VINEYARD
PRUNINGS

University of California Agricultural Extension Service

gathered by A. N. Kasimatis, Extension Viticulturist, Davis, March 13, 1958

COMING EVENTS

FFA Vine Judging contest - Davis March 22
Grape Day Davis August 21
Grape Day Oakville September 12
(Grape Day Programs will be sent later)

FLUORIDE INJURY TO GRAPEVINES


Fluoride accumulation in foliage and fruit of wine grapes growing in the vicinity of heavy industry. Brewer, F. R., R. C. McCollor, and F. H. Sutherland, Univ. of Calif. Citrus Expt. Sta., Riverside, Calif.

A survey was made of the fluoride content of foliage and fruit of two important wine grape varieties grown in western Riverside and San Bernardino counties, California. Abnormally high fluoride concentrations were found in mature grape leaves collected as far as 9 miles downwind from a steel mill, the major source of this element in the local atmosphere. Periodic samplings of leaves from two of the more important commercial varieties, Zinfandel and Palomino, indicated a gradual accumulation of fluoride by both varieties during the growing season. Where comparison was possible, Zinfandel accumulated slightly more fluoride but exhibited somewhat fewer symptoms of injury than did Palomino.

In general, incidence of leaf injury, a characteristic marginal necrosis, correlated well with fluoride content, but indications are that other factors, such as temperature, humidity, and available soil moisture also influence the extent of injury.

Although the leaves contained over 100 ppm F. on a fresh-weight basis, fruit harvested within 2 miles of a large steel mill contained only about 1.3 ppm fluoride. The effects, if any, of elevated fluoride concentrations and subsequent marginal necrosis on grape production cannot be determined from the information now available.

POLYETHYLENE FILM LINERS FOR STORAGE EMPERORS

Polyethylene liners of three thicknesses were all very effective in reducing weight loss from Emperor grapes packed in them. Modification of the atmospheres within the sealed liners was related to thickness of the film. The modified atmospheres alone were not sufficient for maintaining the quality of grapes nor for controlling decay in storage. Sodium bisulfite enclosed in the liners provided satisfactory decay control, but caused excessive sulfur dioxide injury to the fruit. Sodium bisulfite solution sprayed on the fruit before packaging was ineffective in controlling decay and in preserving the color of the stems. The inclusion of sulfur dioxide -- impregnated activated charcoal in the liner gave very good decay control. However, sulfur dioxide was desorbed too rapidly, causing injury to the fruit during the early part of the storage period. Perforated liners effectively controlled the weight loss of the berries and stems and materially reduced the decay. It appeared that perforated liners were satisfactory for maintaining high relative humidity within the package and for permitting sulfur dioxide to diffuse into the package during room fumigation.
Unfortunately we as yet have little information on the adaptation of the newer University varieties in the Lodi area, and experiences with the first new variety introduced have not been good. This should sound a note of caution to anyone planning any large acreage.

Ruby Cabernet has been disappointing in several vineyards, especially where the growth is vigorous. The flower clusters failed to set well and poor and irregular clusters are produced. Unless we soon find some practical remedy to produce better crops, it would be unwise to plant this variety on rich soils, such as those that would produce good Tokays. Training the vines on low trellises and using cane pruning would be the best solution in getting better yield. Longer spur pruning has not materially improved yield in other areas. As the vines get older and the growth is less vigorous the yields improve. The red table wines made from the Ruby Cabernet have been exceptionally good, and quality-wise there is no better red wine grape that we could recommend. It is also now highly regarded for rosé or pink wines.

For dry white wine production, where additional acidity and some distinct flavor is needed, the Emerald Riesling is satisfactory. This variety is finding a place in champagne production, and in blends with the French Colombard has produced an excellent product. The variety is a heavy producer and ripens early. Difficulty in preventing browning of the must occurs if the variety is picked too ripe, so that the crop should be harvested at about 21° Balling to obtain the desirable greenish color in the wine.

Several of the newest varieties for dry wine production have yet to be produced commercially in the Lodi district. These are the Calzin, Helena and Flora.

The "Calzin" was produced as a new Zinfandel type. The wine is much like Zinfandel, very fruity in character, but has much better color. It is a hybrid of Zinfandel x Refosco. The clusters are large, loose, and easily harvested. The yields surpass Zinfandel, and the wine is more tolerant to red spider. I believe this variety appears very promising for the Lodi district, if a Zinfandel type is required.

The "Helena" is a white table wine variety of distinct character and of high quality. The clusters are compact. Its growth habit and yields are much like the Zinfandel, but the fruit is much more resistant to spoilage.

The variety "Flora" is derived from the crossing of the Semillon and Gewurz or "spicy" Traminer. It is a vine of only medium vigor, but the yields are much higher than our premium white wine varieties, such as White Riesling or Sauvignon blanc. The wine is exceptionally fragrant and of very high quality. The fruit is easily handled and fermented without excessive browning. It should be successful in the Lodi district and because of early ripening, the crop could be harvested well in advance of fall rains.

For the production of port wine, two new varieties are now being started in the district. These were tested under the numbers S 8 and S 26.

S 8 is tentatively named "Rubired". The very high deep red color of this variety should make it useful to supplant the "color" varieties, such as Alicante Bouschet and Salvador. This variety is of more interest in the southern San Joaquin Valley, where color varieties are in demand.

The S 26 is recommended to be used directly for port wine production, and is called "Royalty". Both varieties ripen before Carignane and are easily harvested. Yields at Davis have been exceptionally high. The vines have considerable resistance to red spider attack and are tolerant enough to powdery mildew so that sulfur dusting is unnecessary in most