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INNOVATIVE APPROACHES AND TECHNOLOGIES TO SUSTAINABLE BEEKEEPING

The beekeeping industry has accumulated considerable innovative ideas in the XXI century, which have become revolutionary during the short period of time. In this context special attention should be given to the invention of Australians Sedar and Stuart Anderson known as “Automating the collection of honey”, which is based on the practical use of the beehive with a unique plastic frame, which does not contain harmful BPA and partly consists of the cells. When a cell is filled with honey, the frame, patented under the name of Flow, allows harvesting it from a backyard beehive without stressing the bees and the beekeeper.

The advantages of the given technology are obvious, because there is no need to smoke the bees from the nest that is quite dangerous, because it can cause deaths and insect bites. The creators promise that their invention will help to maintain the health of bees and significantly reduce the time that beekeepers spent on extraction and processing of honey of a high quality. However, it should be emphasized that, in order to maintain good order in the hive many beekeepers still use the smoker [1].

In the course of many years of study of the natural habitat of the bees Doctor of Biological Sciences A.G. Mannapov identified that in the wild nature bees usually create the best conditions for living and, consequently, produce honey. To create the most natural conditions of bees, we have developed an innovative frame of the new generation. The width of the side panels in such a frame is 34 mm that allows creating the natural ventilation and perfect temperature in the hive. The completed experiment showed that the use of such an effective framework creates the most favorable conditions for the life of bee colonies [2].

Key features of the framework for the hives and biological capabilities of modern hives have a positive effect on the ventilation system for optimum temperature control in the hives of Dada-on-Blatt and Ruth, to the optimal flow rate of feed at any time of the year [2].

Scientists at the University of Minnesota are working to develop innovative tools for destroying mites, which are considered as the real thunderstorm in the modern beekeeping industry. Experts say that the new device will not contain pesticides and other harmful chemicals [1]. The invention consists of a frame made from environmentally friendly degradable substances. The principle of operation is that a special device inside the frame is heated to the desired temperature, and then there is the sterilization of the male mite *Varroa*. Obviously, the existence of destroyed biological cycle of mites in the bee family. All these measures lead to the fact that in the given bee colony the biological cycle of the existence of mites is

completely destroyed. Carl Jenter, as the most famous German beekeeper, created a technology that allows to simplify the conclusion of bee ewes and increase the number of established larvae. This invention is a collapsible plastic honeycomb with cells. To ensure proper life of bees, especially in the early spring when they spend a lot of energy, it is important to create a warmed bee families comfortable environment in which they will be actively put off the larvae.

The new discovery was the invention of an innovative beekeeper from Ukraine L.I. Vereda, who proposed a method for the rapid buildup of bees with a special fuser. To increase the productivity of bees modern bee-gardens are completed with the mobile pavilions in the form of platforms, which greatly facilitates their transportation to the main sources of nectar according to the time of flowering of a particular zone. If we take into account the fact that honey plants bloom in different areas of non-simultaneous, then this technology favors the efficient use of phytocenoses with knowledge of the timing of flowering plants.

Coming to the conclusion, it should be mentioned that all of these innovative approaches in the beekeeping industry are entirely justified, because they facilitate the cost-effective implementation of the activities in this important sector of the national economy.

References

1. New technologies in beekeeping: description and video [Electronic resource]. – Mode of access: <http://zoohoz.ru/pchelovodstvo/novyie-tehnologii-16440/#ixzz3r6Arz0iu>
2. Mannapov A.G. Technology of production of bee products under the laws of the natural standard: monograph / [A.G. Mannapov, L.I. Horuzhy, N.A. Simogonov, L.A. Redkova]. – Moscow.: “Prospectus” LTD, 2015. – 184 p.