

Attempt to generate banana/plantain resistant to *Fusarium oxysporum* f. sp. *cubense* by irradiation-induced mutagenesis

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Abstract

Fusarium wilt disease of banana/plantain is caused by *Fusarium oxysporum* f. sp. *cubense* (*Focb*). Recently, *Focb* race TR4, which causes wilt disease on the resistant cultivar ‘Cavendish’, has become a devastating threat to banana production worldwide. In the international collaborative SATREPS project between Japan and Peru, we are attempting to obtain TR4-resistant banana/plantain plants through irradiation-induced mutagenesis. *In vitro* tissue-cultured buds of three varieties (Isla, Bellaco Harton, and Bellaco Plantano) in addition to Cavendish, were irradiated with the heavy-ion beam in Japan, while Isla was used for gamma ray irradiation in Peru. The irradiated buds are grown *in vitro* and selected to obtain progeny generations through the chimera dissolution process. Race TR4-resistant lines will be screened after propagation and acclimatization of the plantlets from selected buds. (899 words: word count limit, 900 words)