

combed varieties of fowls are liable to be frozen. A fowl with frozen comb suffers as much as a human being with frozen ears or nose, and excites the sympathy of a humane owner, and should make him determined that a like calamity shall not happen to his pets again.

I have found that oiling the comb and wattles freely night and morning is a preventative, and with valuable specimens I have boxes convenient in the poultry-house, and when the temperature promises to get away down, I place the birds in the boxes at night and cover them with matting or bagging, being careful to leave sufficient ventilation. The best treatment for frozen comb is friction with snow or cold water, in the same manner as is often used for frost-bite in human beings. Then apply glycerine freely for a few days. Frozen comb, although badly disfiguring a bird, and detracting from its value as a show-fowl, does not depreciate its value as a breeder.

CROP BOUND.

This trouble often arises from a bone or other obstructions getting into the crop, but most frequently it comes of careless feeding. With fowls carefully and intelligently attended to, it seldom occurs. To remove the trouble, pour some warm water down the throat, and slowly and carefully knead the crop until it becomes quite soft, and digestion will again proceed. Keep the bird in a warm, dry coop, give a tablespoonful of castor oil and feed sparingly for a few days. In case this treatment should not succeed and the fowl's breath is sour and foetid, perform the following operation as soon as possible: Lay the bird on its back, remove the feathers from a place on the crop where there are no large veins, make a cut about an inch long, then remove the contents of the crop, pair the nail of the index finger and grease it, then pass it over the inside of the crop and make sure that nothing remains therein. Then carefully stitch the opening with silk thread or horsehair, using what is called a glover's needle; put four or five stitches in the inner membrane, drawing it carefully and closely together, and at least three stitches in the outer skin. Use the greatest caution not to sew the two skins together, as this is almost sure to prove fatal. Feed on soft, warm food, and give no water for twenty-four hours after the operation; confine in a coop for a few days and all will be well again.

THOMAS GAIN.

Hamilton.

P. S.—In my letter for January, in treating of scaly-leg you make me say, wash in the morning with a *neat* solution of sugar of lead. It should read, a *weak* solution.

T. G.

Friends of the Journal can conscientiously tell their neighbor that it is now admitted to be the "best farmer's paper in Canada," and is read by the intelligent, thrifty, and honest farmers of the Dominion.

The Apiary.

THE United States Government not only have an agricultural department in one or more of its agricultural colleges, but it has just become known that they recognize that the farmer should gather the wasted sweets of the field, provide agents to fertilize flowers to result in fruit crops, etc., and recognize that bee-keeping should be assisted and developed as a branch of the farm. The department of agriculture have established in Aurora, Ill., an experimental station with its sole object the advancement of bee-keeping.

For the CANADIAN LIVE-STOCK JOURNAL.

Progress in Bee-keeping.

BY G. B. JONES, HAMILTON.

Success or failure with bees is not now, as it formerly was supposed to be, a matter of good or bad luck. It is, as with everything else, a question of good or bad management. Under the present system our bees are thoroughly under our control. We can increase our stock by five or six to one, or we can keep it within its ascribed limits, the latter being by far the most difficult management. We can run our bees exclusively for increase, or exclusively for honey, or partly for both. Swarming and the hiving of the swarms is no more a matter of superstition. We do not require neighbor's children and tin cans to frighten our bees into submission. We have traps which will catch our swarms while we are away at market, church, or dinner. We can increase our stock without letting them swarm at all. The queens, too, are thoroughly under control; we can confine them to any part of the hive without hurt by means of sheets of perforated metal of such form that the workers can pass freely through but the queen is debarred. We can remove an objectionable queen from a colony and instate another of our choice in her place. We can have as few or many drones in our hives as we wish. We can compel the bees to raise queens, drones, or workers, as we desire; can control the size of the colony and its swarms, and can regulate the swarming season to suit us. We can cause early and late breeding, can extract our honey in winter, and feed our bees upon sugar and candy instead of honey. In fact, bee-keeping has now become practical.

