

New Technique Improves Cardinal Grape Quality

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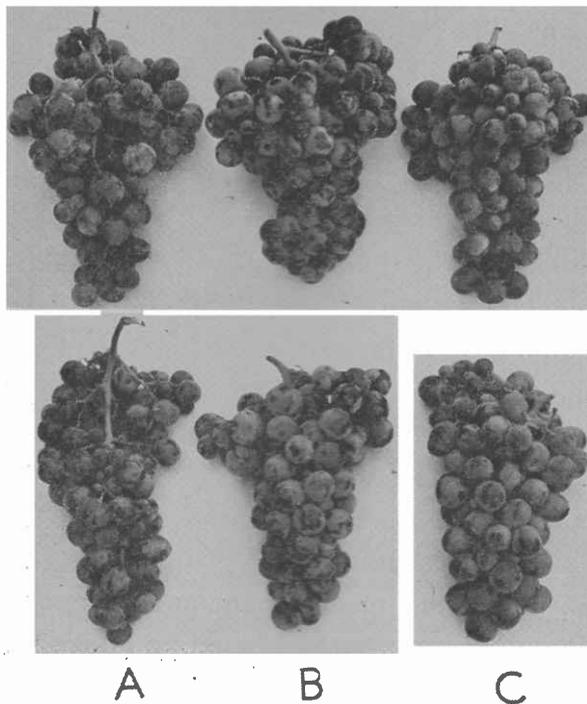
Always conscious of market demands for higher quality, Arizona growers of Cardinal grapes now have available a relatively simple means for increasing production of number one grade fruit. Although the Cardinal is noted for its natural high quality, no one can deny the value of any practice which tends to improve on nature.

Many Cardinal clusters, chiefly those which ripen earliest, are often poorly set with normal seeded berries. Frequently the shoulders of the clusters have the fewest normal berries set, giving them a cylindrical shape rather than the more desirable conical form associated with high quality Cardinal fruit. Some berries which do not set normally fail to drop off, and they remain in the clusters through the ripening period as small, green, seedless shot-berries.

Not Desirable Appearance

Some shot-berries continue to grow slowly and some even acquire color and accumulate sugar. But these characteristics result in mature clusters with a loose, open, straggly appearance, non-uniform color and berry size and therefore, a lower grade. Because of this packers find it necessary to perform expensive hand selection and trimming of clusters to provide the market with fruit of the highest grade.

In simplest terms, the new method for improving fruit quality involves only pinching or clipping off one-fourth to three-eighths inch from the tip of each flower cluster before blossoming occurs. Research in progress at the University of Arizona Branch Experiment Station, in Mesa, reveals that this simple method can increase the production of number one grade fruit by as much as 115 per cent. Coincidentally, the yield of number two



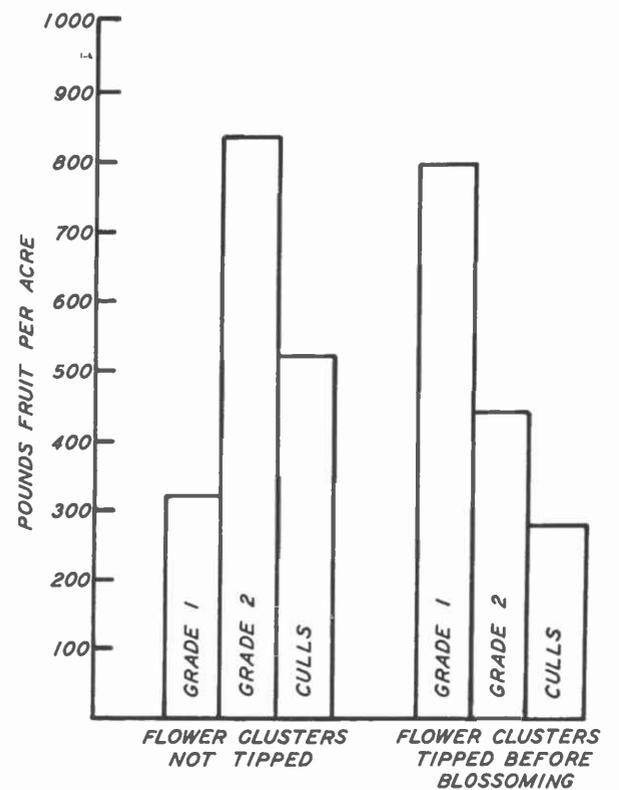
GRAPE CLUSTERS over "A" are normal, while "B" and "C" show the larger, better filled clusters resulting from removal of $\frac{3}{8}$ inch at the tip at prebloom flower stage.

grade and cull fruit is reduced by nearly one-half, as shown in the graph on this page.

Through critical laboratory examinations of harvested fruit, it has been determined that the reasons for this marked grade improvement are (1) more uniform berry size and color, (2) increased set of normal sized seeded berries, which results in more compact, better shaped clusters, and (3) fewer shot-berries, especially in early ripening clusters, as shown in the photos. Of great importance is the fact that total fruit production is not reduced significantly by this practice, a distinct advantage over methods of improving quality which involve severe fruit cluster thinning practices. The sugar content of berries from treated clusters is no different than from untreated clusters.

Also Advanced Ripening

In addition to grade improvement of fruit, the time of ripening was advanced by at least 4 or 5 days by flower cluster tipping. Earliness is an extremely important factor to growers in such a highly



MORE GRAPES of better quality, as shown by this graph, result from pre-bloom flower tip removal.

competitive market as table grapes. During the course of the 1960 shipping season the overall average market price of Cardinal grapes for one grower decreased by about 9 cents per lug per day.

At the beginning of the season price changes were generally much more rapid than late in the season, so that a few days difference in time of ripening could make a great deal of difference in market value of fruit.

Procedure Pays Off

Preliminary calculations based upon the average 1960 market prices of number one and number two grade fruit plus the added effect of five days in advance in maturity indicate flower cluster tipping can increase the value of Cardinal grapes by about \$300 per acre. At present we have no information relative to the labor cost involved in performing such an operation, but experienced observers have estimated it at \$50 per acre or less.

Trade names used in this magazine do not endorse products named nor imply criticism of similar ones not mentioned.

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