

## Small Farms and Specialty Crops—Advisor, Dr. Mark Gaskell

### The Challenge

Small-scale fruit and vegetable growers rely on relatively higher value, lower volume specialty crops to remain economically competitive. UCCE field trials and educational programs are focused on developing new crop alternatives and alternative cultural practices to make small-scale agriculture more viable and competitive in Santa Barbara County.

Field trials are conducted often and the results of these trials, associated greenhouse or laboratory studies, and the experiences of other specialists are then assembled into educational outreach programs to educate and guide growers and industry representatives on the best current science-based information.



Field studies are monitoring raspberry crop development in the Santa Maria Valley to improve water and nutrient use.

### Addressing the Challenge

Accumulating effects of the drought have continued to challenge coastal specialty crop growers. Farm visits and responses to grower inquiries – among other things - have focused on more efficient water management and anticipating potential water-related problems that might arise. An existing research project to develop more precise irrigation management for blackberries is now being expanded to include raspberry crops. Three long-term field trials were established during the past few weeks on cooperating raspberry farms in the Santa Maria Valley and Nipomo in collaboration with Driscoll Berry Associates. Similar projects are also underway in Santa Cruz and Ventura counties. These farms will be sampled and photographed regularly with special infra-red cameras during the entire raspberry plant growth cycle to measure the development of the crop to predict water requirements more precisely. In addition to water requirements, plant uptake of nitrogen, phosphorus, and potassium will also be monitored and the data will be incorporated into the UC-developed CropManage software to refine irrigation and nutrient management.

Additional field trials with organic strawberries, blueberries, and coffee assist growers to produce these crops more efficiently. Field trials included:

- Blackberry mowing, tunnel use, and other cultural practices for the most profitable production season.
- Evaluation of commercial blueberry that produce during the most profitable part of the market season.
- Cultural practices for successful coffee production and evaluation of cropping systems to interplant coffee in avocado orchards.

### Public Value

Small-scale agricultural producers need reliable and current information on the most promising crop alternatives and the most efficient cultural practices if they are to remain economically viable. Recent research and educational outreach programs have included:

- Development of alternative small fruit – berry crop varieties and cultural practices
- contributing to establishment of blueberries, blackberries, and raspberries as profitable new crops in Santa Barbara County
- Development of new information and practices to guide organic strawberry and other long season organic fruit growers for efficient management of nitrogen and water
- Providing the research and educational base for establishment of coffee and tea as new crops in Santa Barbara County