



A bi-monthly newsletter to faculty/staff/retirees of WSU Long Beach, Mt. Vernon, Puyallup & Vancouver

Message from the Director

Everyone who receives this mailing is aware that the state of Washington is facing difficult budget times. Most of you are aware that state agencies, including Washington State University, the Agricultural Research Center, and Cooperative Extension have taken a series of budget cuts that have left us with reduced operating budgets, unfilled positions, and a 50 percent reduction in our facilities maintenance budgets. Belt-tightening, tuition increases, and normal attrition due to retirements and resignations have softened the blow somewhat. However, some commodity areas have suffered more than their share of cuts as senior faculty have retired and have not been replaced. At WSU Puyallup, the poultry program was eliminated several years ago, the dairy program was eliminated three years ago, and most recently, the closure of the hybrid poplar breeding and testing program. Throughout the College of Agriculture and Home Economics, agricultural research technician positions have been eliminated or reduced unless they could be retained on grant funding.

Looking ahead to the next biennium that begins July 1, 2003 is difficult, as we do not have a final state budget. However, based on the budgets released from the State Senate and the House of Representatives, the WSU budget could be reduced anywhere between 1.1% and 10% depending on the final compromise budget, how tuition can be used to reduce budget cuts, and whether any specific programs will be specifically targeted for greater reductions.

Locally, the strategic plan for the Westside Research and Extension Center and Units outlines the sale of at-risk farmlands for reinvestment in facilities at these locations. Reviewing and modifying this plan is important as the face of Western Washington agriculture changes and we strive to keep up with these changes. Our external constituents, including farmers, advocacy groups, elected officials, and others need to be involved in these decisions to keep our research and extension programs strong for the future in spite of budget reductions.

--Jim Kropf

WEST PROFILE

Weed Science Program Has No Borders

If it is a weed growing in western Washington, chances are that Extension Weed Scientist **Dr. Tim Miller** has studied how to control it. Tim and his technologists **Carl Libbey**, **Brian**

Maupin, and Bob Peterson at WSU Mount Vernon have done research on weed management in small fruits (blueberry, raspberry and strawberry), ornamental bulbs (tulip, daffodil and iris), field crops (silage corn, spring barley, timothy hay, other grass forages and winter wheat), vegetables (broccoli, cauliflower, cucumber, green pea, potato, pumpkin, squash and sweet corn), and various seed crops (spinach, red beet, cabbage, cilantro/coriander, Swiss chard, radish, dill parsley, carrot, parsnip and ryegrass). Although primarily focused on testing herbicides for use in minor crops, Tim's research has also covered other weed control methods such as mechanical, biological and cultural practices, and the testing of organic amendments and flame as weed killers.

Tim's weed science program for western Washington does not stop at the field border. Tim's non-cropland weed projects include how to control common westside weeds such as blackberry, horsetail and Scotch broom, as well as relatively new noxious weeds such as smooth hawkweed, meadow knapweed, wild chervil and giant hogweed. Tim has also had projects for weed control on Christmas tree, landscapes, turf and conifer nursery crops.

All told, over the nearly six years that Tim has worked at WSU Mount Vernon, his program has conducted 260 research trials including over 4,900 individual treatments! Results from these trials have contributed new and continuing Section 3 (federal label), Section 18 (emergency use label) and Section 24(c) (special local needs label) registrations for 28 products on 20 different crops. Tim has also maintained an IR-4 program (initiated in 1990 by Stot Howard and continued by Kassim Al-Khatib) that has historically been focused on obtaining pesticide residue data for small fruit crops. This program has provided data for 73 separate trials, resulting in the successful addition of 26 new herbicide registrations for Washington to date.

Those who know Tim recognize that he never misses a chance to talk about weeds. He has been very active on the lecture circuit, giving 214 presentations to well over 14,000 people since 1997. Many of these talks have been in support of **Carrie Foss's** pesticide licensing and re-certification training courses, but also include weed control information presented to Master Gardeners, ranchers, growers, fieldmen, agency and vegetation management personnel, school children, and noxious weed control coordinators.

