

8. Development and commercialization of microbial biopesticides. Han-Young Lee,
Agricultural Technology Research Institute Dongbu Hannong Chemicals Co., Ltd.

The microbial biopesticides have been studied started from 1980's, and actively studying upto now. But large scale production, formulation and toxicological studies are still on the young stage introducing not so many products into the market at this time. It is expected, however, that high potential for research and development of biopesticides and the accumulated information on related field will activate the commercialization of them sooner or later.

There are two important areas of biopesticide development. One is the basic researches, including search for superior microbial agents, characterization, investigation of control mechanism and etc. The other area is commercialization. For commercialization of biopesticides, the production must be low-costed and massive, and the formulation very stable during a long period of time, protecting the microbe in active state and ensuring good performance at time of field-application.

Our company has focused development of stable and superior formulation types using the know-how by which we have formulated chemical pesticides. In 1995, we have developed biopesticides, which has showed good effects on controlling soil root-knot nematodes and improving the soil property, and commercialized in 1997. After that, we accelerated the development of biopesticides such as *Bacillus subtilis* KL1114 showing good biological effectiveness on the club root disease of chinese cabbage by seed-coating application, *Bacillus thuringiensis* subsp. *aizawai* NT0423, microbial insecticide, showing eminent biological effects on the diamond back moth and *Spodoptera* spp., and *Bacillus* sp. AC-1 showing broad efficacy on soil diseases. We also have a interest in foreign biopesticides and are trying adaptability test of a few biopesticides from abroad in vivo and field condition.