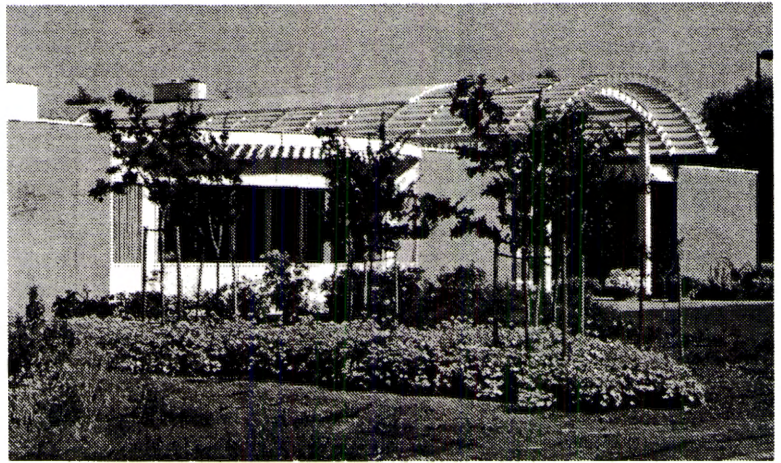


FPMS GRAPE PROGRAM NEWSLETTER

Number 4, October, 1998
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1998-99 Grape Orders

Once again it is time to review the offerings of grape materials available from FPMS and place orders for the 1998-99 season. Ordering materials and information about the newest available grape selections are included in this newsletter. See pages 5&6 for all selections available this season as California Foundation Stock. Be sure to return grape hardwood cutting orders to FPMS before November 5, 1998. This deadline will be used to determine



Contact Ginnie
Dixon with your
FPMS grape
order questions

which customers are included when grape materials in short supply are allocated. Quantities of the newest materials will be especially limited. Customers who have not paid 1997 user fees due will not be included in the allocation process.

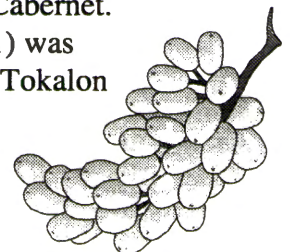
This is a good time to order mist propagated plants (MPP)

in addition to hardwood cuttings. The newest selections are available only as MPP and are shown on the attached list entitled: "New Materials Available From FPMS in the 1998-99 Season". Most MPP ordered now will be ready for pick up from FPMS in the late summer 1999. The amount of time required to fill an MPP order varies by as much as 6 months to one year, however, depending on other orders for the same selection and the amount of original material available to work with. More exact estimates are available for specific selections upon request by contacting Kathy McGahan at FPMS (530-754-8100).

New Grape Materials

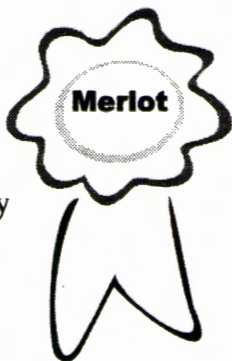
New materials offered for the first time this season include several exciting domestic and foreign selections. Thanks to the financial support from the California Fruit Tree, Nut Tree and Grapevine Improvement Advisory Board (IAB), FPMS has been able to collect, treat, and test valuable new clones for the public Grapevine Registration and Certification Program. Customers may now order **mist propagated plants** of the new selections. Hardwood cuttings will be available in about 2 years. Plants ordered now will be supplied starting in the summer of 1999 and they will have provisional foundation status (see article on page 2). The enclosed list entitled "New Materials Available from FPMS in the 1998-99 Season" shows all the new materials available.

California Heritage materials offered for the first time include three well respected Cabernet Sauvignon selections from the Napa Valley. These were selected by Phil Freese and Deborah Golino from vineyards with a reputation for quality wine production. The Neibaum-Coppola selection (FPMS 29) was from the old plantings near their winery which provided premium quality grapes. The Disney Silverado selection (FPMS 30) was from an old vineyard off Silverado trail believed to be planted with the See clone of Cabernet. The Mondavi selection (FPMS 31) was from 50-year-old vines in the old Tokalon Vineyard. All three selections were infected with viruses including leafroll. Tissue culture was used to create selections that



pass all the disease tests required by the California Grapevine Registration and Certification Program. A clonal research trial is planned by Deborah Golino and Jim Wolpert to test these "new" selections side by side with the original virus infected selections. The infected materials have been preserved at UC Davis since all of the original vineyards are gone. Hopefully, this trial will answer longstanding questions about the effects of virus on wine quality as well as give us information about the performance of FPMS 29, 30, and 31 in comparison to better known FPMS Cabernet clones. We very much appreciate the generosity of the three wineries for making these Heritage clones publicly available.

Bear Flat Merlot (FPMS 18) is another California Heritage selection being offered for the first time by FPMS. In the 1995 ASEV Proceedings of the International Symposium on Clonal Selection, Daniel Roberts reported that the Bear Flat Merlot was preferred over FPMS selections 1,3,6, & 8 due to ripening, yield and wine quality in the specific vineyard where the trial was conducted. Merlot 18 passed all the required disease tests without any treatment and was recently planted into the foundation block at FPMS. Many thanks to Sterling Vineyards for making this selection public.



