

# Improving the Online Pistachio Educational Program to Train New Pistachio Growers and Handlers

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## INTRODUCTION

For the last 5 years, we have been funded partly from the California Department of Food and Agriculture (CDFA), Specialty Crop Block Grant Program (SCBGP). The first grant allowed us to establish peer-reviewed and updated online fruit and nut resources on our website. In 2015, we detected the need and high demands for online extension resources for beginner farmers. Classroom and online educational materials are important to support the current and future performance of beginner growers in competitive markets. Thus the FNRIC proposed the creation of a fruit and nut production online educational training program to complement our annual classroom extension course. The project *Online Nuts and Tree Fruits Education Program to Train California Specialty Crops Growers* is funded by the CDFA SCBGP (2015-2018) and the California Pistachio Research Board (2017-2018). The objective is to train California's beginning and transitioning farmers in improved orchard management practices and sustainable fruit production, with topics such as principles of tree biology, commodity production, food safety, technology tools, environmental conservation, fruit maturity and harvesting techniques. The project consists of developing interactive courses for each crop, including a series of online videos as well as quizzes, engagement activities and supplemental information. Courses are developed for four different crops: pistachio, stone fruits, walnut and almond. Additionally, a postharvest course has also been developed. Each of these courses will be offered in English and Spanish. The inexpensive and time-flexible FNRIC online fruit and nut production program will provide beginner farmers and others with the knowledge and tools to become sustainable and productive growers.

## RESULTS

The English and Spanish pistachio online courses (*Advances in Pistachio Production* and *Avances en la Producción de Pistachio*) have been finished since August 2017. We have prepared scripts and illustration material based on the pistachio production manual and additional materials. UC Davis faculty, UCCE specialists and farm advisors, from each field, have reviewed these scripts, and pictures were collected and/or taken for video production. The audio track was recorded by a professional voice company. The videos were created using video editor software *Camtasia*, taking in account the feedback received from a small group of experts. Supplemental information (reading material, videos or any other useful tool), engagement activities (quiz or specific exercise) and entrance and exit tests were also prepared. All this material and tools were uploaded to our UC Davis online teaching platform *Canvas*, along with the entrance/demographic survey previously prepared and the scripts provided in pdf format for each video. The pistachio course is divided into 5 modules and 16 sections.

The students' progress and knowledge gained in the FNRIC online program is being evaluated by comparing results of the registration-entry questionnaire with the test results at the end of

each module. In order to measure expected outcomes and collect feedback from students, we will gather baseline data using an entrance demographic survey and a final evaluation.

The two pistachio courses, along with other completed courses (stone fruits and postharvest) have been offered for free to 200 Californian growers as well as people who either took or were interested in our hands-on classroom extension course, "Principles of Fruit and Nut Tree Growth, Cropping and Management," in the past. Many of them are beginner growers or people working in the California fruit and nut industry. The course was open on October 30, 2017 to all people who answered us with an interest in taking one or several of our six ready courses, establishing a first large test group. The course was also offered to a few extra test groups in our network. We expect to have the first data collected in the next three months, and have the data, from a first set of California growers, by April 2018, as planned in the initial proposal. As of November 22, we have already 50 positive answers, with 20 for the English pistachio course. This will allow us to collect the first outcome data in the next few months.

After the CDFA SCBGP grant period, there will be a registration fee charged to participants, kept at a minimum, to cover the continued management and operational costs of the online program.

## **CONCLUSION AND APPLICATIONS**

The pistachio course will educate beginner pistachio growers on how to improve orchard management practices, food safety, crop losses and causes, and agricultural accounting, as well as how to respond to changing environmental conditions.