

## **Slug and snail projects – brief summary**

**RCSN project: Investigate and extend effective and reasonably priced monitoring and control methods for snails and slugs in the Albany and Esperance Port Zones.** (ends June 2016)

Scope of work:

1. Predicting slug emergence using a single time-lapse camera in association with a weather station to assist in predicting environmental factors that trigger movement and feeding for slugs.
2. Investigate post-harvest, pre-seeding control options for small conical snails – aerial bait spreading trials with SEPWA (poor results due to rate and coverage issues), trials on windrow burning and bait coverage using aerial application were completed in the Albany Port Zone.
3. Investigate new technologies for slug/snail control - feasibility for the use of microwave radiation, imaging technologies, and mechanical harvest weed control were investigated for the control of small pointed snails. Microwaves were found to be ineffective for snail control but were found to be effective on slugs depending on size.
4. Making the economics for slug/snail control easy to understand – still to be completed as an updated webpage on the DAFWA website taking into account recent research findings from WA and SA.

**DAS00160 Biology and management of snails and slugs in grain crops** (From June 2016, still to be contracted)

1. Monitor at 4 locations using remote cameras and weather stations slugs or snails, at least one camera to be in Esperance. Site visits need to be made at least 12 times per year.
2. At 4 sites at 4 times per year slugs and snails will be collected and the reproductive stage, water content noted and parasites of slugs or snails collected.

**Royalties for Regions: Improving the efficiency of slug and snail controls,**

Output 1: Produce a system that can create maps of snail infestations in a paddock

Output 2: Investigate feasibility of producing a system that will create maps of slug damage or slug occurrence in paddocks using an automated mapping techniques by 2018. This will enable growers to better target bait applications.

Output 3: Create a program to measure density and distribution of baits in paddocks

Output 4: Contribute to a technical manual in association with RCSN and GRDC funded projects outlining the best practice bait applications for slug and snail control, as well as methods to minimise snail contamination in delivered grain

Output 5: Evaluate alternative techniques to remove snails from harvested grain to meet industry delivery standards

**RCSN project: Effective baiting options for the control of conical snails in the Albany port zone.** Stirlings to Coast have been requested to apply for this tender and to contract DAFWA to conduct trials only.

1. Survey of growers and snail bait distributors in the Albany port zone to assess what bait they are using and what methods they are using to distribute it including how effective the growers perceive these methods are.
2. Determine optimum rate and density of 3 bait types
  - a. Lab trial with 12 treatments X 4 reps
3. Determining if rainfastness affects small conical snail control in the field
  - a. Caged trial with 4 treatments X 3 reps
4. Determining the palatability of bait formulations on small conical snail control
  - a. Caged trial with snails + baits to determine which bait type is the most palatable to snails
5. Best Bet Bait trial
  - a. 3 field trials with SCF to assist in site locations and bait applications
  - b. 2 best bet baits to be applied at pre-seeding, post-seeding, pre-emergence, at emergence and at 6-leaf stage, with sites being the replication
  - c. Plant counts and snails counts to be done 7 days after each application

**COGGO project: Snails and slugs mitigation for farmers in Great Southern regions.** Stirlings to Coast were invited to apply for this \$50,000 grant (12 months) to work collaboratively with other grower groups to deliver project outcomes.

Scope of work:

1. Initiation of Snails and Slugs Taskforce across grower groups
2. Six snails mitigation events across the Albany and Esperance Port Zones in 2016/17.
3. Best practice manual on snail control for Great Southern farmers.
4. Final report