

The Apiary.

Summer Management of Bees.

Prize Essay.—BY A. C. ATTWOOD.

In order to give directions about the summer management of bees intelligently, it will be necessary to divide it into three heads, viz., spring, summer and fall management. I wish to be considered as addressing those only who use the movable comb hive, from the fact that nearly all intelligent apianians are now using them, or intend to do so shortly. In this enlightened age of the world I consider it a waste of strength to pay respect any more to the old box hive, only the same as we do now to the reaping hook and the scythe, viz., a good old thing of the past.

1ST—SPRING MANAGEMENT.

After the bees have had a few good flies, choose a nice warm day in April, provide yourself with a clean hive—the same make as those your bees are in, lift the frames and bees out of the hive, one frame after another; examine each card as you take it out, and if you see brood you may be sure they have a queen; if you do not see brood or eggs, ten chances to one they are queenless; if you see a lead colored mark or streak across the brood, about a quarter of an inch wide, and it feels soft to the touch or appears hollow, it is a worm gallery. Pick it off with your knife, and you will be sure to find the fellow at either end or the other. If the combs are not exactly straight, now is the time to straighten them, and as you take them from the dirty hive, place them in the clean one. Notice the amount of honey, and place the cards of drone comb as near the side of the hive as possible, or as far as you can from where the queen is now depositing her eggs.

After the bees are all transferred from the dirty hive to the clean one, scrape the inside of the dirty hive well with a knife; have a tub of hot water ready, and give it a good washing inside and outside; do not spare hot water and elbow grease. Then go to another hive and transfer as before, and so on until you get over your entire apiary.

Should any be found queenless, unite them with a stock that have a queen. If any are found short of honey, exchange cards with one that may have an overplus; if you have none that can spare any, mark the weak stock for feeding. If it is found by the middle of May that some stocks have still a large amount of old honey that they will not require, choose a warm day and remove it with the Extractor, for it is occupying valuable room which the queen requires for brood.

Your spring work is now over, and with the blooming of the white clover begins your SUMMER MANAGEMENT.

If surplus boxes are used, turn them on, but no person will ever think of using boxes any more if they ever saw an extractor at work; at least five times the amount of honey can be obtained under the same circumstances by its use. June and up to the 6th of July is the time to run the extractor. Go around your hives every fourth day during this time, and take all the honey you can get out up to the end of June, but in July be cautious. Watch the clover; if a drouth sets in, as it frequently does, you must hold off, and in any case only empty say two cards in each hive towards the last of the season.

June is the swarming month; if natural swarming is depended on, keep the empty hives that are intended for use in a cool place; when the bees are in the air, if it has been your custom to rattle bells, tin pans, blow horns, &c., you may continue it or not, as you like, for the custom is like the doctor's bread pills, it will do neither good nor harm.

I never knew a swarm to go to the woods without first clustering. After they have all clustered, fill your garden watering pot at the pump and sprinkle the whole of it right down upon them. This has the effect of lowering the temperature of the cluster; they will not be so apt to sting, and they will be easier hived and be more likely to remain in. Be sure to get all or nearly all the bees in off the limb, for should the queen be left out the bees will not remain in half an hour.

But artificial swarming is far ahead of natural in many respects, and it is so simple that any person can do it. There are various ways of doing it. My plan is ten days be-

fore the bulk of my bees are ready for swarming, I take my strongest stock, find the queen and place the card she is on, bees and all adhering, into the centre of an empty hive. Fill up on each side with empty frames and place the hive on the old stand; close up the opening made in the other hive by taking out the queen, and put in an empty frame at the side and place this hive on a block say ten yards off; they being now in a queenless state, will start a lot of royal or queen cells. I have seen as many as 32 in one hive. Eleven days after, these cells will be just ready to produce each a queen; then divide another stock as before, only instead of leaving the one-half queenless, you go to the hive now full of royal cells, cut out one with a piece of comb about two inches square connected with it, and insert it in a centre card of the newly divided hive, and so on divide up all your stocks, giving each queenless half a royal cell as before.

