

and supervision work done by the Department. California nurserymen paid more than \$28,000 in fees to the Department for work in the 1967-68 season. Conditions of isolation and special handling of certified nursery stock imposes hidden costs that are often far in excess of fees paid the Department.

Participants in the registration and certification programs deserve support for their part in providing better plants for better crops. We are hopeful that California certified nursery stock will become recognized as the best available planting stock known to the agricultural industry.

MODERATOR RODEBAUGH: Thanks, Stan, for the excellent presentation and movie this afternoon. I think that concludes our first panel of the afternoon.

WALTER KRAUSE: Our next session deals with the practical approach to certification programs. The moderator for this session is Don Luvisi, of the California Agricultural Extension Service, Bakersfield, California.

MODERATOR LUVISI: Thank you Walter. I would like to start by saying that I think we are very fortunate today in having the panel that we do have. I did some quick calculating and we have something like 75 years of experience in this particular area represented, and of course we do have representation from the three basic areas that we are concerned with in certification programs. I think at this time we can start by asking ourselves some questions.

PRACTICAL APPROACH TO CERTIFICATION PROGRAMS

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“Why do we have a certification program?” “How successful has it been?” These questions can be answered in many different ways depending on what commodity is chosen. On stone fruits we are concerned with increased efficiency of propagation. It has definitely resulted in greater efficiency for the nurseryman. However, have we improved the variety, actually increased the life of the tree or orchard, increased the yield, maturity, or fruit quality? We know that in citrus the elimination of virulent viruses causing low productivity or tree death is an important part of the program. The certification program for wine grapes has been successful while table grapes have lagged. When we get into ornamentals what are the advantages or disadvantages of certification? Is it economical increases in efficiency through higher stands of plants for the nurseryman or is it longer life, more flowers, more or less desirable foliage for the consumer?

The present virus and pathogen free certification program can be divided into two basic areas of operation. The first area is that of preparing the propagating material. This would include the selection of clones, the indexing, certification and maintenance of virus-and pathogen-free propagating material in mother blocks by the Foundation Plant Materials Service or individual nurseries. The second area would be that of increasing the propagating material from the mother block in economic volume to supply growers and consumer. As presently operated this second phase also includes evaluating the newly released virus-and pathogen-free propagating material for such factors as trueness to variety, yield, mutations, and any other undesirable or desirable characteristic which might have developed through the various phases of the certification program.

There is no question as to the advantages of the certified virus and pathogen free propagating material as it effects nursery stands and the economics of a commercial nursery operation. However, there is a definite lack of information pertaining to yield, and/or quality of fruit produced from certified versus uncertified plantings. Also, how long will certified trees (orchard or ornamental) remain virus-or pathogen-free? We could expect one answer for an 80 or 160 acre fruit planting and another for 4 or 5 plants in an ornamental planting.

One additional question is, who is to do the evaluation? Will the grower have to plant a 40 or 80 acre block of grapes, or almonds, or peaches, only to find out that his neighbor's orchard far out-produces his or has better color, crisper fruit or any one of many subtle fruit characteristics lumped under the term "quality". These are only possibilities, some of which have occurred from time to time. Therefore, what is a good practical approach to the evaluation of virus-and pathogen-free propagating materials which takes from two to four years to get into production and then needs one or two years for evaluation?

MODERATOR LUVISI: Our first panel member is John Wynne who graduated from the University of Alaska and started operation of the Dave Wilson Nursery in 1950 and still operates that nursery. John is very active in certification programs and will speak to you on the "Certification Program for Stone Fruits."

CERTIFICATION PROGRAM FOR STONE FRUITS

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In the spring of 1955 it was suggested to us by staff members of the California Department of Agriculture and the U. S. Department of Agriculture in Sacramento that some of the problems encountered in the successful propagation of de-