

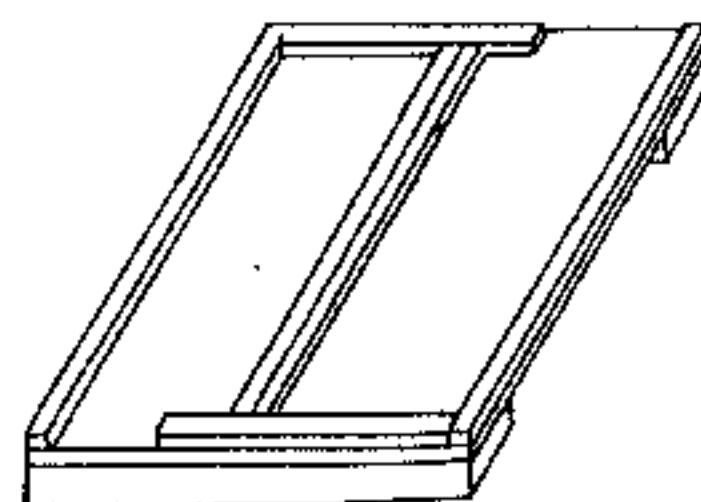
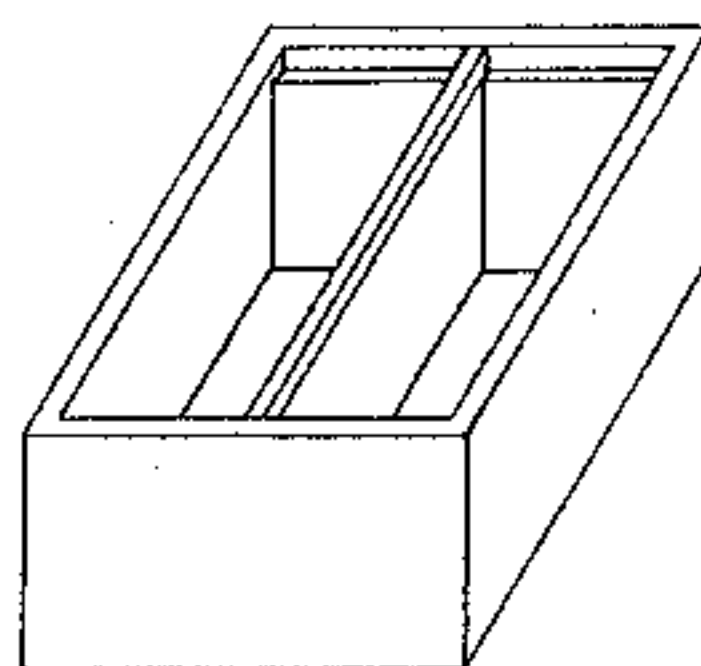
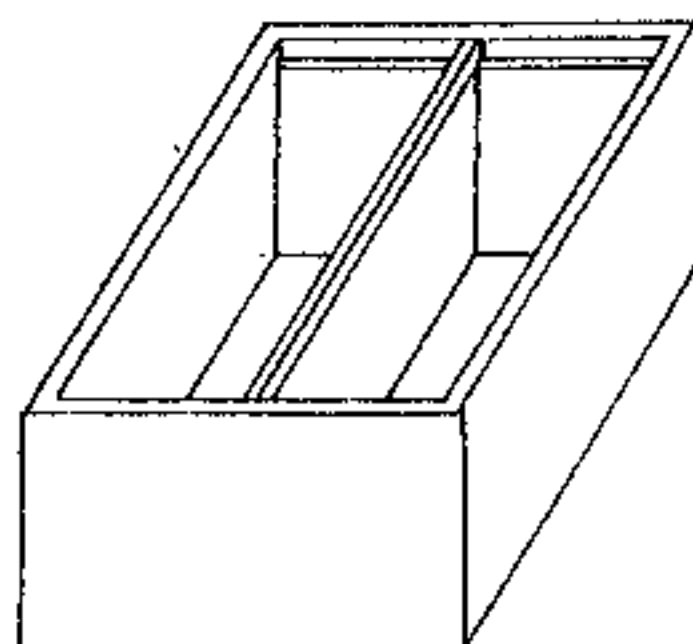
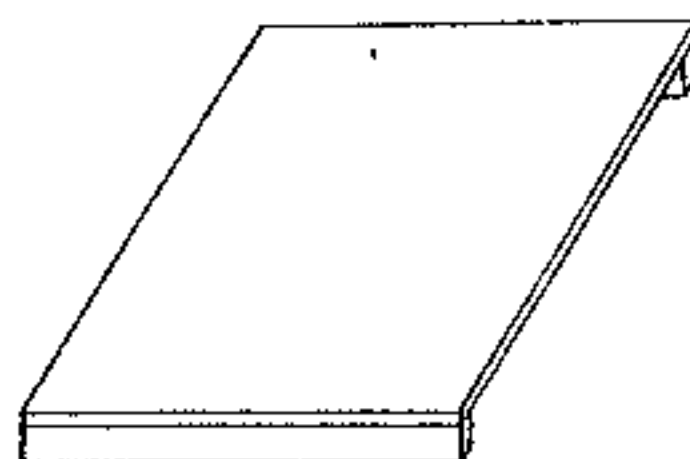
The TWO COLONY hive Revisited

