

Drones used to release sterile insects to disrupt orchard pests

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Chris Adams and Larry Gut, entomologists in the College of Agriculture and Natural Resources at Michigan State University, are using large drones to release sterile insects as a more sustainable and cost-effective way to disrupt reproduction of codling moths, or CM, in apple orchards. Credit: Michigan State University

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CM is the principle [apple](#) pest that apple growers must control to produce marketable crops. The larvae of this insect consume and damage all apple varieties. Without effective control, losses can exceed 50 percent of the crop.

Methods for controlling CM, including insecticides, mating disruption and viruses can be time consuming and costly. For 25 years, farmers in the Pacific Northwest have been releasing [sterile insects](#) to disrupt reproduction of CM in [apple orchards](#) via insects bought from a local source and releasing them manually by driving up and down the orchard in an ATV.

Comparatively, a drone can release these insects throughout 40 acres of apples in less than five minutes, saving time and energy.

Nestle's Gerber Baby Food, a company that requires organic or minimally sprayed fruit with strict pesticide residue guidelines, heard about the innovative pest management strategy and asked to be a collaborator in the research with MSU.

MSU has also partnered with an agriculture innovation company that utilizes drones to deploy these insects. This technology will help reduce application time, and thus cost. This exciting, cutting edge technology could be a key tool to assist growers in producing food in a sustainable way.

Finding cost-effective controls of key pests, and minimizing pesticide sprays, is a key goal of the Tree Fruit Entomology Lab here at MSU.

Provided by Michigan State University

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