

Case Study 8 – Rutherglen & Toolang

Russell & Buster Dawes, “Rutherglen” & “Toolang”, Yealering, Western Australia

The Dawes family has farmed in the south west Grain Belt of WA for 40 years. They have had success in keeping SLN under control with considerable time and effort.



The production system

The Dawes family farming area is 5,000 ha. SLN is a problem over the whole area, but only about 400ha is heavily infested. This is mainly in non-crop areas in tree lines, laneways and along the creeks.

The Dawes operate a mixed farming enterprise. The main income is derived from the cropping of cereals (wheat and barley) and canola, and sheep (Merinos for wool production). Approximately 400 ha of each crop (wheat, barley and canola) is grown each year with the balance of the area under pasture. The Dawes are no-till croppers using a flexicoil airseeder with knifepoints.

There is no set crop rotation and it depends on the situation with weeds in each paddock. Some areas are continuously cropped, but others are rotated into pasture.

Other problem weeds on the farm are the herbicide resistant annual ryegrass, wild radish, barley grass (showing some glyphosate resistance), wild turnip and capeweed.

Silverleaf nightshade

The Dawes family purchased their 2 farms about 40 years ago when SLN was already present. It is understood to have come onto the farm in the 1950s in oats brought in from SA.

SLN has spread around the farm by livestock, cultivation and in grain used for hand feeding livestock. Russell has also noted that under the powerlines he sees new seedlings so suspects that the birds (mainly galahs) have also spread the seeds. Kangaroos and other native animals may also spread seed from the tree lines.

Control & Management Strategies

SLN has not caused changes in management but it needs to be constantly monitored to keep it in check. The Dawes are able to maintain their cropping regime and continue spraying with a range of chemicals.

Russell has found that for best results spraying needs to start as soon after harvest as possible. This often means that summer holidays are postponed until all summer weed control is completed.

He has diligently applied the theory that all seed set must be prevented, even in their Mediterranean climate of hot, dry summers. SLN will draw moisture from deep down in the profile and will often be the only plant alive during this period.

In this climate there are no competitive plants, such as summer grasses that can be sown. The landscape browns off over the summer months.



Herbicides

The Dawes have developed some basic guidelines to keep SLN in check.

1. A summer spray is done when the first flowers are seen to prevent seed set using a mix of herbicides. Stubble paddocks infested with SLN are grazed before flowering. Stock are removed before berry set to prevent seed movement and so that sprays can be applied. The herbicides used over summer are:

- glyphosate,
- 2,4-D Ester,
- Garlon 600®
- Starane Advanced® and adjuvants to ensure good penetration of the chemicals.

2. The post-harvest treatment is followed by pre-sowing weed clean-up before seeding using the same herbicides. Paddocks planted to canola are all TT varieties that mean that simazine or atrazine and Lontrel® may also be applied. They appear to have a suppressive effect on the SLN, with emergence is pushed back about a month in these paddocks, compared with other cropping paddocks.

Russell’s father, Buster uses a 90ft boom and water rates of 50-100 litres/ha depending on the seasonal conditions. For fencelines and non-cropping areas they use a ute sprayer with a boomless nozzle.

There is considerable time spent on this weed. Over summer it takes 1 man about 1 month to spray the cropping paddocks. At other times of the year Buster (82 yo) is involved in spot spraying the fencelines.

The Dawes are interested in buying a Weed Seeker® as this would allow the use of higher rates or more expensive herbicides over the cropping areas.

Benefits & Costs

Yield losses are noted in cropping areas when there is a spray miss (up to 40% in cereals), but there have been total loss of crop in areas with infestations of 10 stems per square metre, or more. SLN will use all the stored soil moisture if it is not controlled in the crop fallow.

Summary of annual SLN related costs

Crop Production Loss (yield losses due to competition)	\$52,272
Stock Production Loss (lost carrying capacity)	\$117,655
Direct Control Costs (herbicides, labour)	\$29,920

Total farm costs of SLN **\$199,847**



Keys to success ✓

Russell's key messages and advice for managing SLN is to:

- ✓ Don't let SLN go to seed.
- ✓ Don't go on holidays until the summer spray is done.
- ✓ Develop some basic guidelines on your farm to keep SLN in check.