

have a means of recovering some of the costs of such a program by adding a charge for registered or certified material. It would not have been good business to charge extra for our clean stock without some official recognition that the combined best efforts of the nursery and government agencies were involved in producing such stock.

At this time in the program we face the major problem of producing enough certified nursery stock to fill the demand. The Department of Agriculture and the Farm Advisors of Agricultural Extension Service of the University of California have done a good job selling the merits of clean nursery stock to conscientious orchardists. At the same time, as far as the stone fruit industry is concerned, only a small number of the commercial varieties in demand by orchardists can be supplied as certified nursery stock. Because they have not become available through Foundation Plant Materials Service, many varieties are not included in the program. So now we have a demand for many varieties of peaches, apricots, almonds, nectarines, plums, and other fruits that will not be available as certified stock for 3 to 5 years. It will take that long to eradicate virus, produce fruit, and secure adequate budwood sources for these varieties.

It is both frustrating and embarrassing to sell something we can't deliver. In spite of the fact that we cannot meet the demand for many varieties, it is gratifying to know that the program is being enthusiastically accepted by progressive growers; we look forward to the day when all the commercial nursery stock sold will bear the label "Certified Nursery stock."

MODERATOR LUVISI: John, that pretty well covers the situation for stone fruit. Thank you. Our next speaker is Mr. Roger Jensen who graduated from Fresno State College with a degree in business administration. He has 23 years of farming experience, ten years as a nurseryman. I would like to call on Mr. Jensen to come up and give us a discussion of the "Certification Program for Citrus". Roger.

CERTIFICATION PROGRAM FOR CITRUS

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Initially, I want to thank the International Plant Propagator's Society for this invitation to participate in your annual meeting. Being a non-scientific degreed nurseryman, I feel rather inadequate addressing you.

The California Citrus Certification Program was initiated more than 10 years ago and not a single certified citrus tree has been dug and sold by a commercial nurseryman to date. No apologies need be given for this fact in my opinion;

perhaps compliments are in order. The California Citrus Nurserymen are operating under an interim Registration Program. I believe that the citrus industry would assess this program affirmatively.

Within the next two years however, commercial digging of certified trees will commence. When sufficient volume is available, the citrus nursery industry will be required to evaluate the interim Registration Program and decide whether to terminate or continue the program.

At this point potential danger does exist in cutting excessive buds from a relatively few trees in mother blocks. When this practice is continued, possible problems become apparent, particularly, if mutation raises its ugly head for no apparent reason.

Thus far, we have not pushed our certification program too fast. Prudence dictates continuing this course of operating under two programs for a number of years in the future.

Being an advocate of minimum governmental controls and regulations, I feel that an industry program instituted by the industry group deserves the full cooperation, on a self supporting basis, of the governmental agency involved for the protection of the buying public. This cooperation we have with the California Department of Agriculture, University of California, and U. S. D. A. Through the cooperation of these agencies and the industry groups, rules and regulations should be instituted and enforced by competent, qualified personnel so that all citrus nurserymen are in the same ball game with one set of rules for all participants.

To be specific, is it fair or correct to allow a citrus tree to be grown from a bud inserted from a source tree known to carry a virus in certain areas of the state and not in the balance? Is it proper to propagate trees known to carry disease particularly when no clean sources are available? My answer must be "no" in both instances.

Fumigation is always a controversial subject among nurserymen and I don't intend to initiate a prolonged discussion of the subject. However, is it necessary in all cases of citrus propagation of certified trees? Asking questions is easy but answers are difficult at best.

If there is any possibility that these remarks have been construed as indicating that I do not think the regulatory or cooperative agencies are adequate in quality of personnel or in fully cooperating with the industry, I want to apologize and state that this is not my intent or desire.

My experiences have been such that I have developed great admiration for these people and agencies. The problems we are trying to solve are industry oriented. I feel that industry must face them head on, then receive cooperation from governmental agencies that I feel will cooperate and perform their function enthusiastically.

Research is constantly accelerating its tempo to resolve

problems in California. The quality of this research in citrus is probably unsurpassed in any other citrus producing area of the world. Our fruit producers are seeking better methods of production along with a demand of nurserymen to improve their product by maintaining trees which have true-to-type fruit characteristics and which are free of virus, mutation, disease and injurious nematodes.

We, as nurserymen have voluntarily instituted our present programs and will endeavor to exert progressive methods to produce pathogen — free and virus-free trees as present day practical research dictates. I have purposely refrained from explaining any details of the technical, operational aspects of the citrus certification program. However, if there is an interest among this group I will be happy to try giving an explanation of our program.

MODERATOR LUVISI: Thank you, Roger. Our last panel member was introduced earlier this morning. He is Mr. Herb Swim and I quickly conclude that he is the granddad of the panel with 33 years of experience. He will talk to you about the "Improvement Program for Roses". Herb.

IMPROVEMENT PROGRAM FOR ROSES

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We who are involved in a commercial breeding program for roses must be conscious of those factors which hinder the ever-widening use of roses. We also must be thinking about those qualities that may stimulate new interest among those who may or do use roses. All rose breeders are especially sensitive to such spectacular factors as a "new color break" because they know it will attract attention from those who already like roses.

We have become increasingly conscious in the last few years of a phrase which we now know is being uttered too often. The phrase goes something like this: "I don't like roses because they are too much trouble." When we get this clarified, we find that "trouble" means spraying for various types of pests, in about 90% or more cases. It seems dubious that the plant breeder can do much about breeding roses resistant to insect pests, but it certainly is feasible for us to consider and hope for results in breeding for disease resistance.

We have become increasingly aware that the rose varieties we get from the better European rose breeders for test in the United States show an increasing advance in resistance to powdery mildew (*Sphaerotheca pannosa rosae*). It is quite understandable that with their conditions of higher humidity and frequent rainfall throughout the growing season that European breeders and distributors would find powdery mil-