

Two New Table-wine Grapes

promising in combining high productivity and wine quality

H. P. Olmo

The following extract is from Experiment Station Bulletin 704, Ruby Cabernet and Emerald Riesling listed on page 16. Cuttings of Ruby Cabernet and Emerald Riesling are not offered for sale or distribution by the University of California, but may be purchased from nurseries. If you want to know where they may be obtained, write to the Division of Viticulture, California Agricultural Experiment Station, Davis, California.

Originating new varieties better adapted to California conditions is one of the main activities of the grape breeding program of the University of California begun in 1929 by the Division of Viticulture.

In some instances, semicommercial trials of the selections have been completed. This is the case with Ruby Cabernet and Emerald Riesling.

Ruby Cabernet

Ruby Cabernet—a hybrid of Carignane × Cabernet Sauvignon—combines the excellent viticultural features of the Carignane with the outstanding wine quality of the Cabernet Sauvignon.

Ruby Cabernet has been tested in two localities—the University Farm at Davis in Yolo County and St. Helena in Napa County. Ruby Cabernet greatly exceeded the yield of Cabernet for every one of the four years of record, both at Davis and St. Helena. The fact that the new Ruby Cabernet can bear over seven tons per acre of high-quality fruit seems to disprove the widely held opinion that high quality and low yields must go together.

Despite much heavier production, Ruby Cabernet ripens from four to six days in advance of the Cabernet Sauvignon.

The acidity of the must of Ruby Cabernet was higher than Cabernet Sauvignon at the same sugar content both at Davis and St. Helena.

Features for Grower

From the grower's viewpoint, the variety has many good features.

It buds out late in the spring, only several days earlier than Cabernet Sauvignon. The vine is a very vigorous grower and is productive enough with spur pruning so that more costly pruning systems are not necessary.

The habit of growth is open and semi-upright, so that training and pruning are easy. There is no tendency toward overbearing with normal handling, and the vine retains rather consistent annual growth and fruiting.

The fruit clusters are borne on long peduncles, hang free, and are easily located and harvested.

The berries are set loosely in the clusters, resulting in good exposure and very uniform ripening.

The fruit remains in excellent condition on the vine, and is not injured to any great degree by sunburn or spoilage.

Features for Vintner

The fruit reaches the crusher in excellent condition, and the juice yield is much higher than that of Cabernet Sauvignon because of a smaller proportion of skin and seeds in relation to the volume of the berry.

The fermentation is easily accomplished without taking special precautions.

Clearing of the wine takes place rapidly and completely after fermentation, and its composition is such that no lots have ever spoiled with the usual cellar treatment.

The wines of Ruby Cabernet appear as sound as those of Cabernet Sauvignon in every respect. The color of the wine is more intense in Ruby Cabernet and appears to have good stability. Its hue is often more reddish.

The typical Cabernet aroma is recognizable in the young wine, and the bouquet that is so characteristic of Cabernet Sauvignon develops with aging. Tasters comparing the new wines are more likely to recognize the Cabernet characteristics in the new variety than in Cabernet Sauvignon itself.

The tasting scores on wines of one and two years of age demonstrate the excellence of the finished wine, certainly rating it on a par and often surpassing the product of the world-famous Cabernet Sauvignon.

Commercial Winery Test

The findings of these studies, presented from such small-scale experiments, might justly be criticized. A commercial winery test during the 1946 season well demonstrates the general excellence of the wine,

and tends to substantiate the small-scale development test.

Long-time aging tests to determine the ultimate development and length of life of the wines are in progress, but no comparisons are yet available.

Maturing

The opinions of all tasters are in agreement that Ruby Cabernet matures more rapidly and becomes marketable sooner than Cabernet Sauvignon. Whether this more rapid mellowing indicates a shorter life and incapacity to reach a great peak of development with prolonged aging cannot be foretold at present.

Emerald Riesling

Emerald Riesling is a hybrid of Muscadelle—of California—and White Riesling. It was first propagated for wine trials at Davis in 1939.

In 1940, a row of 10 vines was budded at St. Helena on heavy adobe soil in a low-lying area subject to spring frosts. During the 1944 season the spurs of all varieties in this block had injured or dead buds.

Emerald Riesling was the only variety to give a fair yield from the growth of basal buds that were not injured, averaging 10.9 pounds per vine. The St. Helena data of 1946 and 1947 are from vines propagated on St. George rootstock and in their first year of bearing.

Characteristics

The musts and wines of Emerald Riesling are characterized by high acidity.

At maturity the fruit still remains a deceptive green, even though the Balling is high enough for producing table wine. The grower could easily leave the fruit on the vine past the proper stage for making the best product.

The clusters are much more resistant to fruit rots and the attacks of *Botrytis* than is the Folle blanche.

The fruit has been exceptionally clean and free from spoilage after transport.

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Citrus Red Mite

new chemical gives promising results in control experiments

L. R. Jeppson

Known by the code K-1875 the new chemical, bis (p-chlorophenoxy) methane, promises aid to the citrus grower in his fight to control the citrus red mite.

