

Abstract

There was an exploration grey-mold disease outbreaks in cutting rose grown at the Royal Project Foundation, in four stations which included AngKhang Royal Agricultural Station, Inthanon, Pang Da and Royal project Development Center. This investigated of the grey-mold disease transmission, found that there were 0.17 to 16.67 percent (disease severity about 51-75%). The infected samples were collected and used for pathogen isolation and pathogenicity testing. After an inoculation, it revealed that *Botrytis cineria* was the pathogen. Antagonistic microbe studies, including the new isolate isolation was done and 160 isolates were obtained. And all of isolates of antagonist microbial were selected by the dual culture method and tested on leave, petal and rose flower. Due to the selection of the best antagonistic microbial two strains which occupied a qualification in inhibiting grey-mold infection at least 75%, these isolates included the endophytic acinomyces isolate CEN26 (78.55%) and the antagonistic yeast isolate CHY2 (75.63%), then at least the two species will be used for bioproduct development to control gray mold disease. The most suitable media for multiplication of antagonistic endophytic acinomyces isolate CEN26 was International Streptomyces Project- 2 (ISP- 2) media at pH 7 to determine for suitable media at 1.6×10^{10} cfu/ml and antagonistic yeast group isolate CHY2, that was Nutrient broth (NB) media pH 6.8 by increase at 6.2×10^9 cfu/ml Results showed that both of culture media provided high biomass, simple techniques and inexpensive of material. Finally, the study of microbial preservation, the endophytic acinomyces isolate CEN26 were used by 1) slant agar method with paraffin gel and 2) paper replica method. While, antagonistic yeast isolate CHY2 were preservation in distilled water method and glass beads with glycerol 15 %.