State of Oregon Annual Report for Calendar Year 2018
W-6 Technical Committee

Compiled by Shawn A. Mehlenbacher

Oregonians continue to use the PI system extensively. Users include state and federal researchers as well as private seed companies and private individuals. Oregon is a major user in the western region, along with California and Washington.

Progress Reports:

1. Shawn A. Mehlenbacher, Dept. of Horticulture, Oregon State University, Corvallis, OR 97331.

Resistance to eastern filbert blight (EFB) is a top priority objective of the OSU hazelnut breeding program. Structure exposure tests to identify sources of quantitative resistance were initiated in the early 1990s, and recently summarized. Potted trees are exposed under a structure topped with diseased wood, in the spring, and cankers are counted and measured in December of the following year. Accessions with quantitative resistance have fewer and smaller tankers, identified as mean of total canker length per tree on a square root scale. 'Tonda di Giffoni' from southern Italy (high quantitative resistance) and 'Lewis' (moderate quantitative resistance) are included as checks. The list includes 120 accessions, of which 67 are the result of seed collections (38 from Turkey, 5 from Armenia, 11 from Georgia, 6 from Azerbaijan, 6 from southern Russia and one from Crimea). Selections were made from each seed lot and propagated for further testing. Their incompatibility alleles were identified. One tree of each was donated to the USDA Repository in Corvallis.

Additional selections have remained free of EFB after structure exposure, greenhouse inoculation, or field exposure in New Jersey. The combined collections of OSU, USDA-ARS-NCGR and Rutgers University include 171 accessions with very high resistance. Many of these have been used as parents in breeding. Using progenies that segregate 1:1 for resistance, resistance loci have been identified on linkage groups 6, 7 and 2. Simple sequence repeat (SSR) markers have been developed for these three regions and will be used in the pyramiding of resistance genes.

2. Sugae Wada, Assistant Professor - Senior Research, Department of Horticulture, Oregon State University, Corvallis, OR 97331.

A total of 120 *Pyrus* accessions as in vitro cultures were transferred from the USDA National Clonal Germplasm Repository to her lab for genomic research in cooperation with researchers at UC Davis to find resistance sources against the plant pathogen *Armillaria mellea* L. . The project was started in 2018 and will be finished by the end of 2020.

3. Alexandra Stone, Department of Horticulture, Oregon State University, Corvallis, OR 97331.

Last year she had three field trials of 50 commercial lines and at the same time increased the USDA accessions for trials in 2019. This year they will harvest and evaluate three trials that include the USDA accessions: one for rust susceptibility, one for horticultural evaluation, and one for white rot susceptibility. The objectives are to evaluate relative susceptibility to the two

diseases, and to evaluate bulb and clove weight and number of plantable cloves per pound of bulbs. The data will be available by Nov. 12.

4. Jim Myers, Department of Horticulture, Oregon State University, Corvallis, OR 97331.

At the request of curator Clare Coyne, 271 accessions of pea (*Pisum sativum*) were sent to Corvallis and will be used to evaluate powdery mildew resistance. These accessions were recently donated to the collection from China via Australia. He screened the 271 accession Chinese landrace core collection for resistance to powdery mildew. They were grown at the OSU Vegetable Research Farm in 2018 and evaluated with Rebecca McGee (USDA-ARS, Pullman) for powdery mildew reaction. Conditions for field infection were good, and they saw clear differences in resistance. The data should soon be uploaded to GRIN.

5. Dan Curry, Dept. of Crop and Soil Science, Oregon State University, Corvallis, OR.

He received 'Gulf' annual ryegrass samples for increasing the supply of breeder seed. This is a project (2018-2021) directed by the Oregon Ryegrass Commission.

