Hybrid Vigor In Dairy Herds By Crossing in Breed

W. A. Regan

The general principle of hybrid vigor or heterosis is development based on crossing members of the desirable hereditary factors of the parents. Heterosis refers to the higher than average performance of the杂交后代 as compared to the average performance of the parents. This principle is exploited in crosses and multiple crosses to develop superior dairy cattle breeding stock.

The Constitution of the United States, the individual states having much of the power to regulate utilization of natural resources especially agricultural land, ranges, forests, water, wild life, and minerals. Conservation does not necessarily connote efficiency. Neither does development mean waste. Waste of resources means that the net-value stream from utilization of resources is not maximized. Maximization must consider both present and future values. Application of the maximization principle must be found, making it possible to reach maximum goals, at least, of public conservation policies.

The offering of grapes fell short of the expectations at times during that season. Some difficulty was had with the condition of the grapes as a result of the fire, particularly, with the Thompson Seedless. In most varieties the date at which the fruit reached the local minimum temperature for shipment was late, however late was the date that the grapes had become thinning results. A delay in maturing under such conditions very definitely indicates overharvested vines. In the case of Thompson Seedless, for instance, analyses of fruit in the range of 17° to 20⁰ Bolling showed the average acid content to be 20 to 30 per cent below that of fruit of this variety from the fruit like quality of the same areas and same range of maturing results in years of a high quality of the fruit. These figures reveal a situation of extreme overharvesting of the fruit from which the fruit was taken, since the grapes must hang below the normal date of maturing for a long time for the acidity to be reduced to this extent.

Improving Fruit Quality Information at hand not only indicates the nature of the difficulties but points the way to the avoidance of similar trouble in years to come. Overcropped vines cannot produce high-quality fruit.

Prior to the war, cultural operations were in common use, which, when properly applied, aided materially in the production of better grapes. The return to these practices is as important as the fact that the vineyard must hang until the normal date of maturing for a long time for the acidity to be reduced to this extent.

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The fruit and the new growth of citrus and orange are a serious pest only in the inland valleys. The most serious damage occurs in the Sycamore and San Joaquin valleys of California, in the San Fernando Valley sections and the Coachella Valley in southern California. Limited numbers of thrips occur on citrus in the coastal areas but they have not caused enough damage to warrant control measures.

The fruit and the new growth of all varieties of citrus may be injured by thrips. Nymphs which hatch in the early spring overwinter in the trees begin to feed on the new flush of growth in March. Injury is possible at this time and may cause considerable injury. When the new growth hardens, which is about the time the petals have fallen, thrips move to the shoots of the new growth. Feeding causes the characteristic ring scarring. Pruning reduces the number of thrips by removing the shoots on which they feed. In the summer the fall flush of growth may be so badly damaged by thrips feeding that no new leaves develop. On lemons, injury to both fruit and new growth begins with the nympha which hatch from overwintering.
Constant Research on Use of Insecticides Necessary for the Control of Citrus Thrips

Warren P. Tufts

Pear Production Problems Confronting Growers Receive Extensive Research Study

California Agriculture, April, 1947

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Experiment Station, largely replaced the lime-sulfur sprays or sulfur dusts used in earlier years.

Hybrid Vigor in Dairy Herds

By Crossing Between Inbred Families Within a Breed

California Napoleon Nick, head sire of the first inbred family of purebred Jansen dairy cattle in the Department of Animal Husbandry for a high order transmitting ability for high milk and butterfat production.

The first nine to freshen—none was conceived—averaged 890 pounds of butterfat with a ten-month average, 442 pounds, the highest, 535 pounds. When they began using our University bulls, their Cow Test remained effective again against the sudden appearance of the pest or insecticide has given the citrus industry, which from 150 to 180 years ago on lemon and grapefruit in southern California or on grapefruit in the Joaquin Valley.

DDT-Sulfur Dust or DDT Spray

The absence of a sufficient amount of chilling weather (under 45 Deg. F.) during the winter months results in a protruded bloom which in extreme cases may extend over a period of a month.

The Bartlett of all the varieties grown in California has the most profound rust.

The use of oil sprays has in certain instances been somewhat effective in breaking this rust, but past data are insufficient on which to base definite recommendations as to the use of oil sprays for this purpose alone.

Delayed Foliation

Experimental trials have shown conclusively that this breakdown is caused by over-maturity due in large measure to the fact that sprays for the preharvest drop hold certain fruits on the tree beyond the proper time of harvest.

There seems little doubt but that the sprays have a direct effect in hastening ripening generally, and where used, the normal period of harvesting should be reduced.

In experimental trials little, if any, breakdown has occurred in peaches picked during the first half of the harvest season.

The possible influence upon ripening of summer oil sprays and of some of the newer developments for the control of codling moth are also now being investigated.

Warren P. Tufts

Tests for Determining Fruit Maturity

Definite minimum maturity standards based upon color changes, rate of softening and increase in soluble solids have been suggested by extensive research to determine the relative firmness of the flesh offers a definite means of measuring maturity, and pressures for harvesting the more important varieties higher.

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Fruit on the tree on November 26, ten, with the exception of the Shandy, has shown susceptibility to this disease when protected against the brown thrips mentioned stocks.

Investigations are continuing with pear rootstocks, not only from the standpoint of blight and pear root aphids resistance but also for better adaptation to various adverse soil conditions.

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