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ANTHRACNOSE RESISTANCE INDUCTION IN CHILI BY ELECTRON BEAM IRRADIATION

Chili seeds were irradiated with suitable 0.3 kGy dose at energy level 8 MeV electron beam. M1 seeds were planted in Sukhothai Horticultural Research Center and found that CA no.1131 line were suitable for growing in this area. Thirty chili anthracnose resistant plants were selected after anthracnose appearance in Sukhothai province caused by fungi (Colletotichum gloeosporioides). Chili fruits from seventeen plants showed resistance after inoculation experiment in the laboratory. Selected chili lines were crossed with Hoarue Huaisai (F1 hybrid). The F2 progenies were selected for anthracnose resistance plants with healthy and big sized fruits. Two hybrids with anthracnose resistance chili fruits (CA1131 x Hoarue Huaisai) were discovered and used for field anthracnose resistance tests in 2015. Inbred line no. 6-1-4 which had hybrid vigor was discovered in dry season. However, this line did not show strong disease resistance in the rainy season. Meanwhile, the other 63 inbred lines showed anthracnose resistance in the experiment field. Five samples/line of each of the 63 inbred lines were inoculated in the laboratory at Thailand Institute of Nuclear Technology. The fruits of inbred line no. 32-2-8 showed complete anthracnose resistance and seven lines were partial resistant. All the eight lines are being used in the ongoing chili project aimed at developing chili varieties with horizontal resistance to all three-anthracnose causing Colletotrichum species prevalent in Thailand.

Country or International Organization

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Track Classification: Mutation breeding for adaptation to climate change in seed propagated crops