No treatment was necessary to qualify Pinot noir 54 for the foundation block planting this year. It is reported to be from the French sparkling wine clone 871. It was donated for the FPMS public collection by a California vineyard that obtained the material from the Saanichton Plant Quarantine Station in British Columbia.

Two old FPMS selections have just been added back into the foundation block. One is Cabernet Sauvignon 08 which is a high yielding late maturing selection according to Jim Wolpert in the 1995 ASEV Proceedings of the International Symposium on Clonal Selection. Pinot noir 22 was also just

planted into the new foundation block. It is a heat treated Gamay Beaujolais type of Pinot noir. Material from these selections was qualified for the current foundation block using all the same tests required for new domestic selections.

New Rupestris Stem Pitting (RSP) Infected Materials

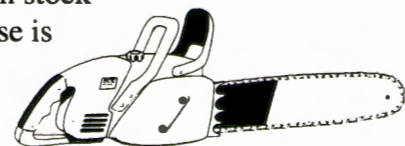
Rupestris Stem Pitting (RSP) infected materials are maintained and distributed from the FPMS RSP collection as nonregistered material. All the selections in the RSP block were tested for disease on all the field indicators. Some of the selections were also checked using ELISA and herbaceous disease tests. Only materials that were negative for all diseases except RSP on all the tests run are included in this collection.

This year 6 Chardonnay and 9 Pinot noir selections, which are all reported to be from French sparkling wine clones, were added to the RSP block. A new Nebbiolo selection that is reported to be from the Italian clone CVT 142 was also just planted. In addition, Carmenere 01, which was discussed in last year's newsletter, was planted into the RSP block this year because it was found to be Stem Pitting infected.

A list showing all the selections available from the RSP+ block is enclosed with this newsletter. Selections available for the first time this year are underlined. Efforts are underway to eliminate RSP from most of the selections planted in the block. Information about tissue culture elimination work and retesting of tissue culture materials is shown in the "attempts to eliminate RSP" column.

Old Foundation Vineyard Removal

The old foundation vineyard at FPMS is scheduled for removal in the spring of 1999. Most of this vineyard was planted in the 1960s, so many vines were over 25 years old when we stopped using it as a source of foundation stock in 1993. Some disease is now known to exist in this vineyard



cluding rupestris stem pitting, leafroll, measles, and eutypa, but the records are incomplete and exact information about the disease status of each vine is not always known.

Several FPMS advisors and committees have reviewed the materials in the old foundation vineyard and made recommendations about what is appropriate to preserve for the future. Most of the commercially important selections have been retested, qualified, and planted in the new foundation blocks. Others are now in the process of being treated and retested to qualify them for future foundation plantings. Some of the more eclectic materials will be transferred to the UCD Viticulture Department and National Germplasm Repository collections this winter, and selections judged to be unimportant will be discarded. Customers, willing to assume all the associated risks, may order material out of the old foundation vineyard for the last time this winter.

Provisional Registration Status

P

We have recently started to use a new, provisional ("P") registration category at FPMS. In the past FPMS grape materials were either labeled registered ("R") or non-registered ("N"). Sometimes, however, this was not enough information to determine which materials were eligible for

California registered increase block plantings. The provisional status was created to distinguish registered materials eligible for increase block plantings from non-registered materials that will never be eligible for foundation stock status.

"Provisional foundation stock" means propagative materials taken from grapevines planted in the foundation block before they are professionally identified. All vines in the foundation block, including provisional vines, have been propagated from selections that are negative on all prescribed disease tests. Provisional foundation stock may be planted in registered increase blocks according to the California Department of Food and Agriculture

(CDFA). If foundation vine sources of provisional materials are later professionally identified then they become registered foundation mother vines and all propagation materials from those vines qualify for retroactive foundation stock tags. Retroactive tags are issued to customers for qualified materials upon request.

The customer assumes all the risk associated with purchasing provisional materials. If the mother vines are found to be incorrectly identified, then the registration status is changed to non-registered and no foundation tags are issued. CDFA may require that incorrectly identified materials be removed from increase blocks. FPMS does not give replacements or refunds for provisional materials later found to be incorrectly identified or diseased.

The provisional status is most frequently associated with new materials just planted into the foundation block. Most of the selections on the FPMS new materials list have provisional registration status. Customers who receive provisional foundation stock will see the "P" designation in the registration status column on their packing list. Customers are advised to contact FPMS about two years after receiving provisional foundation stock to find out about the registration status and availability of foundation tags.

Retesting Foundation Mother Vines

Upgrading quality control for vines in the foundation block has been a high priority for FPMS in the 1990s. Every vine in the foundation block is now tested by ELISA for grapevine fanleaf virus and tomato ring spot virus every other year. In addition, every vine is tested by ELISA for leafroll-associated viruses every third year. Some of the vines currently planted in the foundation block, however, have been propagated from materials that have not been field index tested since the 1960s.

Complete retesting is advisable periodically to check both for leafroll disease caused by strains not yet identified and mechanically transmitted diseases other than fanleaf and tomato ring spot. Repeating the field index will also detect new or previously



Indicator plants growing in field index block

undetected fleck, corky bark and rupestris stem pitting disease.

The IAB has provided funds to woody index (field test) about 20 vines per year in 1997-98 and 1998-99. In addition to the woody index, FPMS is also rechecking these vines using all the herbaceous and ELISA tests used to qualify new materials for the foundation block. Eight of the tests in progress have never been used to check these vines before and are not recognized in the current program regulations. We hope to make this an ongoing program so that eventually all the vines from the important selections in the foundation block will be completely retested.

