Studies on the causes of abnormal growth of peanut in acid soils[1]

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summary

Peanut grown on most acid soils (uplands and paddy fields) in Hualien, eastern part of Taiwan, has low yield with stubby, interveinal chlorosis, and tip and marginal scorch symptoms. The objective of this thesis was to study the factors that may cause this disorder growth.

A field survey with 25 sample sites, in each field normal and abnormal peanut shoots and surface soils were collected separatively. Soil chemical properties and plant nutrient contents were measured to characterise their differences.

Comparing soil chemical properties and plant nutrient contents from the abnormal sites to those from normal sites showed that the formers had lower soil pH in about 0.7 units, higher exchangeable aluminum in about 2.1 times, and higher Fe and Mn contents in shoots in magnitude of about 2.0 and 2.9 times, but both Mo contents hadn't significant difference respectively.

Results indicate that in acid soil high available contents of Al, Mn, and Fe are the limiting factors for growing peanut, peanut plants also showed symptom of Mo deficiency, but the role of Mo in peanut production is not clear.

(Key words: Acid soils, Peanut, Abnormal growth)

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