Michael Johnston

Two Colony Hives produce exceptionally well, but require exceptional management.

In the past four years I have been able to conduct some Productivity Trials on the Vertical Partition Two Colony Hive thanks to a USDA SARE (Sustainable Agriculture Research and Education) Grant out of the University of Vermont. I had done quite a bit of work on this hive during the 1980s but life took me in a different direction since then. In this article I hope to relate where I've been and where I am at now with working on this beehive.

In the early 1980s while working at Wenner Honey Farm near Chico California, I worked on developing two beehives that I thought had some advantages over our present system of beekeeping. I must have gotten caught up in the spirit of experimentation that pervaded Wenner's at the time. Clarence Wenner, a wizened beekeeper in his eighties, was quite an innovator. He had already developed plastic rings that made package bee feeders refillable and developed the recipe for pollen supplement that is still used today. Clarence was in charge of queen cell production for this large package bee and queen production operation. At the time, he was using small square frames for his breeder queens that were just big enough for one day of egg laying. The Wenners did not mind if their employees stayed after hours and worked on their own projects. As a young single man with no TV living at the farm, building bee equipment and stocking it with bees was a pretty good form of entertainment. During this time I adapted standard hives so that five frames and four frames would be on either side of a $\frac{3}{4}$ inch divider board with the division continuing up into successive hive bodies. In '79 and '80, I ran three of these hives and in 1981 I ran seven of them. The five frame side always did better than the four frame side except on one occasion when the five frame side's queen was being superceded. I also began working on another hive with multiple compartments that had smaller frames placed at a right angle to the direction used in regular beehives. By the end of my third and final season at Wenners in 1981, I had pretty well settled on



Continued on Next Page



Two colony hives being nuked out May 2003.



the design of the two beehives and had begun applying for patents.

In 1982, I started working for Wooten's Golden Queens near Redding at the north end of the Sacramento Valley. The Wootens and their relatives, the Parks, manufactured their own hive bodies, lids and bottoms. Shannon and Glenda Wooten as well as Glenda's brother, Steve Park, were also very generous and would let you use their woodworking equipment after hours. Before long, I was able to buy a box jointer, table saw, and radial arm saw and was capable of building my own hive bodies. Shannon also ran 3,000 two sided nuc hives in eight frame equipment that were somewhat similar to the Two Colony Hive except that the divider boards did not continue above the first hive body.

