

**Research Article****Biointensive Management of Leaf Spot Disease of Turmeric, *Curcuma longa* L. Caused by *Colletotrichum* spp.****Madhusmita Mahanta, Pranab Dutta, T Rajesh, Jyotim Gogoi and Lipa Deb***School of Crop Protection, College of Post Graduate Studies in Agricultural Sciences, Central Agricultural University (Imphal), Umiam-793 103, Meghalaya, India; Email: madhusmita.mahanta12@gmail.com; pranabdutta74@gmail.com***Abstract**

Turmeric (*Curcuma longa*) is one of the most important commercial spice crops cultivated in Meghalaya state of Northeast India. Meghalaya is home to the famous lakadong cultivar of turmeric which has sought its place in global spice market due to high curcumin content (6.8-7.5%) of its rhizomes. The leaf spot disease caused by *Colletotrichum* spp. is considered as a major constraint of turmeric cultivation. Therefore, with an aim to organically manage the leaf spot disease, a biointensive disease management practice was carried out at Umiam campus of CPGSAS, CAU (Imphal). The causal agent was isolated and characterized through cultural, morphological and microscopical studies and proved the Koch's postulate. In the field experiment, turmeric cv. lakadong was grown following standard package and practice approved by the state agricultural department. *Trichoderma harzianum* based bioformulation viz., "UmTricho" was used in five treatment combinations to check its potential in combating the leaf spot disease. It has been observed that the highest reduction of disease incidence (79.05%) was observed in T5 treatment, i.e., rhizome treatment with "UmTricho" @ 10 ml litre<sup>-1</sup> for 30 mins + foliar application with "UmTricho" @ 10 ml litre<sup>-1</sup> thrice at 21 days after inoculation, where "UmTricho" was used for both rhizome treatment and foliar spray. Subsequently, an improvement in plant growth parameters has also been recorded in terms of higher yield, more vegetative growth in treated plots as compared to control plot. The present study showed encouraging results of using "UmTricho" for three times at 21 days interval along with standard package and practice for management of leaf spot disease in organic ecosystem.

**Key words:** Incidence, leaf spot disease, management, *Trichoderma*, turmeric

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