

# The Warnes spin a compelling yarn about soybeans

## better OILSEEDS

This soybean case study has been compiled as part of the national *Better Oilseeds* project.

FARMERS
Brett and Leanne Warnes.
PROPERTY SIZE
453 hectares in total.
LOCATION
The 240 hectare home farm 'Ten Mile' at Leeville, 15 kilometres south of Casino on the Far North Coast of NSW, is the home of 'Jembrae Droughtmaster' stud. The Warnes also own another 89 hectare grain and forage crop property, 'Kerrs', at nearby Ellangowan and sharefarm a total of 124 hectares for grain production in the same location.
ENTERPRISES
Winter and summer cropping, stud and commercial cattle.
AVERAGE ANNUAL RAINFALL
Extremely variable rainfall, ranging from 900 mm to 1650 mm, summer dominant, storm events are getting more frequent.
SOIL TYPE
Home farm is podsolic sand over clay while the Ellangowan properties have red and chocolate loam soils and deep river loam.
SOIL pH
4.8–7.1 (using CaCl <sub>2</sub> method).
HISTORY OF PROPERTY
Almost a decade-and-a-half ago, they started growing soybeans under the <i>Beef and Beans</i> program to maximise cost-savings on winter feed. At the time they were part of a larger family-owned operation and soybeans provided an excellent option for both a cash return and residual nitrogen for winter feed. When the larger enterprise was split up, Leanne and Brett had to find a way to finish large numbers of cattle on less ground. Expanding wasn't an option given the \$4000–\$6000 an acre price tag of coastal land so the Warnes turned to the concept of a feedlot. Their current silage-based feedlot has 95 per cent of its input home grown, with only protein meal and feedlot concentrates bought in. At any one time, around 300 head are being fed on silage.

This soybean case study has been compiled as part of the national *Better Oilseeds* project – an exciting initiative funded by the Grains Research and Development Corporation and the Australian Oilseeds Federation.

The *Better Oilseeds* project is addressing the urgent and critical need to lift the productivity of oilseed crops within Australia, specifically canola, sunflower and soybean, to ensure critical mass and consistency of production and to improve the quality of grain produced. The project began in 2006 and aims to increase the value of the Australian oilseeds industry through enhancing productivity and value.

A number of activities are encompassed within the project which includes practical on-farm demonstrations of pertinent agronomic issues for all three crops, field days and forums and grower case studies to share knowledge within the industry.

Watch for case study booklets which will include technical information and case studies on sunflower and soybean growers from around Australia to be released this summer.

A case study booklet is available now for canola – email requests to [sknights@netconnect.com.au](mailto:sknights@netconnect.com.au). *Australian Grain* will be running a number of case studies on canola, soybean and sunflowers.

The Warnes's property is essentially landlocked, so they need to look for options for maximising their return per unit of land. Soybeans perform well on the low pH soils and are a very hardy crop with the extreme weather events. Soybeans for the grain market provide the best return on a small area of land and they are also used in the feedlot.

Agronomically, they see advantages with the use of soybeans in terms of improved soils and a reduced need for nitrogen fertilisers. They are also a good break crop for their maize. The soybeans are used in the Warnes's feedlot program and they see huge advantages in utilizing them on farm.

The soybeans are part of the feeding rations for their feedlot enterprise and appear to aid digestibility and may even provide a phytoestrogenic effect in their artificial insemination program. Utilising soybeans in the feedlot program ensures that only a minimal amount of feed needs to be bought in.

### PRODUCTION DETAILS

**Negative aspects?** Additional work in cleaning and storage.

**Growing season:** Sow end of November, harvest up to second week of April.

**Sowing system:** An Airway soil aerator is used then direct drill or minimum till sowing on 30 inch or 15 inch rows. Sowing rate is 360,000 seeds per hectare when producing grain crops.

**Harvesting equipment:** John Deere header, own chaser bins, seed cleaner and silos equipped with aeration to handle wet harvests.

**Paddock preparation:** Paddocks are laser leveled to aid drainage of water. This is especially necessary after any flood events as the flood water moves the soil around.

**Varieties:** A6785 and Soya 791.

**Crop nutrition:** Soils tested twice a year – a full in-crop test and a pre-summer shorter version mainly to see what phosphorous levels are like. Chicken manure is spread on the paddocks and a 'legume complete' type fertiliser is used (blend of phosphorus and potash).

**Weed control:** Problem weeds are those that appear in direct drill systems – summer grass and barnyard grass – broad-leaf weeds are not too much of an issue.



**Brett Warne with a cleaner used to remove foreign matter in soybeans before storage.**



**Leanne Warne with a prized Jembrae Droughtmaster stud animal.**

Roundup at planting is used and some areas get in-crop herbicide treatments but in the past few years there has been a shift to inter-row cultivation and no herbicides have been needed. There can be up to three inter-row cultivations within the crop lifecycle.

**Pest management:** Tobacco looper and heliothis are the major pest problems. An IPM approach is taken and an agronomist assists with monitoring. Their aim is to keep things simple and promote beneficial bugs. Soybeans are quite bug-resilient. Own spraying done with an 80 foot boom spray.

**Disease management:** Rust can be a seasonal issue, possibly due to changing climate.

**Cost of production:** \$675 per hectare, including planting, sprays and harvesting.

**Economic benefit from growing soybeans:** \$511 per hectare – but the benefit to the farm system of using soybeans in the feedlot enterprise is huge.

**Market for soybeans:** Sold to the grain market.

**Crop compared to other summer crops:** Nitrogen benefits, good returns and opportunity to value add using existing infrastructure (storage).

**Crop intensity:** 25 per cent on owned land, seven per cent on leased land. Typical rotation is soybean–winter cereals–maize–winter cereals. By flying the forage crop seed into the maturing soybean crop

essentially gains one month in the growing season.

**Crop yield:** Average 2.9 tonnes per hectare. ■

## THE KEYS TO SOYBEAN SUCCESS

- Good weed control;
- Use minimum tillage to conserve soil;
- Good nutrition; and,
- Ensure good harvesting practices are utilised to maximise grain quality, and harvest at a reasonable moisture content.



**Brett Warne in his 2008 A791 soybean crop with Mark Carter (consultant), Hugh Brier (QDPI&F Entomologist) and Peter Brodie (Philp Brodie Grain). (PHOTO: Ian Morgan, Philp Brodie Grain)**