Results from the 1997-98 tests will be reported to CDFA and the participants in the California Grapevine Registration and Certification Program in the late spring of 1999. Results from the 1998-99 tests will be reported to CDFA and the participants in the California Grapevine Registration and Certification Program in the late spring of 2000.

Foundation mother vines being retested in 1997-98:

<u>Variety/selection#</u>	<u>Source Plant Location</u>
Cabernet Sauvignon 04	BKN B2 V5
Chardonnay 04	BKN C5 V5
Dolcetto 01	BKS H4 V7
Merlot 06	BKN A13 V7
Merlot 09	BKS H4 V9
Pinot noir 09	BKS C15 V7
Pinot noir 16	BKN A16 V1
Pinot noir 23	BKN A16 V5
Pinot noir 37	BKS J6 V3
Primitivo 03	BKS G12 V5
Primitivo 05	BKS K6 V7
Primitivo 06	BKS K6 V9
Redglobe 01	BKS G13 V1
Redglobe 01	BKS G13 V2
Redglobe 01	BKS G13 V3
Redglobe 01	BKS G13 V4
Semillon 05	BKN A18 V9
Shiraz 07	BKS H12 V5
Thompson Seedless 02A	BKN A19 V5
Thompson Seedless 02A	BKN A19 V6
Zinfandel 01A	BKN C19 V9

Foundation mother vines being retested in 1998-99:

<u>Variety/selection#</u>	<u>Source Plant Location</u>
Cabernet Sauvignon 04	BKN B2 V6
Cabernet Sauvignon 06	BKN B2 V10
Cabernet Sauvignon 07	BKN C2 V1
Cabernet Sauvignon 15	BKN A3 V11
Grenache 03	BKN A11 V4
Malbec 04	BKS G3 V9
Malbec 06	BKN B12 V9
Petit Verdot 01	BKN B15 V2
Petit Verdot 02	BKN B15 V8
Pinot noir 32	BKS H2 V3
Pinot noir 39	BKS G13 V7
Sangiovese 02	BKS G16 V3
Sangiovese 04	BKS H9 V10
Semillon 05	BKN A18 V10
Shiraz 01	BKN B18 V7
Tempranillo 02	BKS H10 V7
Tinto Cao 01A	BKN B19 V1
White Riesling 09	BKS H14 V1
White Riesling 12	BKN C19 V8
Zinfandel 06	BKS H13 V1

REGISTERED GRAPE SELECTIONS OFFERED BY FPMS IN THE 1998-99 DORMANT SEASON

KEY: France = reported to be French clone # shown. ***Italic bold*** = proprietary or patented. Underlined selections were first reported for the first time this season and hardwood cutting supplies may be extremely limited. All registered selections are available as mist propagated plants on a custom order basis.

