

average per colony, throughout the country is not much better than it was 45 years ago, and in some strains there is reason to believe that it is less. Of course this not true in certain aparies, but I feel sure this holds for the country in general, and I am inclined to think that prolificness in some strains of this race is actually decreasing.

It is natural that we should want to know why this is. There is but one answer, it seems to me, and that is that queen-breeding in honey producing aparies, is usually not done with a knowledge of the common principles of breeding as practiced on other animals and on plants. Careful breeders of almost every other form of domestic animals know to an ounce what their stock produces, but how many bee-keepers can give this sort of a record, and it is commonly recognized by breeders that without records they work in the dark.

Breeding of both plants and animals with a view to the betterment of stock is now attracting wide attention; this work is not confined to experimental stations and wealthy individuals but the farmers of the country are recognizing the fact that there is more money in choice stock than in scrub animals. Let me quote General Burchard, associate editor of Hoard's Dairyman, a short extract of an address to dairymen of Wisconsin, what he called "The Cow Breeder's Shorter Catechism."

"Q. How many kinds of cows are there?

A. Three.

Q. What are they?

A. Dairy cows, beef cows, and combination cows.

Q. What is a dairy cow?

A. One that has the ability to turn all the food she may eat and digest, over and above that required for maintenance, toward the udder, there to be transformed into milk.

Q. What is a beef cow?

A. One that turns her surplus food into flesh and fat.

Q. What is a combination cow?

A. One that tries to take both forks of the road and never gets anywhere.

Q. What causes the difference in cows?

A. Heredity.

Q. What is heredity?

A. "The biological law by which living beings tend to repeat themselves in their descendants."

Cattlemen realize that they must breed for one thing in cows, and I believe that bee-keepers should settle down to one line of selection. Honey-production, gentleness and color, do not necessarily go together, and the chances of finding all these combined in one colony are small. Which should be chosen? Honey is the object of most bee-keeping and that then should be the one and the colony line of selection for the honey-producer. You may arrive at this by selecting prolificness, or tongue-length, but not both without great difficulty, and therefore, prolificness, which is vitally necessary, should be the first consideration.

In the extensive work of the Maine Experiment Station on egg laying, it has been found that some of the best formed hens were poorest in laying ability and vice versa. They therefore, select for number of eggs and let everything else go. In this series of experiments they begin with a flock with an average of 120 eggs per year and now have many individual hens which produce from 200 to 250. This, too, has been done in a very few years.

The application of statements concerning stock may be transferred to bees, and, therefore, does it not seem that for the bee-keepers to arise and join the procession? Let the honey-producer drop all fads of color, gentleness and similar things and breed pure stock

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