Final Report Summary
Siriver – producing lucerne breeders’ seed

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Australia’s lucerne seed industry is made up of more than 250 individual seed production farms in irrigated and non-irrigated production systems, predominantly based in the upper and mid-south east of SA. Seed is produced for domestic and overseas markets. Siriver is a hybrid lucerne seed export variety bred in the 1970s by the CSIRO lucerne program. It is the most popular public variety for seed production. Australian Seeds Authority figures show that from 2013–2017, Siriver made up 81.77% of the area planted to public varieties and 10.39% of the total area planted to all varieties. In tonnage over the same five-year period, Siriver made up 77% of public and 17.14% of all varieties.

In 2016, Lucerne Australia learned that the supply of basic Siriver lucerne seed for certified seed production was low, and was predicted to be exhausted within several years. Lucerne Australia recognised the urgent need to increase Siriver seed stock because a lapse in continuity of supply was likely to negatively impact the lucerne seed industry. Subsequently, an opportunity was identified to develop a seed source to secure the sustainability of Siriver seed for growers and marketers. Because CSIRO still held a small quantity of basic seed, Lucerne Australia developed a proposal to extend this seed bank over three years in collaboration with SARDI, with project funding from the AgriFutures Pasture Seeds program.

**Research**

Seed regeneration techniques were used to produce a new bank of Siriver breeders’ seed from the small basic seed lot (AUS/S/1503/85) held by the CSIRO, Canberra. Because the seed was poor quality, the seeds were initially germinated in petri dishes and grown out in trays. Plants were then transplanted into a pollination tunnel at the SARDI lucerne breeding nursery in Urrbrae SA. Over a three-year period, seed was produced using controlled pollination and hand harvesting techniques.

**Objectives**

To sustain the hybrid lucerne variety Siriver for growers and marketers by undertaking a seed regeneration strategy to produce new Siriver breeders’ seed.

**Implications for industry**

The immediate benefit is the ability to further regenerate and secure the seed bank of Siriver.

There is also significant long-term financial benefit. Extending the life of this cultivar is critical for Australia’s lucerne seed industry. The variety is commercially relevant in the Australian context even as export markets evolve. Siriver is not only the dominant public cultivar produced in Australia, but it is also the major cultivar sold throughout Australian export markets. No similar public cultivar is available to replace it.

It is estimated that the investment to secure the survival of this cultivar will be returned in producer levy payments from the sale of certified Siriver seed in less than one year of production. The process of appointing a new maintainer for Siriver is being handled by the Australian Seeds Authority, Thornbury VIC. It is anticipated that Siriver breeders’ seed generated through this project will be sown in 2020, with pre-basic seed available through domestic sales to growers in 2021 (dependent on a successful harvest).

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