6. Neil Bell, Community Horticulturist, OSU Extension Service - Marion and Polk Counties, Salem, OR 97301

The olive accessions were received as cuttings from NCGR Davis in 2017 and 2018. Those that were successfully rooted were potted and are being grown on at OSU's North Willamette Research and Extension Center NWREC) in Aurora for re-propagation in the summer of 2019. Additional accessions from NCGR-Davis will be received in 2019. Rooted cuttings from this new request and re-propagated rooted cuttings from prior requests will be potted on and grown on before planting in a randomized, replicated field cold hardiness evaluation at NWREC in spring 2020. The field evaluation will continue indefinitely in order to collect cold hardiness, plant growth, flowering and fruit data.

7. Pankaj Jaiswal, Dept of Botany and Plant Pathology, Oregon State University, Corvallis, OR 97331.

Sheath blight response was studied in the resistant accession MCR010277 and the susceptible variety Cocodrie (CCDR). The experiment was set up by Jim Oard at Louisiana State University. The Jaiswal lab analyzed the transcriptome and genetic variation. All US elite rice lines have the japonica background and are sheath blight susceptible. We predicted and confirmed that five US lines (CCDR, CL53, Cypress, Blue Bonnet, and CL111) carry the Os*WAK91* T allele associated with susceptibility. In contrast, 8 indica lines (IR29, IR64, Kasalath, Jasmin, TeQing, Nagina 22, Pokkali, and Nonabokra) were confirmed as carrying the resistant C allele and are known to exhibit some level of sheath blight resistance. One exception is 93-11, used for sequencing the indica reference genome, and which is known to be moderately susceptible. These results are consistent with the genotypes and phenotypes of the 20 doubled haploid individuals of the SB2 population (with the exception of SB2-99), in which the *OsWAK91* SNP allele C contributed by the MCR parent always co-segregated with the SB resistance phenotype.

The top 10 SB resistant individuals SB2-03 (GSOR200003), SB2-109 (GSOR200109), SB2-134 (GSOR200134), SB2-158 (GSOR200158), SB2-161 (GSOR200161), SB2-174 (GSOR200174), SB2-206 (GSOR200206), SB2-225 (GSOR200225), SB2-259 (GSOR200206), and SB2-272(GSOR200272 and the 10 most susceptible individuals, SB2-13 (GSOR200013),

SB2-48 (GSOR200048), SB2-88 (GSOR200088), SB2-99 (GSOR200099), SB2-125 (GSOR200125), SB2-144 (GSOR200144), SB-203 (GSOR200203), SB-255 (GSOR200255), SB-276 (GSOR200276), and SB2-314 (GSOR200314) from the SB2 doubled haploid population along with the two parents were screened with 135 candidate nsSNP markers including the one identified by us. The raw RNA sequence reads were submitted to the EMBL-EBI ArrayExpress (accession number E-MTAB-6402). The raw sequences from the amplified fragments from various rice lines were submitted to the European Nucleotide Archive (study accession PRJEB28811) under the assigned accession numbers ERS2758541-51.

8. John Fowler, Dept. of Botany and Plant Pathology, Oregon State University, Corvallis, OR 97331.

The maize germplasm requests correspond to the 'NAM founder lines', which are envisioned to eventually allow us to use natural variation in these lines to investigate the genetic basis of pollen function and sexual reproduction in maize. The lines were planted in 2018 and again in 2019, and are being employed in two different NSF-funded projects: "A Transformative Technology for Producing Transgenic Maize: Pollen Magnetofection" and "Genetic and Epigenetic Regulation of Gametophyte Development and Transposon Expression in Maize". No publications have yet resulted from the use of these lines.

9. Hilary Gunn, Dept. of Crop and Soil Science, Oregon State University, Corvallis, OOR 97331.

She ordered the wheat variety 'McNeal' to use as a control when looking at hybrid necrosis in wheat crosses. The research is still ongoing, with nothing published yet.

