

### TEMPER OF BEES AND RACIAL IMMUNITY FROM DISEASE

The very important subject of immunity acquired and inherited is being discussed in the British Bee Journal. A. D. Betts writes as follow:—

Is it not possible that the amiability of town bees noticed by Mr. Smallwood is due to the elimination of the unfit? Anyone keeping a vicious stock in a suburban garden will be liable to complaints—and possibly lawyers' letters—from his neighbours. He will, therefore, probably get rid of the bad-tempered bees or improve their temper by requeening. Consequently, the drones flying in a thickly populated district will for the most part come from docile stocks; so that the tendency in such a neighborhood will be towards the maintenance of a good tempered race of bees. In the country, on the other hand, a bee-keeper who chooses to keep vicious stocks has only himself to consider, as his neighbours are not, as a rule, near enough to suffer.

This process of "natural selection" comes in also in the case of a stock situated near a frequented path. If the bees are of the kind that allow no one to pass unchallenged, they are sooner or later banished in disgrace, as were Mr. Freeman's, B. B. J. page 335, to a remote corner of the garden; only those stocks which are good tempered being allowed to remain in such situations. Moreover, if a stock is close to the house it is liable to be examined more often than those in more distant parts of the garden. Now it will, I think, be admitted that the temper of a stock depends on the proportion of bad-tempered bees in it. If the hive is opened frequently, on each occasion perhaps three or four short-tempered individuals sting the operator or his clothes, and are there eliminated. The one or two stings pass more or less unnoticed, and the stock gets a good name as regards temper. On the

other hand, when a stock is not examined for some time, irascible bees accumulate; on the hive being opened, out they come in a body, and trouble ensues! The individual bee lives for so short a time that one can hardly believe that the quietness of a much-handled stock, or one near a path is due to "habit," particularly as bees seem to be creatures of inherited instinct rather than possessed of surroundings.

While on this subject, is not "natural selection," taken together with chance variations in the directions of resistance to disease, an adequate explanation of racial immunity? To take Mr. Anderson's illustration (page 333), surely the European immunity from measles arises not from the transmission of acquired characters (which, at best, is "not proven"), but from the simple fact that only those strains which vary in the direction of immunity can survive; all others tend to die out, owing to heavy infant mortality.

Thanks are due to Mr. Anderson for raising the question of the destruction of partially immune bees under the Bee Diseases Act. I am a whole-hearted supporter of legislation, but hope that discretion will be exercised in this matter, as the breeding of an immune race of bees seems our only hope, if the conclusions reached by Dr. Graham-Smith and his colleagues in their report are correct.

### THE SEASON'S WEATHER

The following table gives the monthly temperature and rainfall for the five months, March-July, as compared with the corresponding months of 1911, and the average of the thirty years, 1882-1911. The table is made up from information supplied by the Dominion Meteorological Service, carried on at Southampton, Birnam, Woodstock, London, Stoney Creek, Toronto, Lindsay,

September, 1912

Gravenhurst, (formerly Rocke

Month.

March	.....
April	.....
May	.....
June	.....
July	.....
March to July	.....
May to July	.....

March	.....
April	.....
May	.....
June	.....
July	.....
March to July	.....
May to July	.....

The mean ten months, March to the average for was 5.8° below a June 3.3° below, above. July was

The rainfall for 14.85 inches, or 1 age for the thirty. May was a very inches above the n ble its usual amou with 1.16 inches of

HAY—Adverse co ther in April gave growth of timothy but the fields soon the province over t crop of hay of go standing the wid Timothy is said to better than clover.

from June 22nd to Some correspondents ing was delayed ow labor. New seeding is said to be very has also done well t crop.

FRUIT.—Fruit trees of some peaches, see serious injury from Several corresponden more attention is no spraying and other r orcharding, and wi