

Silverleaf nightshade (*Solanum elaeagnifolium*) – field research on biology and management in South Australia

John W. Heap
GPO Box 1671, Adelaide, South Australia 5001, Australia
(john.heap@sa.gov.au)

Summary Silverleaf nightshade (*Solanum elaeagnifolium* Cav.) is an introduced deep-rooted perennial weed that reduces crop and pasture production in the wheat-sheep growing regions of Australia. It is a Weed of National Significance (WoNS) and is the subject of a new biological control project in Australia. Silverleaf nightshade is amongst the most difficult agricultural weeds to manage, and effective and economic strategies have not yet been found for large established infestations.

This paper reports and discusses the results of a three-year field research study funded by the South Australian Grains Industry Trust (SAGIT) and Primary Industries and Regions South Australia (PIRSA). The research was conducted in South Australia between

2014 and 2016, and addressed a range of biology and management aspects of silverleaf nightshade management.

Results are presented on:

- the effects of consecutive in-crop and non-selective spot-spraying herbicide treatments on silverleaf nightshade population density;
- the influence of soil moisture and leaf dustiness on the efficacy of glyphosate; and
- seedling emergence, establishment and survival under a range of simulated rainfall regimes.

Keywords *Solanum elaeagnifolium*, silverleaf nightshade, herbicides, seedling emergence, glyphosate efficacy.