Tim joined the faculty at WSU Mount Vernon in 1997, fresh from four years at the University of Idaho Weed Diagnostics laboratory where he sharpened his plant taxonomic skills, identifying some 1,200 weed and plant specimens submitted to the lab. These ID's included documentation of 9 new plant species not previously recorded for Idaho, and 91 new species reports for individual counties in Idaho. Prior to this time, Tim spent five years as the Extension Agricultural Agent in Latah county (Moscow), Idaho, where he conducted weed control research trials to improve production of alfalfa, dry beans, winter wheat, dry peas, lentils and canola in north central Idaho.

Tim continues to focus on weed management in western Washington crops, but he recently began expanding his research to include control of weeds along rivers. He began riparian work in 2000, aiming at controlling reed canarygrass along Four Mile Creek near Lynden, WA at the urging of Craig MacConnell, Whatcom County Extension Agent. The project involved finding the best way to control this weed and allow native tree species such as Arroyo willow and red alder to establish. Once established, these tree species shade out the re-growing canarygrass, and relieve the land manager of constant management while returning the vegetation to a more natural state. The lot maintenance programs compared mowing with mulching or spot treatment with herbicide over two years. The trial was repeated beginning in 2001 in Skagit County. Tim also has evaluated Japanese and Sakhalin knotweed, two species that are rapidly invading riparian systems throughout western Washington and Oregon, and in northern Idaho. This two-year project has answered questions regarding the ability of these species to

vegetatively reproduce themselves from stem and rhizome sections under various conditions, and has laid the groundwork for new greenhouse and field studies to begin this summer. Results of these new projects should allow farmers to reliably replace invasive perennial weeds on streamsides with well-adapted, native species.

Dr. Miller was recently promoted by WSU to associate weed scientist with tenure. Congratulations Tim!

PRESENTATIONS/MEETINGS/TRAININGS/INVITATIONS

Art Antonelli taught all day workshops to Master Gardener trainees in IPM, Seattle, Anacortes, Bellingham, Everett, Chehalis, Puyallup and Sequim February-April. Dr. Antonelli was an invited speaker at the Annual Master Gardener Meeting in British Columbia in early April and he also taught Pesticide License Trainings for **Carrie Foss's** program in Kirkland and Puyallup in February and April, Seattle in April, and Lacey in February. Art taught segments of the Integrated Plant Health Management Workshops with Carrie Foss in Kirkland in February and Puyallup in April. He did a segment for the Seattle Christmas Tree Workshop at CUH in March. Also in February, Art gave a "Medically Important Arthropods" workshop in Spokane for the Washington State Pest Control Association. In April, he taught a shortcourse on "Diagnosing Insect and Mite Damage to Landscape Plants" at CUH in Seattle.

Pete Bristow gave the following presentations: "Reaction of Blueberry Varieties to Shock Virus and Strains of Scorch Virus", Oregon Blueberry Commission, Research Review, Aurora, OR; "New Fungicides for Controlling Fruit Rots of Red Raspberry", and "An Integrated Approach to Root Rot Management in Red Raspberries", North Willamette Horticulture Society Annual Meeting, Portland OR, January 16; "Epidemiology and Control of Rose Bloom Disease (*Exobasidium oxycocci*) on Cranberry", Ocean Spray Cranberries B.C. Winter Workshop, New Westminster, B.C., January 22; "Options

for Control of Botrytis Fruit Rot (gray mold) in Strawberry and Caneberry", and "Reaction of Blueberry Varieties to Shock Virus and Strains of Scorch Virus", Oregon Horticultural Society Annual Meeting, Portland, OR, January 29 and 30; "Cranberry Disease Control Update", "Control Strategy for Cranberry Fruit Rots in 2003", and "Cranberry Variety Trial: Production and Insect and Disease Resistance", WSU/Ocean Spray Cranberries, Inc. Winter Workshop, Raymond, WA., February 1; "Results of 2002 Field Trials, WA", NE-IPM Cranberry Fruit Rot Research Planning Meeting, Chicago, IL, February 13-14; "Botrytis Fruit Rot: Can We Answer the Important Questions with Field Experiments?", Western Small Fruit Pest Conference, Agassiz, B.C., February 19; "Raspberry Cane Diseases. Damage and Control", Lower Mainland Horticulture Improvement Association Short Course, Abbotsford, B.C., February 20; "Controlling Fruit Rot in Strawberry and Red Raspberry: 2002 Field Trials", and "Blueberry Scorch Disease: What To Look for and What To Do", WSU Small Fruit Grower's Workshop, Vancouver, WA, March 19. Dr. Bristow also participated in the pest management strategic plan on red raspberry, Portland, OR, March 20.

