Bees and Their Management.
[By W. H. Putnam, of Fall River.]

It is much easier to give advice than to follow that same advice. We may all have many fine theories, but when we come to carry them out, partial or complete failure is often the result. Hence I will not pretend to say what Brother Jones or Brother Smith should do with his bees. But shall attempt to outline in a general way what I intend to do with my bees the coming season.

A swarm of bees is composed of one mother bee, called a queen, a large number of worker bees and a few male or drone bees. The queen lays all the eggs, the worker bees gather the honey, rear the young, guard their home, sting their enemies, and in short, do all the work that is done in their little home. They resemble the queen in shape, being a little smaller. Every worker bee is an undeveloped queen. The drones, the males, of the bee family perform none of the domestic work. They gather no honey, they have no stingers, they serve but one purpose. When the queen has filled all the combs with eggs and the young bees have hatched in such numbers that there is no more room for them to store honey or for the queen to lay eggs, then the bees build what are called queen cells, and place eggs in the queen cells and feed the young bees that are to become queens on what is called royal jelly, a food prepared by the bees for the queens, and nine days from the time the queen cell is started the young queen will be grown to full size, and the cell will be closed or sealed; and now the old queen and the old bees will fly out of the hive to form a new swarm. As swarming takes place in the middle of the day a great many bees will be out in the fields gathering honey. And they come back to the old hive. And in seven days the young queen hatches, and seven days after she takes her wedding flight. And having met a drone she returns to the hive and is soon laying eggs very fast. For most of the eggs laid by the old queen will by this time have hatched out, and the old swarm left weak by the departure of the old queen and bees, is in reality a new swarm having a new young queen and all young bees. But to return to the new swarm, as we call it—in reality the old swarm—because it has old bees and an old queen—comes rushing out of the hive. The air is full of bees flying in every direction for a few minutes. At last the queen lights on some tree fence, bush or whatever seems to please her, and the other bees cluster and hang in a large ball around her. I intend to have my hives ready before swarming time which begins the last of May and have them all placed just where they are to remain the rest of the season in the shade of some tree or bush; or if these are not to be had I shall make artificial shades. I shall have my hives face the east, and not less than seven feet apart. As soon as a swarm begins to cluster I shall thrust my swarming box up under the cluster and give the limb a gentle shake sufficient to tumble the bees into the swarming box, and the other bees will light on the swarming box crawl in and out of the holes; and soon all the bees will be in or on the box. Then take the swarm to the hive it is to occupy having first spread an oil cloth, a piece of carpet or having placed a board in front of the hive. Now shake the bees in front of the hive and with a wing start the bees toward the hive. As soon as the queen has gone in, all will be well, and if the hive stands in a cool place you need have no fear of the swarm leaving the hive. Surplus sections may be placed on the hive at once or after waiting a few days. The former
is probably the better plan, because bees generally swarm about the time of the heavy honey flow, and if you force them into the sections as you can do by contracting the brood channel they will place the whitest and best honey in the sections and the dark honey that comes after can be stored below for the winter food of the bees. Hives may be contracted in two ways. You may have a swarm in a half hive, as for example, by using one hidden brood case, or you can use less frames in the ordinary hive and shut the bees out of the rest of the hive by means of dummies or division boards. In any case, as soon as you see that the heavy flow of honey is over, the section should be taken off. And if the hidden hive is used, an empty case containing foundation should be placed under the case already in use. If the ordinary hives are used the dummies should be removed and empty frames with foundation should fill out the hive.

The next thing is to prepare for winter. As soon as the frosts have come, and there is nothing more for the bees to get, the beekeeper must examine his hives and be sure that each hive contains honey enough to last the bees until they can gather honey again the next spring. Each hive should contain at least twenty-five pounds of good sealed honey. If any hive should not contain that amount the beekeeper must, if he wishes to bring his swarm through, feed the bees until they have that amount. Caution how to feed, when to feed. As soon as the nights begin to be cool, I would remove the enameled cloth or wooden honey board, if I used it, and place a blanket or chaff cushion in an empty surplus case on the hive. This chaff cushion will keep the bees warm through the chilly nights in fall and spring, and enable them to nestle and cluster in a ball as is their wont during the long winter. About the middle or last of November, the time varying according as winter sets in early or late, the bees must be removed in doors. A bee house is the proper place to put them. A bee house should be dry and dark with thick walls six to twelve inches sawdust so as not to be susceptible to sudden changes of temperature; and should have both upper and lower ventilation sufficient to keep the air pure and to keep the temperature from 40° to 45° Farenheit. The next best

thing to a bee house is a perfectly dry and dark cellar with sufficient ventilation to keep the air pure; and this cellar should not contain any vegetables. A thermometer should hang in the center of each bee cellar, and the beekeeper should observe the temperature frequently and keep it from 40° to 45°. The essentials of successful cellar wintering are plenty of good food, a dry dark cellar with a temperature of from 46° to 45°; quiet and a change of air.

