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**Peachtree 2012 Serial Number**

Download ThesisA couple years ago, researchers at the U.S. Department of Agriculture's Agricultural Research Service (ARS) discovered that corn rootworms can easily be tricked into consuming a pesticide by just blasting them with a radio transmitter broadcasting a unique sound signal. Now the same team has proven this trick even works in the real world, using a wireless microphone to set up a bait station where field-tested and untested corn rootworm hybrids freely migrate to, feed on, and lay their eggs on. Published online today in the journal Biological Control, the work confirms that even most high-performing rootworm hybrids may be vulnerable to sound-based insecticide applications, which could offer effective and affordable control of corn rootworms. advertisement "Our research demonstrates that sound waves can be a very effective way to control an important insect pest like corn rootworms," says co-author David Holt, Agricultural Research Service (ARS) research entomologist. "It's easy to use, affordable, and could be done during a typical corn harvest," Holt says. The latest research involved recording a set of unique sound signals of a few hundred hertz, and broadcasting that signal from a wireless microphone for 12 hours a day for eight days. The researchers also used a computerized signal recording system to confirm that these unique sounds of a few hundred hertz would draw in and ultimately trigger the rootworm to consume the pesticide. "What we found was that when we broadcast a sound signal to the ground from the wireless microphone, the rootworms would migrate to the bait station and start to feed on the corn bait," Holt says. "They would do this for eight days, without being disturbed." In most cases, the rootworms were the only insects attracted to the bait station. One exception was a small number of beet armyworms, a generalist insect pest that also uses corn roots as a food source. advertisement Holt says it's unlikely for the beet armyworms to be attracted to the bait station because they're not attracted to corn roots and corn rootworms don't spend much time feeding on or living among beet roots. "But the impact of the sound signal on the rootworm behavior was much greater than we expected, which demonstrates that this technology could be used to help protect plant health," Holt says. The study also showed that even the most high-performing hybrids of corn rootworms could be susceptible to this technology. But Holt

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