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Characterization and structural properties of iron in plants.¹ UDYA DEWANAMUNI, SUNIL DEHIPAWALA, Queensborough Community College, HARRY GAFNEY, Queens College of CUNY — Iron is one of the most abundant metals in the soil and occurs in a wide range of chemical forms. Humans receive iron through either meat products or plants. Non meat eaters depend on plant product for their daily iron requirement. The iron absorption by plants depends on other minerals present in the soil and soil pH value. The amount of iron present in plants grown with different soil compositions were investigated using X-ray absorption spectroscopy (XAS) and Mossbauer spectroscopy. Based on the X-ray absorption data, the amount of iron in plants vary significantly with soil pH value. The Mossbauer spectroscopy reveals that iron present in the samples has the form Fe³⁺ or electron density at the site of the iron nucleus similar to that of Fe³⁺.

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