

Nectar Chemicals Can Help Bumblebees Fight Diseases: Study

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Chemicals in flower nectar can help bumblebees fight parasite infection, according to a new study. Bumblebees and honeybees can reverse the drastic decline in their population by feasting on the flowers of nicotine-rich plants. Researchers from the University of Massachusetts-Amherst and Dartmouth College said that naturally occurring chemicals present in the flowers of tobacco and other plants could reduce parasite infection levels by 81%.



Tobacco plants can help bees stay healthy

Led by Rebecca Irwin, researchers tested eight nectar compounds on American bumblebees *Bombus impatiens* that were infected in the lab with *Crithidia bombi*, an intestinal parasite. Among the eight compounds, anabasine, an alkaloid found in tree tobacco, showed the most impressive impact. It reduced the intestinal parasites by 81%.

Thymol, found in the lime tree, reduced the parasites by 67%, followed by nicotine (62%), and catalpol (61%), which is found in white turtlehead. Findings of the study appeared in [The Royal Society Proceedings B](#). The lab results suggest that growing plants high in these compounds around farm fields would create a "natural medicine cabinet." It will improve the survival of infected bumblebees and pollination of crops.

There are about 250 species of bumblebees

Note that the study was conducted in a lab. Researchers are conducting further study in the field to find out how planting plants with these compounds around agricultural crops would affect bee diseases. There are more than 250 species of bumblebees. But their population is declining rapidly due to changing agricultural practices that have mostly removed flowers from the landscape.

According to the Food and Agricultural Organization (FAO), pollinators like bumblebees and honeybees contribute to at least 70% yield of the major food crops. In economic terms, their contribution was estimated at \$174 billion in 2005. The FAO says that bees account for 80% of the crop pollination by insects. Their declining population threatens vegetables, fruits and other crops. Finally, researchers have found a way that may help bees fight diseases.