

University of California/Davis
FOUNDATION PLANT MATERIALS SERVICE NEWSLETTER

Fruit, Nut and Ornamental Trees

This NEWSLETTER is to bring you up to date on recent events that effect FPMS, and the Registration and Certification program for fruit, nut and ornamental trees.

This year we had two staff changes at FPMS. Julian Escamilla retired November 1, and John Hansen was hired to replace him as a Senior Agriculture Technician. Jeannie Lichtner left us to move back to Delaware and our new secretary-accountant is Diana Aguilar. There will be a further reshuffling of staff for three months (August, September, and October) while I am on maternity leave. Michael Cunningham will be filling in as manager in my absence. Please direct any orders, questions or problems concerning FPMS to him during that time.

Last August a Corona peach tree in the New Foundation Orchard (NFO C11 T16 Accession #10-8-2-71) was found to be infected with peach yellow leaf roll. This disease is known to be caused by a mycoplasma organism but the disease vector and pattern of spread are still being studied. The diseased tree was immediately removed from the orchard so it would not serve as a future source of infection. As a result of this find registration on all peach and nectarine material in the Foundation Orchard was suspended by California Nursery and Seed Service for at least a year. If the periodic inspections of the orchard do not turn up any additional infected trees in a years time, registration will be reinstated. To date no additional infected trees have been found and the final inspection to qualify the orchard for reregistration will be held in September. Please contact FPMS around the end of September if you wish to find out about the availability of registered peach and nectarine material for this year.

Again this year we plan to begin pruning the Foundation Orchard around December 1. If you wish to buy any dormant wood this winter please be sure to send in the order before December 1. You may request that the wood be supplied some time after December, but we need to know early so the trees will not be pruned.

Progress on the new FPMS Seed Orchard has been proceeding rapidly. The University has granted us a 6 acre parcel for this purpose that will come available in September. The seed trees (including: Lovell, Nemaguard and Red Leaf Nemaguard Peach; Myrobalan Plum, Mazzard and Mahaleb Cherry; Betulaefolia Pear) have been propagated and will be planted this winter.

All seed produced by FPMS has been sold for 1982. Unfortunately our supply was very short due to a reduced number of trees and unfavorable weather conditions. If you wish to order seed for next year please do so before July 15, 1983 to be included in the allocation process.

Enclosed for your use in ordering budwood or seed is the current FPMS order form, materials and price lists. Please be sure to sign the grower agreement, warranty/disclaimer statement on the reverse side of both pages of the order form before returning it to FPMS with your request.

The following is a note from Dr. Nyland concerning 3 Bing Cherry clones at FPMS. The IRII numbers he is using correspond to the FPMS accession numbers as follows:

IR 347-3	=	6-1-3-69	NOT REGISTERED
IR 337-2	=	6-1-4-69	NOT REGISTERED
IR 83-2	=	6-1-5-69	*REGISTERED

Dr. Nyland, Plant Pathologist

I received word from Dr. Paul Fridlund, IR-2 Project Manager, that considerable differences in precociousness exist among the clones of the variety Bing that are in the national fruit tree repository at Prosser, Washington. We also have these three clones in our FSPMS repository at Davis.

At Prosser, a single experiment with the trees now in their 6th. leaf, the clone IR-347-3 (from Oregon originally as OB260) is out producing the other two clones by a wide margin. These trees are planted in a close-planting, pruned to control size of tree to keep the fruit producing area close to the ground. The experiment has not run long enough to determine if yield differences will continue beyond the first few years of fruiting. However, yield differences are so great in favor of clone IR-347-3 that we should take note and make what observations we can here in California.

At present FSPMS has registered and is distributing clone IR-83-2 which is fruiting well at Davis on 10 year old trees. Clone IR 337-2 another selection of Bing in our foundation planting that is not registered at present and from which we are not distributing wood is much more upright in growth habit than clones IR 83-2 or IR 347-3, and does not bear as heavily so far.

We decided to distribute clone IR 83-2 because it seems to throw less crinkle and deep suture than clone IR 347-3 in California. In our standard spacing it apparently fruits just as well as clone IR 347-3 as observed in commercial orchards.