During the first week of last April, when the snow was nearly all gone the weather moderated, the thermometer rose to seventy degrees and a warm south wind continued for three days. On the first day, a little after noon, I set my bees out. They rushed out of the hives, flew about in the warm sunlight and immediately commenced gathering honey that stood in beds on the blossoms of the soft maple. While one never can tell what the weather is going to be, yet we can hit it sometimes; and as soon as the weather is fit, bees should be removed from the cellar to their summer stands.

Bees are wintered successfully on their summer stands in what are called chaff hives. My friend and neighbor, S. N. Chapman, is trying this plan. The chaff hives are double-walled with a layer of chaff about four inches thick beneath and on all sides, and a chaff cushion is placed on the brood nest.

As soon as the warm days in April come I shall examine every hive, taking out each frame and noting the following points: First, the quantity of bees; second, is there a live queen; third, is she laying; fourth, is there honey enough to last until new honey comes. If there are plenty of bees, all right; if not I shall proceed to put bees in such hives. Bees brought from any distance greater than one mile will remain in a hive, if they are kept queenless twenty-four hours. The way to put bees into a hive so as to avoid having them killed, is to remove the frames from the hives and shake the bees in front of the hives, mixing them by shaking some from the frames that belong in the hive. And then some of the bees you want to introduce; then some from the frames; and so on mixing them all up; and using plenty of smoke. If there is no queen, you must either get one or put the bees in a hive that has a queen, or give them a frame
of unsealed brood, and they will raise their own queen. If the queen is not laying I will find the reason and set her to work. If there is not honey enough in the hive I will feed extracted honey or syrup made from granulated sugar. In short, I shall strive to have all my colonies strong by the time the white clover begins to blossom. At that time I shall place sections on some hives and begin extracting from others, as I intend raising both extracted and comb honey next year.

We get most of our surplus honey here from white clover and basswood. Last year the basswood did not yield much honey on account of the July drouth, but the white clover honey which began about the 15th of May, was good, both in quality and quantity. We get some honey later on from corn, and then from buckwheat; but buckwheat honey is dark colored; has a sharp taste, and does not sell as well as white clover or basswood honey.

I have here a sample of clover seed which claims to be Alsike clover seed, but from the description I should say it was alfalfa clover seed. At any rate, it produces well, makes splendid hay, and yields immense quantities of honey. Thus far I have said nothing of bee stings. Pure Italian or pure black bees are the pleasantest to handle because they are not so cross as the common hybrid bee, which is a mixture having the same nature as a mule, both being crosses between two species of the same general family.

Any person who attends to bees must learn to go quietly among his bees and handle his hives gently. There are two very useful helps in preventing stings: one is to wear a bee veil and the other is to use a smoker; both are inexpensive and of great value. One thing to be borne in mind, never, under any circumstances, expose honey or other sweets so that the bees can get at them; they will carry them home if there is no honey to be gathered, and when they have carried the exposed honey home they will begin prowling around other hives; and if a weak or queenless swarm is found it will be robbed, and when robbing begins it is hard to tell where it will stop.

Some folks are so foolish as to place combs partly filled with honey in front of weak swarms, thereby intending to feed them. The result invariably is that all the bees in the neighborhood rush to the exposed honey and when it is gone they go into the hives near by and rob them.

Selecting a Breed.

[By McLean Smith, of Dayton, O.]

Improved stock, more especially neat stock, may be defined with tolerable accuracy as stock which responds to good care and feed. There is no poorer investment, and none which is likely to prove more unsatisfactory than a purchase of finely bred stock, which is afterward neglected and allowed to shift for itself. Our native scurbs are what generations of neglect and periodical short rations have made them. If it is intended the cows shall pick a living in summer along the roadside, and in winter about the straw stack, there is probably no breed will do better, or yield a better return, than these same scurbs. They are bred up to that sort of living, and, as nearly as any animal can be, they are accustomed to scant fare and no favor.

The objection to the scrub cow is that, with the best of care and feed, she does little better than when picking a living along the road, with an occasional raid on some corn-field, you often hear a remark like this: "Yes, those cows look well, and give a fine mess of milk, or make fine beef; but if you would give a lot of scurbs the same care and feed they would do just as well." This is a mistake. The finely bred cows would do no better, perhaps not so well as the scurbs, on scant fare and no attention; but good care and full rations are largely thrown away on poor stock, they do not respond, as better bred animals do to high keep.

What breed is best will depend on the circumstances of each case—the purpose in view, the soil, climate, food, etc. But whether any unproved breed will pay depends chiefly on the man. If they are to shift for themselves, depending on luck, or the character of the season, whether they are full fed or half starved, and on the state of the weather for their physical comfort, then, decidedly, improved stock will not pay. On the other hand, if the cows are full fed, and properly cared for in inlement weather, then every day you keep a scrub, under such circumstances, you are losing money. Your feed and care are largely thrown away. She can not