



SPEECH INFORMATION (For Conference Program Book)

Topic	發光光桿菌微生物殺蟎劑產品開發與應用 Development and Application of <i>Photorhabdus luminescens</i> as a Microbial Acaricide
Abstract	<p>We successfully developed the first novel microbial acaricide pesticide in Taiwan. The commercialization of <i>Photorhabdus luminescens</i> is also the first of its kind in the world. This achievement helps reduce the development of resistance to chemical pesticides and marks a new milestone in the advancement of biopesticides in Taiwan. <i>Photorhabdus luminescens</i> is a Gram-negative bacillus and a symbiotic bacterium of the insect pathogenic nematode <i>Heterorhabditis</i>. The research and development team of the Agricultural Chemicals Research Institute (ACRI) first screened and isolated it from Baihe in Tainan in 2005. The bacterial colonies can be observed in a dark room to emit light, similar to the light of fireflies. Since the light emitted does not generate heat, this light is also called "cold light." <i>Photorhabdus luminescens</i> does not produce endospores and encounters many technical bottlenecks in the commercialization process. The domestic technical contractor applied for a pesticide license and passed the review of the Pesticide Technical Advisory Council of the Animal and Plant Health Inspection Agency (APHIA), Ministry of Agriculture (MOA) in October 2024. The APHIA officially announced the approval in January 2025. The contractor obtained the license in February 2025 and the product was put on the market for sale in March 2025. The registered pests for pesticide licenses are miticidal activity for controlling two spider mites, <i>Tetranychus urticae</i> and <i>Tetranychus kanzawai</i>, in <i>Carica papaya</i>.</p>

