

BEES AND POULTRY.

WINTER PREPARATION.

Nature provides that the bees shall store their gathered sweets above their brood, in order that the bee just crawling out from its capped cell may find the wherewithal on which to feed; and whenever the weather is suitable the bees may stay on the uncapped brood to keep it warm, but leave it to its fate as soon as it becomes too uncomfortably cold for them to remain. This fact teaches us in what way we should force our bees to place their stores in order to winter with the greatest assurance of safety. I winter on summer stands, and having never put my bees in a special depository, can give no rules for those who wish to winter in cellars, etc.; but as I have lost but one colony in sixteen years on their summer stands, perhaps my method may be of interest to some who may not desire to take the trouble to move their bees, as they would have to do, to winter indoors.

Nearly all bee-keepers begin preparations too late for wintering. The rule with me is to winter on no more than seven standard L frames, no matter how strong the stock. The stores I cause, either by extracting, or feeding as the frames may be full or empty, to occupy the upper half of all these frames; which gives sufficient stores for the longest winter. Having got the frames in the right condition as above, I, on the approach of cold weather, cause the cluster to occupy one or the other side of the hive, by changing the frames they are on, in order to force them so to do. I then give them about one inch of space in which to cluster, over the tops of the frames, by laying in little strips of pine deal, to support the covering quilt; which quilt I make of light cotton duck, burlap or some other porous material. In the space thus formed between the mat and tops of frames, the bees can cluster, and thus add to their chance for warmth, and also can communicate easily from one frame to another, without obliging us to disfigure the sheets of comb with winter passages through them, after so placing the mat that no bee can possibly crawl up around its edges.

I put on an upper storey and fill it with forest leaves or chaff, pressing it loosely down on the mat. I do not use a chaff cushion, as I find it too compact to allow the moisture generated in the hive to pass off freely. Now a rain-proof cover with a one-and-a-half inch hole in each end covers the bees, and when the entrance is contracted to six or eight inches in length for a strong colony, I consider my bees are safe until the following spring.

I use double-walled and single walled and chaff hives with equal success, and consider that success is achieved more by the manner I prepare my bees, than by the hives in which they are kept. My apiary, I will say, is well protected from wind and storm on the north and west by an osage hedge, and where no protection of that kind is practicable, I think a chaff hive would be an advantage. Much has been said and many arguments made in favour of tall, very tall hives. I think the exponents of tall hives are honest in their belief, although wrong, and have based their faith on unsound principles. That bees in cold weather cluster near the top of the hive as the frames will allow them, anyone can prove during the coming winter, and that the stronger colony will cluster in a space less than eight inches in diameter, they can also prove at the same time.

Now as the bees generate all heat contained in the hive, the problem is simply this: In what form or shape of frame can the bees best economize the heat they generate, when they are at the very top in a cluster eight inches or less in diam-

eter? The answer to me is, one just large enough to contain the cluster, and were it not for the fact that we must have a larger frame than this, I should adopt a frame eight inches square, but it has been found that the hive must be of a certain size in order to give good results, so the problem changes to this form, viz.. What shape or form shall we give to a frame that contains about 144 square inches, in order that a cluster of bees eight inches or less in diameter, shall heat it most economically, said cluster occupying the extreme top part of the hive?

The Rev Mr Langstroth solved this problem to his satisfaction, and to mine, and from the statistics of last season's wintering, I should judge to the satisfaction of the majority of bee-keepers. If there are any who believe still that a tall frame is the warmer under such circumstances, I would advise them to try the experiment of attempting to heat a high room, with a small stove attached to the ceiling overhead. If they don't find a tremendous cold space below, I am much mistaken. With the L frame the cluster reaches from the top to the bottom of the hive. With the tall frame, a space equal to two-thirds the capacity of the hive is below the bees, with cold air constantly coming in at the entrance.

When our bee-keepers forget the traditions of the dark ages, understand that a hollow tree and a modern hive are two different things entirely, and learn to apply science and brains instead of pre-conceived opinions and notions to their business, then will apiculture take a start and go forward with immense strides toward the day when losses in wintering will be the exception, and hardly known in the most rigorous winters of the coldest parts of the world.—*Homes Farm.*

FRESH EARTH FOR POULTRY.