Debbie Inglis attended the 42nd Washington Potato Conference And Trade Fair in Moses Lake, and reported on a new potato, A90586-11, from the Tri-State Potato Variety Development Program which has improved resistance to late blight, good processing

characteristics, and excellent yield and specific gravity. The advanced line has undergone extensive laboratory and field tests at WSU Mount Vernon over the last 8 years. A90586-00 is expected to be released as a new variety in the next year or so. Her announcement was publicized via a WSU press release, and op-ed piece by **Jim Zuiches**.

Debbie Inglis was an invited speaker at the 45th Annual Horticulture Growers' Short Course in Abbotsford, B.C., Canada sponsored by the B.C. Ministry of Agriculture, Food and Fisheries and the Lower Mainland Horticulture Improvement Association. The title of her address was "Late Blight Management in Western Washington State". She also gave two presentations at the 21st Annual WWA Potato Workshop: "Phostrol for Potato Tuber Rots", and "Seed and Soil Treatments for Rhizoctonia"; one at the Skagit Farmers Supply Growers Recertification Meeting in Mount Vernon: "Rhizoctonia on Red Potatoes"; and, one at the Potato Cultivar Performance Workshop in Moses Lake: "Late Blight Testing at WSU Mount Vernon.

Jay Schafer, owner of SAS Seeds, Inc. in Mount Vernon, gave a presentation on behalf of **Lindsey du Toit and Mike Derie** in Mercia, Spain on March 25-26 on Stemphylium Leaf Spot of Spinach, at the combined meeting of two E.U. seed companies, Tozer Seeds Ltd and Pop Vriend.

Lindsey du Toit gave a presentation on plant disease diagnosis as part of the Skagit County Advanced Master Gardener Training in Mount Vernon on April 22.

Lindsey du Toit was invited to give two research presentations at the Central Oregon Farm Fair/Central Oregon Vegetable Seed Production Conference in Madras, OR on February 5: "Bacterial Blight of Seed Carrots: 2002 Research Report", and "Neck rot/scape Blight of

Onions: 2002 Research Report". Dr. du Toit gave a presentation at the Skagit Farmers' Supply Growers' Recertification Meeting in Mount Vernon on February 11, titled "Disease Research on Vegetable Seed Crops in Western Washington".

Lindsey du Toit gave a research progress report at the Annual Symposium of the California Fresh Carrot Advisory Board in Bakersfield, CA on March 11. The presentation is published in the 2002 Annual Report of the CFCAB, Dinuba, CA: du Toit, L.J., Crowe, F., **Derie, M.L.**, Bufus, R., and Pelter, G.Q. 2003. Bacterial blight of carrot seed crops: Identification of sources of inoculum. Pages 25-39.

L. K. Tanigoshi and V. J. Darnell organized the 5th Annual Small Fruit Grower's Workshop/Proceeding, WSU Vancouver, March 19.

L. K. Tanigoshi gave a presentation, "Evaluation of Pesticides for the Economic Control of Small Fruit Arthropods, 2002," at the 5th Annual Small Fruit Grower's Workshop.

L. K. Tanigoshi gave the following presentation/reports to the 62nd Annual Pacific Northwest Insect Management Conference, Portland, OR, January 13-14: "Evaluation of Insecticides for the Economic Control of Root Weevils in Red Raspberry and Strawberry," "Evaluation of Insecticides for the Economic Control of Winter Moth in Blueberry," "Evaluation of Insecticides for the Economic Control of Root Weevils in Blueberry," "Evaluation of Acaricides for the Economic Control of Cyclamen Mite in Strawberries," "Evaluation of Novel Insecticides for the Rationale Control of Aphids in Strawberries".

