



Whenever we finished a jar of pickles, my mom had us pour the juice on the hedges in the front yard. They seemed to thrive on the stuff.”

Pickle juice is acidic; hence its legendary pucker-power. Pouring pickle juice onto soil raises the soil's acidity. Certain plants prefer less acidic soil, while others—your mom's hedges, clearly—prefer more acidic soil.

Acidity is expressed as pH, a scale that ranges from 1 to 14 for everyday substances, with 1 being extremely acidic (think battery acid), 7 being neutral (think water), and 14 being extremely alkaline (think Drano). Each species of plant grows best in a soil of a particular pH, usually ranging between 5 and 7. Soil test kits, available in garden stores, can tell you the pH of your soil.

Why care about pH? Acidity helps break down organic matter in soil, releasing nutrients for the plant to absorb. Meanwhile, the process of absorbing nutrients can itself be affected by acidic soil.

One method plants use to absorb nutrients from soil is ion exchange—ions (charged particles) in the plant are swapped for ions in the soil. If the pH of the soil does not match the desired pH of a plant, its absorption of nutrients by ion exchange will be inhibited.

In general, sun-loving plants (such as the grass on your lawn) prefer a neutral soil with a pH of 7. Shade-loving plants (such as azaleas and rhododendrons) usually prefer more acidic soils, with a pH of around 5.5.

If, like legendary folk singer Arlo Guthrie, you don't want a pickle, you can also lower the pH of your soil with sulfur powder, chelated iron, or aluminum sulfate. (Or, to raise the pH, try adding ground limestone, dolomite, lime, crushed oyster shells, or hydrated lime.)



www.exploratorium.edu/gardening