



## ACE RESEARCH PROJECT

### Cover Crops (The University of Adelaide)

#### Importance

This Cover Crop trial aims to test the effects of different cover crop mixes on various aspects of the almond production system. By conducting trials and collecting extensive data, the project aims to evaluate the impact of these cover crops on yield, soil health, water status/stress, temperature, humidity, soil physiochemistry, carbon stocks, and soil microbiomes. The findings will provide valuable insights for growers and contribute to the development of an economic model for cover crop treatments in almonds.

#### Features

The project will feature two trial sites, one at the ACE orchard and another in Darlington Point, NSW. The ACE orchard site will serve as the primary trial site and has been set up with remote sensing equipment to continuously monitor soil water and tree stress. Drones will also be utilised in the data collection phase of this trial.

Seeded in May 2023 the trial features five treatments. The treatments are various cover crop blends including Treatment 1 a herbicide control with no cover crop, Treatment 2 a Medic/Clover mix, Treatment 3 a Medic/Rye/Clover mix, Treatment 4 a Pollinator mix and Treatment 5 a Barley/Vetch/Radish mix. To allow for accurate statistical analysis each treatment has been replicated four times at the ACE orchard.

The Darlington Point trial site features almost the same treatments and replications as ACE, with Treatment 5 being slightly different. Instead of Treatment 5 being a Barley/Vetch/Radish mix, it is now the “big blend” mix. The new Treatment 5 at Darlington Point consists of a Chicory, Vetch, Plantain, Radish, Brassica, Rye, Clover, Quinoa and Oat mix. The logic behind this alteration to Treatment 5 at the Darlington Point is that the site could handle more water demanding species due to greater rainfall in the region compared to the Loxton North based ACE orchard trial site.

At both sites baseline carbon stock and soil physiochemistry data along with yearly harvest, temperature, humidity, soil moisture and tree stress data will be collected. Yield data will also be collected and analyzed from both trial sites annually. All



collected data at the end of the trial will be analyzed and used to build an economic model for the proposed cover crop treatments. Throughout the project, workshops, open days and factsheets to disseminate trial progress and results to growers will be held/released.

### **Results (Ongoing, 2023)**

As of this point in time there are no results to report on. Results will be released and updated as they become available.