Pierre-Marie-Alexis Millardet

French botanist

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Pierre-Marie-Alexis Millardet (born Dec. 13, 1838, Monmerey-la-Ville, France—died Dec. 15, 1902, Bordeaux) was a French botanist who developed the Bordeaux mixture, the first successful fungicide. He also saved the vineyards of France from destruction by *Phylloxera*, a genus of plant lice.

Millardet studied at the universities of Heidelberg and Freiburg in Germany, then returned to France to take doctorates in both medicine and science. He became assistant professor of botany at the University of Strasbourg in 1869, moved to Nancy three years later, and in 1876 became professor of botany at the University of Bordeaux, remaining there until his retirement in 1899.

Between 1858 and 1863 the greenish yellow grape phylloxera, an aphidlike plant pest, was introduced into Europe on vines imported from the United States for grafting. The insect spread swiftly, causing extensive destruction. Millardet brought this plague under control by introducing resistant American vines as stocks for grafting with European varieties.

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Born: Dec. 13, 1838, Monmerey-la-Ville, France

Died: Dec. 15, 1902, Bordeaux (aged 64)

Subjects Of Study: Phylloxera

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Along with phylloxera came *Plasmopara viticola*, a downy mildew fungus that damaged fruits and vegetables, particularly grapes. Farmers for centuries in the Médoc area of France had sprinkled their vines with a thick mixture of copper sulfate, lime, and water, whose unappetizing appearance discouraged thieves from stealing the grapes. In October 1882 Millardet noticed that this mixture also controlled the downy mildew, suggested its application as a fungicide, and, after three years of experimentation and testing, published his favourable results in the *Journal d'Agriculture Pratique*. This combination of chemicals, which became known as the Bordeaux mixture, was the first fungicide to receive large-scale use the world over and can be said to have started a new era in the technology of agriculture.

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