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Injury by Continuous Cropping to Taro and Its Related Factors

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Abstract:

Taro (*Colocasia esculenta* Schott) is one of the most important upland crops in Miyazaki prefecture. A field survey elucidated that continuous crop reduced top weight and tuber yield to 50 and 59% compared with planting during the first year. The results of analysis of chemical and biological properties of the soils, which were continuously planted with taro and rotated with other crops showed that there were little differences in chemical properties, such as carbon and nitrogen contents, available phosphoric acid, and so on, and in nematoda. In the soil with continuous cropping of taro the dry weight of turnip significantly reduced compared to soil rotated with other crops, and soil which contained extract solution from taro plant showed reduced length of hypocotyl and radicle of radish to 87 and 68% compared with control. Methanol extracts from soil with and from taro shoots and residues of taro also inhibited elongation of hypocotyl and radicle of turnip remarkably. The results obtained suggest that the growth inhibitors in taro might be connected with injury by continuous cropping.

Keywords:

Allelopathy, *Colocasia esculenta*, Growth inhibitors, Injury by continuous cropping, Taro

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