

GRAPE GROWING

With Special Reference to Imperial Valley

Grape growing is not a new industry in California. The first vineyards were of the so called Mission grapes, planted by the Mission fathers when California was first visited by them. Junipero Serra, like Johnny Applesed in the legend of the Ohio Valley settlement, carried seeds in his pockets. The seeds were probably brought by the Franciscan fathers from Mexico from vines previously imported from Spain. But the grape did not interest commercially until the fifties, when the leading European varieties were introduced. Several consignments of cuttings and roots were imported the following years, until now California has imported several hundred varieties of wine, raisin and table grapes. Experiment and trial are proving which are the valuable ones commercially.

The question is asked: Can we grow grapes in the Imperial Valley? The first question should be: Will it pay to grow grapes in the Imperial Valley? If so, what variety or varieties? Experience in the past in California has shown that a suitable and safe market is the first thing to consider. If wine grapes could be grown successfully they would have to compete with the wine interests of the state and elsewhere. If the raisin should be grown it would have to compete with other raisins and it is a question how much the acreage could profitably be increased. The few trials of the last three years at Thermal and in the southern part of Imperial Valley show that the grape crop is very early, with a ripe crop in some varieties as early as June 15th. If this be true, there would seem to be opportunity for a table grape to go on the market almost without competition. The table grape which has so far shown greatest promise is the Malaga. If the Malaga grape can be successfully grown and put on the market with small competition, it promises to be very profitable and will greatly increase the value of the ground upon which it is grown. Grapes in other parts of California that are considered successful are giving a crop worth from \$50 to \$300 per acre per year and the land is valued at from \$150 to \$500 per acre. Alfalfa land of first quality in the same locality is valued at from \$50 to \$200 per acre, with a crop worth from \$25 to \$100 per year. So it would seem that more intensive culture is certainly worth trying; in a small way at first, increasing the acreage as the venture proves its worth.

Climate—In growing grapes climate is an important matter. Climate includes amount of sunshine, humidity and range of temperature. For an early grape almost continuous sunshine in the spring and early summer is required with low humidity and a high temperature. Low temperature in winter is desired, so long as it does not go below 16 degrees Fahrenheit, as it gives the vine a period of complete dormancy and rest and causes the falling of the leaves. The freedom of the air from moisture gives a grape with a skin of fine texture and whitish bloom, which increases the salability. The ripening season should be free from rain. These conditions prevail in Imperial Valley.

Soil—The Malaga grape loves a fine sandy loam, especially one of granitic origin, which is not less than ten feet in depth and which has perfect drainage. Experiments at the University of California Experiment Station at Tulare show that the grape will stand some alkali, but there should not be more than two-tenths per cent. and it is better if there is none or only a trace. The white grape does not do so well in the clay soils. The raisin and Malaga grapes of Fresno county grow best in a fine sandy loam, which is there called white ash.

Stock—The practice in selecting grape stock is unfortunately too often from anything that will make cuttings. This is just as bad as to select for a horse anything that goes on four legs, has upper and lower teeth and will eat hay. A good dairyman will not think of buying a cow until he knows her producing ability and the quality of her milk. A good horseman wants to know the record of the horse he is about to purchase and even the grower of Belgian hares wants one with a pedigree. Summer boarders have no more license to belong in the vineyard than in the dairy herd. The stock should be selected from vines that are bearing the kind of grapes wanted and at the time desired or early as possible.

Nursery—The soil for the nursery should be of first quality, well tilled and accessible to irrigation at any time. Good vineyard soil well tilled and well situated makes good nursery soil. A good garden plot makes a good nur-

ery plot.

Special attention must be given to the cuttings, for this is the beginning of the vineyard and a good cutting is the promise of a good vine. There is a right way and a wrong way of making a cutting. A hand pruning shears should be used that has a good blade, preferably removable, with a bolt that can be set, thus keeping the blade from being too tight or too loose, with a coil spring that is lively and strong enough to force the shears open after an ordinary cutting is made. Then there should be some sort of device on the handle to fasten them shut when not in use to preserve the sharpness of the blade and to avoid injury.

Now to the cutting. There should be a reason for every cut that is made. The wood of the vine is hollow and pithy except at the joints or nodes. At the nodes the membrane intercepts the pith. The amateur will probably clip the branch at any point between the nodes. All the tissues between that point and the node remaining above will die. The proper place to clip is at a point about a quarter of an inch below the bud, with the blade of the shears toward the operator and the bud away from him. The cutting is much more quickly and accurately made if done in this way. The cut that determines the end of the cutting should be made in the same manner a quarter of an inch above the last bud.

Great confusion exists as to the proper length of the cutting. Cuttings are seen varying in length from ten to twenty-four inches. There must be a right and a wrong length for cuttings. The cutting should be long enough to contain a sufficient amount of plant food for the needs of the young plant, with sufficient nodes for proper root development and buds for the development of the shoot. Ten or twelve inches is long enough to provide these essentials. Anything over this increases the cost of growing the vine in the nursery and planting it out in the vineyard. The wood selected for cutting should be ripe. By ripe is meant it should have a brown covering, which will break away, showing a greenish cast underneath when the twig is twisted abruptly and finally the twig breaks. Any wood which does not show these qualities is not ripe. Wood showing a greenish cast is not ripe. The size should range from three-eighths to three fourths of an inch in its greatest diameter. Long jointed or suckery wood or wood with deep grooves in it should not be used. The best wood to use is short jointed with about five nodes to a cutting of twelve inches in length. The cuttings should be tied in bundles of about one hundred and fifty with rope or wire and heeled in, butts up, in a trench with at least from six inches to a foot of soil over them. They should be placed butts up so that the sap will be encouraged to flow and hasten healing at the upper end.