In 1988, my first year back in New York State, I assembled and stocked some 19½ inch wide Two Colony equipment that would accommodate five frames and six frames on either side of the divider board. I ran five of these hives during just one season. In three of them, the five frame side outperformed the six frame side; in one, the six frame side did best; and in the fifth, the two sides were equal. This confirmed that



Looking in top of hive that eventually produced 370½ pounds.

the best configuration for the Two Colony Hive is with five frames on each side of the divider board.

In January, 1991 I received a patent on my other invention, the Combination Queen Rearing Nucleus and Comb Honey. Three years later the Patent Office sent me a bill to "maintain" the patent. This bill came in the winter months when I did not have a lot of funds so I let the patent go.

In 2000 I received a Sustainable Agriculture Research and Education Grant from USDA. This grant funded trials in which I compared productivity of Two Colony Hives vs. standard Langstroth beehives. Support was provided by the Wood Technology Department of Morrisville State College. I provided the lumber and some of the machinery and know-how and the college provided students willing to work in their wood shop. By Memorial Day of 2000, I was painting newly assembled equipment.

The productivity trials compared the Two Colony Hive and the Standard Hive in terms of overwintering, Spring income, and honey production. The Two Colony Hive performed well in all of these trials. Significant results were produced during 2001, 2002, 2003, and 2004. During three Winters when same age queens were compared, 51 Two Colony Hives brought 76 clus-

Two colony hives.



Two Colony Hives make more honey

ters through the Winter while 38 standard hives brought 27 clusters through the Winter. On average, a Two Colony Hive overwintered 1.49 clusters while a standard hive overwintered 0.71 clusters. Spring income compared money earned by the Two Colony Hive selling nucs and brood vs. money earned by standard hives sent to apple pollination. Though the income from the Two Colony Hive was only 37% and 15% greater in 2001 and 2003, the Two Colony Hive earned more than three times as much money than the standard hive in 2002 when there was a mild Winter. With honey production, Two Colony Hives that had been nuked out and requeened with queen cells produced a respectable amount of honey. In 2004, a pair of Two Colony Hives that had not been nuked out produced surpluses of 344 lb. and 370 ½ lb. These surpluses were produced at a very good beeyard but during a below average year. The eight best standard hives in my operation averaged 151 lb. during 2004.

The Two Colony Hive is not meant to replace the standard 10 frame Langstroth hive. During the first three years of trials that I conducted, I used the Two Colony Hive to produce nucs for sale to other beekeepers who restocked hives that died over the previous Winter. The Two Colony Hives were then requeened using queen cells and usually built up in time to produce surplus honey before the end of the season. Two Colony Hives managed in this manner always have young queens, overwinter well, and are

Method used to measure honey production. Supers are weighed before and after extracting. The difference between these numbers is how much was extracted.



Start of honey production trials early July, 2002.

less prone to swarming. This hive may not be the best for the "let alone" beekeeper since it can easily fill with honey. You should give this hive lots of honey supers and check it weekly. It is well suited to a beekeeper that raises queens because this hive takes twice as many as a standard hive. The Two Colony Hive requires a higher level of management and is much more prone to swarming than the standard hive.

In 2001, I built a small warehouse on my property for woodworking and extracting honey. The motivation for this construction was largely provided by the SARE grant and the need to provide a decent place for an employee to work. After 14 years back in New York, I finally had a decent work place for building equipment.

In October of 2004, I attended a SARE conference at the University of Vermont. This opportunity for networking led to another grant opportunity. Maryann Frazier of Penn State Cooperative Extension has submitted a Partnership Grant that, if funded, would continue testing of the Two Colony Hive at three locations including here in Central New York. This is a logical next step in the testing of this hive. Production levels that were reached in the Farmer/Grower grant from SARE need to be repeated under the observation of independent researchers. Testing at different locations could produce a whole new set of results the significance of which can only be guessed at.

If you would like to know more about two colony equipment or obtain an electronic copy of my final SARE report, you can contact me at Johnstonsbees@hotmail.com **BC**