More Than You Ever Wanted to Know About Wood Ashes.

The literature talks about both "leached" and "unleached" wood ash. Back when wood ash was sold internationally it was sometimes leached with water to reduce the volume. Leaching reduces some of the nutrients in wood ash, but not the liming effect. Wood ash from a fireplace or recent burn pile that most gardeners would use is "unleached."

The first reference I found on this topic is in "Soils: Their Properties and Management" The Rural Text-book Series, 1915, published by The Macmillan Company. The authors are 2 Professors and an Assistant Professor from Cornell University. They say wood ashes are 2% phosphoric acid, 5 to 6% potash and 30% lime.

"Soils and Men" the 1938 United States Department of Agriculture, Yearbook of Agriculture, also discusses wood ashes. Very similar to the publication above, this publication says wood ashes are generally 2% phosphoric acid, 6% potash, and 30% lime.

Note: At the time when these two publications were written fertilizer phosphorous was expressed as phosphoric acid. Now fertilizer phosphorous is expressed as percent phosphate. However, the two numbers are reasonably close and can be used interchangeably with a highly variable product like wood ash.

Web Search: A web search produced a number of fairly recent Extension fact sheets from various universities around the country. The wood ash chemical composition used in these fact sheets is actually quite similar to the chemical compositions in the 1915 and 1938 publications above. The one I found most useful was from the University of Connecticut "Using Wood Ashes in the Garden."

Caution: The Purdue University fact sheet "Wood Ash in the Garden" appears to have a typo in it that results in an application rate that is approximately 10 times higher than it should be. So don't even look at this fact sheet.

Bottom line: Therefore, think of wood ash has a very low analysis fertilizer (0 –2 –5) that is about 1/3 Lime. A general recommendation for acid soils, from Connecticut and several other states, is to apply approximately 20 pounds – 1 five-gallon bucket -- of wood ashes per 1000 ft.^{2} of garden space. Wood ashes are very fine and should raise the pH quickly. There is nothing in the literature that suggests how long the pH effect might last. So the best thing to do would be to take another soil test the next year prior to applying more lime or wood ash. Another option is to buy a simple soil test pH meter in a local garden store. These tend to be quite accurate, so you can monitor pH without the bother of sending a soil test in the laboratory.

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