Just before your young queens begin to lay, empty most of the honey out of the centre cards with the extractor; it will give her room, which is very necessary. Have an eye to your hives about the time you ex-

getting ahead too fast, after it is capped over, with my honey knife I shave about a quarter of an inch off the top of their heads; this is a wholesale decapitation, for at one stroke I can guillotine thousands. Place the card down in the hive again, and before the day is over the bees will clean out the cells of the headless trunks, and in almost all cases will fill them with honey next time.

After the swarming is over and you see that your young queens are all laying, it may be said that the management for the summer is over. Let them fill up all they will, and with September we begin our

FALL MANAGEMENT.

Provide yourself with or borrow a scale of some description; weigh every hive, and take a note of the weight. If your empty hive weighs 30 lbs., then allow 7 lbs. for bees and comb, and in September the stock ought to turn the beam at 65 lbs. If you find any are over, you can exchange cards with some that are not up to weight. If any require feeding, now is the time to do it. A very ready way is by making a thick molasses out of No. 24 coffee sugar; feed it



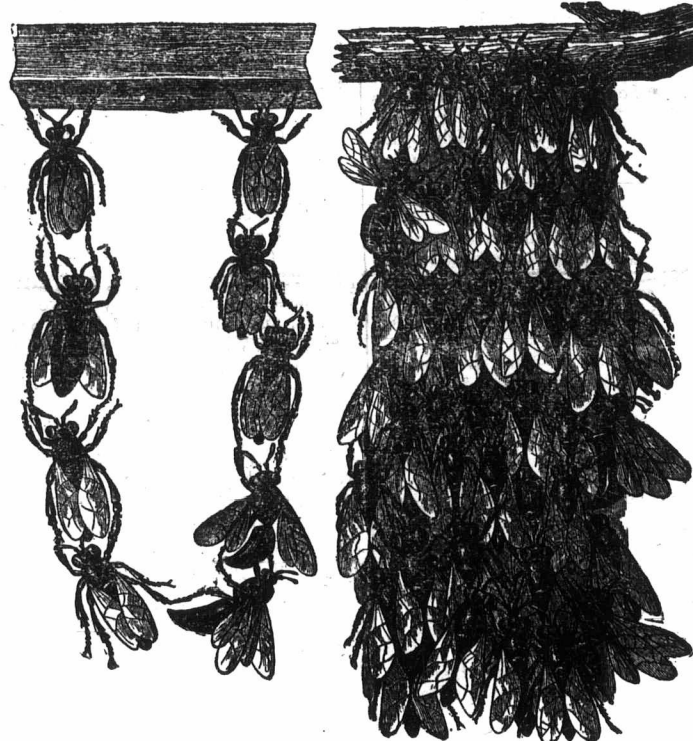
Drone.



Worker.



Queen.



BEES CLUSTERING FOR A SWARM.

pect your young queens to begin to lay, for sometimes they are lost in their "bridal tour," and if taken in time they can be supplied with another—a royal cell or a young brood; but if not attended to, they will be sure either to get robbed or fall a prey to the ever alert miller, whose name is used by unprincipled bee hive men as a bug-bear to frighten veridant bee-keepers into buying one of their so-called miller proof hives. If bees are at all strong and are never allowed to become queenless, the millers are no where. There is no such thing as a miller-proof hive in existence; wherever the bee can go the miller egg may go. The only miller-proof hive I know of is almost any hive with a good stock of bees in and never allowed to become queenless.

During the swarming season a large number of drones are raised by each hive in an apiary; not one in 5000 that are raised are ever required. These fellows all consume each about a drop of honey every day. If we can destroy them in embryo it is better to do so than to allow them to mature and live on the wealth of the hive for three months. My plan to get rid of them is during June, whenever I see the drone brood

to them at night in a plate placed on the honey board, under the top corner. Feed them regularly until they turn the beam at 65 lbs.

