1519 Alleles conferring resistance to the Bt toxin Cry2Ab in Australian populations of *Helicoverpa armigera*

Dr. Rod Mahon , CSIRO Entomology, Canberra, Australia
Ms. Karen Olsen , CSIRO Entomology, Canberra, Australia
Ms. Su Young , CSIRO Entomology, Canberra, Australia
Dr. Sharon Downes , CSIRO Entomology, Canberra, Australia

From 1996 - 2004 Australia deployed the Cry1Ac expressing Ingard® (elsewhere Bollgard®) variety of Bt-cotton under a conservative resistance management plan whereby the transgenic crop was limited to 30% of the area planted to cotton. In 2002 Ingard® was replaced with the two gene (*cry1Ac* and *cry2Ab*) variety of Bt-cotton, Bollgard II®. Prior to the widespread use of Bollgard II® F_2 screens were employed to detect alleles that conferred resistance to Cry1Ac or Cry2Ab. No alleles conferring resistance to Cry1Ac were discovered, however alleles that conferred resistance to Cry2Ab were found at a frequency of 0.003 (R. Mahon, K. Olsen S. Downes and S. Addison, 2007). Resistance in the first isolate (SP15) resulted from a single autosomal gene and was recessive (Mahon et al. 2007). Four of the 10 isolations of Cry2Ab resistance were examined through complementation tests and are allelic, and like SP15, recessive. Here we summarise our current knowledge of Cry2Ab resistance in *H. armigera* and present data from population cage experiments that test for fitness costs associated with this trait.