L. K. Tanigoshi gave a presentation, "Evaluation of Novel Insecticides for the Management of Root Weevils and Winter Moth in Blueberry," at the 54th Annual Western Small Fruit Pest

Conference, Harrison Hot Springs, British Columbia, February 18-19.

L. K. Tanigoshi gave a presentation, "Novel Insecticides for the Economic Control of Winter Moth (Lepidoptera: Geometridae) in Blueberry," at the 87th Pacific Branch Entomological Society of America meeting, Tucson, AZ, March 23-26.

Marcy Ostrom and Dave Muehleisen of the WSU Small Farms Program were selected to present on March 4 a poster to the U.S. Congress highlighting the impact of their program on the agricultural, food and health sectors in Washington and the nation. The National Association of State University and Land Grant Colleges (NASULGC) selected the WSU Small Farms Program as one of 35 programs throughout the nation to present some of the results of their federally funded programs. The theme of the Small Farms display was the WSU Small Farms Program: Partnering to Support Family Farms, Land Stewardship, Quality Food, and Healthy Communities. The 2.5 hour reception for members of the Congress and their staffs was held in the Dirksen Senate Office Building auditorium in Washington D.C. Dave Muehleisen represented the Small farms Program in Washington D.C. There were over 1000 people there with a very strong showing from the WSU administration and alumni. This was a great opportunity to highlight the Small Farms Program and to discuss with Congressional Staff some of the issues confronting small and urban farms in Washington State.

Pat Moore presented a display of

frozen strawberry and raspberry fruit samples at the Northwest Food Processors Convention, Food Sample Display, in Seattle, WA. January 14. Dr. Moore presented a talk on January 29 at the Oregon Horticulture Society in Portland, OR on strawberry and raspberry breeding. On February 20, he gave a talk on raspberry and strawberry varieties, in Abbotsford, B.C., at the Lower Mainland Horticulture Crop Improvement Meeting. Pat gave a talk at the 5th Annual Small Fruit Grower's Workshop, March 19, in Vancouver, WA, "New Strawberry and Raspberry Cultivars and Selections". Then, on March 1, he taught classes at the Whidbey Gardening Workshop, "Growing Strawberries in Western Washington" and "Growing Raspberries in Western Washington".

On February 10, **Dean Glawe** gave two invited presentations to the King County Master Gardeners, Center for Urban Horticulture, University of Washington, Seattle titled: "The Natural History of Powdery Mildews", and "Diagnosis and Control of Powdery Mildew Diseases".

Tim Miller and Lindsey du Toit gave presentations to the Wilbur Ellis/Alf Christianson Seed Company Growers' Meeting on February 27 in Mount Vernon. Tim's presentation was titled "Problem Weeds in Vegetable Seed Crops", and Lindsey's presentation was "Vegetable Seed Pathology Research Report".

PUBLICATIONS

Booth, S. R., **L. K. Tanigoshi** and C. H. Shanks, Jr. 2002. Evaluation of entomopathogenic nematodes to manage root weevil larvae in Washington State cranberry, strawberry and red raspberry. *Environ. Entomol.* 31: 895-902.