039-16 01	CALMERIA 09	CHENIN BLANC 01	FLAME SEEDLESS 01
043-43 01	CALMERIA 10	CHENIN BLANC 02	FLAME TOKAY 04
AGLIANICO 01	CALZIN 02	CHENIN BLANC 03	FLAME TOKAY 05
ALDEN 01	CALZIN 04	CHENIN BLANC 04	FLAME TOKAY 06
ALDEN 03	CALZIN 05	CHENIN BLANC 05	FLORA 01
ALEATICO 01	CANNER 03	CLAIRETTE BLANCHE 01	FLORA 03
ALEATICO 03	CARDINAL 01	CONCORD 05	FLORA 04
ALEATICO 04	CARDINAL 03	CONCORD 06	FOEX 333 EM 01
ALICANTE BOUSCHET 01	CARDINAL 04	CONCORD 07	FORASTERA 01 (Italy)
ALICANTE BOUSCHET 02	CARDINAL 05	CORVINA VERONESE 01	FORASTERA 02
ALICANTE BOUSCHET 03	CARDINAL 07	COSMO 10 01	FREEDOM 01
ALIGOTE 01	CARDINAL 08	COSMO 2 01	FREISA 01
ALMERIA 01	CARIGNANE 02	COUDERC 1202 02	FREISA 02
ALMERIA 02	CARIGNANE 03	COUDERC 161-49 01	FREISA 03
ARAMON 02	CARIGNANE 06	COUDERC 1613 05A	FRENCH COLOMBARD 01
AUTUMN BLACK 01	CARMINE 01	COUDERC 1616 01	FRENCH COLOMBARD 03
<u>AUTUMN ROYAL 01</u>	CARNELIAN 01	COUDERC 1616 02	FURMINT 01
AUXERROIS 01	CARNELIAN 02	COUDERC 1616 03	GAMAY NOIR 02 (France 221)
BACO BLANC 03	CARNELIAN 03	COUDERC 1616E 01 (France)	GAMAY NOIR 03 (France 282)
BACO BLANC 04	CATAWBA 01	COUDERC 3306 01	<u>GAMAY NOIR 05 (France 509)</u>
BARBERA 02	CENTENNIAL SEEDLESS 01	COUDERC 3309 01	GEWURZTRAMINER 01
BEAUTY SEEDLESS 01	CENTURION 01	COUDERC 3309 02	GEWURZTRAMINER 02
BLACK CORINTH 02	CENTURION 02	COUDERC 3309 04	GEWURZTRAMINER 03
BLACK EMERALD 01	CHARDONNAY 04	COUDERC 3309 05	GEWURZTRAMINER 04
BLACK MALVOISIE 02	CHARDONNAY 05	CRIMSON SEEDLESS 01	GOLD 01
BLACK ROSE 03	CHARDONNAY 06	DATTIER 01	GRAND NOIR 01 (France 221)
BLAUER PORTUGIESER 01	CHARDONNAY 07	DATTIER 04	GRAVESAC 01
BLAUER PORTUGIESER 02	CHARDONNAY 08	DAWN SEEDLESS 01	GRAY RIESLING 01
BRONX SEEDLESS 01	CHARDONNAY 09	DELIGHT 01A	GRAY RIESLING 02
BURGER 01	CHARDONNAY 10	DIAMOND 02	GRAY RIESLING 03
BURGER 02	CHARDONNAY 11	DIAMOND 03	GRAY RIESLING 04
BURGER 03	CHARDONNAY 12	DOG RIDGE 01	GRAY RIESLING 05
BURGER 04	CHARDONNAY 13	DOG RIDGE 02	GRAY RIESLING 06
BURGER 05	CHARDONNAY 14	DOG RIDGE 03	GREEN HUNGARIAN 01
BURGRAVE 01	CHARDONNAY 15	DOG RIDGE 04	GREEN HUNGARIAN 02
CABERNET FRANC 01	CHARDONNAY 17	DOG RIDGE 05	GREEN VELTLINER 01
<u>CABERNET FRANC 03 (ISV 1)</u>	CHARDONNAY 18	DOLCETTO 01	GRENACHE 01A
CABERNET FRANC 04 (France 332)	CHARDONNAY 20	<u>DOVINE 01</u>	GRENACHE 03
CABERNET FRANC 05	CHARDONNAY 21	DUTCHESS 01	HARMONY 01
CABERNET SAUVIGNON 02	CHARDONNAY 22	EARLY BURGUNDY 01	HARMONY 02
CABERNET SAUVIGNON 04	CHARDONNAY 23	EARLY BURGUNDY 02	HARMONY 03
CABERNET SAUVIGNON 05	CHARDONNAY 25	EARLY BURGUNDY 03	HARMONY 04
CABERNET SAUVIGNON 06	CHARDONNAY 27	EARLY MUSCAT 02	HARMONY 05
CABERNET SAUVIGNON 07	CHARDONNAY 28	EARLY NIABELL 03	HIMROD 01
CABERNET SAUVIGNON 10	CHARDONNAY 37 (France 95)	EMERALD RIESLING 01A	HIMROD 02
CABERNET SAUVIGNON 11	CHARDONNAY 38 (France 95)	EMERALD RIESLING 03	ISABELLA 01
CABERNET SAUVIGNON 12	<u>CHARDONNAY 39 (France 78)</u>	EMERALD SEEDLESS 02	ITALIA 04
CABERNET SAUVIGNON 13	CHARDONNAY 41 (France 352)	EMERALD SEEDLESS 03	ITALIA 05
CABERNET SAUVIGNON 14	CHARDONNAY 42 (France 277)	EMERALD SEEDLESS 04	JULY MUSCAT 01
CABERNET SAUVIGNON 15	<u>CHARDONNAY 43 (France 75)</u>	EMPEROR 02A	KOBER 125AA 01
CABERNET SAUVIGNON 19	<u>CHARDONNAY 44 (France 77)</u>	EMPEROR 03A	KOBER 5BB 02
CABERNET SAUVIGNON 20	CHARDONNAY 45 (France 77)	EMPEROR 04	KOBER 5BB 04
CABERNET SAUVIGNON 21	CHARDONNAY 46 (France 75)	EMPEROR 05	KOBER 5BB 06
CABERNET SAUVIGNON 22	CHARDONNAY 48 (France 538)	EXOTIC 02	LAMBRUSCO 01
CABERNET SAUVIGNON 23	CHARDONNAY 49 (France 277)	EXOTIC 03	LIMBERGER 01
CABERNET SAUVIGNON 24	CHARDONNAY 50 (France)	EXOTIC 04	LIMBERGER 02
CABERNET SAUVIGNON 25	CHASSELAS DORE 01	FANTASY SEEDLESS 01	LN33 01
CALMERIA 04	CHASSELAS DORE 03	FERCAL 103 01	LOOSE PERLETTE 01
CALMERIA 05	CHASSELAS DORE 04	FERDINAND DE LESSEPS 01	LOOSE PERLETTE 02
CALMERIA 06	CHASSELAS DORE 05	FERNAO PIRES 01	LOOSE PERLETTE 03
CALMERIA 07	CHASSELAS ROUGE 01	FIESTA 01	LOOSE PERLETTE 04

