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## HOW TO INCREASE THE HONEY SUPPLY

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**N**EW YORK STATE is in the front rank in honey production, and there are excellent prospects for a good crop during the summer of 1917. With a favorable season the beekeepers of the State not only can increase their profits considerably but can do patriotic service by materially adding to the food supply of the nation. Beekeeping is one method of conserving what is produced; by right attention to the bees much nectar can be saved that would otherwise be wasted.

Honey ranks very high in food value; and considering the reasonable price at which extracted honey sells, it is one of the cheapest foods that can be bought. It is no luxury. It is a concentrated form of food that can be transported readily and kept for a long time.

With no honey to speak of now, with the present high prices of various kinds of sweets, especially sugars, with the United States producing only twenty per cent of the sugar it consumes, with a possibility that some sugar imports may be cut off, and with no material increase of domestic sugar production being possible during the present year, it is very likely that there will be an increased shortage of sugar, and that the present high prices will be maintained or augmented. With these existing conditions there is no reason to believe that there can be an overproduction of honey this season, for in many cases honey can be substituted for sugar.

According to the 1910 census, there were 156,360 colonies of bees in New York State, and there was produced in 1909 a total of 3,191,733 pounds of comb and extracted honey and 43,198 pounds of wax. These figures are probably far too low. The actual number of colonies could be

conservatively estimated at double the number given, while the production would probably be considerably more than double, since beekeepers who produce a high average per colony are not included in the census as taken. The average production per colony as given in 1909 is rather low. By producing more extracted and less comb honey, by giving more attention to the bees, and by the application of modern methods, provided climatic conditions are right, the average colony production of 1909 should be trebled, which should increase the total production as compared with that of 1909 six or seven times. This is a conservative estimate of what can be done by the beekeepers of the State.

The clovers, the most dependable sources of honey production, have wintered well and are coming up in abundance. Because of its food value and because of the scarcity of grain, it is being recommended that a larger acreage of buckwheat than usual be planted. Under favorable weather conditions, buckwheat is fairly dependable as a honey producer. Basswood in many parts of New York State did not bloom last year. It is very probable that there will be a heavy bloom this year, and when weather conditions are right for secretion, it produces nectar very abundantly. Because of the scarcity of labor the practice of cutting sweet clover and other honey-producing plants growing along the roads, in waste places, and in the cities, will not be so general this season. More bee pasturage of a kind that is rather important will thus be provided. These facts should be kept in mind, and preparations should be made in advance for a large crop, for, with favorable conditions, the honey flow usually comes heavily and with a rush, and much advantage would be lost without previous preparations. Conditions in Pennsylvania, Ohio, and the Lake States are not markedly different from those in New York.

There are only a few weeks left until the usual annual, main honey flow begins; therefore preparations should be made in anticipation of it. It is too late in the season to treat of all the ways by which production may be increased, but some of the methods are here given.

## METHODS OF INCREASING PRODUCTION

### UNITE WEAK COLONIES

Because of the very unsettled weather conditions and continued cold weather this spring, many colonies of bees in many parts of the State will be found to be gradually becoming weak. This comes about thru poor wintering, in which case the adult bees die off faster than the young are produced, or thru the venturing out of adult bees after pollen and water for brood rearing on days that are so cold or that suddenly become so cool that the bees are chilled before they return to the hive. This results in continually weakening the colony to such an extent that when settled

weather comes, if the bees build up at all, they will do so too late for the honey harvest. The beekeeper cannot expect to produce honey from all such colonies that are too weak to store honey when the honey flow is in progress. All weak colonies should always be united to strong colonies, never to another weak colony.

In order to unite a weak colony to a strong one, the cover should be lifted from the strong colony, one thickness of newspaper placed over it, and the weak colony set over the newspaper after the bottom board has been removed from the hive. Previous to this the queen in the weak colony should have been killed. The uniting should be done when all bees are in the hive, and, after uniting, all entrances to the upper hive should be closed so that no bees can get out except as they gnaw the paper away and go out at the lower entrance. After about three days the two colonies will be united, the upper hive can be removed, and all brood can be placed in one hive. If the honey flow is in progress, the upper hive may be left and the bees allowed to store honey in it for extracting, provided a queen excluder is placed between the hives and the queen is placed below the excluder.