- Bounfour, M. and L. K. **Tanigoshi**. 2002. Chlorophyll content and chlorophyll fluorescence in red raspberry leaves infested with *Tetranychus urticae* and *Eotetranychus carpini borealis* (Acari: Tetranychidae). Environ. Entomol. 31: 215-220.
- Bounfour, M. and L. K. **Tanigoshi**. 2002. Predatory role of *Neoseiulus fallacis* (Acari: Phytoseiidae): Spatial and temporal dynamics in Washington red raspberry fields. J. Econ. Entomol. 95: 1143-1150.
- Du Toit, L.J., and Derie, M.L.** 2003. Stemphylium leaf spot of spinach seed crops. Page 169, In: Proceedings of the 2003 Eucarpia Leafy Vegetables Conference, Noordwijkerhout, Holland, 19-21 Mar. 2003.
- Glawe, D.A.** 2003. First report of powdery mildew of *Mahonia aquifolium* caused by *Microsphaera berberidis* (*Erysipheberberidis*) in North America. Online. Plant Health Progress doi:10.1094/PHP-2003-0206-01-HN. (Published online Feb. 6, 2003.)
- Inglis, D.A.** 2003. Fungicide spray strategies for the new late blight resistant potato, A90586-11. Proc. 42nd Washington Potato Conference and Trade Show (in press).
- Miller, T.W.** 2003. Evaluation of flaming and organic or synthetic weed control products in matted-row strawberry. Weed Science Society of America, Jacksonville, FL, WSSA Abstracts 43:61.
- Patten, K.** 2003. Control of smooth cordgrass: comparison between mechanical and chemical methods –efficacy, cost effectiveness and aquatic toxicity. Proceedings of the International Aquatic Invasive Species Conference. Pp324-334.
- Patten, K.** 2002. Spartina control with Imazapyr. Weed Tech. 18:826-832.
- Patten, K.** 2003. Persistence and non-target impact of Imazapyr associated with smooth cordgrass control in an estuary. J. Aquatic Plant Management 41:1-6.
- Richard S. Vetter, Alan H. Roe, Robert G. Bennett, Craig Baird, Lynn A. Royce, William Lanier, **Arthur L. Antonelli**, and Paula E. Cushing. 2003. "Distribution of the Medically-implicated Hobo Spider (Araneal: Agelenidae and a Benign Congener, *Tegenaria duellica*, in the United States and Canada." Journal Medical Entomol. Vol. 40, No.2.
- Stary, P. Z. Basky, L. K. **Tanigoshi** and Z. Tomanovicc. 2003. Distribution and history of Russian wheat aphid, *Diuraphis noxia* (Kurdj.) in the Carpathian Basin (Hom. Aphididae). J. Pest Sci. 76: 17-21.
- Tanigoshi, L. K.** and J. R. Bergen. 2002. Managing root weevils in Washington State red raspberries. ACTA Hort. 585: 309-314.

FIELD DAYS & TOURS

2003 Field Day Schedule				
DATE 2003	EVENT	LOCATION	TIME	RESPONSIBLE FACULTY
March 8	Spring Field Day/Open House	WSU Mount Vernon	9:00 a.m. – 4:00 p.m.	Gary Moulton
May 12	Wine Grape Workshop	WSU Mount Vernon	9:30 a.m. – 4:30 p.m.	Gary Moulton
May 14	Bulb Growers Field Day	WSU Puyallup	9:00 a.m.	Gary Chastagner
June 10	Strawberry Field Day	WSU Puyallup Farm 5	3:00 p.m. – 5:00 p.m.	Pat Moore
July 8	Vegetable Seed Crops Field Day	WSU Mount Vernon	3:00 p.m. – 6:00 p.m.	Dyvon Havens Lindsey du Toit Tim Miller

July 10	Raspberry Field Day	WSU Puyallup Farm 5	3:00 p.m.- 5:00 p.m.	Pat Moore
July 12	WWFRF Harvest Day	WSU Mount Vernon	11:00 a.m.- 2:00 p.m.	Gary Moulton
July 24	Small Fruit Open House	WSU Mount Vernon	3:00 p.m.- 5:00 p.m.	Pat Moore
July 31	Cranberry Field Day	WSU Long Beach	8:30 a.m. – 2:00 p.m.	Kim Patten
August 9	WWFRF Harvest Day	WSU Mount Vernon	11:00 a.m.- 2:00 p.m.	Gary Moulton
August 12	Turfgrass Field Day	OSU Corvallis	11:00 a.m.- 3:00 p.m.	Eric Miltner Gwen Stahnke
August 14	Vancouver Field Day	WSU Vancouver	1:00 p.m. – 4:00 p.m.	Blair Wolfley
August 21	Potato Field Day (ice cream social to follow 5:30-6:00)	WSU Mount Vernon	4:00 p.m. – 5:30 p.m.	Debbie Inglis Dyvon Havens
August 21	Cucumber Field Day	WSU Mount Vernon	6:00 p.m. – 7:30 p.m.	Tim Miller Debbie Inglis
September 13	WWFRF Harvest Day	WSU Mount Vernon	11:00 a.m.- 2:00 p.m.	Gary Moulton
October 11	Orchard Field Day, Open House	WSU Mount Vernon	8:30 a.m.- 3:00 p.m.	Gary Moulton