MALAGA 02	NEBBIOLO LAMPRIA 01	PRIMITIVO 03	SEMILLON 06
MALAGA 03	NEW YORK MUSCAT 01	PRIMITIVO 05	SEMILLON 07
MALAGA 04	NIABELL 01	PRIMITIVO 06	SENECA 01
MALAGA 05	NIABELL 02	QUEEN 02	SHIRAZ 01
MALBEC 04	NIAGARA 01	QUEEN 03	SHIRAZ 02
MALBEC 06	NIAGARA 02	QUEEN 04	SHIRAZ 03
MALBEC 09	ODEM 01	REFOSCO 02	SHIRAZ 04
MALEGUE 44-53 01	ONTARIO 01	RIBIER 01A	SHIRAZ 05
MALVASIA BIANCA 03	OPPENHEIM #4 09	RIBIER 03	SHIRAZ 06
MARROO SEEDLESS 01	OPPENHEIM #4 10	RICHTER 110 01	SHIRAZ 07
MATARO 01	OPPENHEIM #4 11	RICHTER 99 01A	SOUZAO 01
MATARO 03	OPPENHEIM #4 13	RICHTER 99 PROSPERI SUPER 01	SUAVIS 01
MATARO 04	OPPENHEIM #4 14	RIESLING 01	SYLVANER B8 08
MELON 01	OPPENHEIM #4 16 (ISV-39-8)	RIPARIA GLOIRE 03	SYLVANER B8 09
MELON 02	OPPENHEIM #4 17 (Canada)	RIPARIA GLOIRE 04	SYMPHONY 03
MELON 06	ORANGE MUSCAT 01A	RKATSITELI 01 (Leningrad)	TANNAT 01
MELON 07	ORANGE MUSCAT 02	RKATSITELI 02 (Leningrad)	TELEKI 5C 01
MERLOT 01	ORANGE MUSCAT 03	RKATSITELI 03 (Leningrad)	TELEKI 5C 02
MERLOT 03	ORANGE MUSCAT 04	RKATSITELI 04 (Leningrad)	TELEKI 5C 03
MERLOT 06	ORANGE MUSCAT 05	RKATSITELI 05 (Leningrad)	TELEKI 5C 05
MERLOT 08	ORANIENSTEINER 01 (Germany)	ROMULUS 02	TELEKI 5C 06
MERLOT 09	PALOMINO 01A	ROMULUS 03	TELEKI 5C 07
MERLOT 10	PAULSEN 1045 01	ROYALTY 01	TELEKI 5C 08
MERLOT 11	PAULSEN 1103 01	ROYALTY 02	TELEKI 5C 09
MERLOT 12	PAULSEN 1103 02	ROYALTY 03	TELEKI 5C 10
MERLOT 15 (France 181)	PAULSEN 1103 03	RUBIRED 01	TELEKI 8B 01
MEUNIER 01	PAULSEN 779 01	RUBIRED 02	TEMPRANILLO 02
MILLARDET ET DE GRASSET	PAULSEN 779 02	RUBIRED 03	THOMPSON SEEDLESS 02A
101-14 01	PETIT BOUSCHET 01	RUBY CABERNET 02	THOMPSON SEEDLESS 05
MILLARDET ET DE GRASSET	PETIT SIRAH 03	RUBY CABERNET 03	THOMUSCAT 01
125-1 01 (France)	PETIT VERDOT 02	RUBY SEEDLESS 02	THOMUSCAT 02
MILLARDET ET DE GRASSET	PEVERELLA 01	RUBY SEEDLESS 03	TINTA AMARELLA 01(Jackson, CA)
219A 01 (France via Geneva)	PEVERELLA 02	RUGGERI 140 01	TINTA AMARELLA 02 (Portugal)
MILLARDET ET DE GRASSET	PEVERELLA 04	RUGGERI 140 02	TINTA MADEIRA 01
41B 01	PIERCE 01	RUGGERI 125 01	TINTO CAO 01A (UCD
MILLARDET ET DE GRASSET	PINOT BLANC 05	SABAL KANSKOI 01	Viticulture)
41B 02	PINOT BLANC 06	SAINT EMILION 02	TINTO CAO 02 (selection #1A)
MILLARDET ET DE GRASSET	PINOT BLANC 07	SAINT MACAIRE 03	TINTO CAO 04 (Jackson, CA)
420A 04	PINOT GRIS 04 (France 53)	SALT CREEK 01A	TOCAI FRIULANO 01
MILLARDET ET DE GRASSET	PINOT GRIS 05 (France 53)	SALT CREEK 02A	TOURIGA 01
420A 05	PINOT MEUNIER 01	SALT CREEK 03	TOURIGA 02
MISSION 02	PINOT NOIR 01A	SALT CREEK 04	TRAMINER 01
MISSION 06	PINOT NOIR 02A	SALT CREEK 06	TREBBIANO TOSCANO 01
MISSION 07	PINOT NOIR 09	SALT CREEK 07	TREBBIANO TOSCANO 02
MISSION 08	PINOT NOIR 13	SALT CREEK 08	TROUSSEAU 08
MISSION 09	PINOT NOIR 15	SALT CREEK 09	TROUSSEAU 09
MISSION 11	PINOT NOIR 16	SALVADOR 01	VERDELHO 02 (UCD, Viticulture)
MISSION 12	PINOT NOIR 18	SANGIOVESE 02	VERNACCIA 01
MISSION 13	PINOT NOIR 19	SANGIOVESE 04	VOIGNIER 01
MISSION 14	PINOT NOIR 23	SAUVIGNON BLANC 01	V. RUPESTRIS CONSTANTIA 01
MONTEPULCIANO 01 (Italy)	PINOT NOIR 31	SAUVIGNON BLANC 06 (ISV-CPF-5)	V. RUPESTRIS CONSTANTIA 03
MONUKKA 01	PINOT NOIR 32	<u>SAUVIGNON BLANC 07 (ISV-CPF-2)</u>	V. RUPESTRIS CONSTANTIA 04
MONUKKA 02	PINOT NOIR 37	SAUVIGNON GRIS 01	WHITE RIESLING 02
MONUKKA 03	PINOT NOIR 38	<u>SAUVIGNON GRIS 03 (France 253)</u>	WHITE RIESLING 04
MONUKKA 04	PINOT NOIR 39	SAUVIGNON VERT 01	WHITE RIESLING 09
MUSCAT BLANC 01	PINOT NOIR 40	SCARLET 01	WHITE RIESLING 10
MUSCAT HAMBURG 03	PINOT NOIR 44 (France 113)	SCARLET 02	WHITE RIESLING 12
MUSCAT OTTONEL 01	PINOT NOIR 46 (France 114)	SCHUYLER 03	ZINFANDEL 01A
MUSCAT OTTONEL 04	PINOT NOIR 47 (France 114)	SCHWARZMANN 01	ZINFANDEL 02
MUSCAT SAINT-VALLIER 01	PINOT NOIR 48 (France 162)	SEEDLESS TOKAY 01	ZINFANDEL 03
MUSCAT SAINT-VALLIER 02	PINOT ST. GEORGE 01	SEIBEL 13053 01	ZINFANDEL 06
MUSCAT SAINT-VALLIER 03	PINOT ST. GEORGE 02	SEIBEL 13053 02	
NAPA GAMAY 01	PINOT ST. GEORGE 03	SEMILLON 02	
NAPA GAMAY 02	PINOT ST. GEORGE 05	SEMILLON 03	
NAPA GAMAY 03	PINOTAGE 01	SEMILLON 04	
NEBBIOLO 01	PLAVINA 01 (Italy)	SEMILLON 05	

