Intent Research Scientific Journal-(IRSJ)
ISSN (E): 2980-4612
Volume 2, Issue 6, June -2023
Website: intentresearch.org/index.php/irsj/index

DEVELOPMENT CYCLES OF BEES (APIS MELLIFERA)

Rakhimov Madaminjon Alijonovich
Candidate of Agricultural Sciences, Associate Professor of the Department of the Fergana State University of thi Respublik Uzbekistan

Azizov Rakhmatillo Olimjon ugli
2 nd year Student of the Fergana State University of the Republic Uzbekistan.

Abstract:
The life of bees is an extremely complex family, and each individual performs a specific task. Therefore, in the family there is a mother bee that gives birth, a sterile female bee, that is, a worker bee, and male bees (truten), which differ from each other in terms of their structure and physiological characteristics. This is called polymorphism. Polymorphism usually arises from the fact that each individual performs a certain task in the family, that is, the distribution of the work performed is directly related to their morphological difference. In the middle of the summer season, there are 60-70,000 bees in the family of strong bees bred in apiaries, and 80-90,000 bees in the hybrid bee family. Due to the large number of worker bees in the family, they can collect enough food for the next year's sap transport period in a short time, that is, in 20-30 days. As a result of a large number of bees living in a community, bees keep the necessary environment and heat around them during the cold winter days.

Keywords: Bees, mother bee, female bee, male bee, genital organ of bees, back leg.

Introduction:

The queen bee is the only female individual in the family with well-developed sexual organs. It does not perform any other task than laying eggs. The length of the queen bee is 18-20 mm, the average weight is 0.25 g. Its abdomen is longer than its wings, and when it is at rest, the folded wing part does not cover the abdomen. The queen bee does not have a pollen basket on her 2 hind legs. Abdominal joints do not have wax windows. Khartoum is shorter than that of worker bees. In the body of the mother bee, the organs for performing work in

ISSN (E): 2980-4612
Volume 2, Issue 6, June -2023
Website: intentresearch.org/index.php/irsj/index

the hive and collecting juice are not developed. Because the ability to perform work in the family is limited, its brain part is less developed than the brain part of worker bees. The mother bee cannot live without worker bees for more than 2-3 days. and begins to lay unfertilized eggs. Fertilized eggs will later produce queen bees and worker bees, and unfertilized eggs will produce male bees.

Materials and Methods:

In spring and early summer, the mother bee lays an average of 1500 eggs per day. The weight of this egg is equal to the weight of the body. The mother bee is always in the nest during her life, she flies out only in the first days to familiarize herself with the environment, mate with the male bee, and finally flies out when she goes to the natural colony (royal). The queen bee is constantly supplied with food by worker bees. It also excretes waste in the hive, which is cleaned and removed by worker bees. The queen lays eggs from early spring to late fall. A good quality queen bee can lay 100-150,000 eggs throughout the spring and summer. Usually, there is only one queen bee in the family. Sometimes for some reason, several 10-20 worker bees can live in a cage for 15-20 days, and in some cases up to a month. In a family, compared to other types of bees, it can live longer, that is, up to five years. But for two years, she lays a lot of eggs, and from the third year, her egg-laying begins to decrease, so beekeepers replace her with a young queen bee. Accordingly, if two queen bees live in the same family, then two There is a fight between them, as a result one of them dies. Worker bees are the main part of the bees in the apiary. They are female bees with underdeveloped genitals and ovaries, so they cannot mate with male bees. In a typical family with a mother wasp, they do not lay eggs, but do the general work of the family. In some cases, if they lay an egg, only a male bee will develop from this egg. Worker bees clean the hive, guard it, normalize the air, build a dense nest, feed the larvae, collect sap and pollen, process the sap, i.e. turn it into honey, raise and lower the temperature, provide air humidity, bring water and propolis to the nest. All workers in the nest can be divided into two classes. Somewhat younger (14-20 days old) bees form the class of worker bees in the nest, while bees older than 14-20 days make up the class of flying bees. Worker bees fly out in the middle of the day on fine weather to empty their hindguts and explore their hive surroundings. The worker bees, who make up

ISSN (E): 2980-4612
Volume 2, Issue 6, June -2023
Website: intentresearch.org/index.php/irsj/index

the second class, also go out of the field on good weather days to transport nectar and pollen. Worker bees bred in spring and summer can live for 35-45 days on average, and those bred in autumn can live until next spring (4-6 months in Central Asia). The body length of worker bees is 12-14 mm, average weight It weighs 1 gram, that is, there are 10,000 worker bees in 1 kg. Their brain is well developed compared to that of the mother bee. Because worker bees perform various tasks in the family, the mother and male bees play a major role in the formation of economic and genetic traits.

Male bees reproduce in the spring and summer months when good conditions are created in the family. It is easy to distinguish the male bee from the worker bee, because it is larger than the worker bee, and its weight is on average 0.2 g, which is 2 times heavier than the worker bee. Male bees do not do any work in the family. The task of the mother is only to father the mother bee. Therefore, in spring and summer, each bee colony produces several hundred male bees. However, on average, 6-8 of them mate with the queen bee. They are fed with ready-made food - honey, or worker bees feed them with their own horn. The goal of male breeding is to quickly find a male bee when the queen flies out to swarm and to be able to mate with the strongest one to create a strong, healthy brood in the future. Male bees live for about 2 months. In the fall, when the natural sap stops flowing, the worker bees drive the male bees out of the hive. Only in a family, if there is no queen bee or if there is a queen bee that has not hatched, only in that case the male bees stay for the winter. Feeding and rearing larvae is the main task for the bee family. In the spring and summer months, the members of the bees are quickly out of work, and they can be taken while they are flying.

