas-fir or pine.

Ash from a cord of oak meets the potassium needs of a garden 60 by 70 feet, he said. A cord of Douglas-fir ash supplies enough potassium for a garden 30 by 30 feet. Both types of ash contain enough calcium and magnesium to reduce soil acidity (increase soil pH) slightly.

One-half to one pound of wood ash per year is recommended for each shrub and rose bush. Spread ash evenly on the soil around perennial plants. Rake the ash into the soil lightly, being careful not to damage the roots. Never leave ash in lumps or piles, because if it is concentrated in one place, excessive salt from the ash will leach into the soil, creating a harmful environment for plants.

In compost piles, wood ash can be used to help maintain a neutral condition, the best environment to help microorganisms break down organic materials. Sprinkle ash on each layer of compost as the pile is built up. Ash also adds nutrients to compost.

If used judiciously, wood ash can be used to repel insects, slugs and snails, because it draws water from invertebrates' bodies. Sprinkle ash around the base of your plants to discourage surface feeding pests. But once ash gets wet, it loses its deterring properties. Continual use of ash in this way may increase the soil pH too much, or accumulate high salt levels harmful to plants.

Advice for using wood ashes as a soil or compost amendment:

- Protect yourself when applying wood ash. Use the same precautions you would use when handling household bleach, another strongly alkaline material. Wear eye protection and gloves. Depending on the fineness of the ash, you may want to wear a dust mask.
- Do not use ash from burning trash, cardboard, coal or pressure-treated, painted or stained wood. These substances contain trace elements, harmful to many plants when applied in excessive amounts. For example, the glue in cardboard boxes and paper bags contains boron, an element toxic to many plant species at levels slightly higher than that required for normal growth.
- Do not use ash on alkaline soils or on acid-loving plants.
- Do not apply wood ash to a potato patch as wood ashes may favor the development of potato scab.
- Do not apply ash to newly germinated seeds, as ash contains too many salts for seedlings.

Adapted from <http://extension.oregonstate.edu/gardening/wood-ash-can-be-useful-yard-if-used-caution> Feb.1, 2007