Vines on Hold at FPMS

When occasional questions arise regarding the health and/or genetic characteristics of a vine or selection in the foundation vineyard, the vine(s) are put on hold. Circumstances that trigger a hold designation are not certain or serious enough to cause a vine to be removed from the California Grapevine Registration and Certification Program. However, materials are not distributed from vines on hold unless customers are informed about the concerns that generated the hold and are willing to accept all risks associated with the condition.

Most "holds" are the result of questionable results from laboratory or field disease tests. However, sometimes vines are put on hold because visual symptoms that may indicate general health or variety identification problems are noticed. Each vine in the foundation block is visually inspected twice a year by the FPMS Plant Pathologist, Dr. Adib Rowhani, and CDFA inspectors. From time to time grape variety experts also inspect the foundation block and comment on variety names used. Vines showing general health problems or symptoms of diseases such as measles or eutypa are put on hold. Vines suspected of being incorrectly named are also placed on hold.

Vines placed on hold are reviewed periodically by Dr. Rowhani, other plant pathologists, and grape variety experts. If further testing or observations clear the vine from suspicion of disease, genetic or naming problems, the hold is removed. If questions persist, the hold remains and, if they are unquestionably linked to a problem that will adversely affect propagation materials, the vine is removed from the foundation block.

One of the selections placed on hold this year is Petit Verdot 01. Both Petit Verdot selections 01 and 02 were reported to be shy bearing in the October 1991 FPMS Newsletter, but the severity of the problem was not clear. Subsequent observation has shown that the Petit Verdot 01 vines produce an extremely small crop, so they were all placed on hold. Anyone requesting this selection will be notified that the selection is not recommended for commercial vineyards due to low yields. Petit Verdot 02 produces a typical crop and is being distributed without special disclaimers.



Petit Verdot 01 vines produced a very small crop at FPMS in 1998



Petit Verdot 02 vines produced a normal crop at FPMS in 1998

R&C Program changes

New draft regulations for the California Grapevine Registration and Certification Program have been prepared and are slowly making their way through the state review process. A summary of the high points of the new regulations was given in the FPMS newsletter last year. After an internal CDFA review process is completed, the regulations will be published and there will be a 45-day public comment period. A public hearing may be held, if requested, during this 45-day period. To request a copy of the draft regulations, contact Umesh Kodira at the Nursery Program office by phone: (916) 654-0435 or E-mail: Ukodira@cdfa.ca.gov.

California Grape Register

The "California Grape Register" is a reference booklet published annually by FPMS to help growers and nurseries locate California certified grape stock. Nursery sources for registered grape selections are organized alphabetically by grape variety and nursery name. Information is also given regarding the source, treatment and testing history for each registered selection.

In this year's edition, a new section was added and titled "Additional Registered Grape Selections Recognized by CDFA". This section lists grape selections that are still registered in the California Grapevine Registration and Certification Program but are no longer available from FPMS as foundation stock. Qualified source vines do not exist in the current FPMS foundation blocks for selections in this category. Registration at the private increase block level has been continued by CDFA, however, because qualified materials from old FPMS source vines were distributed and planted in private increase blocks in the past. Popular and/or important selections on the "Additional Registered Selections" list will be tested and treated as necessary to requalify mother vines for planting in the current FPMS foundation blocks. Cabernet Sauvignon 08 and Pinot noir 22 are examples of selections that are undergoing this process.