#### PREVENT STARVATION

Another thing that the beekeeper must see to is that the bees do not starve before the main honey flow comes. A large amount of honey is used previous to the period of fruit bloom and between fruit bloom and the main honey flow in rearing brood. Many colonies of bees have used practically all their honey and are on the verge of starvation now. If the weather is not suitable for them to obtain considerable honey from the fruit bloom, many will starve before there is sufficient nectar produced by other plants to supply their needs. In the colonies that get only enough honey to supply food for the adult bees, brood rearing will cease, which should not happen if the colony is to be in best condition for obtaining a crop of honey.

It would be false economy to let such colonies starve now so near the period of honey production just for the sake of saving a small investment in sugar. Colonies needing food may be supplied with it by making a thin sirup of two parts granulated sugar, by measure, and one part water. If heat is used in dissolving the sugar, it must not be allowed to scorch, as such sirup would be harmful to the bees. This sirup should be fed warm in containers placed in an empty super over the colony. Excelsior or some kind of floats should be placed in the sirup to keep the bees from drowning. The sirup should be fed in the evening, and the hive should be covered with something to keep it warm. One or two feedings may be enough to save a colony of bees and thus obtain a crop of honey.

### PRODUCE EXTRACTED HONEY

More extracted and less comb honey should be produced. A pound of extracted honey has more food value than a pound of comb honey. From one-third to twice as much extracted honey can be produced to the colony. The cost of production is less because of the economy in time, labor, and materials; hence it can be sold much cheaper than comb honey. There is much less swarming when extracted honey is produced. Colonies that are too weak to or for other reasons will not store in comb-honey supers, will often use extracting supers. In case of a light honey flow, bees will store in extracting supers when they would not in comb-honey supers. Less skill is required in the production of extracted honey, which fact allows the use of unskilled help if necessary. Extracted honey can also be shipped, handled, and stored to better advantage than comb honey.

### CONTROL SWARMING

More honey will be obtained if swarming is controlled and no increase is made. The producer of extracted honey can usually handle swarming much more successfully than the comb-honey producer. In case natural swarming is permitted or cannot be prevented, the old, or parent, colony should be moved to a new location and the hived swarm should be set on the old stand. This weakens the parent colony because the bees afiel return to the old stand, and this tends to prevent afterswarming. At the same time it strengthens the new colony. All supers that are on the parent colony should be placed on the new colony.

If the maximum amount of honey is to be produced, no increase should be made except by the experienced beekeeper. It should not be made just previous to or during a honey flow. Queens should be supplied promptly to all new colonies formed by increase. It is probably best to make increase from only a few colonies, using all others for production.

### GIVE PLENTY OF ROOM

A third measure consists in giving super room in time and ample storage room as fast as needed. The present tendency is to give supers sooner than was formerly recommended. As soon as a colony becomes strong enough to have the brood chamber fairly well filled with a large amount of brood and some honey, and when honey is still coming in and will probably continue to, a super should be added. This sometimes happens during fruit bloom, but usually not until white clover begins to bloom. Just as soon as one super is one-half to two-thirds filled and the prospects are good for a continuance of the flow, new supers should be added and the others shifted so that the empty super will be next to the brood chamber and the super that was next to the brood chamber will be on top of all the others

In case the honey flow is nearly over, the last empty super may be placed on top of all the others. Plenty of ventilation should be given after the weather becomes settled and the nights become warm. An entrance seven-eighths of an inch high by the width of the hive is small enough.

Provided the season and the locality are favorable, three comb-honey supers, if comb honey is produced, or two extracting supers for each colony are the least that are needed for maximum production.

### INCREASE THE COLONIES

Another method of increasing honey production is by adding to the number of colonies in the apiary or by starting out-apiaries. Increasing the number of colonies, however, may have a corresponding effect on production only in case the beekeeper is an expert at increasing and does it during an early honey flow and gets all succeeding flows.

