

HONEY BEES AND COLONY EVALUATION

An Online Learning Program

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Introduction

Honey bees are essential for pollination of California's almond crop and many other fruit, nut, vegetable, and seed crops. Concerns about the quality and availability of honey bee colonies for pollination have increased in recent years because of the impact of Colony Collapse Disorder (CCD) as well as greater pressure and difficulty managing other pests, parasites, and diseases. The result has been a significant increase in pollination fees, particularly for almond pollination which requires tremendous numbers of bees from throughout the US to meet the demand.

Almond producers want to make sure they are getting what they pay for in terms of numbers of colonies at a strength specified in the pollination contract. Beekeepers want to be compensated for their additional expense in providing quality hives for spring pollination. As a result, apiary inspectors have seen greater demand for colony strength inspections in recent years. In addition to colony strength inspections, inspections for pests, parasites, and diseases, including CCD, are being requested. In many cases, there aren't enough qualified apiary inspectors to meet the need.

Objective

The objective of the *Online Learning Program* is to provide easily accessible information which can be viewed at any time with the click of a web link. The goal is to improve the target audience's understanding of

- **Basic honey bee biology,**
- **Recommended colony strength evaluation practices, and**
- **Recognition of important diseases, pests, and parasites that impact honey bees.**

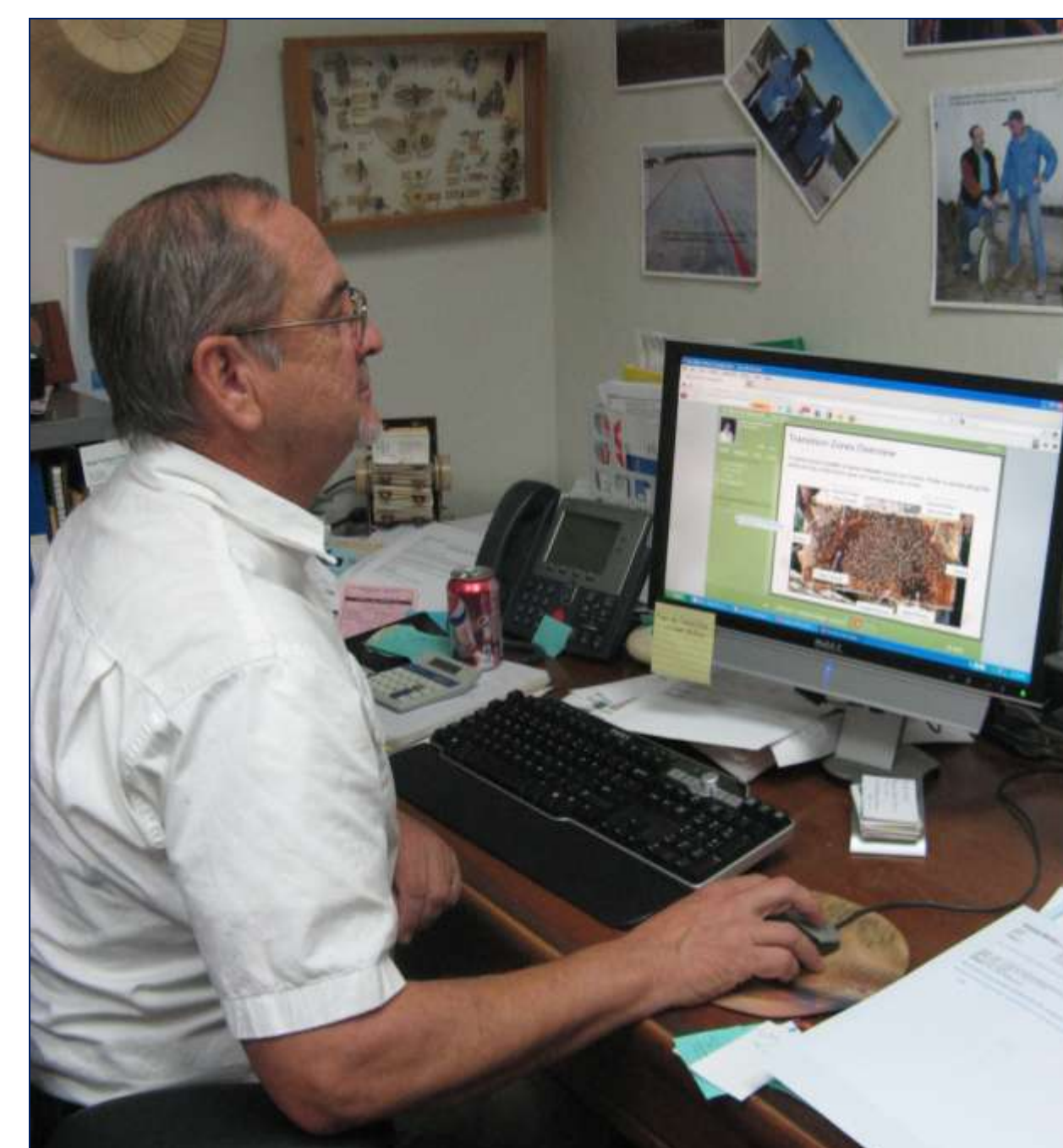
The target audience includes apiary inspectors (with County Ag Commissioner's offices as well as private contractors), beekeepers, and commodity producers who rely on honey bees for pollination. It may also be of interest to individuals who are curious and desire to learn more about bees.