A Field Day and Open House, jointly sponsored by WSU and the Western Washington Fruit Research Foundation, was held on Saturday, March 8, at WSU Mount Vernon. Topics included: *Culture of Mason Bees in the Home Orchard*, *Pest Control*, a question and answer session on *Garden Problems and Orchard, Pest Control*, a question and answer session on *Garden Problems and Solutions*, and workshops in the field on grafting and pruning fruit trees. A sale of scionwood and rootstocks, informational displays by the Master Gardeners, Skagit Veg Trials and other groups, and commercial sales tables were also featured.

Among the speakers were Margriet Dogteram, author of *Pollination with Mason Bees*, Chuck Holland and Bill Davis from WWFRF, Alan Merritt (Merritt Orchard), Tom Horton (Cloud Mountain Farm & Nursery), and from WSU, **Gary Moulton, Les Price, Andy Anderson and Bob Norton**. About 300 people attended the talks and field demonstrations.

PEOPLE

Erin Wickliffe has joined **Debbie Inglis and Babette Gundersen** in the Vegetable Pathology program at WSU Mount Vernon. She will be working primarily on root rot of green peas caused by *Fusarium solani*, and potato storage rots caused by water mold organisms. Erin received an M.S. degree in Bioagricultural Science and Pest Management from Colorado State University in 2001. She worked under the direction of Howard Schwartz. Her thesis

research was on “Characterization of *Fusarium oxysporum* f.sp. *phaseoli* and *betae* in dry bean and sugar beet by pathogenicity and vegetative compatibility grouping.

Dr. Art Antonelli received the Pacific Branch of the Entomological Society of America Recognition Award in Urban Entomology at the Pacific Branch Entomological Society meetings in Tucson Arizona. This award recognizes and encourages outstanding extension,

research, and teaching contributions in Urban Entomology. Urban Entomology is defined here in its broadest sense as the study of the biology and control of arthropods found in the home or surrounding landscape. This includes structural and wood-destroying pests and pests of ornamental plants, shade trees, and turf. The award consists of an inscribed plaque and an award amount that varies depending upon the interest earned from the endowment. Dr. Antonelli was recognized for his tireless contribution to the Master Gardener programs in Washington State. Congratulations Art!

Randy Roehl, Farm Equipment Operator I, received a certificate for 20 years of service for WSU Puyallup. **Sam**

Tower, Program Administrative Manager for 4-H, also received a certificate for 20 years at the Puyallup REC. Celebrating 30 years with WSU is **Bob Shipp**, Custodian/Security Guard; **Dan Gorton**, Maintenance Mechanic I in Mount Vernon, is celebrating 5 years; **Carla Ferguson**, Fiscal Tech III, **Ron Perrine**, Info Tech Systems Specialist II, and **Richard Bembenek**, Ag Research Tech III, are all celebrating 5 years with WSU Puyallup. Thanks to all for your time and dedication through the years.

Congratulations to **Dr. Lynell Tanigoshi** for not only celebrating his 25th year with WSU, but for receiving the promotion to **Full Professor of Entomology!** Congratulations Lynell!

GRANTS

Debbie Inglis and **Dennis Johnson** received \$29,000 from the "National Potato Council to study transmission of *Phytophthora infestans* in volunteer potato plants. **Debbie Inglis** also received \$17,000 from Washington State Potato Comm. to study water mold diseases on potatoes, and, miscellaneous grants of \$18,500 from various companies to study Phostrol for the control of potato storage rots, and seed and in-furrow treatments for the control of potato diseases caused by *Rhizoctonia*, and pea diseases caused by *Fusarium*.

