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The University of Minnesota
AGRICULTURAL EXTENSION DIVISION
Special Bulletin No. 38

University Farm, St. Paul

Revised and Reprinted April 1922

Published by the University of Minnesota, College of Agriculture, Extension Division, F. W. Peck, Director, and distributed in furtherance of the purposes of the cooperative agricultural extension work provided for in the Act of Congress of May 8, 1914.

SPRING MANAGEMENT OF BEES

By Francis Jager, Division of Bee Culture

The principal honey flow in Minnesota comes from clover and basswood, during the latter part of June, and in July. At that time the colonies must be very strong to be able to take advantage of the honey crop. But all colonies, even the best of them, are comparatively weak in spring. They have lost thousands of bees during the winter months, and those that are left over are old, worn out and ready to die. There has been no brood raising in winter to replace the decimated ranks.

BROOD RAISING IN SPRING

In early spring the queen begins to lay eggs again, and the colony begins to grow. In order to reach the largest possible number of bees in June the queen must breed quickly and heavily in spring and suffer no check or set back in this all-important work, for it is a well-known fact that strong colonies of bees will store a large surplus of honey while weak ones will hardly store enough for their own use.

Colonies are made strong by large production of brood and young bees. All spring management of bees must tend toward the largest possible production of bees. The beekeeper must constantly bear in mind that the colony will not raise more brood than the bees can take care of. Factors which decrease the size of the colony will also decrease the production of brood and of honey.

All causes of disappearance of bees in the spring, decreasing the size of the colony, have been summed up under the vague term, "spring dwindling." They may be separated into (1) natural death; (2) spring drifting; (3) robbing; (4) bad weather; and (5) starvation. It is in the power of the beekeeper to remove these causes, either entirely or in large part, by wisely applied remedial measures. The result will be strong colonies in June.

NATURAL DEATH

Bees die fast in the spring from old age and colony shrinks in size. Large production of young bees in April and May is possible only before the old bees disappear. It is important to have brood raising late in the fall to secure bees that will live long into the spring. The wise beekeeper will therefore feed his bees one tumblerful of sugar syrup every evening for about three weeks in September, for this will stimulate even his oldest queen to raise a large amount of brood in September and October.

DRIFTING

Drifting, which depletes colonies of bees, occurs in the spring, during the first flying days after the bees are set out. It may also occur at other times of the year under certain conditions but not with such disastrous results. Under "spring drifting" we understand the condition under which bees from many hives, returning from their first flight, club together and enter one or two hives in the yard, making these strong in bees but leaving the rest of the colonies weak. Drifting is particularly noticeable in bee yards where many hives are placed in regular straight rows and close together without any marks by which the returning bee may be able to distinguish her hive from her neighbor's. To prevent drifting, remove bees from the cellar in the evening, in order to give them time during the night to quiet down and start flying next day normally. Contract the entrances to the hives to a two-bee passage, to prevent too many bees flying at the same time, thus distributing the first flight over a longer period. Face the colonies in different directions. Colonies should be arranged in groups of three or four with at least six feet between the groups. Distinguishing marks should be put on the front of the hives to help the bees to locate their homes. Different colors around the entrances are also good guides.

ROBBING

Robbing is caused by removing the bees from the cellar on different days. Bees that have had a flight are in advantage over those just brought out. Another cause of robbing is the presence of dead, weak, or queenless colonies in the yard. These are quickly located by normal colonies and promptly robbed. Leaving honey or sweets exposed where bees can get them will also start robbing. Leaving hives open, feeding carelessly, allowing wide entrances, are all contributory causes of robbing.

Bees that have started robbing will go from hive to hive trying to over-power the guards. With thousands of robber bees they

often succeed in exterminating the weaker colonies and ruining their combs. The victors also in the end are heavy losers and thus robbing is known to be a very poor prelude for the maximum production of honey the next summer.

