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Micro-Structure of Iron in *Petroselinum crispum* and its dependence with the chemical nature of the soil.[1] SUNIL DEHIPAWALA, Queensborough Community College, PUBUDU SAMARASEKARA, RASIKA DAHANAYAKE, University of Peradeniya, LEUNG EDMUND, Queensborough Community College — The micro structure of the iron Iron in ***Petroselinum crispum*** is investigated using synchrotron X-ray Absorption and Mossbauer spectroscopy. Plants were grown under controlled soil conditions with different pH, and iron concentrations. The correlation between the micro structure of the iron in ***Petroselinum crispum*** plants and the soil conditions were studied. Most of the iron present in the plants has the form Fe^{3+} or electron density at the site of the iron nucleus similar to that of Fe^{3+}. But the amount of iron absorbed by the plants depends on the soil conditions. These findings will help establish soil conditions necessary to increase Fe^{2+} intake by plants similar to the form of iron present in most supplements.

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