

September 2013
Addendum No. 1, to
Drawings and Notes for the Carr-Bradford Top Bar Hive

Hive Ventilation

The authors, and others of their acquaintance, keep bees in top bar hives that were built prior to existence of the current, published, Carr-Bradford design. These hives are often an elongated version of a nucleus hive intended for use in capture and transport of bee swarms. This nuc hive design incorporates a hole in the back wall that allows flying bees to enter the hive once they realize that their queen is inside. The hole can be closed with a piece of perforated metal when the swarm-catching beekeeper transports the nuc hive to a different location. This hole in the back wall is present in some of the elongated hives now in use.



The above photograph shows the opening. It is a hole of about 1-1/2 inch diameter, cut out with a rotary hole saw, and covered by the same perforated metal used at the landing board closer. (See Sheet 16 of the drawings.) The perforated metal can be secured to the back wall by brads, wood screws or a pair of teacup hooks which can be easily turned by hand without tools.

We have increasing evidence from our experience and that of other beekeepers that an opening such as this is advantageous for hive ventilation, especially in hot weather. What we really mean by “advantageous” is that the bees like it. In the autumn of 2011, in south-central Texas, John placed a business card between the perforated metal and the back wall of the pictured hive, intending

to prevent a cold draft through the opening. The bees promptly removed all portions of the card that impeded airflow through the perforated metal. Air flowed through the opening for the duration of the winter, and a healthy bee colony produced a swarm in the spring. In the same hive there was airflow through the opening throughout the winter of 2012–13, and a healthy bee colony flew in the spring. However, in Albuquerque, New Mexico, where winter temperatures dip much lower, bees kept in TJ's hives of this type shut off ventilation in the winter by sealing the holes with propolis, and healthy colonies flew there in the spring.

We conclude that inclusion of such an opening in the hive back wall is recommended. The hole should be located high in the back wall to enhance the "chimney effect" of, cooler air entering the hive down at the bottom board near the front of the hive and hotter air exiting at the back hive wall up near the cover. Beekeepers may have tools, materials and experience that result in an effective ventilation opening different from that which we have described.

We are amending the hive drawings to show this change, and a copy of amended Sheet No. 6 is attached.

From our observation of the bee's behavior we conclude that the 1-1/2" diameter hole does not provide excessive ventilation, because, otherwise, the bees would restrict the airflow to suit their preference. TJ has provided additional ventilation openings in some of his hives and is observing the results. We may, in the future, have additional recommendations regarding hive ventilation.

TJ Carr and John Bradford