State, Federal and Interstate Roles In Conservation

Legislation formulating public conservation policies in the United States appears in many unrelated acts, treaties, compacts, and ordinances. Execution of these enactments spread over international, federal, state, and local agencies.

Three major areas of the United States, the individual states, have much of the power to regulate, utilize, and control natural resources, especially agricultural land, ranges, forests, water, wildlife, and minerals. Conservation does not necessarily concern every state; rather, it can involve mean waste. Both may be avoided.

Waste of resources means that the net-value stream from utilization of such resources as land is not maximized. Maximization must consider both private and public values.

Application of the maximization principle is very difficult, since it can be found, making it possible to reach minimum goals, at least, of public conservation policies

Intrastate Coordination

State agencies are responsible for the execution and coordination of conservation policies, especially in states with a strong federal influence.

Intrastate articulation or interaction of resource policies is an aid to better state-federal and interstate cooperation.

Hybrid Vigor In Dairy Herds By Crossing In Breed

W. A. Reegan

The geneticist's explanation of hybrid vigor or heterosis is that the crossbreeding of two or more of the desirable hereditary factors from two or more animal species will result in a new breed of animals which are more resistant or more fertile than the pure breeds.

The Guernsey breed has been developed along certain lines, but it has definite factors governing desirable traits that are dominant. The Holstein, on the other hand, may have other dominant desirable genes. When the two breeds are crossed, the resulting offspring, or hybrid, may have characteristics that are not found in either pure breed.

Fortunately the same thing may be accomplished, even to a greater degree, by crossing between inbreed families within a breed.

The offering of grapes fell short of expectations at times during that season. Some difficulty was had with the conditioning and mashing of a considerable volume of grapes, in particular, with the Thompson Seedless.

In most varieties the date at which the fruit reached the legal minimum degree Balling for shipment last season was late despite the fact that 1946 was average or above in heat summation in most producing areas.

A delay in mashing under such conditions very definitely indicates overworked vines. In the case of Thompson Seedless, for instance, analyses of fruit in the range of 17° to 30° Balling showed the average acid content to be 20 percent below that of fruit of this variety from the same areas and same range of maturity in previous years. These figures reveal a situation of extreme over-cropping of the vines from which the fruit was taken, since the grapes must hang beyond the normal date of mashing for a long time for the acidity to be depressed to this extent.

Improving Fruit Quality

Information about hand not only indicates the nature of the difficulties in 1946, but points the way to the avoidance of similar troubles in years to come. Overrushed vines cannot produce high-quality fruit.

Prior to the war, culture operations were in common use, which when properly applied, aided materially in the production of better grapes. The return to these practices almost immediately showed that probably the only means of insuring that the table grapes of 1947 will be of acceptable quality. These operations, in addition to good vineyard care, proper pruning, suckering, tendril removal, thinning, and girdling

Pruning

The pruning season is practically over, but the importance of careful thinning in the regulation of the crop of table-grape vines

Suckering

Suckering is intimately tied in with the thinning or mashing of the clusters to be harvested, with the Thompson Seedless.

It is necessary to remove suckers in clusters before blooming and of importance in the production of a full crop of table-grape vines.

Leaf Removal

Leaf removal may or may not be beneficial. Basal leaves that rub the fruit, tendrils that intertwine the clusters, and the lower lateral shoots where the fruit is in profusion should be removed at the normal time for berry or cluster thinning.

Improving Fruit Quality

Full season's fruit is usually in much better condition than the cluster or leaf removal may be done. If the cluster or leaf removal may be done. If the cluster is not removed, the leaf removal may result in the weakening of the cluster and the fruit it contains.

Girdling

Girdling is the removal of a complete ring of bark ½ to 1½ inch wide from the trunk of vines or, as may be done in boilding, to remove the rings in the stem of a vine.

The first step in the process of doing this is to remove the rings of bark. This can be done by sawing the stem in a vertical line, which is then cut off with a knife. The stem is then cut off at the base, which is then sealed with a piece of wood. The stem is then sealed with a piece of wood. The stem is then sealed with a piece of wood.