As with farm stock, so with bees, there are several breeds, each having its own points of special merit, and each having breeders who dote upon it; and each breeder is endeavoring to improve his stock by careful selection. As the horns of cattle have been gradually shortened and the briskets and rumps enlarged, so our bees' stings are being bred out, their tempers softened and their tongues lengthened. As one man makes a specialty of thoroughbred stock and another of crosses, so is it among bee men. Some apiarists make a specialty of queens, some of drones, and some of workers. As some stockmen breed for the butcher and some for the dairy and loon, so do bee-keepers make a specialty of bees for section and some for extracted honey; and others, again, of bees for the building of fancy combs for exhibition purposes. As with the stock-fancier with regard to points and markings and business qualities, so also with the apiarist. We hear of almost fabulous prices given for cattle, sheep and pigs; but is it not as surprising to hear of 25, 30, and even 50 dollars being paid for a queen bee? Yet such has been the case.

The chief breeds of bees to-day are the native, or small black; the German, or large black; the Italian, with three orange bands and brown fur; the Syrian; the Cyprian; the Palestine, or Holy Land; and the Carniolian, a new race, promising very largely, and noted for its amiability. The *Apis Dorsata* of India is greatly sought after for its long and fast flight, its long tongue and short sting, and the large, strong comb it builds. It has not yet been civilized. The Cuban bee is very small and does well at home, but will not work in other climates.

The largest and best queen-breeding establishment in the world is in Germany, conducted by Mr. Frank Benton. He has branches in Italy, Cyprus, Palestine, and other places, and sends queens by mail all over the world. He has a separate apiary for each breed and cross. The queens are now mailed alone, but several young bees are put in with each to wait upon her; they

feed and wash her. Each queen is in a separate cage or compartment of the same hive to prevent fighting.

The increase in the consumption of honey during the last fifty years is amazing. It has been shown by statistics that for every pound of honey used at the time of the first movable frame, the amount now is one ton. Car load after car load of honey crosses the western plains of the United States for Chicago and the eastern markets during the fall shipping season. And in Ontario alone hundreds of tons are consumed annually; thus representing thousands of dollars gathered from the fields and roadsides.

As a result of improved bee arrangement (and a natural one, surely), we have this enormous increase in the production of honey; and is it not encouraging to see that consumers are ready to receive the honey as fast as produced. In fact, the demand for it is increasing faster than it can be met, and we have before us a larger market in England than in Canada, which has not yet been felt by us as a permanency, except in the case of a few individuals who say that it is on the increase. Germany, too, wants more honey than she can produce.

Horticultural.

For the CANADIAN LIVE-STOCK JOURNAL.

Pears and Blight.

The cause and cure of pear blight is an old question and now as virulent as ever, and these observations tend to furnish a key to successful solution, and the proper treatment in the growth of the pear. This subject is of very great interest to us, and in a country like ours with a climate so favorable to the growth of the most excellent pears, we should much like to be freed from this pestilent, blight. If pears of acknowledged excellence cannot be satisfactorily produced, we must as a result look to those of lower grades of excellence, but with hardier and more robust nature in the tree.

A few days ago I received a pamphlet from a fruit company in the state of Georgia, advocating the great merits of the Le Conte and Kieffer pears as the most promising investment in that State in the shape of fruit. They claim that the trees of these fruits are nearly and in some localities blight proof. This led me to recall some remarks of a gentleman at one of the Western New York's annual horticultural meetings. He said there "that the direction of promise in pear growing to-day lay in the line of the Japan or Chinese sand pears, and our hopes for the future must come through these." This doctrine, of course, was not nor is it now very grateful, so used as we are to looking to Belgium and France instead of to Japan or China for our delicious pears. Whether this teaching be correct or not, there is evidently something in the very nature of the pear tree in its relation to us in our condition, and its treatment here, that requires the closest application to study before its growth and prosperity can be assured in all positions and locations in Ontario. But we maintain that this will never be the case, as it is contrary to our knowledge of the first principles of fruit growing to expect it. In the case of no fruit do we find that every locality is equally adjusted and nicely suited to its fullest and most complete production, and therefore for these reasons we will unhesitatingly resort for this purpose to the notion of

SELECTION OF LOCATION

for the pear as the direction of our surest and best hopes. I am not going to lead you and your numerous readers into every hole and corner of Ontario to