Gary Moulton was awarded the following grants from the Western Washington Fruit Research Fdn. (WWFRF): Apple cultivar trials, \$5,350; Research in hard (fermented) apple cider production, \$2,500; Support of the Skagit Display Gardens – Fruit Demonstration Garden, \$1,800; Pear and Asian pear cultivar trials, \$4,280; Stone Fruit cultivar trials, \$4,530; Research in culture of unusual fruit for alternative crops, \$3,080. Gary was awarded the following two grants from Washington Wine Advisory

Board: Research in hard (fermented) apple cider production, \$4,000, and wine grape trials, \$14,000. Gary also received \$8,700 from the WSDA-Washington State Nursery & Landscape Assoc. for a trial of disease resistant ornamental tree fruit.

L. K. Tanigoshi, J. R. Bergen and T. A. Murray, Insect and mite control in red raspberry, Washington State Red Raspberry Comm., \$9,460.

L. K. Tanigoshi, J. R. Bergen and T. A. Murray, Evaluation of novel insecticides for the economic control of winter moth and root weevils in blueberry, Washington State Blueberry Comm., \$3,820.

L. K. Tanigoshi and J. R. Bergen, Evaluation of novel insecticides and acaricides for the rationale control of root weevils and mites in strawberries, Washington State Strawberry Comm., \$4,530.

L. K. Tanigoshi received the following grants: Preventative mgt. of root weevils in container-grown nurseries, \$14,850, and Biological control of the cherry bark tortrix,

Enarmonia formosana (Scopoli) in the Pacific Northwest, \$5,000, from Washington State Comm. on Pesticide Registration; Preventative mgt. of root weevils in container-grown nurseries, \$14,100, and Biological control of the cherry bark tortrix, *Enarmonia formosana* (Scopoli) in the Pacific Northwest, \$4,000, from Oregon Assoc. of Nurserymen; Implementing biological control of the cherry bark tortrix, Washington State Nursery Landscape Assoc., \$20,280.

Lindsey du Toit and Fred Crowe (OSU) received an additional \$10,415 from the California Fresh Carrot Advisory Board to complete a two-state research project on bacterial blight of carrot seed crops in the Pacific Northwest.

Lindsey du Toit received \$5,000 from the Nevada Onion and Garlic Research Program to support ongoing research on neck rot/scape blight of onions.

Pete Bristow received the following grants: "Evaluating new blueberry cultivars for reaction to scorch and shock viruses", \$3,168, and "Controlling Alternaria and fruit rots with fungicides applied before harvest", \$3,096, WA Blueberry Commission; "Disease control of small fruit crops", \$1,500, Arvest Corp; "Cranberry weed, insect and disease management using low-risk alternative pesticides", \$3,000, Cranberry Institute; "Gray mold fruit rot: Field evaluation of new fungicides and the effect of fungicides on mite populations in red raspberries", \$3,790, Oregon Raspberry and Blackberry Commission; "Factors affecting the development of gray mold fruit rot", Oregon Strawberry Commission, \$3,702; "Gray mold fruit rot (*Botrytis cinerea*): Field evaluation of new fungicides and the effect of fungicides on mite populations in red raspberry", and "Investigating rate and sources of

gypsum to reduce damage from Phytophthora root rot in an integrated control program", \$5,000, Washington Red Raspberry Commission.

