

needs without breaking up the work of the other colonies. It should also be added that a novice will profit by having in his equipment a colony in an observatory hive, which will acquaint him with practically all of the interesting behaviour of bees.

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Sunflower in Hungary. It is rarely cultivated in France although it is a valuable honey plant for the fall. In Hungary, it is cultivated as a crop, as an accessory in bordering fields of corn, potatoes, tobacco, beets, etc., and it furnishes without doubt a good portion of the winter stores to the Hungarian bees. There was gathered in 1907 in Hungary 163,774 quintals, or hundred weights, of oily seeds of which the oil cakes are fed to the cattle and poultry.—*L'Apiculture*, Vol. 55, 1911, p. 468.

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A unique and highly interesting book consisting entirely of illustrations, has just appeared in France under the title "*L'Apiculture par L'Image*," by Ed. Alphandery. The work consists of 440 pictures and 76 plates, illustrating all the phases of bee culture and treating of its historical aspects. Copies of Egyptian hieroglyphics in which the bee figures as one character, are shown. The myth of the origin of the bee as presented by old authors, is also reproduced. One caption is devoted to the evolution of the hive, presents a wide range of hive types, antique as well as modern. The reproduced cuts from books published in the 17th and 18th centuries illustrating the hiving of swarms, transferring, etc., are interesting from the modern standpoint. Another caption, not without significance, is the application of the bee motive in art, likewise in politics and advertising. The more modern methods of bee-keeping are illustrated in a series of plates representing such manipulation as wax extraction, the setting of foundations, foundation manufacture, etc. A series of plates, representing graphically the statistics of

wax production, the distribution of colonies of bees, the comparison of honey consumption with the production importation and exportation of honey and wax, and the relative European production of honey.

The book is for sale by the author Ed. Alphandery, Chateau de Brignan, Montfavet (Vauchasse), at 2 francs 50 centimes.

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A note in *Le Progres Apicole* states that bee stings in the treatment of rheumatism and arthritis is becoming more and more general in Europe.

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The Federation Apicole du Hainaut et Extensions (Belgium) has entered a campaign for the repression of adulterated honey, alleged to be upon the market. Samples of about a fourth of a kilogram are requested to be taken by members and sent to the secretary for examination.

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"BEE-KEEPERS' REVIEW"

Scientists on "Improvement"

Some time ago, if we remember aright, Dr. Bonney denounced any effort to "improve" the present races of bees as being futile, if not downright wicked. We are somewhat surprised, but at the same time very pleased, to know that the Doctor still preserves an open mind regarding this matter. The place of honor in the January issue of the Review is occupied by some correspondence that has taken place on the subject between Dr. Bonney and several "students of biology, experimental evolution, heredity and bees."

In an article contained in a previous issue of the Review, Dr. Phillips had expressed the view that it was possible to change the bee by breeding, and in submitting this article to the several men of science, Dr. Bonney writes as follows:

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"I have always been of the opinion that the bee is the most civilized animal alive, and that it is impossible to change or improve it. If I am wrong in this, I would like to develop a strain or breed which will be good honey gatherer, gentle, and hardy in temperament, and long as it is not contaminated by male parentage, though where I lately spent some millions of acres which are treeless, flowerless places can be controlled perfectly by a generation of worker bees (40) days, of a queen and a drone two or three days. We have been importing Italian bees a century, and so far still have nothing but so far as I can see a single advantage gained by the claims set up by some not criticizing belief, but unsubstantiated, to know more for the matter than myself.

Is any improvement looked for, even if we mating?

Is the bee biological of the insect world, a To Dr. Bonney's question W. M. Wheeler replied

Replying to your interest in the 11th inst., I would say that my experience with the honey bee leads me to believe that there is no reason why it should not undergo considerable modification by mental breeding. I believe that much headway cannot be made until it is possible to accurately mate the queens and drones, of course, if there are great differences in the country in which bees are kept. It would be possible to obtain results in the open. * * * The honey bee is an extreme individualized insect, but not more so than the solitary bees, and a number of species of the latter are some 5000 in the United States, often very closely related. This shows that the group is stable and probably undergoing no rapid formation. This is my opinion, believing that the honey bee is the form which has reached