10. Chad Finn, USDA-ARS Horticultural Crops Research Unit, Corvallis, OR 97331.

Dr. Finn prepared a report on the USDA-ARS blackberry breeding program for presentation at the 2019 Rubus-Ribes symposium, which is summarized here. The USDA program, begun in the 1920s, was largely established from germplasm derived from *Rubus ursinus* (western U.S. trailing dewberry) and its hybrids with *R. idaeus* (red raspberry). Over the decades, other species have been used with varying levels of success. For example, thornlessness in the mid-1900s was from 'Austin Thornless', an octoploid from a *R. baileyanus* x *R. argutus* hybrid. Starting in the late 1980s, the thornless 'Lincoln Logan' was used. While the initial material derived from 'Lincoln Logan' had some negative traits, 'Columbia Star' was released. In the early 1990s, trailing higher ploidy types such as 'Kotata' were crossed with eastern U.S. tetraploid erect types such as 'Navaho'. While most of the seedlings were largely sterile, a few were fully fertile. Selections from these populations were backcrossed to erect/semi-erect types to produce 'Eclipse' and 'Galaxy', which are ¼ trailing and ¾ erect/semi-erect. The USDA-ARS program has used many species over the past 25 years. While many species have been dead-ends for us (e.g., *R. canadensis*, *R. insularis*), some still have promise (e.g., *R. glaucus, R. caesius*), and some have been highly successful leading to selections that will be released (e.g., *R. caucasicus*, *R. georgicus*). Selecting for primocane fruiting in the Pacific Northwest from crosses among Arkansas and North Carolina genotypes has led to earlier ripening selections with commercial potential. The relationships between the various programs, along with a strong belief in the value of new germplasm, has led to blending diverse germplasm that in just a few generations has led to commercially viable blackberry genotypes containing valuable traits not previously present in the USDA breeding material.

11. Robert R. Martin, USDA-ARS Horticultural Crops Research Unit, Corvallis, OR 97331.

His projects all involve virus characterization and detection. Characterizing the diversity of a virus is critical to developing reliable diagnostic assays, and he often screens the material at the USDA-NCGR to find infected plants that were obtained from multiple locations to increase the diversity of a virus being studied. He attached publications that made use of the materials from the NCGR in Corvallis, he often uses material from the repository for positive controls in our testing, and for virus characterizations. The list of publications is for the past several years, not just 2018.

12. James E. Dombrowski, USDA-ARS Forage Seed and Cereal Research Unit, National Forage Seed Production Research Center, 3450 SW Campus Way, Corvallis, Oregon 97331-7102.

He requested and received *Lolium perenne* cvs. Manhattan & Manhattan II (PI 381112 & PI 600878). He germinated the seed from Manhattan, removed any potential fungal endophyte using Tilt, and is currently conducting drought studies on it as well as other *Lolium perenne* germplasm from stakeholders in the Willamette Valley. He will select a single Manhattan plant and then sequence its genome as the model plant for Lolium perenne as part of the USDA ARS Grass Genome Sequencing Initiative.

13. Chas Schmid, Peak Plant Genetics

Orchardgrass germplasm was acquired from USDA-GRIN (Order Request ID 301068 25599) and a spaced plant nursery was established to evaluate the fitness of the material for inclusion in an orchardgrass variety development program. There are no significant findings or publications to report on this material at this point.

14. Virginia G. Lehman, Blue Moon Farms

"I appreciate receiving the germplasm from the US National Plant Germplasm System."

She is in the process of growing the materials to increase the seed amounts sufficiently to test to incorporate in our breeding programs. She is attempting to develop improved cover crops with some of the germplasm, including radish and vetch. "We sincerely appreciate the efforts of the PI system."

15. Jerry Hall at Grassland, Oregon

Due to our office fire last fall, all new research projects were put on hold for a year. We have placed the samples that we received in cold storage and will resume investigations this year as we will be moving back into the office hopefully this fall.

16. Miles Barrett, Barenbrug USA Research, 36030 Tennessee Road SE, Albany, OR

Four accessions of *Festuca rubra* and two of *Poa pratensis* were requested for use as standards in morphology trials.