Advantages

One benefit of *Online Learning Programs* is that individuals and organizations can take advantage of the training at their convenience. The modular approach requires short blocks of time for each section and viewers can proceed at their own pace. Training modules can be re-visited as necessary and it is easy to update the existing information or add additional topics at any time.

Disadvantages

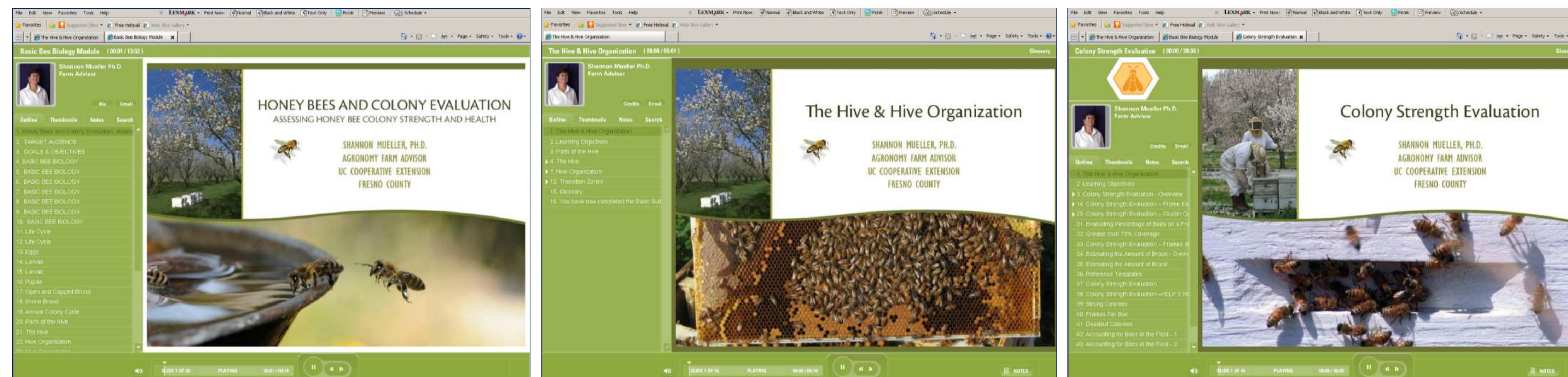
There are some disadvantages to online learning. The group discussion that occurs during a more traditional lecture format, which adds to the richness of the information disseminated, is lost in online learning. In addition, the hands-on component offered during traditional training programs is not possible.



Beekeepers show newly-trained apiary inspectors how to handle the hives and evaluate colony strength.



Online training modules can be accessed at any time, updated easily, and reviewed prior to the beginning of the inspection season each year.



Features of the Online Training Program

- Narrated slide sets and videos
- Skills practice
 - Frames of bees
 - Brood area
 - Cluster count
- Quizzes
- Final Exam
- Certificates and/or CE units

Learning Modules

- Basic Bee Biology
- The Hive and Hive Organization
- Colony Strength Evaluation Procedures
 - How to Wear a Bee Suit
 - Random vs. Systematic Selection
 - Inspection Recommendations
- Other Things You Might See in a Hive or Apiary (and Why)
- Pests, Parasites, Diseases, Poisoning, CCD, Africanized Honey Bees

The *Honey Bees and Colony Evaluation Online Learning Program* will be available at no charge thanks to the support provided by the

Almond Board of California and Project Apis m..

It will soon be available on the University of California ANR Online Learning Website:

<http://class.ucanr.org/>

Heartfelt thanks go to the beekeepers, bee brokers, apiary inspectors, and ag commissioners who generously shared their time and expertise in colony strength evaluation practices. Dr. Eric Mussen, Extension Apiculturist at UC Davis, provided an early technical review and Leigh Dagoon, Mike Poe, and Ray Lucas at UC ANR Communications Services created the online training modules using the information and photographs provided.

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