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ASA, CSSA, & SSSA International Annual Meeting
Nov. 2-5, 2014 | Long Beach, CA

American Society of Agronomy | Crop Science Society of America | Soil Science Society of America

Start

167-1 An Historical Perspective on the Chemistry and Mineralogy of Soil Potassium.

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Monday, November 3, 2014: 1:00 PM

Long Beach Convention Center, Room 203A

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The chemistry of potassium in soils is controlled by equilibrium and kinetic reactions between the four major forms: solution, exchangeable, nonexchangeable, and mineral. It has often been observed that crops do not respond to applications of potassium. This has been linked to uptake of subsoil K by plant roots and large reserves of nonexchangeable, and particularly, mineral K that are slowly released to replenish K in solution. Soil tests that are used to assess the need or lack of need for additions of fertilizer K in many cases do not always account for K release from nonexchangeable and mineral K. This can result in unnecessary fertilizer costs, coupled with, lack of increases in crop yield. This presentation will present an historical perspective on soil K chemistry and mineralogy, including assessment of soil tests for K and their relation to crop yields.

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