
Nickels Soil Laboratory Irrigation Well

Project No.: 09-PREC4-Murray

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Interpretive Summary:

The Nickels Soil Laboratory continues to serve as an essential research tool for California's almond industry, as it has for the past quarter-century. Located in Arbuckle, in Colusa County, the 200-acre facility currently plays host to more than 20 research projects. Two-thirds of the current projects are funded by the Almond Board, which has had a productive relationship with the lab dating back to the 1970s.

Ranging over a diversity of applied research areas, these projects have and continue to have a focus on the improvement of almond production. Recent emphasis included such key issues as optimal tree planting densities, tree training and pruning practices, irrigation regimes—including drought management, micro-irrigation, and fertigation.

Successful outcomes are likely in that the lab has a long record of developing practical innovations that have transformed almond production both in Colusa County and throughout the Central Valley. In the mid-1980s, for example, the average yield in Colusa County was 587 pounds/acre on about 16,000 acres, whereas the current yield averages 2,300-2,400 lbs/acre—and the county's almond acreage has almost doubled. Significantly, the county's average yield now matches that of the state, whereas it was only half that in the mid-1980s.

One major achievement attributable to the lab has been the opening up of new almond production on less-than-prime soils, starting in the Arbuckle area and then spreading to other areas. That success reflects the fact that, when a long-time grower named Leslie J. Nickels bequeathed his property to the University of California and the Colusa County Water District five decades ago, he instructed that it be used to conduct research on using marginal soils.

One of the critical issues currently of concern to California's almond growers is the availability of water—heightened by the present drought and also by the regulatory climate. Nickels Soil Lab hasn't been exempted from the risks of uncertain surface water supplies, which was affecting researchers' ability to conduct long-term projects. In this case, though, the Almond Board has risen to the challenge by enabling the lab to go deep—by helping to fund the drilling of a well to ensure that the lab will continue to do what it has long does best.