We have trees of IR 347-3 which could be registered and from which wood could be distributed if nurserymen or growers would like to obtain it. Some comparative tests would be highly desirable. At the present time we do not recommend clone IR 337-2 because of its apparent shy bearing habit.

We do not ordinarily recommend one tree fruit clone over another unless we have data from controlled tests that one is either superior or inferior. We do not have such data that was obtained in California for the Bing clones. However, we thought we should make you aware of the preliminary results from the tests currently under way at the Prosser, Washington experiment station. Under conditions of close planting and size controlling pruning, clone IR 347-3 is out performing the other two clones by a very wide margin.

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Grape Growers' NEWSLETTER

Another grape season was successfully concluded by FPMS thanks to the support of the California grape industry and many others. Our sales were just slightly less than 1980-81 season. The drop was most probably due to the reduced number of clones available for sale after all stemmitting infected material was eliminated from the program.

This year we had two staff changes at FPMS. Julian Escamilla retired November 1, and John Hansen was hired to replace him, as a Senior Agriculture Technician. John supervised the grape wood collection in the field this winter. Jeannie Lichtner left us to move back to Delaware. Our new secretary-accountant is Diana Aguilar. There will be further reshuffling of staff for three months (August, September, and October) while I am on maternity leave. Michael Cunningham will be filling in as manager in my absence. Please direct any orders, questions, or problems concerning FPMS to him during that time.

Enclosed are the minutes of a meeting held April 27, where the most recent issues effecting FPMS and the California Grapevine Registration and Certification program were discussed. For the past two years we have found this type of meeting and follow up minutes to effected customers the best way to keep you informed about FPMS. If you would be interested in attending a similar meeting next spring please send a note to FPMS so indicating and you will be added to the mailing list.

I felt a very significant point came out of the grape growers meeting this year. A general consensus was reached among industry people, University staff, and the State Nursery and Seed Service that it is necessary to continue an on going program to produce and maintain the most disease free stock available in the California Registration and Certification program. This policy has been carried out at considerable inconvenience and expense to many program participants. The willingness to implement such a policy speaks very highly of the integrity of all participants and ultimately can not help but enhance the world wide opinion of California certified grapevine material. The whole California grape nursery industry should benefit as a consequence.

Once again we would like to request that all orders for grape material for the 82-83 season be received by FPMS before November 15. Orders taken after that time will not be included in the allocation process. A current FPMS order form, price and materials list is enclosed for your use. Please be sure to sign the grower, warranty and disclaimer statement on the reverse side of both pages of the order form before returning it to FPMS.

Minutes of the Grape Growers Meeting held April 27, 1982, at UCD
Jointly Sponsored by FPMS and UC Cooperative Extension

In Attendance: 2, CA State Nursery and Seed Services; 11, University and Cooperative Extension, and 15, people from the industry.

Dr. Austin Goheen - Plant Pathology UCD & USDA

Dr. Austin Goheen presented a review of indexing procedures for Grapevines. He explained that indexing was developed to detect latent virus diseases, such as fan leaf, leaf roll, corky bark, and stem pitting. Sensitive indicators for each disease have been developed that express diagnostic symptoms. General indexing procedure involves; inoculating indicator varieties, planting inoculated indicators in the field and reading disease symptoms.

Stem pitting is a newly recognized disease that is similar to corky bark but not identical with it. When the lower stem of the indicator St. George is peeled corky bark infected stems show pitting and grooving symptoms around the whole stem, above and below the inoculum bud. Stem pitting on the other hand shows pitting symptoms only, directly below the bud.

In 1980-81, FPMS reindexed 826 selections from the Foundation Vineyard and Viticulture collection for stem pitting. Of these 78, or 9% of the selections, were infected with stem pitting. A majority of the infected selections (77%) were foreign introductions received since 1960. 60% of the stem pitting positive foreign introductions came from France or Germany, including a selection of Kober 5BB. Stem pitting may possibly have been spread in Europe by the widely used Kober 5BB rootstock. Stem pitting is a heat labile agent and can be removed with thermotherapy. In the case where all registered selections of a variety tested stem pitting positive material is being re-heat treated to produce clean lines.