Of the hundreds of compounds which indicated toxicity to insects or mites only a few have actually shown outstanding possibilities for use in the control of the citrus red mite.

As inadequacies in the citrus red mite control became evident, the Citrus Experiment Station intensified its program of investigation of new materials.

One of the chemicals tested with encouraging results was the acetal, bis (p-chlorophenoxy) methane, now available commercially under the name of Neotran.

In laboratory research studies the chemical proved to be very toxic to the citrus red mite in all stages, including eggs. The residues remained toxic to the mites for a relatively long time after application to foliage and fruits.

In field applications, formulations containing K-1875 in such solvents as kerosene, methylated naphthalenes, and tetrahydro naphthalene, were found to be toxic to both the mites and their eggs.

The resulting field controls were generally comparable to the conventional petroleum oil sprays.

Formulations of K-1875 compounded as dry powders and applied as water suspensions appeared as effective in field control as the solvent formulations.

Field experiments have shown that the citrus red mite moves about sufficiently to contact the toxic residues of K-1875 and that the residues remain effective for one to several weeks.

Applied as Concentrate

Possibilities of applying spray concentrates of the chemical rather than full coverage applications are suggested by these studies.

The cost per acre of applying spray concentrates is but 1/10 to 1/5 that of complete coverage spray because many more acres can be treated within a given period of time.

More consistent results have been obtained when this chemical is applied as concentrate sprays than with dust applications. A greater deposit of K-1875 per unit of vegetative area is usually obtained when applied as a concentrate water suspension than as a dust using the same application equipment.

The deposit of the toxicant in concentrate spray applications is not as subject to moisture conditions and unfavorable air movements as are dusts, so an adequate deposit can be counted on under a greater variety of weather conditions.

Formulations of K-1875 have been applied to 1,400 acres of citrus trees in 150 groves located in all the major areas where citrus red mite is a pest.

Tests using one or more formulations of this material have been in progress during the majority of weather conditions of the past two years and no injurious effects to the citrus trees or fruit have been evident.

As a result of investigations so far conducted with K-1875 it is suggested that in conventional spray applications, 1½ to two pounds of a wettable powder be used per 100 gallons of a spray. In concentrate spray applications 10 pounds of a 40% wettable powder may be used in 100 gallons of spray and applied at about 100 gallons per acre.

K-1875 appears to be compatible with many of the insecticides, fungicides, and deficiency treatments presently used on citrus.

No apparent loss of toxicity occurred when both dry and paste concentrates of these mixtures were held in storage for eight months. No plant injury or loss in toxicity to the mites was found when normal dosages of K-1875 and each of the following were applied to citrus: Cryolite, nicotine sulfate, derris, zinc oxide, zinc sulfate, soda ash, manganese sulfate, Fermate, Zerlate, oil and parathion.

Experimental work done by a commercial laboratory and reported to the Citrus Experiment Station indicates it is of a low order of toxicity to warm blooded animals, and that it is about one-tenth as toxic as is DDT when judged on the basis of both acute and chronic oral toxicity.

It is not absorbed through the skin in significant quantities and it is not significantly irritating to the skin.

This material is judged to be one of the least toxic insecticides ever developed. Its handling hazards are negligible and—when compared with other commonly accepted insecticides—its formulations can be regarded as safe to apply to food crops.

K-1875 appears to be rather specific in its toxicity to citrus red mites.

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It is easily crushed and stemmed. If the grapes are not overmature, the free-run juice is light green in color, a characteristic maintained in the wine of grapes from the cooler coastal regions.

There is a great demand for wine of this color in commercial channels. The juice does not separate readily from the pulp and is likely to be somewhat thick, a characteristic of its Muscadelle parentage. This often results in a slow fermentation.

In order to complete the fermentation to dryness, too much aeration may be given, which can cause some undesirable oxidation. This has been especially noticeable in the small quantities of must, usu-

ally eight to 10 gallons, that have been handled in the experimental lots at Davis.

The wines have not scored well in such instances. This defect can apparently be easily overcome by the correct cellar treatment, either by handling larger quantities, not using musts too high in sugar, or by blending in a small quantity of juice of a variety easily fermented.

In a commercial winery test, made in the 1946 season, the wine was produced without special care, kept a good color, and cleared rapidly. Tasters consider it very promising.

The yield of alcohol is high, and the fermentation is clean, even when some browning from overoxidation occurs. Once fermented, the wine becomes brilliant in a short period of time and is quite stable.

At first, some tasters discount the acidity as being too high, but on aging this sharpness disappears. The best samples in many respects resemble the Chablis of France, being tart and fresh.

The wine is heavier in body than either the Folle blanche or French Colombard and develops much more character on aging.

Preliminary results indicate the wine is long-lived and does not reach perfection without proper aging. The Davis samples of 1941 are still improving in bottle.

Commercial tests seem warranted to determine the suitability of this high-acid variety for the production of champagne.

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