17. Robin Lamp, Barenbrug USA Research, 36030 Tennessee Road SE, Albany, OR

Accessions of meadow fescue were requested (PI 516569, PI 516567, PI 516570, PI 347576, PI 440910, PI 347577, PI 347575, PI 347571, PI 347572, PI 347573 and PI 347574). Unfortunately, all of the plants that germinated from these lines turned out to be tall fescue. We

may use the plants in the future for tall fescue breeding purposes. t at this point we have no interest in them.

18. Don Floyd, Smith Seed Services, P.O. Box 288, Halsey, OR

14 accessions of Trifolium incarnatum were requested as initial sources of genetic variation for breeding. One accession of Lolium multiflorum was requested for seed increase as part of the breeding program. 22 accessions of Poa pratensis were requested, and have been planted for evaluation and possible use as parents in breeding.

19. Dustin Herb, OreGro Seeds Crop Production Services, 33080 Red Bridge Rd. SE., Albany, OR

A large number of accessions of different species were requested for evaluation and possible use in breeding. 68 wheat accessions (*Triticum aestivum* subsp. *aestivum*) were requested for use in breeding varieties for forage production. An additional 144 accessions of various Triticum species were requested for use in the development of tall, forage wheat. The best of the PIs will be crossed into contemporary germplasm for adaptation. Nine rye (*Secale cereale*) and three triticale (X Triticosecale spp.) accessions were requested for evaluation and use in breeding forage or malting cultivars for the Pacific Northwest. 34 chicory accessions (Cichorium intybus) were requested for evaluation and use in breeding. Other requested accessions will be used in breeding, often with an emphasis on forage use: 1 Eriogonum umbellatum, 1 Phaseolus vulgaris, 3 Trifolium incarnatum, 7 Nicotiana tabacum, 12 Fagopyrum esculentum, 16 Raphanus sativus, 18 Lotus corniculatus, 18 Onobrychis viciifolia, and 3 Plantago lanceolate.

20. Mike Dunton, Victory Seed Company, PO Box 192, Molalla, OR

The Victory Seed Company has been working for 20 years now to keep older seed varieties available to home gardeners. They currently maintain several hundred tomato varieties alone. These requested accessions will be grown out, compared to available historical records for accuracy, and ultimately, offered to gardeners. This year's requests were for 79 accessions of tomato (*Solanum lycopersicum*), one of pepper (*Capsicum annuum*) and two of watermelon (*Citrullus lanatus*). "Thank you for the work that you do!"

21. John Kallas, Ph.D., Director, Wild Food Adventures, Institute for the Study of Edible Wild Plants and Other Foragables, 422 SE 49th Ave, Portland, OR 97215 (503) 775-3828 mail@wildfoodadventures.com

Several accessions were requested, and he shared germination test results. Of all the seed samples received, germination rates were about 1% after soaking for 8 hours and keeping moist in paper towels. And those sprouts did not survive. Some of the acquisitions did not sprout at all. I tried spreading them in the garden, from all samples, about 100 seeds total. The next spring about 8 plants germinated and grew fine. Then he scarified them gently by using a mortar and pestle, and then soaked them for 8 hours and kept moist in paper towels and got about 75% germination rate. Those are growing now in the garden at a slower pace than the overwintering ones, but still growing. His objective is to observe the plants at all stages of growth, and personally evaluate how the parts can be reasonably used for food. Flavor, texture, and suitability for certain common dishes were evaluated for each part of the plant. These were not

scientifically investigated, but in preparation for inclusion in a lay edible wild plant book to be published in 2020 or 21.

22. Jeanette Uhden, Research Coordinator, Essex Labs LLC, 5549 Lone Pine Road, Terrebonne, OR

Pycnanthemum plants were acquired through the National Clonal Germplasm Repository. The two plant starts, PI619287 and PI619294, are currently being maintained in our breeding program. The seeds from the other varieties are in storage to be planted out next year. There are no results to report at this time.

