

space above—they were not tight above. I would not advise any bee-keeper, from my own personal experience, to try Mr. Alpaugh's plan.

Mr. Gemmell: Mr. Holtermann, what became of the dead bees in there?

Mr. Holtermann: They kept them to one side.

Mr. Sparling: I think the nature of the packing above the bees may have something to do with the amount of entrance. I took Mr. Jones advice of packing a foot or so of sawdust on top of them and put some boards on top of the sawdust and stones on the boards. I packed them very heavily all around on top. I think that would have been alright if they had had a generous entrance. I had the fever badly and the next summer I went and visited all the bee-keepers that I knew of around our neighborhood and investigated their method of wintering bees and tried to find out how my bees had died. I came to the conclusion that they had been packed too much. The next winter I increased the entrance. I still packed them well but I left off the stones and so on. I made the winter entrance eight inches by three-eighths I had increased the entrance to the full width of the hive for the summer. For a number of winters, winter after winter I did not lose a colony that I packed out side. The bridge to the entrance I have had from five-eighths to seven-eighths deep and eight inches wide. Of course, the entrance to the hive inside is only three-eighths; if I took the trouble to pack them I found they came out almost perfectly.

Mr. Craig: I have used the same system as our friend Mr. Holtermann but instead of reducing the space I have left the full width entrance of the hive with a bridge to correspond, leaving the entrance to the outer case four by four I think, the bees have

wintered perfectly during the last two winters in the cases in this conditions, doing away with pastboard altogether.

Mr. Newton: I was not saying anything against the cases; I think the cases are alright, it was just the pasteboard; I use the cases.

Mr. Morrison: A great deal depends upon the climate in which you live; a man along Lake Erie might make his entrance very small in the winter but I think very few of those in the northern part would care to go and commence picking at the front of our hive to draw a piece of pasteboard down. If we had an entrance ventilation on top the bees would not likely gnaw very much at the pasteboard. I know I want plenty of entrance. I leave a bridge wide at the entrance to the hive and close it up, as Mr. Miller spoke of on the out side of the clamp.

Mr. Holtermann: That matter of entrance and top packing are so related that I would like to say another word about top packing. I don't believe that the proper place for the exit of foul air is at the entrance of the hive during winter. I believe we should have the packing so arranged and not packed tightly so that the air will go in at the front and go out through the packing at the top and not alone that, but in order to do that you must not have your cover board absolutely tight; have the air circulating over the packing so that it keeps drying out. If the air is going to go in at the entrance and out again at the entrance then the bees have got to get up a current to do it.

Mr. Armstrong: I would like to ask Mr. Holtermann how it is that a colony which is packed with the cover right down tight and the packing right on top of the cover will winter just as well as one with the packing

on
and
san
oth
win
any
wh
on
pac
acco
enoi
cove
entr
five
last
shor
M
diffe
outs
I w
adv

GIVIN

I no
C. B. J
a flight
return
weeks.
endors
thing
doing,
be a lo
I think
last fal
the bee
"tired"
mended