As you are looking over your hives for the last time, see that every card has a centre winter passage; if you see some that have none, have a small stick say half an inch in diameter in your hand, and with it poke a hole through the centre. Your fall work is now over; you may let them stand until you fix them up before putting into winter quarters.

—Lord George Manners, of England, formed an "industrial partnership" with the laborers on one of his farms, about two years ago. The experiment was a secret one, but its complete success has led Lord Manners to publish an account of it. He won the good will of his tenantry and made more money than he had before. Half the profits above ten per cent. are allotted to the laborers. Their share for last year was about \$184. As their wages during the same time had aggregated \$3,377, the "dividend on labor" was a trifle more than five and one-half per cent.



AGRICULTURAL.

WHEAT REPORTS.

The Agricultural Department, in its report for April and May, gives the results of its correspondence relative to the condition of the wheat crop in the several States of the Union. It says four-tenths of the wheat harvested in the United States is sown in the fall, the other six-tenths in the spring. The four States of Wisconsin, Minnesota, Iowa and Nebraska produce 90,000,000 bushels, or about one-third of the whole crop. The Department calls this "one-fourth," but that would make the whole crop of the United States 360,000,000 bushels, when it really is not over 270,000,000 bushels, if it actually reaches that amount.

The reports indicate that wheat in the New England States is a good deal injured, but the crop there is too light to affect the general result. One-third of the whole crop of New York is grown in the counties of Ontario, Livingston, Niagara and Genesee. There, and in the rest of the State, wheat has suffered a good deal from freezing and thawing.

From New Jersey, Pennsylvania, Maryland and Delaware the crops are reported in good condition, with a few exceptions. In Virginia the wheat is reported good. In the Southern States the crop is reported on favorably. In Kentucky the wheat has come through the winter in nice condition. In Ohio two-thirds of the counties have the winter wheat promising well. The northern counties have suffered from the winter.

Of Michigan the report says: "Very few counties in Michigan have any cause to lament the condition of winter wheat. With the exception of returns from Newaygo and Cass, and those of Branch, Berrien and Lenawee, as to clay lands, all are promising, most of them to an unusual degree. The opinion in St. Joseph is, 'The best in ten years'; 'the best in twenty years' in Calhoun; and 'never better' in Barry and Jackson. In the latter 'the foot-stalks are very large, the leaf broad; the stools stand square and firm.' In Van Buren timber lands make the best show."

This seems to us a more favorable showing than an actual inspection at the present time promises. There are very many counties, and in fact all the clay lands of such counties as Genesee, Macomb, St. Clair, Lenawee and others, in which the wheat crop has been either wholly destroyed, or it has been injured to such an extent that not one-third of an average crop can be expected. The light friable soils have done well, and there the wheat is promising fairly.

From Illinois and Missouri the reports of the fall sown wheat are encouraging, but not without some drawbacks. In Kansas the wheat crop is reported as good.

From California the reports are conflicting. Some are quite favorable and others are discouraging. It is yet too early to pronounce upon the general crop of the State.

Summing up the returns so far, we think the produce is equal to about seven-eighths of a full crop of winter wheat, but as this is only one-third of the whole crop, we will have to wait and see how the spring wheat will turn out before settling whether there will be an average production or not.

This report also gives the results of some inquiries into the advantage of drilling over broadcast-casting wheat. So far the report indicates that there is more success with the drills, but the report has not exhausted all means of inquiry as yet, and we will look this over more carefully and examine the returns made to the Department.—Michigan Farmer.

The Chemical News ascribes the potato rot to a deficiency of lime and magnesia in the soil. Different observers state the percentage of magnesia in the ash of sound tubers at from five to ten per cent; in the diseased tubers an analysis shows only 3.94 per cent. Analysis of sound tubers shows over five per cent. of lime; but in the ash of diseased tubers only 1.77 per cent was found. A similar observation was made some years ago by Professor Thorpe, with regard to diseased and healthy orange trees; in the former there was a deficiency of lime and magnesia.