To order a copy of the "California Grape Register" or any other grape publication distributed by FPMS, use the enclosed publication order form.



Grape growers and nurseries throughout the country are following the efforts of the North American Plant Protection Organization (NAPPO) to develop recommendations for Canada, Mexico, and the USA regarding grape quarantine standards. NAPPO is a regional organization under the umbrella of the International Plant Protection Convention (IPPC) of the Food and Agriculture Organization (FAO) of the United Nations. NAPPO is recognized in the North American Free Trade Agreement as the body which will provide technical assistance to trade experts in the field of plant health.

NAPPO will use guidelines established by the IPPC to develop standards to regulate and test for quarantine pests of grapevines in North America. The IPPC allows for quarantine regulation of pests that are officially controlled or absent from the quarantine area, but other kinds of quarantine restrictions are considered unfair trade barriers. Unfortunately, the IPPC quarantine model does not fit the current USA grape quarantine laws.

Grape quarantine laws and assorted certification programs in the USA have evolved over the last 45 years into a functional system for plant protection and disease control given the limited resources available. The U.S. federal quarantine laws prohibit entry of grape materials infected with most harmful grape disease or pests, even if the diseases are already present in the country. Quarantine tests are conducted exclusively by a few U.S. scientists with special permits, and they have frequently detected disease in certified grape materials from other countries. Most diseases are eliminated from infected materials before release from quarantine. This prevents widespread propagation of popular new foreign materials while they are still diseased. Introduction of new strains of known diseases that may not be present or widespread in the USA is also prevented. Since foreign grape selections only need to be tested once in this system, it costs less than an

ongoing program to monitor foreign testing programs and sources.

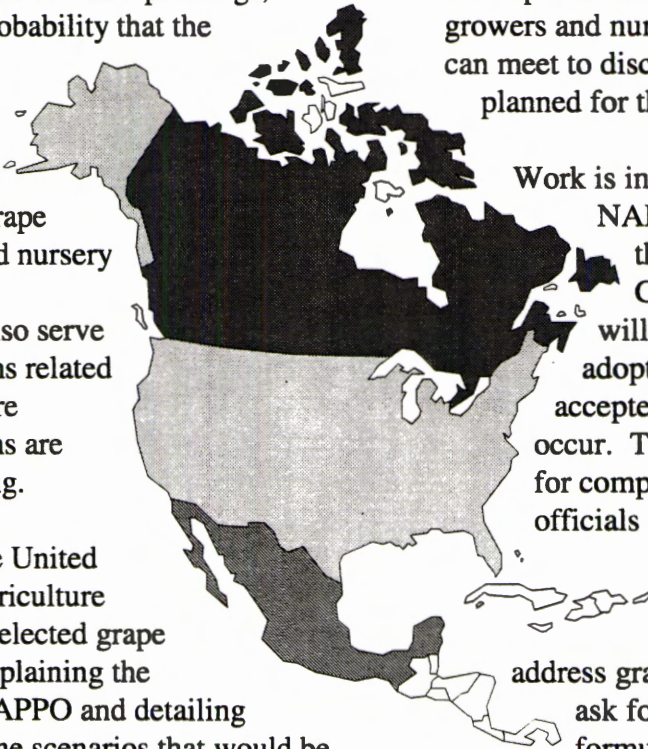
Voluntary grapevine certification programs in California, Virginia, Oregon and Washington significantly limit disease in grape planting stock used in the USA because certified stock is from sources that test negative for harmful diseases. Not all grapevines propagated in the country are certified, but the benefits from the programs extend beyond the official certified stock. Non-certified stock is often derived from certified plantings, thereby improving the probability that the vines will be healthy.

Certification programs help to educate growers about grape diseases, so expectations regarding grape planting stock quality and nursery standards are higher.

Certification programs also serve as centers where problems related to grape planting stock are resolved. These programs are financially self-supporting.

In the spring of 1998, the United States Department of Agriculture (USDA) sent a letter to selected grape growers and nurseries explaining the authority of IPPC and NAPPO and detailing possible grape quarantine scenarios that would be compatible with IPPC guidelines (copies are available from FPMS upon request). Removing all endemic diseases from the U.S. federal grape quarantine laws was one possibility suggested in the letter. This would probably reduce regulatory costs, but foreign materials carrying fanleaf, leafroll, corky bark and other serious diseases could flood into the country as a result and seriously harm the industry. Another choice would be to take no action (i.e. refuse to adopt standards after NAPPO proves them) which might leave the USA vulnerable to lawsuit in the World Court.

Only one option was suggested that would preserve the long term quality of health in USA vineyards. It involves creating and implementing regulatory programs that control the diseases and pests to be retained in the federal grape quarantine laws. A nationwide grapevine certification program would be one way to do this. Some of the elements from existing certification programs could serve as a basis for a national program, but significant amounts of time and money would be needed for start up and maintenance. Meetings where grape growers and nursery people from around the nation can meet to discuss these issues are currently being planned for the spring of 1999.



Work is in progress to finalize and adopt NAPPO Grape Quarantine Standards that will be recommended to Mexico, Canada and the USA. Each country will review the standards and decide to adopt or reject them. Once the USA has accepted NAPPO standards, changes will occur. To date, no deadlines have been set for completing these steps, but the NAPPO officials writing grape standards are currently asking for feedback from the grape industry. It is important to communicate a willingness to address grape quarantine issues to them and ask for enough time to make decisions, formulate plans, raise money and implement appropriate programs and laws to address forthcoming NAPPO standards.