In 1980 a test for mild forms of leafroll had been perfected using the indicator Cabernet Franc. Currently (1981-82) Dr. Goheen is in the process of reindexing 81 selections of 20 important registered grape scion varieties and 44 selections of 11 registered rootstock varieties on this indicator. This indicator shows leaf roll symptoms better than the Mission previously used.

The re-test is to make sure mild leafroll infection were not missed in the original index in important commercial California varieties. At the request of the, FPMS Grape Industry Advisory Board a few additional varieties were added for re-indexing in 1982-83.

Sauvignon blanc-1 was removed from registration in January 1981 because one of the mother vines (FV F4V6) of this cultivar in the Foundation Vineyard indexed leaf-roll positive in 1979-80. However, when each of the three mother vines of Sauvignon blanc-1 was reindexed in 1980-81, it was found that two of the three (FV F4V7 and FV F4V8) were not affected. The problem traces back to a decision made in 1963 when the cultivar was originally selected. Two separate lines were considered as a unit because the heat-treatment of each was identical. In fact, however, one of the lines was still affected by leafroll while the other was clean. As heat-treatment methods were perfected this practice was abandoned and each line of any cultivar was treated as a separate selection. The mistake with Sauvignon blanc-1 was overlooked for many years but came to light when the selection was reindexed in 1979-80. Dr. Goheen recommended to the California Department of Food and Agriculture that increase blocks having clean Sauvignon blanc-1, FV F4 V7 or 8 be reinstated in the program and Sauvignon blanc-1 be reestablished in the Foundation Vineyard as soon as possible from increase block materials traceable to FV F4 V7 or 8.

Dr. Goheen then summarized the major problems that have come up in the clean stock program to date as being.

- indexing for corky bark in the early 1970's before a suitable indexing test or indicator was developed,
- eliminating fleck from a few selections (however this is not a serious disease),
- stem pitting,
- mild leafroll.

Dan Rosenberg & Roy Matsumoto - Nursery & Seed Service

Dan Rosenberg and Roy Matsumoto presented the most recent draft proposal for the grapevine registration and certification program. They pointed out the major changes

in the program as being:

- Provisions are being proposed to allow a nursery to put certification tags on propagation units already processed to produce nursery stock. The provisions require, however, that nurseries notify their customers if disease is found in the selection during concurrent reindexing tests. If this occurs, the nursery must indicate on all invoices, sales slips, and certification tags the disease present before Nursery and Seed Service will allow reinstating infected material for that season. This provision helps to alleviate the problem of material being pulled from the program in mid-season when new diseases are detected.
- Because of the lack of need and difficulty in supervising greenhouse mother block plantings provisions for the mother blocks are being proposed to be eliminated from the registration program. This system will conform more closely to international standards for plant material certification schemes.
- The proposed revision of the regulations provide that all material produced by the University where the indexing history is known and approved by the Department may be registered as foundation stock. This will mean that Foundation (white) tags can be issued on all registered material sold by FPMS.

Roy Matsumoto also announced that Sauvignon blanc-1 material in registered increase blocks from sources FV F4 V7 or V8 will be reinstated in the program.

Susan Nelson-Kluk - FPMS

Recently it was decided by the FPMS Viticulture Technical Committee that we should drop the term clone and use selection instead. This is merely a matter of semantics and an effort to make the terminology used more scientifically correct.

The term clone implies genetic and source differences from one group of plants to the next whereas the term selection only implies source differences. Many of the groups of plants called separate clones in the past at FPMS are actually known to be genetically identical because they came from the same vine at some point. Separate clone numbers were assigned on the basis of various amounts of time in heat treatment.

The Sauvignon blanc-1 situation shows the wisdom of this practice. There is a potential difference between two groups of vines heat-treated different amounts of time because the procedure may produce plants of different disease status. They would, however, still be genetically identical when the mother plant used to produce the two groups was the same. There are other cases in our program where the sources were different for two groups but we don't know if the plants are genetically different or not.