To fowls in confinement fresh earth is just as necessary in assuring healthfulness and vigour as is good food, for the soil in the poultry yards soon becomes packed down so hard and solid as to defy the nails and toes of the birds while their droppings soon foul the earth as to make it objectionable in many ways. In winter as well as in summer, this fresh earth should be liberally supplied, and loam is the best. If there is good sod attached so much the better, as the birds can get some green food as well as fresh earth at one and the same time. As a rule, we have supplied birds in confinement with fresh earth by spading up a little of the yard within their enclosure each day or two, and the way the birds set to and scratch it over is convincing proof enough that they like it hugely. This is well enough the first year, and during summer, or when the ground is not frozen, but when quite a large flock of fowls are kept in a comparatively small space, the soil becomes so impregnated with manure as to be unfit for spading over for the birds, the second or third year, and our advice in this case is to make a new yard and turn the old one into an onion patch. Such a place will raise fine onions, but it must be ploughed well the preceding fall as well as the following spring, to make it as finely broken up as possible. It would be well for some of our extensive breeders to act on this suggestion.

THE POLISH FOWL.

This variety of fowls has not been bred to so large an extent as have nearly all other varieties, and many of our readers are not familiar with this breed nor its merits. There are several different varieties of the crested Polish, though in almost all points, but colour and markings of feathers, they are much alike. The white crested black Polish is better known than any other of the Polish breeds, and there are several breeders

who make a specialty of them. On large farms, or where hawks and other enemies abound, the crested Polish are apt to fall an easy prey to the thieves, as their heavy crests prevent them from seeing the near approach of danger until too late to seek shelter and safety. For medium-sized places, where there are large yards and not any danger from winged enemies, they are desirable and profitable, and especially so where they have to be confined in an enclosure, their range of sight overhead being cut off by their crests, and they thus seldom attempt to fly over a fence of ordinary height—from four to five feet. They are most excellent layers of large eggs, and their flesh is very fine. The black colour of their legs, or rather very dark slaty colour, makes them undesirable for general market purposes, the demand in our large city markets being now principally for birds with bright yellow legs. Under favourable circumstances they are hardy, and produce strong, healthy young. As they do not have any combs to get frozen, Jack Frost does not have much chance to affect them in that quarter, at least. For ordinary farm use we would not recommend them alone, though they are good to run with a flock of others.—*Farm and Fireside.*

BREED CHARACTERISTICS.

One would naturally expect that the larger breeds would outlive the smaller ones, but this is not always the case. These large Asiatics are shorter lived than most of our ordinary poultry, and seem to lose their laying qualities younger than many breeds; in short, they wear out young, but are most profitable while they last. After attaining to about three years of age, they seem to get infirm, take on fat when well fed, and become unproductive, while some breeds, like the Dorkings, are not in their prime till two years old, and keep up their vigour till six or eight years old. Young Dorkins lack the constitution of the Asiatic chickens, but get stronger when full grown. Their principal troubles when young appear to be throat and lung difficulties. After passing a certain stage, they seem to have outgrown this difficulty and become hardy.

Spanish fowls feather quite slowly, and are quite sensitive to wet and cold during their half-naked period. Leghorns, belonging to the same class, feather very quickly, and the browns are remarkably hardy while very young, but are not hardier than most others when adults, being as liable to roup as other breeds. These breeds, having single combs quite large, and large wattles, are peculiarly liable to disfigurement by freezing in cold weather. All the Hamburgs, Games and Bantams are predisposed to roup. The Polish have delicate constitutions, as also the French, of which the Houdans are the hardiest. The Plymouth Rocks, descended from a cross of the Asiatics and Dominiques, seem to have the hardiness of the former against cold added to the general hardiness of the latter.—*Country Gentleman.*

It is said a hen ought to lay six hundred eggs during her life-time. We fear many hens, like most people, fail of their full duty.

DURING his recent visit to the Royal Agricultural Society's Exhibition at York, the Prince of Wales visited the stand which is specially set apart for Canadian exhibits. It was pointed out to him that the Dominion Government were, as far as possible, showing what could be grown in the far North-West, and desired to show its products in order to encourage emigration. The Prince was much interested, and expressed his surprise at the wonderful development of Canada during the last few years, and his regret that at present he was unable to visit it from the pressure of other engagements.