23. Joanie Cooper, Home Orchard Society, 7635 SW 71St Ave., Portland, OR.

The Home Orchard Society, a non-profit member based organization, visits the pear repository every fall. We collect hundreds of varieties of pears, display them and offer tastings at our annual All About Fruit Show. Close to a thousand people attend the event each year. They get to learn about the Repository, its relevance and the importance of their work to study and preserve this collection. In the spring we offer scions from the Repository collection at our Fruit Propagation Fair. Folks who had the opportunity to taste the fruits at our fall event flock to the spring fair to learn about grafting and growing and beginning their own orchards. "Thousands of pear trees are growing in Oregon and Washington, thanks to the generosity of the National Clonal Germplasm Repository in Corvallis." The Temperate Orchard Conservancy requests scions to further expand their diverse collection. The varieties are grown for study and comparison. The eventual DNA work of the many varieties, will lead to clarification on names and uncover varieties thought to be lost.

24. Brian L. Sherman, 2234 NW Troost St, Roseburg, OR.

Cider apple evaluation was inspired by Dr. Jones' success with wines made from Iberian *Vitis vinifera* in Douglas County OR. His goal is to assess the economic viability, drought, disease and pest resistance on various rootstock combinations, primarily for cider/vinegar use, of Iberian and other cultivars uncommon/new to the area (Elkton OR USDA zone 9a) using some of the more common domestic/English/French cider varieties and WSU data for controls. Due to an irrigation system/well failure during an extreme climate event summer 2018, and damage from the Feb 2019 "snowpocalypse" a number of the initial grafted starts were lost, the survivors are in a nursery bed to be planted out in our new orchard next fall. We plan to order more scion germplasm this winter to replace lost material and complete study inventory, we anticipate having quantifiable fruit material beginning about 2023-24.

25. Shea Wetherell, Head pomologist, Wetherell Vineyards, 577 Mode Road, Umpqua, OR 97486.

He received scionwood of apple accessions and the grafted trees are growing well (several grafts are already 3 feet tall). He will propagate more plants in mid-July and plant them into the field next spring. It will be about 3 more years before I will have any apples and can truly report tonnage per acre and cider quality from these apples, which is what I am interested in measuring. These are the PI numbers grafted and will be monitored: 105528 Repinaldo do Liebana, 680623 Xuanina, 5005 Verdialona, 681637 Blanquina, 666188 Collaos, 681633 Coloradona, 680619 De la Riega, 680621 Perico, 681640 Raxao, 681635 Sangre de Toro, 680622 Teorica and 681636 Solarina.

26. Ed Salminen, Upper Valley Farms LLC, PO Box 8, Mount Hood Parkdale, OR.

Scions of cider apples were requested. He is using all of the *Malus* varieties requested as part of his hard cider production orchard. "The service your organization provides is valuable and irreplaceable to us Oregon's commercial orchardists, thank you."

27. Noel Fahey, 716 N 2nd St #4, Silverton, OR.

Scions of 25 apple (*Malus domestica*) accessions were received and will be used to test their performance under organic conditions, including disease resistance.

28. Sam Dufner, 15660 Airlie Rd, Monmouth, OR

Scions of 25 apple (*Malus* spp.) accessions were requested for grafting to Geneva 890 rootstock and evaluation as cider varieties.

29. Tate Pierson, 13180 S. MacDonalds Place, Oregon City, OR

Tate received medlar scionwood from the Corvallis repository, and successfully grafted them to native growing hawthorn trees on his property and grafted apple trees of varying types. All successful grafts produced flowers and small fruit. "The hawthorn seems to pulse life into the grafts because they have grown 10-15 inches" in the first growing season. This year they look great and he hopes for mature full-size fruits. These were his first grafts, and he had about a 70% success rate.