More information about NAPPO is available on the Internet at: http://www.nappo.org/menu_E.shtml. Comments regarding grape NAPPO standards should be addressed to the USA representative on the grape standards panel, Peter Grosser at phone: 301-734-5786, FAX: 301-734-6799, or E mail: pgrosser@aphis.usda.gov. If you would like to be added to the mailing list for future meetings about NAPPO, please contact FPMS.

A New Test for Grapevine Rupestris Stem Pitting

By Dr. Adib Rowhani

Grapevine rupestris stem pitting disease (RSP) causes a slow decline in the growth of grapevines and, after several years, affected vines may be smaller than healthy ones. Only limited research documenting these effects on different grapevine species and cultivars has been published, so it is difficult to assess the magnitude of the effect of this disease on grape production. Currently, RSP is detected by indexing on *Vitis rupestris* cv. St. George. Symptoms include small pits on the woody cylinder immediately below the inoculum chip bud, but occasionally pits and grooves have occurred elsewhere on the wood cylinder.



Dr. Yun Ping Zhang, post graduate researcher, conducting a PCR assay using a DNA thermocycling machine

In the past year we have been able to clone, sequence, and characterize the genome (genetic material) of a virus associated with RSP, hereafter referred to as grapevine rupestris stem pitting associated virus (GRSPaV). We have determined the genome organization of this virus and found it to be most similar to apple stem pitting virus (a virus which causes pitting and grooving in apple trees) by phylogenetic analysis of replicase and coat protein amino acid sequences.

A reverse transcriptase-polymerase chain reaction (PCR) assay was developed to detect GRSPaV in grapevines. When 62 RSP-positive grapevines (based on field indexing) were tested, all 62 vines were positive by PCR using three different sets of primers (see table on next page). Forty-three healthy controls tested at the same time included 23 *V. vinifera* species (negative on St. George) and 20 grape plants derived from a seedling population. All the healthy controls tested negative by PCR. We have also tested 118 St. George rootstock vines in the FPMS block by PCR. Our preliminary data showed that 117 vines tested positive by PCR (see table on next page). Currently we are investigating the validity of our past biological index for RSP, in which we were using propagations from the above mentioned St. George rootstocks as indicator plants.

The broad distribution of RSP in grapevines worldwide may be partially due to weak symptom expression in most cultivars, the relatively recent discovery of the disease, and the reliance on woody indicators with a two-year incubation period. The PCR-based detection technique described here will greatly facilitate rapid detection of GRSPaV in field grown grapevines.

Although we have isolated and characterized a virus from an RSP-infected vine and established a good correlation between this virus and the disease by PCR, more research is required to: 1) clearly establish a causal relationship, 2) determine number of strains associated with the disease and symptom

severity associated with each strain, 3) determine the correlation between isolated virus(es) and RSP, 4) design universal primers to detect all strains in a

single reaction and specific primers for specific strains, and 5) test the validity of biological index using St. George rootstock.

A comparison between PCR assay and biological index on RSP indicator St. George				
SAMPLE	NO. TESTED	RSP POS. by field index	PCR POS.	% POS.
Scion	62	62	62	100
St. George-15	118	Not tested since 1981*	117	99
Seedlings	20	Not tested	0	0
Scion	23	0	0	0

*one vine from this selection tested negative for RSP in 1981

FPMS Web Site Now Online!!

FPMS is pleased to announce that customers can now access FPMS program information, collection lists and ordering

materials via its new site on the World Wide Web at <http://fpms.ucdavis.edu>. Also available for the first time is our new department E-mail address, fpms@ucdavis.edu, to which customers can direct inquiries by E-mail about FPMS programs, materials and services. E-mail inquiries will be directed to the staff member(s) best able to answer your questions. We hope these new resources will help to make our program information and staff more readily accessible and will encourage you to learn even more about FPMS.

Please visit our Web site and check it out for yourself! Any comments or questions regarding the site can be directed to webmaster Cheryl Covert clcovert@ucdavis.edu or by phone at (530) 752-3590.



FPMS at your fingertips on the Web

FPMS Grapevine User Fee Program

Collection of calendar 1997 grapevine user fees is winding down, with most customers having reported and paid their 1997 fees. A second request for reports/payments went out on August 28, 1998 to those who had not yet submitted their payments and/or report forms. Customers are reminded that those who have not taken care of their 1997 user fee obligations by November 15th, the grape ordering deadline, will not be included in the initial round of allocations for available material this dormant season. Any questions or concerns regarding FPMS user fees can be directed to user fee program manager Cheryl Covert by phone at (530) 752-3590 or E-mail at clcovert@ucdavis.edu.

To address user fee compliance concerns, and because maximum compliance is essential to the financial health of the FPMS grape program, FPMS has been working to improve its communications and enforcement practices related to grape user fees. As the latest step in this process, FPMS has contracted with the CDFA Audit Office to conduct audits of FPMS customers for compliance with FPMS user fees concurrently with IAB nursery assessment audits. This year's experience was a good start, and CDFA auditors and FPMS will keep learning and fine tuning as the process continues next year.