

serves as a reservoir for pure fresh air, which is constantly supplied through the ventilators in the gable ends of the hive corners, and still no current of air can reach the cluster. The paper over them prevents any upward passage of air, with consequent escape of heat, yet absorbs the moisture that arises from the bees; the sawdust takes up the moisture from the paper and allows it to escape by evaporation, thus keeping the bees dry and warm.

If any colonies are found to be weak in numbers from any cause, they had better be united with others. If any are short of stores, perhaps their deficiency can be supplied with well-filled combs from other colonies which may have a superabundance, but if feeding must be resorted to, by all means feed honey if it is to be had. I dislike to feed sugar to bees even for winter stores, first, because the practice has much the appearance of fraud about it, especially to those who do not understand the motive, and that class includes the great majority of those who are not engaged in bee-keeping, and second, because it injures the honey trade by glutting the markets with approximate quantities of honey. Two winters passed I have had two colonies upon hibernating boxes *à la* W. F. Clarke, in all other respects they were prepared the same as my other bees. I see no material difference in the result, they nearly all generally get through the cold of winter in fine condition, but the changeable weather of the month of April is when my greatest trials come with my bees.

Pack up your bees all cosy and warm,
With plenty of honey in store;
Protect them well from the wind and storm,
Till winter; cold winter is o'er.

MARTIN EMIGH.

The success of the apiarist depends largely on wintering his colonies, and success in wintering depends primarily on good fall management. I winter wholly in cellar, and append my method.

About the middle of August I go over the entire yard, weigh all the hives and examine all such as I suspect of having old or poor queens. The latter I destroy and replace with young prolific queens. The hives marked "light" are weighed about September 1st, and if still light the light combs are exchanged for heavy ones (which are set away for that purpose), until there is a *nett* weight of at least thirty pounds of honey per colony. Small swarms usually get a division board and six or seven combs; large colonies are given the entire hive. When I have them in good shape they receive a severe letting alone until put into winter quarters.

The time for putting into cellar varies with the season, but mine are always in before hard frost sets in, generally between the first and fifteenth of November. Set in in the evening, and if you can do so on the day following one on which they have had a good fly, so much the better. If the wall is of stone I prefer to set the hives from twelve to eighteen inches from it, eight or ten from floor and four apart for convenience in handling. Tier them up on top of each other four or five high. I leave the entrances open full width. After bees are set in darken the cellar, and see that the ventilating pipes are all right. Keep the temperature from 48° F. to 55° F., and the bees will be certain to winter well.

I am not an adherent of the theory of admitting large quantities of fresh air. A three inch pipe attached to the stove pipe gives sufficient for 150 colonies in any cellar. Three or four years ago I went to quite an expense putting in a sub-earth pipe and I have yet to receive the first ten cents' worth of benefit from it.

This question of wintering is so thoroughly understood now by most of bee-keepers, and is so well set forth in the foregoing articles, that it almost seems unnecessary to say more, and yet there are thousands just starting in the business without experience, whom a few words of caution and advice will encourage.

When we prepare our bees for winter we examine each colony and give them from four to eight combs, according to their strength. We select the combs having the best sealed stores, and if they have not sufficient to keep them we feed them on sugar syrup until each contains from twenty to thirty pounds. We see that they all have good fertile queens (young ones if possible), and sufficient stores sealed to carry them through, until 1st May or longer if necessary, plenty of bees, and all in good shape for wintering. This should be done at least three weeks or a month before they are set into winter quarters. They should not be disturbed after they are once arranged. Disturbing bees late in the fall, and tinkering with them means disaster. We leave them in this condition until the weather gets cool, and winter begins to show itself. We then place them in the winter repository, removing the lids, and leaving the entrances wide open, until they are