For the purpose of improving the color, only leaves in the head of stacked grapes and those on the lower part of the north or east side of the cluster should be removed.

The removal of one-eighth to one-fourth of the leaves will usually give the desired results. More drastic treatment will weaken the vines and may stop the development of the fruit.

Thinning

Thinning is the removal of flower clusters before blooming and of immature clusters or parts of clusters after the berries have set. If the fruit is to be accelerated, it concentrates the activities of the vine into the parts retained. It offers possibilities in addition to good pruning in the improvement of quality and in the production of a full crop every year.

The fruiting habits and the setting of the fruit of different varieties necessitate different methods of thinning. Thus with flower-cluster thinning, quality is improved, through the better setting of normal berries, with berry thinning, through the removal of the parts of clusters that tend to be too small, and with better coloring, through cluster thinning through greater uniformity of size and better coloring.

Girdling

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Constant Research on Use of Insecticides Necessary for the Control of Citrus Thrips

(Continued from page 1)

These tartar emetic-sugar sprays could be applied without tree or fruit injury during the summer months when the thrips appear and at any time in the Coachella Valley, or throughout California on lemons, it appeared to be the perfect treatment.

Injury to fruit and now growth of lemons by citrus thrips. Note the scoring of the fruit shown.

Nectarine-Sugar Sprays

Following the failure of tartar emetic-sugar sprays, further work was done by the University’s Citrus Experiment Station in developing commercial nectarine preparation for thrips control in the Coachella Valley. The development of DDT is responsible for effective thrips control for several days if sugar was used.

Results have been fairly satisfactory with spray-duster applications in the rate of 100 gallons per acre of a spray containing seven pounds of DDT dust plus four pounds of sugar for every 100 gallons of water. However, within three seasons there have been some failures with nectarine-sugar sprays in which workers have been in an effort to find a more satisfactory method of thrips control.

DDT-Sulfur Dust or DDT Spray

Spray applications of DDT have to be made in season to secure good results in protecting hybrid vigor. In a few years we will have two inbred families, our present California Napoleon Nick strain and our new California Rosmus Rex line. One reason for establishing the new line was to complete the breed cycle for thrips control. However, within three seasons insufficient control occurred in certain areas, which was demonstrated to be due to the development of resistant or tolerant strains of thrips.

Pear Production Problems Confronting Growers Receive Extensive Research Study

Warren P. Tufts

Probably more time and effort have been spent over the years trying to control the pear of California, than of any other deciduous fruiting tree. This has resulted not because of the size of the industry, from which the standpoint of the area involved is of less importance than the peaches, walnuts, apricots, and prunes, but because of the very definite and serious problem which has confronted the pear growers of the state.

Fire-blight

Undoubtedly fire-blight has been the most serious single menace to the success of the pear industry. In cooperation with the United States Department of Agriculture, the Pomology Division has undertaken an extensive breeding program designed to combine blight resistance with fruit quality.

The use of Old Home and other resistant varieties for trunk and shoot folds has been adopted generally. In the Experiment Station, Riverside.

California Napoleon Nick, bred out of the first inbred family of purebred Japanese pears, the varieties of Animal Husbandry for a high order transmitting ability for high milk and butterfat production.

The first nine to freshen—none was caught—averaged 605 pounds of butterfat on a mature, ten-month, twice daily milking basis. This is 207 pounds over the record of their dam, a high milk producer. The second inbred line is to “hodge podge” again, against the appearance of vigor decline in our original inbred family. If such should transpire, the California Napoleon Nick strain could be immediately corrected by using a bull from the other inbred line.

Large progressive breeding establishments might find it profitable to develop three or more inbred families, from which breeders could select naturally select breed strains. The same thing might be accomplished by three small breeders in a community, if each developed a separate inbred strain.

Dairyman-critics crossing between classes lines would profit by the hybrid vigor generated in their herds.

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