



Entomology Newsletter  
UC Davis

## Outside the Box

Whether you enthusiastically participated or reluctantly endured the special one-day seminar conducted by the National Honey Board at the CSBA Convention, you had to admit that it was “different.” The seminar facilitator, Edward D. Barlow was something else. If you have listened to me compress two hours worth of information into 45 minutes, you can imagine what it is like to get a motivational speaker and other speakers who compressed a three-day program into a few hours.

What was the message of “Think Outside the Box: Creating Business and Marketing Strategies for the 21st Century”? Simply, be in the lead or get left behind. The program did not direct attention toward any particular aspect of beekeeping, but the message was:

Don’t get stuck in a rut!

Just this sort of “Outside the Box” thinking has led to a very different view of beekeeping for a company from Mesa, Arizona, called Apis Inc. Darryl and John, the owners of the operation, did not come from a beekeeping background, as you will see. They approached pollination as entrepreneurs, not as beekeepers.

They collected as much information as they could find from reading books and surfing the World Wide Web. They thought that large boxes, housing lots of colonies was the way to go. What size box? A size that could just be assembled from conventional 8x4 foot sheets of plywood, particle board, and various insulations and plastics. With proper alignment, you can get eight 14-frame (2 stories of 7 frames) colonies in a box. The box has heavy insulation in the cover and insulated walls. Each “hive” has Pierco plastic frames.

By eliminating the wood in the frames, the owners feel they have the equivalent of 8-frame equipment. Each “hive” is closed with a plywood cover. Ventilation is through a single, good sized, screened hole in the bottom of each unit. Large entrances of plastic pipe allow bees to fly out the sides of the box. Caps with various screen meshes are placed on the pipes as entrance reducers or closures.

Honey production is a problem in this operation, since the system is geared specifically for pollination. Each colony must be functioning optionally to make the system work. That requires frequent visits to the bees. A master bee-keeper uses a handheld data logger to record the box number and condition of each colony. Two other persons do the looking and describing, each looking at four colonies. If the inspections cannot be completed in

an average of 3 minutes per hive, the team is “retrained.”

The owners download all the information into a central computer and plan future work visits to the apiary depending upon what was found. Does this work? The plan a year ago was to start with 1,200 colonies and split up to 3,600. They were told that was impossible. Instead they split up to 4,800; made a profit at \$40 a colony for almond pollination; and are on their way to a very successful future, they think.

Also, in the future, are plans to put a 286 computer chip in each box. Sensors in each “hive” will record temperature, queen pheromone level, and perhaps wing beat sound. When something becomes irregular, central control will be notified. Each box will be equipped with GPS sensors so that it “knows” where it is, and satellite phone links will let it communicate with the home computer. It will even tell you when it is being stolen and where it is being taken. I’m sure that this sounds a bit hard to swallow, but I have invited the owners to bring a unit to the next CSBA convention, to be held in San Luis Obispo next fall. The boxes are hauled on a 45 foot trailer and they load 576 colonies, with the boxes stacked triple. At \$40 a colony, that would be a terrible load to turn over! No, this is not typical beekeeping. But, it is possible that it is the future of pollination.

It may very well be worth “Looking Outside the Box” in your operation.