

Creation of robot bee to pollinate crops

Scientists at the Polytechnic University of Warsaw have created the first robotic bee designed to pollinate artificially; a miniaturised drone that is able to find a flower, collect its pollen, and transfer it carefully from the male to the female flower to fertilise it.

This robotic insect has already been successfully tested in the field and its ability to pollinate is offered as a "hopeful alternative" to address the steady decline in the world bee population, as stated by its creator, engineer Rafal Dalewski.

"Last summer, we carried out a test and we already have the first seed obtained through this artificial pollination, so it has been proven that our robot can do almost the same as real bees," explains Dalewski.

Dalewski, however, acknowledges that he has not been able to design a drone that can produce honey, "although technology development is moving increasingly fast and can at times be surprising," he jokes.

In any case, the pollinator robot "is not intended to replace insects, but to help their work and complement it," explains the engineer, who refuses to assess whether the drone can pollinate better than real bees.

The truth is that this biodrone not only helps nature, but also does so in a clever way, since it can be programmed to focus on a particular area and look for flowers of a particular type to pollinate, all through a computer program.

The Polytechnic University of Warsaw has created two types of pollinating drones, one flying and one terrestrial, both armed with a kind of duster that is impregnated with pollen to later distribute it among other flowers.

The terrestrial one has more autonomy and its battery is more durable, "so the grower can go home with his/her mind at ease and leave the drone working until it returns autonomously to its energy source."

Its creator claims that these robots can also be used for "precision agriculture, as intelligent dispensers of fertilisers or pesticides," since they can be programmed to deposit certain amounts, depending on the type of plant or location.

The university wants to put the first prototypes to work from 2017, and start their mass production in two years.

The invention is especially significant when one considers that the mortality of pollinating insects, on which most crops depend, is greater each year, without the causes being known.

Two decades ago, a group of French farmers drew attention for the first time to a phenomenon that was unusual at that time: the depopulation of hives because of the disappearance of bees, whose pollination makes most of the world food production possible.

This phenomenon is already global, especially in countries with highly developed agriculture, and has caused many scientists to warn of the consequences of a world without bees.

In 2014, the EU carried out its first study on bee mortality, which showed figures ranging between 3.5% and 33.6%, depending on the country.

The bee is a pollinator for both crops and nature; if this does not happen, yields in agriculture would fall, and the survival of plant species which rely on bees as a means of pollination would be endangered.

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