

less danger of compromising his capital invested.

Those who make bee-keeping a business—that is to say, those who live from the product of their bees—can only carry on their industry with success in favorable localities in which the flora produce the finest quality of honey. All the appurtenances must be of the most improved pattern, and their bees of the finest race and adapted to the climate. They must have considerable experience, and must devote to their little charges the most painstaking and unremitting care.

The vast majority of bee-keepers, however, do not take up apiculture as the only means of making a living, but more as a side issue; to increase their incomes; as an interesting and delightful study of one of the Creator's most wonderful creations; and, perhaps, from a little of that pardonable vanity which every bee-keeper takes in the enjoyment of his own honey.

Whether the industry be considered in either of the above manners, the truth of the old adage, "the best is always the cheapest," is sure to be exemplified.

No bee-keeper can afford to be without the best modern appliances, considering their cheapness in this manufacturing age. Neither can he afford to keep poor stock, thus deteriorating from the quantity and quality of his yearly supply of honey.

Neither can he afford to leave the work all to the bees but must be prepared himself to exercise all due care for the comfort of the little creatures.

Bee-keeping, conducted on the above lines, is sure to pay, and the pleasure and instruction will enhance the value of the revenue four-fold.

ABRIDGED.

The Merits and Demerits of Wide and Deep Top Bars

MR. EDITOR:—

After congratulating you for giving birth to such a bee journal as your prospectus promises the Practical Bee-Keeper to be, I desire to briefly discuss the merits and demerits of wide and deep top-bars. I choose this subject for the double reason

that it is now agitating the minds of our practical honey producers, and further because about 18 years ago it was the one theme of my experimenting. Perhaps I cannot better impress upon the minds of your readers the extent of my experiments, than to state that I now have in my apiaries, in the Langstroth hives (which I still have bees in) several hundred top-bars of the following different dimensions, $\frac{3}{4}$ wide and one inch deep; $1\frac{1}{4}$ wide and 1 inch deep, and then the same widths with different depths varying from $\frac{1}{4}$ to 1 inch. Again, the reversible, suspended frames of which I made, sold and used several thousand, before I invented and adopted my divisible brood-chamber hive, with fixed frames, by its double top-bar, gives us $\frac{3}{4}$ depth. Results were very marked, and they are as follows: The deeper we make our top-bars the less burr-combs we have between their tops and the bottom of the cover of surplus receptacles above. But just where I differ with much that has been written as experience, but which I believe has been more of theory, is that brace combs are done away with by using close spacing between the top-bars. I found that a $\frac{3}{4}$ space between the sides of the top-bar, that is, between the top-bars, would give us less brace combs than would a greater or less space, and if I was going to change it I would have it $\frac{1}{2}$ inch rather than $\frac{1}{4}$ inch, as I would have less brace combs with that space, besides the fact that frames are easier to remove with the wider space between the top-bars. I know many will think it queer that bees should build more brace combs in a $\frac{1}{2}$ than in a $\frac{1}{4}$ inch space, but all who have ever made slated honey-boards, are very well aware of the fact that the bees put few brace combs between the slats which are $\frac{3}{4}$ apart, while those which have been moved up to a queen-excluding space, will be plugged so full that nearly one half of the passage way is obstructed by comb. To conclude, I will say that according to experiments, a top-bar $\frac{3}{4}$ or $\frac{1}{2}$ deep and $\frac{3}{4}$ wide, is the best for the suspended frames.

I am pleased to here put myself on record, and then wait for the verdict of bee-keepers, that verdict resulting wholly from practical usage,

Yours truly,

JAMES HEDDON,
Dowagiac, Mich.