30. Sam Hubert, One Green World, 6469 SE 134th Ave., Portland, OR.

16 accessions of fig (*Ficus carica*) were requested for use in a trial to identify cultivars for the Pacific Northwest as well as breeding new material with a focus on early ripening main crops and large breba crops. A large number of accessions of other genera were requested for trialing new varieties of species already grown in the Willamette Valley for fruit production and nursery trade. These include *Actinidia*, *Diospyros*, *Morus* and *Vitis*.

31. Dominique Guillet, GaïAlkemia, 5994 Upper Applegate Road, Jacksonville, OR.

Accessions of four genera of medicinal plants were requested (10 *Artemisia spp*., 4 *Agastache spp*., 44 *Ocimum spp.* and 7 *Perilla frutescens*). She wishes to cultivate these different accessions of medicinal plants to analyze their different chemotypes. She is working on projects related to eradication of malaria in poor countries thanks to cheap medicinal plants grown in the local organic gardens. "I live in Oregon and I am also the founder chairman of the non-profit Association Kokopelli in France. We have an extensive collection of Ocimum."

32. Robert Siegel, Co-Founder and Manager, Quince Essential LLC, PO Box 396, Philomath, OR 97370 http://www.quince-essential.com, info@quince-essential.com

Quince scions were received from the USDA Repository in Corvallis for propagation and evaluation in Kings Valley, OR. "My appreciation for the Germplasm depository is boundless. I have benefitted so much from Joseph Postman's help in getting started with our Organic Quince Farm here in Benton County (www.quince-essential.com). We have not only received suggestions as to the varieties to test, but also great information about grafting varieties that are not normally readily available. For example, we are in the process of nurturing this year's grafted Esfahan Quince trees. Our six current varieties (Kaunching, Aromatnaya, Van Deman,

Kuganskaya, Claribel and Pineapple) are all doing well in the Kings Valley area were our orchard is located. We are currently in our fifth season of production for four original varieties. Last year we harvested over 1,200 pounds of quince fruit that was both shipped fresh all across the country as well as made into Quince Spread (aka "paste"). To our knowledge, we are the ONLY certified exclusively organic commercial quince growers in Benton County, Oregon. From the reports we have received from Joseph, it appears that prospects are very good for a growing market across the USA for the harvest and use of quince fruit, boding for increased acreage of quince orchards (currently barely 350 acres in the entire USA, mostly California)".

33. Brandon Temple, 6007 Orchard Heights Rd., Salem, OR.

He requested scions of medlar with the objective of grafting them to established hawthorn rootstock, and then diversify the medlar Medlar varieties at his property in West Salem. Articles from the Home Orchard Society on the subject inspired the idea and for which there has been reported success. Unfortunately, his grafts were not successful, and did not result in the propagation of any of the received varieties. "As of this time I cannot gauge whether the fault was the skill of the grafter, or incompatibility with the rootstock - though research indicates there should not be any issue with compatibility."

34. Jake G. Cawley, 1825 NW Grant Ave., Corvallis, OR 97330

He obtained *Vaccinium myrtillus deliciosum* seeds because he is interested in attempting to leverage their unique flesh color and flavor by crossing them with high-performing standard cultivars of *Vaccinium corymbosum*, and backcrossing as necessary, to attempt to generate excitement in a boutique, small-scale organic, niche-market for exceptional blueberries. Unfortunately, he was unable to germinate the seeds. He assumes the fault is his own and not a failure of the seed. He would like to try again and be more careful, if afforded another opportunity.