To prevent robbing, all bees should be taken from the cellar at the same time, and the entrances should be closed to a minimum (one inch by three-eighths of an inch). All dead colonies should be taken inside. Weak colonies should be united with stronger ones promptly in the spring, when the beekeeper has been careless in not doing it the fall before. Queenless colonies should be given to queen right colonies. No honey should be left accessible to bees outside the hive. Spring feeding will start robbing unless the beekeeper is thoroly familiar with the feeding methods.

EFFECT OF BAD WEATHER AND WINDS

Bad weather and high winds will kill bees both outside and inside the hive. The bees perish in the open when taking advantage of good weather to go in search of water, pollen, and honey. Leaving the shelter of their homes, at a temperature of at least 46 degrees F., they encounter strong spring winds and are blown to the ground, or they roam over miles of surrounding country in search of flowers, when a cloud will cover the sun, or the wind will change to a cold quarter, or a sudden shower will come up. The chilled bees fall to the ground and perish.

In order to prevent this, probably the most serious spring loss of bees, the modern beekeeper will feed his bees at home. Rye flour scattered on a board will attract bees. Thin sugar sirup; fed regularly in a warm sheltered place, will keep bees at home and out of danger until they can find natural honey and pollen. To keep bees from flying when the air is cold, hives should not face the sun. On a southern location with hive entrances facing south the entrances become the warmest place in the neighborhood, the heat coaxes the bees to take flight into the colder air around them, they get chilled, fall to the ground, and die.

To obviate these conditions the hive entrance should not face the sun. If faced north or east, the bees will gather against the sun-warmed part of the hive away from the entrance and will not fly until the air is warm. Cold kills bees also inside the hive. In cold and windy weather the bees must generate an enormous amount of heat to keep the brood at a temperature of 98 degrees F. They exert themselves and die. The queen stops laying, and even after the weather becomes warm again and the wind ceases to blow, it will be several days before egg production will be normal again.

To prevent such losses, the apiary in the first place should be located in a sheltered place with either natural or artificial wind-breaks, against prevailing winds, especially cold winds. Even the south winds are very cold in the spring. The hives should be airtight and the top of the hive should be covered with some insulating material to prevent escape of heat. The cluster of bees should be divided from the cold uninhabited part by a division board. A newspaper is the cheapest division board. Lowered down edgewise between two combs until it reaches the bottom board, it is then bent over the frames occupied by the colony and inserted between two combs, reaching against the bottom board on the other side. If just about the right width, it will enclose the bees in a small, warm, snug compartment where they can breed in comfort. Some beekeepers cover the whole hive with insulating paper or patent insulating board. Others use carpets or sacks. Others use deep telescoped covers, which they push down over several thicknesses of newspaper or other insulating material. Individual ingenuity will suggest other means of protecting bees from wind and cold during the trying period of early spring, but as a rule the closer the protection is to the cluster the better the results.

STARVATION

Starvation of bees in spring will cause the queens to stop laying. There are two kinds of starvation. One is absolute, when the bees have no honey. This means death. The other is relative, when the bees have so little honey and pollen that they can not raise brood.

The wise beekeeper prevents starvation by giving his bees in the spring solid frames of honey from the preceding season, and by feeding them with Boardman or Alexander feeders whenever the weather is such that they cannot fly. The period after the dandelion flow is the most critical for starvation. All or nearly all the honey in the hive has been used up for brood raising, and there is a period of many days with no nectar coming in until the flow starts from clovers, and this in the heaviest breeding season of the year. All colonies at that time short of stores must be fed regularly every day a pint of sirup up to the day when the honey flow starts, taking care not to feed too much lest the sirup be carried into the honey supers.

Many beekeepers run their bees on the "let alone" plan. The financial returns of such beekeepers are comparable to the returns of those farmers who take care of their machinery, their fields, or their cattle on the "let alone" plan.

A good beekeeper, by good management, will sell tons of honey where the poor beekeeper will not have enough to supply his table.