

dance of good, wholesome food, well protected from the cold to keep them dry and warm, and plenty of pure fresh air. When these conditions are wholly secured, I think our winter losses will be few.

Taking the above axiom for my guiding principle, I endeavor to make all preparations for wintering, such as will secure as far as possible those conditions.

Before I proceed to give any plans or directions for the consideration of others, let me first say, that I make no pretensions to expertness in this wintering business. My efforts have been attended with varied success, amid continually varying circumstances, yet the results have been such as to inspire me with confidence in the feasibility of the method which I have pursued the last two or three years. I winter my bees on their summer stands almost exclusively, therefore what I have to say will be concerning my method of preparing and packing them with that intent. Inasmuch as the make of the hive is an important factor in out-door wintering, it might be well to state here that the most of my hives are constructed upon the principle of the "D. A. Jones' Double-walled, Porous Palace Hive" two storeys high. The walls of the lower storey or brood-chamber are four inches thick, packed with sawdust, the walls of the upper storey an inch and a half thick, or less, which makes the upper chamber about six inches longer and six inches wider, inside measure, than the lower storey or brood-chamber, thus giving ample room for winter packing, (also for the manipulation of surplus fixtures in summer.)

I commence in the spring to prepare my bees for safe wintering, and work my apiary through the summer with a view to that end. I try to be satisfied with allowing the bees to provide for themselves as well as for me, and endeavor to suppress that covetous disposition that would prompt me to take from them the last drop of honey, calling it surplus, and thereby reduce them to the starvation point, at any time when there comes a dearth in the honey flow. Therefore I do not practice contraction of the brood nest to the same extent that some advise during the honey season, but allow each colony from eight to ten combs, according to the capacity of queen and quantity of bees. With this allowance they will generally have considerable honey in the brood nest at all times, and when there comes a good flow of nectar, I believe that they will store just as much honey in the sections, and perhaps more, than they would if the brood nest were smaller. When the white honey harvest is over I remove all surplus arrangements and spread the brood combs about one

and three-quarter inches from centre to centre, in order that the bees may elongate the cells and fill them with honey for winter stores, and if they need still more room I move back the division board and give them more frames. From this time onward I take no surplus from them until they have an over abundance for their winter supply. When spreading the combs, if any of them contain honey that is capped over, it is best to uncap it and then they will build them out evenly and smoothly, otherwise they will bulge the combs all around the capped honey and make the surface very uneven and unsightly in appearance. If there is a good flow of nectar from Autumn flowers and buckwheat the bees will soon have their combs nicely plumped out, filled with honey and sealed over. Meantime, brood rearing will be going on apace and by the close of the season every colony is likely to be populous with young bees, and have plenty of honey for winter stores. When there is no longer any prospect of the bees gathering more than they will consume from day to day, I examine each colony and select a sufficient number of combs for their requirements, taking those containing the most honey and generally from six to eight in number, place them in the back end of the hive, then a double division board, having a two-inch hollow space in the middle is put in front of them with a passage underneath it $8 \times \frac{3}{4}$ in., to admit air and allow the bees to go out and in at pleasure; after this division board is put in place, then the hollow space therein is filled with sawdust which should be packed gently against the side walls of the hive in order to exclude all circulation of air in that direction. Then a Hill's device is put on top of the frames, over this a piece of cotton cloth is spread, a piece of old carpet or woollen cloth may be added if at hand, then three or four thicknesses of old newspaper which should be large enough to lap over an inch or two onto the walls of the brood chamber all around; then a box made of thin lumber, with cotton cloth nailed on for a bottom, is filled with dry sawdust from four to six inches deep, and set on over the other covering; this completes the arrangement, the hive cover may be closed and the bees left to themselves to pass the winter "with peace and plenty."

One unpleasant feature about wintering upon the summer stand, is that cold piercing winds will sometimes blow in at the entrance and chill the bees, and sometimes snow will drift into the hive, but with the foregoing arrangement, the outside entrance can be tightly closed when cold weather comes on, and the vacant space between the front end of the hive and the division board