

Artificial Pollination of the Eumelan Grape

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The Eumelan, an excellent table and wine grape, is self-unfruitful due to its failure to produce viable pollen. Even when planted alongside of varieties with viable pollen its yield is uncertain. Many other high quality grapes, such as Brighton, Gaertner, Goethe, Lindley, Salem, Erie, Aminia, Barry, Herbert, and Merrimac belong in the same category. The present day fruit breeder discards types with worthless pollen regardless of their desirable qualities. The writer carried on during the 1955 season a small pollination test with the Eumelan grown near Naples, New York in a vineyard belonging to the Pleasant Valley Wine Company. His former associate, F. E. Gladwin, had tried a similar experiment on the same variety about 25 years ago but with little success. If I remember correctly his increase in yield was about 10 per cent.

A row of Eumelans consisting of 71 strong, vigorous vines was selected because their fruit clusters had been small and scraggily, although bordered on both sides by varieties with good pollen, such as Delaware and Catawba.

Male grape bloom was abundant in 1955 on wild *Vitis riparia* vines and several French rootstocks, such as 3306 and 3309, so several pailfulls of these flower clusters were easily collected. Male pollen was ready one to two weeks before pollination time.

These male flower-clusters were scattered thinly on large sheets of paper and spread out in an enclosed porch and a bedroom. When the blossoms had become dry, they were sifted

through a fly screen that had been tacked to a bottomless box. These siftings were again sifted through a fine screen, about 100 wires to an inch. The second sifting was mainly pure pollen.

Although there was an abundance of pollen, much of it was certain to be wasted when applied with a small duster. Gladwin had used *Lycopodium* pollen as an adulterant but Dr. John Einset suggested wheat flour. Flour has been used successfully as a pollen adulterant in Missouri. One spoonful of pollen was added to nineteen spoonfuls of flour and this mixture was run twice through a small sifter used in mixing flour and baking powder.

On June 10th, when the major part of the blossoms on the Eumelan vines were receptive, the pollen was applied with two applicators, one a "De Villbiss Powder Insufflator", and the other an experimental set-up used for spreading smut spores. The former proved superior as the flour and pollen never clumped. Elvin Tyler, manager of the Pleasant Valley Wine Company's vineyards, aided in the pollination. Sixty of the 71 vines were dusted with this mixture and 11 were not dusted for comparison.

In another vineyard close to a dwelling in a short row of Eumelans, three vines were pollinated with pure grape pollen applied with a camel's hair brush, and three adjoining vines were not pollinated. Other vines in the row were omitted due to their proximity to trees. Catawbas and Concordes were in close proximity to these six vines. Two

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or three days after pollination, Dr. Whitton of the New York Experiment Station tested the pollen germination of this flour and pollen mixture and reported 50 per cent of the pollen was viable.

The abundance of large well-filled clusters on the pollinated vines was very striking throughout the season. Delbert Beam, a careful and conscientious foreman, harvested the crop and kept track of the fruit obtained from the pollinated and unpollinated vines. Mr. Aulls who records the weight of grapes at the winery also supplied figures that checked closely with those of Beam.

The 60 vines pollinated with male pollen plus flour produced 1,111 pounds of grapes, that is, an average of 18.5 lbs. per vine, while the 11 vines not hand-pollinated produced approximately 9 pounds per vine. The yield had been doubled.

The three vines hand-pollinated with pure male pollen averaged 49 pounds per vine, and the three adjoining plants that were not hand-pollinated averaged a little over 18 pounds per vine. These exceptionally vigorous vines were close to a house and were undoubtedly benefitted by their location.

The dry weather of 1955 cut down yields about 20 per cent as compared with the more favorable season of 1954. Yet according to Mr. Aulls, the Eumelans harvested in this vineyard yielded more than twice as much as the previous season.



Spartan Apple

Our Spartans sold very well in Denver, San Francisco, Los Angeles, and to a lesser extent San Antonio. As a result of introducing Spartans to San Francisco, an export order developed for Honolulu. In Honolulu they were as pleased as elsewhere with the

Spartan. We also made a few sample shipments to Great Britain where the Spartan was enthusiastically received.

We consider it one of the finest apples we grow here in the Valley. Our production is still somewhat limited, but is becoming heavier each year, and eventually we expect the Spartan to replace part of our present McIntosh production.

You may be interested to know that during the past season we sold our Extra Fancy Spartans at between \$3.75 and \$4.00 per box f.o.b. Valley shipping points.—*J. B. Lander, B. C. Tree Fruits Limited, Kelowna, B. C., Canada.*



American Pomological Society Annual Meeting

The annual meeting of the American Pomological Society will be held jointly with the Kentucky State Horticultural Society December 3, 4 and 5 in Louisville, Kentucky. The Kentucky Society is celebrating its centennial and an unusually fine meeting is in prospect.

The A.P.S. is having a business meeting Sunday evening December 2 and a second such meeting on Monday afternoon. There will be an A.P.S. breakfast and informal discussion of fruit varieties Tuesday morning December 4. And that same evening there will be banquet at which the presentation of the Wilder award will be made.

All A. P. S. members and other interested parties who are in the position to attend are all very welcome to the Louisville meeting.



E. G. Christ, of Rutgers University tells us that New Jersey blueberry growers have become quite concerned about the dark color of the variety Herbert and the susceptibility of Earliblue to mummy berry.