

# Case Study 6 – Farm 983

Paul McCardell, "Farm 983", Murrumbidgee, New South Wales

**Farm 983 is a 75 hectare irrigation block, in the Murrumbidgee Irrigation Area near Leeton, producing specialised fodder, with irrigated lucerne hay for the horse feed market as the main output.**



## The production system

The farm is a 75 hectare irrigation block, part of the Murrumbidgee Irrigation Area (MIA) near Leeton, with irrigated lucerne hay for the horse feed markets.

The cropping area is 65 hectares with the rest channels and some drainage area. It was originally set up as rice bays with contours, but Leeton Shire Council bought it as part of a larger development in the 1990s to set up an industrial area, with the main area a food factory for grain processing (Greens Foods, Freedom Foods).

The current farm area was in the buffer zone separating surrounding farms from the factory. Council has since sold the buffer zone and Paul bought the area about 10 years ago, when it was heavily infested with SLN.

Paul has set up the area with a lateral move irrigation system for lucerne hay production. To help manage the high level of weed infestation, the area has been leased and sorghum is being grown to try to quickly reduce infestations and provide some income for the farm. In order to sell lucerne hay it must be free of noxious weeds.

The farm operation has had to be flexible to ensure that SLN is under control before producing fodder for sale. The main markets for the lucerne hay are the domestic livestock industries, such as racehorse and stud cattle. Average hay yields are 15 tonne/ha at 15% moisture content.

The main lucerne varieties grown are winter-active types. They have higher production than the less winter-active types, but the trade-off is that the stands are relatively short-lived, and less competitive as they get older (3-4 years). Therefore they need to be resown every few years, to maintain high hay production.

Soil types are predominately clay with the average annual rainfall 450mm.

## Silverleaf nightshade

SLN is a major problem weed in the MIA, found along many of the channel banks and roadsides. Many of the local farms have high levels of infested areas.

Control of weeds like SLN is essential for production and a weed-free product. SLN and fleabane are the two most persistent and hard-to-kill weed species.

The entire 75 ha is infested with SLN, at relatively high density, ranging from 12-28 plants per square metre. Not all infestations reshoot each year, although all infestations respond during wet summers. Paul regards SLN as the most significant weed for his production system, but because it is a common weed through the entire region it is not really reducing the land values, but the cost of dealing with it year to year is a concern.

## Control & Management Strategies

Paul has adopted the Dual Action control methods to bring the level down and to enable the lucerne a chance to compete.

Although, he has only implemented the Dual Action approach in 2014, he considers that the results look promising. He is keen to be involved with the demonstration trials, and believes it will give him valuable information about which controls work best in this area, and help bring the infestation down to levels that do not affect the production and quality of his lucerne hay.

## Herbicides

The specific herbicides used for SLN control are glyphosate, flumioxazin, carfentrazone and Starane Advance® (fluroxypyr), with adjuvants Uptake® and Hasten®.

A minimum of three applications are usually applied over spring, summer and autumn.

## Benefits & Costs

Crop losses due to SLN weed infestation have, up until recently, been extensive. Over the last 5 years no fodder has been grown due to SLN.

### Summary of annual SLN related costs

Crop Production Loss     \$43,125  
(yield losses due to competition)

Direct Control Costs     \$7,850  
(herbicides, labour)

Lost Land Value             \$600  
(lost market value appreciation)

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Total farm costs of SLN     **\$51,565**

## Keys to success ✓

Paul's key messages and advice for managing SLN:

✓ Adopting the dual action approach for SLN control has provided greater confidence to be able to control this weed

✓ He has found the dual action approach to be very effective after just 1 year

✓ The Dual Action approach is the best option to reduce SLN infestations down to a level where they are not affecting his production and quality