The Northwest Agricultural Research Fdn. (NARF) awarded the following research grants for 2003: \$5,902 to **Tim Miller** from the Pea Industry Advisory Committee for research on weed control in green peas; \$8,755 to **Pat Moore and Gary Moulton** from the Small Fruit Advisory Committee for evaluation of small fruit at WSU Mount Vernon; \$11,982 to **Gary Moulton** from the Tree Fruit Advisory Committee for research in alternative fruit crops; \$5,500 to **Tim Miller** from Puget Sound Seed Growers' Assoc. (PSSGA) for weed control in vegetable seed crops; \$6,000 to **Lindsey du Toit** from PSSGA to continue investigating leaf spot of spinach seed crops; \$4,000 to **Lindsey du Toit** from PSSGA to complete research on leaf spot of cabbage seed crops; \$10,500 to **Lindsey du Toit** from the Columbia Basin Vegetable Seed Assoc. for a 3rd year of research on gray mold of onion seed crops; \$9,000 to **Tim Miller and Lindsey du Toit** from the PSSGA to evaluate mustard biofumigant/cover crops for control of weeds and Fusarium wilt in spinach seed crops; \$12,530 to **Tim Miller** from the Cucumber Industry Advisory Committee (CIAC) for weed control in cucumbers; \$3,500 to **Debbie Inglis** from the CIAC for diseases of cucurbits; \$5,000 to **Gary Moulton and Andy Anderson** for cucumber cultivar trials; \$4,825 to **Gary Moulton and Andy Anderson** to investigate strip till in cucumbers; \$2,895 to **Debbie Inglis** from the organic research fund for organic mgt. of late blight on tomatoes.

The WSU Small Farms Program has received a \$14,195 grant from WSDA Small Farms & Direct Marketing Program. Within the Farmers' Market Enhancement Project, there will be four Rapid Market Assessment teams formed to study four of

Washington's 76 farmers' markets. Each team will consist of market managers, board members and other industry leaders who want to learn how to conduct customer counts, research customer attitudes using dot posters, and analyze the vendor mix, the site, parking and market atmosphere. Team members are encouraged to apply these readily learned

skills in their own markets. The grant also provides for two training sessions for market managers on research techniques and operations management. The P.I. is WSU direct marketing specialist **Vance Corum**, who welcomes volunteer members to these one-day research teams at (360) 576-6030 or corum@wsu.edu.

GENERAL ANNOUNCEMENTS

Check out the newly updated web site for the WSU Puyallup Plant and Insect Diagnostic Laboratory at <http://www.puyallup.wsu.edu/plantclinic/index.html>. In addition to information on the Diagnostic Laboratory's sample submission process and fee structure, the site now contains additional resources such as frequently asked questions, Master Gardener training materials, and files of the Pest Leaflet Series published by the Diagnostic Laboratory. Thanks to Ron Perrine for all his hard work on the web site. We welcome your comments and suggestions- please contact Jenny Glass at glass@puyallup.wsu.edu.

The week of April 13-19 was proclaimed by Governor Gary Locke to be Washington State University Master Gardener Volunteer Week. Governor Locke presented a proclamation to the organization, recognizing their 30 years of service to the citizens of Washington State. There are over 3,100 WSU Master Gardener volunteers who serve more than 338,000 Washington residents each year. Locke also acknowledged the Master Gardener program as setting a remarkable

example of the voluntary community service by returning the Washington Citizens over ten times the funds expended on the program's maintenance.

The Puyallup School District Science Fair was April 11-13. **Vernene Scheurer, Gwen Stahnke, Rita Hummel, Andy Bary, Pat Moore and Pete Bristow** were judges this year. Five WSU awards for "creativity and excellence" were given. **Jim Kropf** presented a certificate and a Borders Books gift certificate to each of the winning students at the Awards Ceremony. About 240 projects were judged.

Pete Bristow was a judge for the South Sound Regional Science Fair at Pacific Lutheran University March 29.

Mike Derie and Lindsey du Toit participated in a plant pathology relay team in the 14th Annual WSU 100 km Relay Race in Pullman on April 6th. The very social and enjoyable event started off with snow/sleet at 7:30 am, followed by rain along the Snake River, and ended with sunshine back on campus that afternoon.

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Please send news items for our Summer edition of *West by Northwest* to Heather Schriver at WSU Puyallup, 7612 Pioneer Way E, Puyallup, WA 98371-4998 or e-mail: schrive@puyallup.wsu.edu. **Deadline for the Summer edition is July 31.**
Co-editors: Debra Inglis and Heather Schriver.