Fireplace Ashes for Lawn and Garden Use

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This fact sheet describes how fireplace ashes may be safely and beneficially applied to lawn and garden soils. The properties of fireplace ashes which are of greatest interest are 1) nutrient content, 2) liming value, and 3) salt content. Table 1 shows values related to these properties for ashes from five different sources (as described by the homeowner). Although other elements were analyzed, potassium was the only nutrient element found in significant amounts.

The table shows that ashes have about six percent available potassium, expressed as K_2O, and a salt content of about 22 percent. Comparison of the values from different fireplaces indicates there is considerable variation from one to another. Some of the variation may be associated with the type of wood burned; however, how the wood is burned (hot vs. "cool" fire) also influences these values. Salt and potassium content will be greatest in ashes from "hot" fires or when the wood is completely burned. When compared to pure lime, fireplace ashes have an acid neutralizing power of about 20 percent (ECCE = 20 percent). Fireplace ashes weigh about five pounds per gallon.

Table 1. Selected Properties of Fireplaces Ashes

Type of Wood	Available Potassium (K_2O)	Total Soluble Salts	pH*
	Percent		
Hickory	3.6	10	11.4
Mixture of hard- and softwoods	8.9	35	11.9
Elm	5.3	12	11.1
Oak	4.5	36	12.4
Mostly Oak	6.3	18	11.5
Average	6.0	22	11.6

*pH of a 1 percent solution of ashes in water.

Benefits and Hazards

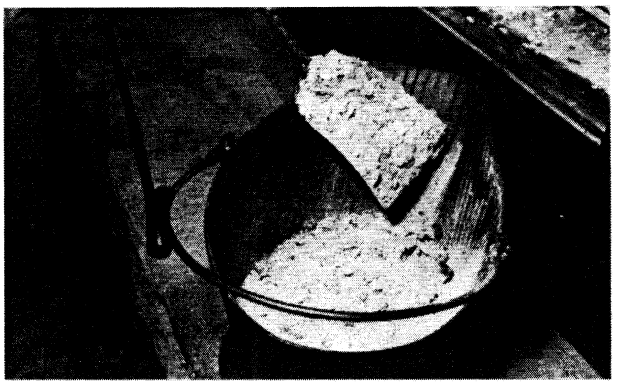
Soils in central and eastern Oklahoma are normally acidic and moderately to severely deficient in potassium. These soils may be improved by applying ashes to them. Ashes should not be applied to soils which have a neutral pH (near pH of 7) or are high in potassium. Care must be taken to avoid excessive applications of ashes because of the high soluble salt content and alkaline pH. Because ashes are more soluble than lime, they will neutralize soil acidity within a few days after incorporation by rain or cultivation.

Application Rates

Laboratory studies indicate the safe amount of ashes which can be applied will depend on the soil type. The maximum amount that can be applied to sandy soils is only about half that which can be applied to finer textured soils. Rates and the lime and potassium benefits for these soils are shown in Table 2.

Table 2. Lime and Potassium Benefits of Fireplace Ashes

Soil Type	Rate of Ashes	K_2O Supplied	Lime Supplied
Sandy	10 gal./1000 square feet	3 lbs.	10 lbs.
All others	20 gal./1000 square feet	6 lbs.	20 lbs.



Care should be taken to measure the area of the lawn or garden to which ashes are going to be applied and to know exactly the volume of the bucket or other container used to measure ashes for the application. Excessive applications may ruin the soil. Areas treated at the above rates should not be retreated again for 10 years or until a soil test shows a need for lime or potassium again. To avoid repeat applications to the same area, sketch the lawn or garden area to be treated. Then, as ashes are applied, the treated area can be shaded in or otherwise marked.

Avoid applying ash to areas where blueberries, azaleas, or other acid-loving plants are grown.

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