35. Joe Kepiro, Central Point, OR

Rice (*Oryza sativa*) accessions were ordered (orders 300613 and 300614). This is rice germplasm that is grown in California and he hopes to grow it in the Rogue Valley, but has not been able to increase seed quantities. "I contacted the Southern Oregon Experiment station to ask for their help but there has been little interest. I was referred to regional agronomist but he deal mainly with Klamath Falls which may not have suitable temperatures. I need to increase the seen from GRIN to have enough for trials and finding somewhere to grow pots of rice plants has been difficult. I have also contacted the Master Gardener program to ask for their help. Again, there has not been much interest. I must admit it has been frustrating because I received packets of 1-5 grams of seed from the USDA and need to increase it before any further work can be done. I contact OSU grain scientist on campus and also the fermentation scientist, since rice is used to make saki. I was hoping that going through officials of the state such as OSU I could learn what is required to introduce these rice varieties into Oregon. For instance does the Oregon Dept of Agriculture require any specific action or documentation. For now there has not been the ability to increase the seed quantities provided by GRIN. This is a private and small scale endeavor with potential, but I live in California and need assistance and collaborators in the Rogue Valley or OSU campus green house. All information you can provide will be greatly appreciated."

36. K.L. Odgers, 14085 SE Raspberry Ct, Milwaukie, OR.

Strawberry runners were received but either didn't survive transport or failed to root. A secondary request was never delivered.

37. Chris Homanics, Rivers Turn Farm, 31239 Lanes Turn Road, Eugene, OR

Six accessions of Vaccinium were requested. He is interested in black huckleberry, which is a largely overlooked fruit bearing species, for the berry production market that can be produced in diverse settings ranging from open direct-sun field production to shady acidic conifer forest conditions. In addition, some selections perform well in drought conditions with is of interest to a project I'm involved called Dry Farming Collaborative, a program of OSU Small Farms. His interest with Black Huckleberry began after observing the hybrid vigor of a cross between Vaccinium ovatum and V. floribundum which combined vigorous growth with consistent annual heavy-bearing fruit production. Since 2013, he has been scouting forms of V. ovatum as he travels from Washington to California as well as evaluating clones from various nursery sources. During the pre-breeding stage, he is working to acquire diverse genepool. An example is a selection of V. ovatum which has atypically large blue fruits that consistently bears each year a high yield of quality fruit. He is evaluating the Morris Smith selections (PI 618200, PI 618201, PI 618202, PI 618203) for fruit quality and production. The two V. floribundum accesions (PI 554930, PI 666874) will also be evaluated, and crosses with V. ovatum will be attempted. He has donated propagative material of all sizeable plants to the USDA and will continue to do so as more of the collected clones mature.

Pear accessions (82 of them) were requested because the Corvallis Repository reported that they excelled in western Oregon conditions with respect to disease resistance, superb and/or novel flavor profiles, and unrefrigerated shelf storability (Summer, Fall, Winter). Various usage traits were evaluated at the Repository, principally fresh eating but also drying, baking, and perry (tannin profiles). The accessions he requested will allow a comprehensive review of the entire collection in several ripening windows over a three-year period. Scions were grafted in the nursery and the resulting trees will be evaluated under organic conditions. Scion material was also distributed through seven public plant propagation fairs throughout western Oregon. This is a part of the organization he co-founded called Agrarian Sharing Network. The network, now in its third year, has hosted eight events from the Siskyou Mountains of SW Oregon to Puget Sound in Washington.

"Access to this material is an indispensable addition to disseminating greater genetic diversity of a wide diversity of crop types to researchers, farmers, orchardists, and the public-at-large. The nation would be greatly impoverished if such a service were to become unfunded. This service is vital to the health of this nation's citizens, future breeding programs for changing climates, the greater agricultural economy, the national defense, and long-term success of this country. Our forebears should be roundly applauded for enacting, implementing, and enriching such a program of paramount importance."

38. Will McClatchey, Woodland Valley Meadows farm, 28281 Hamm Rd, Eugene, OR.

An accession of Vitis californica was requested for ongoing botanical/taxonomic investigations. He is interested in resistance to powdery mildew in non-commercial species. The scions will be grafted onto ring nematode resistant rootstocks since these are a problem in our area and results shared with local vineyard managers. He is also interested in leaf

morphological variation across the genus *Vitis* and its possible role in disease resistance or susceptibility.

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