The term selection seems to best fit the way grape material has been numbered at FPMS. For further clarification the exact meaning we will use for selection is: "A group of vines propagated from a common historically identifiable source."

In every case the selection number assigned to a group of vines will be exactly the same as the clone number used before.

Susan Nelson-Kluk also reviewed the method used for identifying registered grape material sold by FPMS. Wood is collected and bundled from each vine separately (except for rootstock varieties). Each bundle is marked with a wooden tag that indicates:

Variety - Selection/Clone number

Vineyard (FV, MB, IB), Block, Row, Vine number

It is recommended that sources be kept separate in registered increase blocks in case of future necessary adjustments in the program.

Last year at the participant meeting we discussed grouping all the material of a single variety and clone/selection supplied to a customer together on a single registered tag. Because of the problems with Sauvignon blanc-1 this year it was decided best to list each variety, clone/selection, and location separately on the tags as has been done in the past. For example if you receive 40 cuttings of Chardonnay-4 from the two locations FV G9 V5 and FV G9 V6 the registration tag will indicate the number of cuttings from each location as follows:

FV G9 V5 (20)

FV G9 V6 (20)

Rather than saying: 40 cuttings of Chardonnay-4 from FV G9 V5, 6. The material will

be supplied in two bundles of 20 cuttings each.

Participants in this meeting are asked if they feel it would be beneficial if FPMS offered only one or two selections of each variety instead of the generally greater number now available. To do so all selections would need to be evaluated and the best chosen. The industry could aid in evaluating selections by keeping records of selection identity and reporting observed differences to the University.

Dr. Lloyd Lider, UCD Viticulture

Confusion exists in naming grape cultivars that are used in California. Theoretically the name should be the same in our area as it was in the country in which it originated. However, for various reasons the California material often has become isolated from its European counterpart and local names have come into use. This has resulted in much confusion concerning the correct name that should be used for a cultivar and it even poses the question whether there is actually a correct name for some cultivars. In plant materials such as grapes, that are propagated clonally name changes are often applied locally resulting in a situation where the same cultivar might be known under any one of a number of synonyms.

As far as possible it would be desirable that a single name be used for the same cultivar where ever it is grown. Accepting this philosophy the FPMS Viticulture Advisory Committee has started a program to standardize the names of the cultivars handled by FPMS. In February a subcommittee made up of Dr. Goheen, Olmo, Lider and Kasimatis was appointed to study the problems associated with cultivar names and to set up a study to reduce nomenclature confusion to a minimum.

Initial efforts of the committee were to define the extent of the problem and pinpoint the most troublesome cultivars. The approximate 100 named cultivars grown in California on 50 acres or more were separated into five categories of name problems. These being:

1. Cultivar unknown elsewhere by its California name; those without a known foreign counterpart. - ie., Green Hungarian, Red Veltliner, Peverella.

2. Cultivar incorrectly named in California but with a suspected counterpart elsewhere under a different name. - ie., Burger, Gamay, Charbono, Pinot St. George.
3. Cultivar with a California name but strongly connected to a cultivar with foreign origins ie., Aleatico, Grignolino, Zinfandel, Pinot blanc.
4. Cultivar whose identity is not in question, but where spelling may differ elsewhere, or where synonym is preferred. ie., French Colombard, Chenin blanc, White Riesling.
5. Cultivar with no known naming problem or identity conflict; it is called the same in California as it is in Europe. ie., Cabernet Sauvignon, Barbera, Rubired.

The sub-committee decided that where unresolved conflicts exist to establish comparative plantings on the Davis Campus in which the California cultivar in question could be compared with selections that are expected to be the same from research stations elsewhere in the viticultural world.

From these side by side comparisons observational data on growth and fruit characteristics could be gathered and ultimately short monographs published clarifying the questions of nomenclature.

This spring a request was made to the Vineyard Research Committee, Dept. of Vitic., and Evol., for an assignment of land to facilitate this study. Approximately 1 acre was set aside for the work and the planting of comparisons of the first eight or ten varieties will be set this year.