The successful beekeeper who wishes to go into the business more extensively or the professional beekeeper is advised to start out-apiaries. By so doing the colonies may be scattered so that they have access to a greater abundance of honey flow in unoccupied territory and thus increase production.

### USE MODERN EQUIPMENT

It is strongly urged that all colonies from box hives and antiquated equipment be transferred to modern equipment, and that modern methods be used. Usually not more than one-third as much honey, at most, can be produced from colonies in box hives, antiquated hives, and those having crooked combs, as can be produced where the equipment and practices are modern. The former hives do not admit of the necessary modern manipulations and practices.

### CONTROL DISEASES

Disease control is an important factor. In case diseases are suspected in the apiary or the neighborhood and the beekeeper does not know how to recognize or control them, he should ask the help of the Commissioner of Agriculture at Albany.

Samples of suspected dead brood in the comb *without any honey* may be sent to the Bureau of Entomology, United States Department of Agriculture, Washington, D. C. Free mailing boxes for this purpose will be sent from the Department on request. A notice of the shipment of the diseased comb should be sent.

### OTHER HELPS

By selling, by letting out on shares, or by hiring the operation of colonies to which the owner cannot give the necessary attention, the production

may be still further increased. Oftentimes such colonies may be placed in the hands of a neighbor boy who will be able to get a good production.

The following publications relating to beekeeping may be obtained free from the United States Department of Agriculture, Washington, D. C.:

The treatment of bee diseases. Farmers' bulletin 442.

Bees. Farmers' bulletin 447.

Comb honey. Farmers' bulletin 503.

Honey and its uses in the home. Farmers' bulletin 653.

Outdoor wintering of bees. Farmers' bulletin 695.

The following extract is taken from a note that is being sent out from the Bureau of Entomology, United States Department of Agriculture, Washington, D. C., and should be of interest to honey producers.

The Department of Agriculture, through the Bureau of Crop Estimates, will issue the usual honey crop reports in May, July, September, and November. The Office of Markets proposes to make available the data on crop movements at intervals during the shipping season. No beekeeper should send honey to wholesale markets before consulting these reports. The Bureau of Entomology will, of course, continue to assist beekeepers with the various problems of production. All of these offices will gladly assist beekeepers in their respective field.

The beekeeper's part in the present campaign of food preparedness is first to produce all he possibly can, and, secondly, to market it wisely and only after he has full information concerning the markets. Beekeepers will do much toward correcting bad market conditions by distributing their sales over a longer period, for honey is no longer a seasonal food and to dump all the season's crop on the market at once has so far invariably led to lower returns to the producer, but has not correspondingly decreased the price to the consumer. When honey is produced in larger quantities, the market facilities will doubtless be increased so as to take care of the honey as soon as it is removed from the bees, but at present it is often better for the beekeeper to hold it.

## PUBLICATIONS ON FOOD SUPPLY

The following publications dealing with various phases of food supply will be sent free to residents of New York State on request. Address the Office of Publications, State College of Agriculture, Ithaca, New York.

### EXTENSION BULLETINS

- 12 Some suggestions in connection with the milk problem
- 13 Barley for New York
- 14 The home vegetable garden

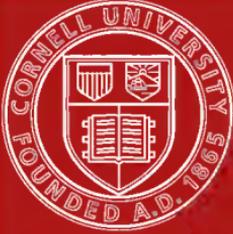
### READING COURSE LESSONS FOR THE FARM

- 110 Buckwheat
- 112 Potato growing in New York

- 68 Improving the potato crop by selection
- 119 The curing of meat and meat products on the farm
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- 72 Culture of the grape
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- 94 The farm fishpond

## READING COURSE LESSONS FOR THE FARM HOME

- 15 Principles of jelly-making
- 33 Vegetable-gardening
- 55 Rice and rice cookery
- 71 Canning clubs in New York State.— Part III. Canning equipment
- 81 Potatoes in the dietary
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- 105 Dandelions as food
- 107 Ways of using rhubarb
- 109 Waste of meat in the home.— Part II
- 111 Milk: a cheap food



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