



United States
Department of
Agriculture

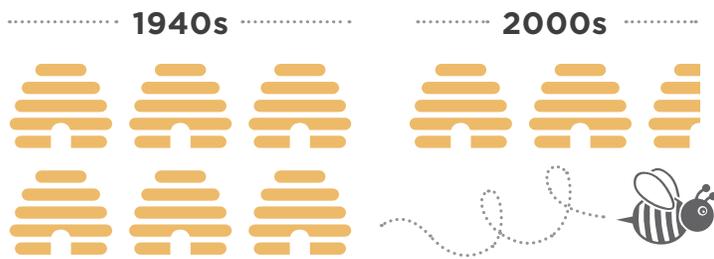
National Institute
of Food
and Agriculture

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USDA Advances Pollinator Health



Insect pollination ensures a plentiful and diverse food supply. Pollinators are crucial to the nation's food security and environmental health, yet they have seen significant declines. The USDA National Institute of Food and Agriculture (NIFA) supports pollinator health research, education, and extension through its Agriculture and Food Research Initiative (AFRI), Crop Protection and Pest Management Program, and the Specialty Crop Research Initiative (SCRI).



There were about **6 MILLION U.S. HONEY BEE HIVES** in the 1940s. Today there are only about **2.5 MILLION**.

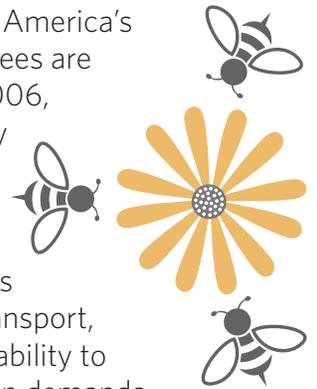
CALIFORNIA ALMONDS REQUIRE MORE HONEY BEES THAN ANY OTHER INDUSTRY



The **800,000** acres of California almond groves require **1.6M** managed bee hives (2 hives per acre) for pollination—roughly **60%** of all commercially available hives. With honey bee declines increasing hive prices, pollination costs the almond industry roughly **\$320M**.

BEES: OUR PRIMARY POLLINATORS

Many insects and bats pollinate America's crops, though managed honey bees are the primary pollinators. Since 2006, honey bee colonies have globally experienced historically high, unexpected losses caused by colony collapse disorder (CCD). CCD and other stressors, such as parasitic mites, diseases, and transport, hinder commercial beekeepers' ability to meet U.S. agriculture's pollination demands.



FIVE MAJOR CROPS HEAVILY DEPENDENT UPON INSECT POLLINATION



35%
OF ALL
CROP
PRODUCTION
REQUIRES
INSECT
POLLINATION

POLLINATED CROPS
CONTRIBUTE
\$15
BILLION
TO FARM INCOME
IN THE

NIFA INVESTMENTS: FINDING SOLUTIONS

A **Purdue University** project will breed for mite-biting honey bees to combat the Varroa mite, one of the most serious parasites to threaten honey bee health. Honey bees are responsible for pollinating an estimated \$15 billion worth of crops, including more than 90 fruits and vegetables.

A team led by **Michigan State University** researchers is developing sustainable pollination strategies through the Integrated Crop Pollination project, funded by NIFA's SCRI. One project objective is to evaluate the effects of farm wildflower enhancements to increase wild bee diversity and crop yields.