Results and Discussions:

A bee colony must have a good quality queen bee in order to have good strength and rapid development during the spring and summer months. The ovary of the queen bee is located in the abdomen and has a pear-shaped appearance. The ovary of the queen bee is located in the abdomen, under the rear half rings. Each ovary consists of egg tubes, and the number of egg tubes in a well-developed queen bee is up to 180-200. In a small, low-quality queen bee, the number of egg tubes reaches 120-140. Eggs are born and develop in the fallopian tubes.

Intent Research Scientific Journal-(IRSJ)
ISSN (E): 2980-4612
Volume 2, Issue 6, June -2023
Website: intentresearch.org/index.php/irsj/index

At the beginning of the fallopian tube, there is a place of division of the nucleus and tissue, where the cells of the egg mature. Then the tissues along the oviduct begin to divide. It consists of a feeding channel and a connecting device. There are about 200 seminiferous tubules in the ovary, all of which are surrounded by one common membrane. In the seminiferous tubules, male reproductive cells, spermatozoa, mature. At the bulbous stage, the seeds become larger, 5-6 mm in length and 1.6-1.8 mm in width. 8-14 days after the male bee leaves the nest, his genitals are ready for mating. The seminal vesicle shrinks and joins the ducts of the accessory gland, which produces a special fluid. A thin path, a channel through which the seed passes, protrudes from them. It is followed by the appendage, which consists of an enlarged part, a bulbous head, and a sac-like tube.

The insertion pouch protrudes from the base of the rear outlet. Mating of the queen bee with the male bee. A 2-3-day-old queen bee flies out of the nest and remembers the location of the apiary and the objects around it. A 7-10-day-old queen bee flies out of the hive to meet the male bee. This flight is called the "nuptial game" and it usually lasts from 12 to 3 p.m. when the weather is warm. Mating of a female bee with a male bee takes 15-20 minutes. If the weather is bad, the queen's flight to mate will be delayed for 2-3 weeks. Most queen bees fly 1-2 times to mate, and some fly up to 3-4 times. On average, the queen is joined by 8-10 male bees. When the queen mates with the male bee (only with the last male bee), she squeezes her sting chamber, causing the copulative organ of the last mating male to break off and remain in the sting chamber of the queen bee. The queen bee lays eggs. When the queen bees return from the "nuptial game" (after insemination), they start laying eggs after 34-48 hours. When the brood queen enters the egg stage, worker bees constantly surround her, and these bees are called "monitor" bees. Observer bees are always looking at the mother bee with their heads, without separating, they lick the mother bee with their whiskers and feed them with a special substance, bee milk, with the help of their proboscis. Bee milk is nutritious and quickly digested.

Conclusion:

Thus, the young worker bee does all the work in the family. 3-5-day-old young bees fly out to familiarize themselves with the place where the nest is located.

ISSN (E): 2980-4612
Volume 2, Issue 6, June -2023
Website: intentresearch.org/index.php/irsj/index

During courtship flights, they also excrete waste that accumulates in their hindguts. They get to know the nest for a few days, after which the young bees begin to feed the larvae in the nest. A number of young bees guard the opening of the nest. In this posture, they can distinguish the bees in their hive from the bees in other hives. The number of bees guarding the hive depends on the condition of the bee family and the nectar brought from nature. The number of guard bees can be 10-40. The amount of sap transported from nature plays a big role in the development and good performance of bees. The period of work of a bee in a hive lasts up to 14-15 days in a family, and up to 20 days in a weak bee family. In a strong family, if sap is coming from nature, after 5 days, young bees will gradually join the bees that fly to the field, i.e. bees that carry sap, pollen, and water from the field. In their place, young bees hatched from the eggs laid by the mother bee remain and begin to do the work inside the hive.

Reference:

1.Abdolniyozov B., Eshchanov R. Feeding of agricultural animals. - Urgench, Khorezm Publishing House, 2010, p. 247.
2.Boyarskiy L.G., Dzardinov V.O. - Moscow, Rosselkhozizdat, 1980. pp. 42-51. (Boyarsky L.G., Dzardinov V.O. Production and use of feed in industrial production. - Moscow, Rosselkhozizdat, 1980. pp. 42-51.)
3.Devyatkin A.I., Tkachenko E.I. Rational use of feed in industrial animal husbandry. - Moscow, Rosselkhozizdat, 1981. pp. 179-195.
4.Kalashnikov A.P., Klemenov N.I., Bakanov V.N. and other norms and diets for feeding agricultural animals. - Moscow, Agropromizdat, 1986. p.351. (Kalashnikov A.P., Klemenov N.I., Bakanov V.N. and other norms and diets for feeding agricultural animals. - Moscow, Agropromizdat, 1986. p.351.)
5.Kalashnikov A.P., Smirnov O.K., Antonov A.Ya. Reference book of zootechnics. - Moscow, Agropromizdat, 1986. p.480. (Kalashnikov A.P., Smirnov O.K., Antonov A.Ya. Reference book of zootechnics. - Moscow, Agropromizdat, 1986. p.480.)
6.No'Monjonov Muhiddin Gulomjon, O. G., O'G'Li, P. A. T., & O'G'Li, B. S. A. (2020). Oddiy bo'ymodaron o'simligining morfo-fiziologik tavsifi va shifobaxsh xususiyatlari. Science and Education, 1(4), 26-29.