

As antibiotics ban nears, organic orchards have new tools to fight fire blight

April 11 2014, by Daniel Robison



Wilted leaves on pear and apple trees are a sign of fire blight, a bacterial disease that can spread quickly and kill an orchard. Credit: Ken Johnson

Oregon State University researchers have proven the effectiveness of two organic alternatives for controlling a disease that can wipe out entire apple and pear orchards.

Scientists found that spraying a yeast-based product and new water-

soluble copper products at the beginning of the growing season provided protection from the bacterial disease.

The findings come as [organic growers](#) prepare for a probable ban on two antibiotics previously allowed by the National Organics Standards Board. At the end of this year's growing season, oxytetracycline and potentially streptomycin will no longer be permitted in organic orchards for fire blight, a serious [bacterial disease](#) that can kill trees.

Spread by bees and rain, fire blight remains dormant in trees over winter and infects flowers in spring. Once infected, growers can only stop the disease by cutting out infections, which can prove fatal.

"In some cases, fire blight can kill a whole orchard in a short period of time," said OSU plant pathologist Ken Johnson.

Organic pome fruit growers are encouraged to test new approaches this year before antibiotics are no longer available as backup choices, added Johnson.

In OSU trials, researchers tested the commercially available Blossom Protect, a yeast that clings to apple blossoms and pears and prevents colonization by fire blight bacteria.

Blossom Protect was developed in Europe and registered by the Environmental Protection Agency in 2012. In apples, it was 90 percent effective when sprayed after lime sulfur to reduce crop load.

Copper has been used for fire blight for almost a century, but heavy applications can be toxic to trees or create rough blemishes on fruit, known as russetting – which downgrades the value. New water-soluble copper products, such as Cueva and Previsto, contain low concentrations of the metal, which lessens its negative effects while still combating fire

blight, said Johnson.

"Whereas growers used to be scared to spray copper, the solubilized versions are safer than coppers from yesteryear," said Johnson, a professor in OSU's College of Agricultural Sciences.

Since the National Organic Program began in 2002, the use of antibiotics was allowed to control [fire blight](#) on apples and pears because no effective alternative was available at the time.

More information: The research team prepared a webinar on non-antibiotic treatment of fire blight, which is at: bit.ly/FireBlightWebinar

Provided by Oregon State University

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