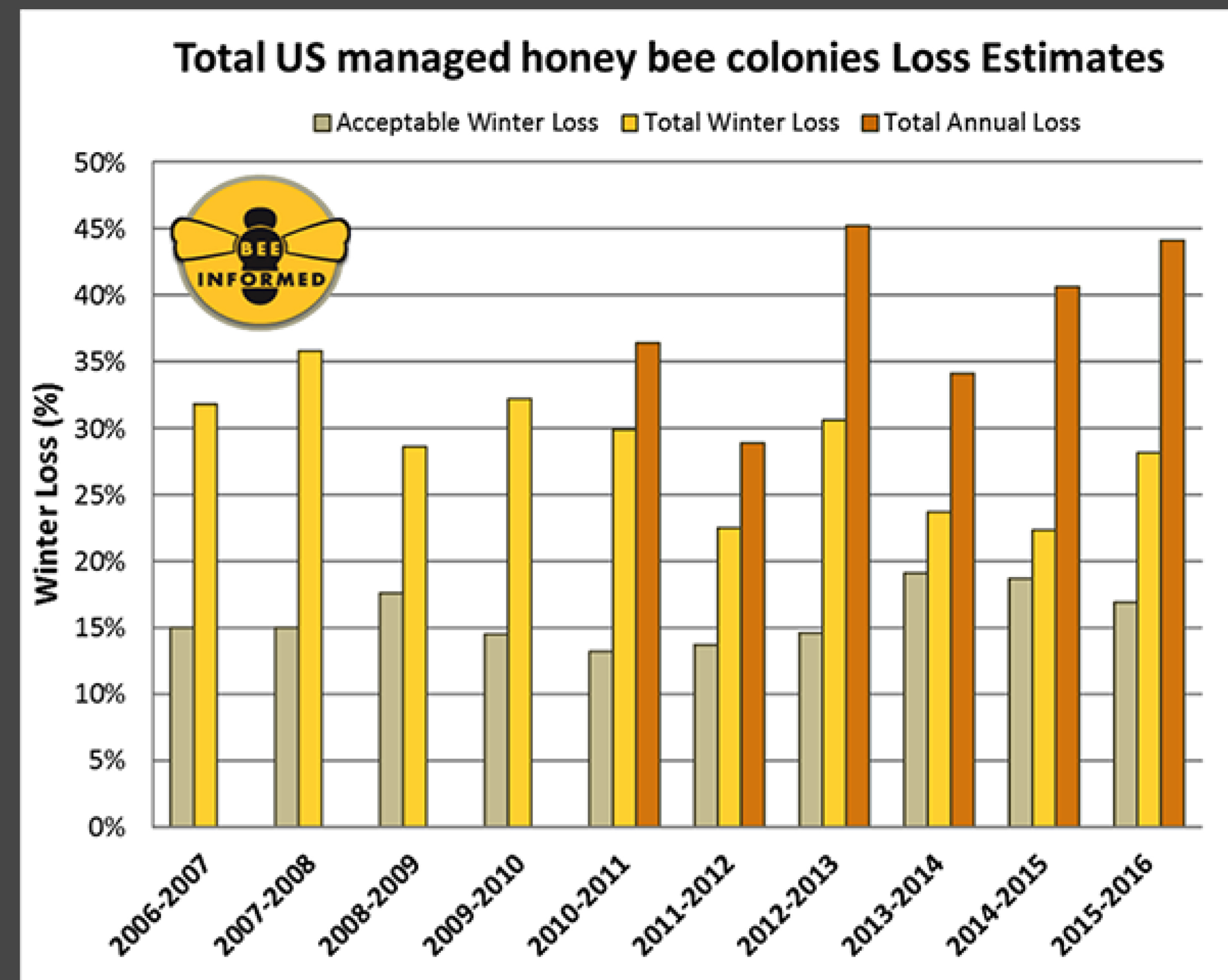


COLONY COLLAPSE DISORDER: THE DEMISE OF BEES

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THE PROBLEM

The Western honeybee (*Apis mellifera*) is a honeybee native to Europe but has since spread across the globe to be the most common honey making bee on planet Earth. It accounts for much of the Earth's pollination; however its populations are in decline, primarily from a phenomenon known as Colony Collapse Disorder. Colony Collapse Disorder, or CCD, is an anomaly in which worker bees completely disappear, leaving behind only the queen and her nurse bees. This leads to the death of the colony, because the queen and nurse bees are left defenseless and alone.



How to Identify CCD

1. THE ABSENCE OF ADULT BEES AND DEAD BEES
2. THE PRESENCE OF CAPPED BROOD
3. REMAINING FOOD STORES NOT STOLEN BY NEIGHBORING COLONIES

METHODOLOGY

RESEARCH

CONTACTING
EXPERTS

ANALYSIS

ACKNOWLEDGEMENTS

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OUR SOLUTIONS

Our solution comes in several pieces in attempts to solve a multifaceted problem. Our first piece solution attempts to tackle mismanagement and abuse of bees. Our solution is primarily directed at the beginner beekeeper seeking to rid their hives of Varroa. We have created a fact sheet to be sold with beekeeping equipment so inform the newest members of the beekeeping community how to handle the mite properly. Secondly, our team has created a pamphlet describing CCD and the specifics qualifications a hive death must have in order to be declared CCD. This Pamphlet will inform the general public and reduce sensationalization around the topic. Together these two solutions inform the general public about CCD and provide foundational understanding of the phenomena.

CHEMICALS



Pesticides being sprayed on crops

Some stress is due to inadequate beekeeping practices. New beekeepers have little access to appropriate training, products, and knowledge to ensure proper care of bees.

CCD CAUSATION

Neonicotinoids are the most widely used insecticides worldwide.

Even when bees ingest "sublethal" levels of neonicotinoids, bees experience flight and navigation issues, and lowered taste sensitivity. Further, as these chemicals persist in the environment, they can accumulate in high concentrations within the walls of the hives.



A Varroa Mite attaches to a bee larva

PESTS AND PATHOGENS

The Varroa mite is another possible cause of CCD.

This organism latches onto bees during the larval stage of their development and feeds on fat body tissue.



A beekeeper attends to a manufactured beehive

Along with carrying these pests, bees also succumb to numerous diseases, like Israeli Acute Paralysis Virus, Deformed Wing Virus, and Sacbrood Virus

Stress is also caused by Habitat Loss. Development of housing and roads destroys key wildflowers, resulting in more competition for food.

Stress on bees is caused primarily by two factors.

STRESS ON THE BEES



The first page of our armature beekeeper Varroa treatment guide

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