ACE RESEARCH PROJECT

Other ABA projects

Bee Friendly Farming

The partnership between Bee Friendly Farming and the Almond Board of Australia aims to promote bee-friendly practices in almond orchards. The program provides farmers with information on certified, bee-friendly landscapes and practices. It focuses on implementing best practices and handling techniques to create optimal environments for bees and other beneficial insects.

The trial includes the use of native pollinator plants to enhance bee habitats and floral resources. Specific plant species, ranging from small ground cover plants to large shrubs and trees, are incorporated to provide diverse food sources for bees and support pollination health. These native plants also serve as windbreaks, protecting the orchard and preventing soil erosion. The trial aims to improve pollination health, bee habitats, floral resources, and land-use operations within the almond industry. The flowering period for most of these native plants occurs between August and November, with some varieties blooming from January to May.

Sprinkler/Drip Dual System

The dual system trial compares two irrigation methods, namely drip and sprinkler, to assess their impact on the susceptibility and development of diseases in almond trees. The trial aims to evaluate whether the drip system, plays a significant role in the occurrence of hullrot, non-infectious bud failure and bacterial spot, all of which can be formed through the microclimate that a drip system creates in the field.

The four varieties being evaluated for these diseases are Nonpareil, Carina, Carmel, and Maxima, each representing 25% of the trial. The trial was planted in 2019 using Horizon 2 densities and utilizes Nemaguard as the rootstock. The focus of the trial is to monitor and assess the presence and development of diseases and infections in the different microclimates created by the drip and sprinkler irrigation systems throughout the lifespan of the trees. Data collection is still on-going with results to follow.

Bird Laser Scarers

Bird laser scarers are devices mounted on poles that emit bright laser beams to deter birds. They are activated during nighttime and early morning hours to scare

birds away by disturbing their eyesight. These lasers are used from late spring to late summer, particularly before harvest. They offer farmers an alternative to sound-based deterrents. Bird laser scarers are most effective during low light conditions, such as early morning and late afternoon hours. The ABA has several of these devices installed at ACE Orchard with annual observations made by orchard staff.

Autonomous Tractor

The autonomous tractor is a promising platform for research and development, offering various features that contribute to its value. One of its key components is the autonomous system, which utilizes satellite connectivity and can be controlled directly from a phone. This allows for continuous operation, 24 hours a day, 7 days a week. The design of the autonomous system ensures compatibility with a wide range of tractors, making it accessible for most farmers and offering potential usability in the future.

Lysimeter in Self-fertile Variety Trial

SARDI are in the process of installing two lysimeters within the ABA's, soon to be planted, self-fertile variety trial. Lysimeter will accurately define the water balance, allowing the development of crop coefficients (KC) and irrigation schedules suited to traditional and/or experimental production conditions. Lysimeters at the ACE site will further enhance its reputation as a 'seeing is believing' industry education facility.