Total of 210 isolates of epiphytic bacteria were isolated from leaves and fruits of various chilli varieties by preparing serial dilution of washed and ground leaves before spreading on four media including King's Medium B, Nutrient Glucose Agar, Yeast extract - Malt extract Agar and Potato Dextrose Agar (PDA). In vitro test of all isolates for the inhibition of mycelial growth of Colletotrichum gloeosporioides and C. capsici on PDA revealed that 24 isolates produced antibiotics for inhibition of mycelial growth of both pathogens. Testing for the suppression of lesion development of C. gloeosporioides on chilli fruits (var. Bangchang), the fruits were inoculated with C. gloeosporioides at 24 hour prior to the application of bacteria. Results showed that nine isolates reduced size of lesion on chilli fruits by 38.34-76.67%. Efficacy of all isolates were comparable to the use of benomyl or mancozeb and Trichoderma harzianum (CB-Pin-01). Four out of nine isolates suppressed lesion development when chilli fruits were inoculated with C. capsici. These four isolates effectively reduced sizes of lesion on chilli fruits by 53.05-81.31% as compared to the control. Efficacy of these isolates were comparable to the use of benomyl, mancozeb fungicides and T. harzianum (CB-Pin-01).

Underfield condition, spraying cell suspension of four bacterial isolates, spore suspension of T. harzianum and benomyl (10g/20l) four times at 7-day-interval significantly reduced the disease incidence when compared with a control. T. harzianum, HGw13, Lg1, DGg13 and HGw25 could reduce disease incidence caused by C. gloeosporioides by 39.39, 33.50, 31.85, 28.34 and 24.05% respectively. Effective antagonists to control anthracnose caused by C. capsici were isolates DGg13, HGw25, HGw13, Lg1 and T. harzianum. These antagonists could reduce disease incidence by 32.40, 22.27, 21.29, 16.33 and 12.99% respectively.

Identification of four isolates by Biolog Microlog System, Release 4.2 revealed that all of them were Bacillus amyloliquefaciens. Most of isolates and culture filtrate reduced spore germination and caused malformation of mycelia of Colletotrichum spp. T. harzianum (CB-Pin-01) could coil around the pathogen's hypha and penetrated into the mycelia of both Colletotrichum secies.