Agriculture by Philip Ulanowsky

Phylloxera spreads in California vineyards

A new strain of the wine grape root louse is more damaging than experts have wanted to admit.

An expert panel discussing the resurgence of a deadly enemy of wine-grape vines, recently confirmed in significant part the warnings advanced by *EIR* last August on the spread of the problem. Phylloxera expert Lucie Morton and Philip Freese, viticultural director for the Robert Mondavi vineyards, addressed the matter on March 19 in a discussion chaired by renowned wine writer Barbara Ensrud at a conference of the American Institute for Wine and Food in Washington, D.C.

Phylloxera is a root louse. It feeds on vine roots, sapping the nutrients from the plant and killing it. For over a century, winemakers have grafted their vines onto various root stocks which seem to heal themselves as fast as the phylloxera munch. However, the most resistant stocks do not produce yields as high as even moderately resistant ones, and compromises were made years ago by many California growers, based on research at the University of California at Davis, a viticultural center, choosing a hybrid stock called AxR-1. The compromise worked for about 40 years. Then, apparently, the phylloxera changed.

The new infestation, first noticed but not fully recognized in 1979, involves a new biotype, Biotype B, which has higher egg-survivability and reproduces about 40 times faster than the old Biotype A. One female (and all are female), in the five-cycle breeding of one summer, can potentially give rise to a billion others. When phylloxera hits, the vines must be pulled and new ones planted on resistant stocks.

EIR issued its warning on the scope of the phylloxera threat after the industry and consumer magazine *The Wine Spectator* published an article last August downplaying the significance of the problem. The *Spectator* implied that only two counties would be badly hit, and that the cost would run between $500 million and $1 billion. *EIR* warned that both of these forecasts were dangerously shortsighted.

According to the panelists, San Joaquin, Santa Clara, Mendocino, and Lake counties now also have Biotype B. In laboratory tests, Morton said, the Santa Clara specimens appear even more virulent than those decimating Napa's vines. Napa has about 34,000 acres of vines, 65% of which are planted on the susceptible AxR-1 root stock. So far, about 17% of vines planted on this stock have been removed. Mendocino has a similar profile. Lake County vines, according to Freese, may be 90% planted on their own roots, i.e., not grafted at all. By 1996-97, said Freese, California can expect a reduction in yield by about 33%. However, he forecast that it will recover, and that by the year 2000 there may even be an oversupply in some parts.

Various means have been tried to avoid pulling vines, including flooding the vineyard and surrounding the vine roots in sand, but they are not satisfactory. Experiments are now under way, planting a resistant stock next to the existing vine and regrafting. However, a small, young root system cannot support an older, larger vine.

Asked if there is any way for a winemaker to live with a phylloxera infestation, Freese says, "No."

It was also stated that many biotypes "probably exist" in addition to Biotype B. Although it is unknown how the louse spreads, evidence now exists that winged varieties, previously thought unable to establish themselves, can indeed do so. In any case, the rate of vineyard decimation in California, as shown by NASA satellite monitoring photos, is phenomenal. What appears as a healthy vineyard in an early spring photo is virtually dead by late fall.

Mondavi, which produces some of the world's finest wine as well as a great deal of everyday table wine, has changed its cultivation approach. Instead of 640 vines per acre in some vineyards, it will plant 2,000. The new stocks will reduce yield, but Mondavi, which has a joint venture with Chateau Lafite-Rothschild of Bordeaux, is confident that with careful pruning and time-honored European, low-to-ground vine-training instead of the "high-wire" act favored in the United States, the concentration of fruit in the wine may improve.

Many growers will not be able to afford this innovation. Freese said that, from pulling of the old vine to first fruit (2-3 years), the Mondavi vineyards will spend $25-35,000 per acre. While these may be prime vineyards getting state-of-the-art treatment, *Wine Spectator*'s estimate of an average $10,000 per acre sounds low in comparison.

Over 30 states now produce table wine, from Washington to New York to Texas. Since even the old phylloxera has been endemic east of the Mississippi for, literally, millions of years, and many of the soils (such as northern Virgina's clay) are favorites of the louse, planting has always been on resistant stocks. However, Lucie Morton said, some other type of vine disease or problem could develop.