Robo-Bees And Bubbles: Inventive Technique Of Artificial Pollination

AI technologies have become quite popular these days, no matter what the industry is. But have you ever wondered if this recently developed technique could be used in pollination? Artificial pollination is a genuine industry with a prospering edge of development. Though it sounds like a dream, this technique allows adequate pollination in areas with low bee populations.

But, what has spurred the growth of this industry? The massive population decline and the high cost paid by the farmers to rent the bees for pollination are the key reasons behind this innovation.

What Is Artificial Pollination?

Artificial pollination is a mechanical process or a technology used in cases where natural pollination is inadequate. It is carried out using the latest tool and with the help of human intervention. In this process, no biotic or abiotic elements are used.

There is unpredictability in natural pollination, which prompts lower production of harvests, fruits, and food crops. Additionally, the limited crossing of various breeds of flowers prompts low protection from herbivores, microbes, and pests. On the other hand, artificial pollination carries several advantages: larger fruit size, a higher number of flowers, and a large number of hybrid varieties of plants and their flowers can be grown.

What Are The Robo-Bees & Bubbles?

A study by a group of researchers from the Japan Advanced Institute of Science and Technology (JAIST) has proved that bubbles made up of soap could be used as a low-tech approach to artificial pollination. Though this seems to be a little impractical, the soap bubble helps in effective pollination. The researchers confirmed that bubbles for sure could carry pollen particles and afterward set to work making out the best soap recipe. The group filled bubble guns with the pollen bubble arrangement and impacted some pear trees. The air pocket pollinated pear trees delivered practical organic fruits, showing that the technique worked.

The only limitation with this bubble technique of artificial pollination is that it requires ideal weather conditions, and a high number of bubbles is wasted during the process.

Another popular technique is using robo-bees or laser machines. Extraordinary machines separate pollen from blossoms, and the pollen is stored away for as long as a year and a half. Then, when everything looks good for pollination, exceptionally prepared vehicles drive down the plantation gently blowing out the pollen, which is given an electrostatic charge to keep the singular grains from

sticking together. The vehicles use lidar sensors (a radar-like laser innovation) for accuracy, remaining inside 10 cm (4 in) of the trees' contours.

Pollination occurs when a pollen grain lands on the sticky stigma of the plant. Next, a pollen tube develops down into the plant's ovary, moving genetic material. The ovary then develops into a seed-proving to be fruitful. A few plants can self-pollinate, yet many, including a large portion of the food we eat, should be cross-pollinated to produce mature and healthy fruit.

Though there is a lot of trouble included in artificial pollination, scientists are still opting for these ways to pollinate crops. So what is the reason behind this? According to Mr. Basem Barry, founder & CEO of **Geohoney**, the primary explanation is that honey bees are vanishing.

Researchers have announced significant pollinator declines because of colony collapse disorder and the general decline of native bee species. The use of pesticides, habitat loss and climate change are some other causes of pollinator declines. In addition to this, commercial honey production is a significant factor. Bee farmers are renting the bees to increase honey production without worrying about the health & safety of these little pollinators. This bee rental business is proving to be very stressful for the bees. Thus, it is essential to do everything within the power of humanity to save the bees. We should never shift our focus away from pollinator conservation and instead find ways to support them.