There will be some action and a callous will form over the end of the cutting. This callous is the first essential of a good vine. It has nothing to do with the formation of roots. It takes from two to four weeks for the callous to form and harden, after which the cutting should be planted in the nursery. They should not be left in the trench until the shoots begin to grow. In Imperial Valley the nursery should be irrigated before planting out is done and should be thoroughly moist, but not wet enough to be boggy. Rows may be laid out with a plow to a depth of about two inches less than the cutting. The cutting should be pressed into the bottom of the furrow away from the land side. This pressing down makes the contact hard under the cutting, thus insuring an ample supply of moisture, which is necessary to the formation of a good root system, which should form principally at the first node or joint above the callous. Then another furrow may be plowed, throwing the dirt up closely about the vine. When the operation is complete there should be but one bud showing and if the soil is of such a texture it will not bake or crust, even this bud may be covered slightly. We observed that several nurseries in the Valley had failed on just this account. There were cuttings at least eighteen inches long, over nine inches of whose length was above the ground. Such cuttings will almost always die. More-over observation will show that the bud usually starts at the joint, just above or just below the surface of the ground. The nursery should be kept well tilled, free from weeds and irrigated sufficiently to grow a thrifty medium sized vine by the end of the season. The largest vine in the nursery seldom makes the finest vine in the vineyard. The vine should be dug from the nursery in the fall and the top pruned to one spur of two buds and the roots pruned to six or eight inches in length, removing any part that is injured. If the rooted vines are to be shipped, the pruning should be done after they reach their destina-

tion and just before planting.

The Vineyard—Having selected a suitable soil for the vineyard the land should be leveled to a uniform grade as for alfalfa, but without borders or banks. The land should be ditched, so that irrigation is convenient and easy. The distance apart at which vines should be planted varies with the locality, but the practice in Fresno would seem to apply in this case and here vines are most conveniently planted 8x10 and 10x12. Vineyards have even been planted 5x14, but this is not considered good practice. Sometimes the vines are planted in squares with one in the middle, like the small boys' game of "fats" While this gives more vines to the acre than any other way it is not advisable for the reason that it is more troublesome and expensive to cultivate and harvest when planted in this way.

Great care should be given to getting a row straight. The best thing to plant to is a wire about one hundred and fifty feet long, with loops the distance apart the vines are to be. If the vines are not in squares, there should be two wires. A wire should be laid along the edge of the proposed vineyard with one end of the wire at a corner of the field and stakes set up at the loops. A right angle should then be turned off by the 3, 4, 5 method, which is as follows: From the corner measure back along the wire 30 feet and put a stake. From the corner in a direction at right angles and along another edge of the field measure 40 feet. The distance from the stake on the wire to the end of the 40 feet should be 50 feet and forms the hypotenuse of a right angled triangle. If the wire be 150 feet long at this distance from the corner another right angle should be laid off and the direction of a line parallel to the first one determined and stakes set to show the position of the rows. The planter is now ready to plant the vine at the loops of the wire with the ends determined by the two parallel rows of stakes first set out. After being pruned the vines should be set in place, with the prongs above the ground. When the hole is partially filled about the vine it should be raised slightly to give the roots a downward trend. The roots must not be twisted or looped about, one another. During the first year the ground should be kept well tilled and free from weeds, with sufficient irrigation to keep the vines thrifty during the growing season. Instead of rooted vines cuttings may be planted in the vineyard without first growing in the nursery. In certain instances this may be good for Imperial Valley, but the experience in other grape growing sections is that the stand is not so complete the first year and that in the end the vineyard is more expensive and less satisfactory than the one planted with rooted vines. Furthermore the rooted vine is more easily trained than a cutting and the moving from the nursery to the vineyard often shows the vine is improperly rooted or unhealthy, when this would not show if the cutting were left in place. Transplanting also increases the number of roots.

(Continued on 7th page)

DESERT LAND, FINAL PROOF—NOTICE FOR PUBLICATION.

United States Land Office, Los Angeles, Cal., November 20th, 1906.

Notice is hereby given that ABNER C. ENSIGN, of Imperial, Cal., has filed notice of intention to make proof on his desert-land claim No 2046, for the W 1-2 of NE 1-4, Sec. 23, Twp. 16 S, R 13 E., S. B. M., before Register and Receiver, at Los Angeles, Cal., on Monday, the 14th day of January, 1907.

He names the following witnesses to prove the complete irrigation and reclamation of said land:

A. H. Rehkoof, of Imperial, M. V. Dutcher of Los Angeles, Lester Salisbury of Whittier, Mrs. C. H. Bold of Whittier. d8-j5 FRANK C. PRESCOTT, Register.

Notice to the Public

Notice is hereby given that the undersigned, a citizen of the United States has taken possession of and now occupies the tract of land described as the N $\frac{1}{2}$ of NE $\frac{1}{4}$, Section 35, and W $\frac{1}{2}$ of NW $\frac{1}{4}$, Sec. 36, Tp. 14, S, R. 14 East, S. B. M., according to the survey of these lands made in 1900, by the Sunset Commercial Company and commonly called Bothwell survey. This land is unoccupied and unclaimed by anyone except the undersigned and is at present in the same condition as unsurveyed public lands, as the numbers properly describing them have been used by other parties and applied to other lands in making entry thereon. And I hereby certify that it is my bonafide intention to occupy and improve the land herein claimed and to file on the said land according to the United States land laws as soon as the survey now being made shall be completed and the map properly describing said land is filed in the United States land office and the lands opened for entry.

Signed, GEORGE E. SCOTT.

Witness: E. STURGILL.

Dated at Brawley, Calif., Nov. 22, 1906 d-1-d-22

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