

P19

**Isolation and identification of an antagonistic bacterium  
*Bacillus amyloliquefaciens* A-2 for biological control of  
plant pathogen.**

Ok-Ju Chun, Han-Woo Kim, Kwang-Youll Lee, Ki-Hyuck Choi,  
Hyun-Young Jang, Seon-Woo Lee and Byung-Ju Moon

College of Natural Resources and Life Sciences, Dong-A University, Busan 604-714, Korea.

Tomato leaf mold caused by *Fulvia fulva* is the most common and destructive disease in greenhouse-grown tomatoes, and is particularly severe under conditions of high humidity. For the period of February 2005, incidence of tomato leaf mold was up to 28.8% at the four plastic greenhouses in Taejeo, Pusan. A total of 16 isolates of *Fulvia fulva* were obtained from diseased leaves of tomatoes. Among them, the *F. fulva* TF13 strain was the most virulent on the whole tomato plant. Thus, the strain TF13 was used as fungal inoculum to select potent biological control bacteria. Nine bacterial isolates showed strong antifungal activity against *F. fulva* TF13 in confrontation culture on PDA media. In a pot test to confirm the biological control activity, A-2 strain exhibited the remarkable disease control value against the tomato leaf mold disease. The strain was, therefore, selected as a biocontrol candidate against leaf mold and its 16S rDNA sequence was analyzed. The A-2 strain was highly related to *Bacillus subtilis* and *B. amyloliquefaciens*. Further precise identification was performed by analysing the *gyrA* gene sequence of the strain A-2. The *gyrA* sequence of the strain A-2 had 96% identify to that of *B. amyloliquefaciens*. Consequently, the isolate was identified as *B. amyloliquefaciens* A-2.