

**Publications of Agricultural Research Center Scientists  
By Department and Project 2001  
Agricultural Research Center Washington State University**

**AGRICULTURAL ECONOMICS**

**0160 AGRICULTURAL WATER MANAGEMENT TECHNOLOGIES, INSTITUTIONS AND POLICIES AFFECTING ECONOMIC VIABILITY AND ENVIRONMENTAL QUALITY**

Huffaker, R., A. Michelsen, J. Hamilton, and M. Frasier. 2001. The Uneasy Hierarchy of Federal and State Water Laws and Policies. *Water Resources Update* 118:3-10.

**0275 AGRICULTURAL PRODUCTION, PROCESSING, TRADE, AND ENVIRONMENTAL QUALITY**

Porras, J. J., H. A. Love, and C. R. Shumway. 2001. Measuring the Effectiveness of Non-Price Promotion of U.S. Agricultural Exports Using a Supply-Side Approach. *Empirical Economics* 26:367-89.

Shumway, C. R., and G. C. Davis. 2001. Does Consistent Aggregation Really Matter? *Australian Journal of Agricultural and Resource Economics* 45:161-194.

Shumway, C. R. 2001. Professional Lessons Worth Retelling? *Journal of Agricultural and Applied Economics* 33:223-226.

**0299 FISHERIES MANAGEMENT AND MARKETING OF MARINE AND AQUACULTURE SEAFOOD**

Briand, G., S. C. Matulich, and R. C. Mittelhammer. 2001. CPUE and Soak-Time Model for the Bristol Bay Red King Crab Fishery, 1991-97. *Canadian J. of Fisheries and Aquatic Sciences* 58:334-341.

Matulich, S. C., M. Sever, and F. Inaba. 2001. Fishery Cooperatives as an Alternative to ITQs: Implications of the American

Fisheries Act. *Marine Resource Economics* 16:1-16.

**0301 PRIVATE STRATEGIES, PUBLIC POLICIES, AND FOOD SYSTEM PERFORMANCE**

Loureiro, M. L., J. J. McCluskey, and R. C. Mittelhammer. 2001. Assessing Consumer Preferences for Organic, Eco-labeled and Regular Apples. *Journal of Agricultural and Resource Economics* 26:404-416.

**0303 ECONOMIC ASPECTS OF GROWING VINIFERA WINE GRAPES ON ROOTSTOCKS AND MARKETING WASHINGTON WINE**

Folwell, R., B. Gebers, and R. Wample. 2001. Wine Grape Production and Marketing Risks in Washington. *Small Fruits Review* 1:3-17.

Folwell, R. J., V. Cifarelli, and H. Hinman. 2001. Economic Consequences of Phylloxera in Cold Climate Wine Grape Production Areas of Eastern Washington. *Small Fruits Review* 1:3-15.

**0317 WINE GRAPE ECONOMIC RESEARCH**

Folwell, R. J., T. A. Bales, and C. G. Edwards. 2001. Cost Economies and Economic Impacts of Pricing and Product Mix Decisions in Premium Table Wine Wineries. *J. Wine Research* 12:111-124.

**0343 POLICY & COMPETITIVE CHANGES IN AGRICULTURAL TRANSPORTATION IN WASHINGTON**

Jessup, E., K. Casavant, and T. Farrell. 2001. Selected Private and Public Grain Transportation Impacts from Breaching the Snake River Dams in Eastern Washington. *Journal of the*

Transportation Research Forum 55:109-121

**0347 ASSESSING THE ECONOMIC VIABILITY OF SOIL CONSERVING FARMING SYSTEMS IN EASTERN WASHINGTON**

Smith, E. G., D. L. Young, and R. P. Zentner. 2001. Prairie Crop Diversification. Current Agriculture, Food and Resource Issues: Journal of the Canadian Agricultural Economics Society 2:37-47.

**AGRICULTURAL RESEARCH CENTER**

**0287 GRASS SEED CROPPING SYSTEMS FOR A SUSTAINABLE AGRICULTURE**

Barker, R. E., J. A. Kilgore, R. L. Cook, A. E. Garay, and S. E. Warnke. 2001. Use of Flow Cytometry to Determine Ploidy Level of Ryegrass. Seed Science and Technology 29:493-502.

**0318 JOINTED GOATGRASS: A THREAT TO U.S. WHEAT PRODUCTION**

Wang, Z. N., R. S. Zemetra, J. Hansen, and C. A. Mallory-Smith. 2001. The Fertility of Wheat (*Triticum aestivum*) x Jointed Goatgrass (*Aegilops cylindrica*) Hybrid and its Backcross Progenies. Weed Science 49:340-345.

**0325 GRASS SEED CROPPING SYSTEMS FOR A SUSTAINABLE AGRICULTURE**

Barker, R. E., J. A. Kilgore, R. L. Cook, A. E. Garay, and S. E. Warnke. 2001. Use of Flow Cytometry to Determine Ploidy Level of Ryegrass. Seed Sci. and Tech. 29:493-502.

**0339 DEVELOPMENT OF INTEGRATED ARTHROPOD MANAGEMENT SYSTEMS FOR IRRIGATED CROPS IN CENTRAL WASHINGTON**

Cosse, A., R. J. Bartelt, D. G. James, and R. J. Petroski. 2001. Identification of a Female-Specific, Antennally Active Volatile Compound of the Currant Stem Girdler. J. of Chemical Ecology 27:1841-1853.

James, D.G., A. Cosse, L.C. Wright, and J. Perez, 2001. Pheromone-Trapping of *Synanthedon Tipuliformis* (*Lepidoptera: Sesiidae*) in WA Red Currants. Environmental Entomology 30:663-666.

James, D.G., B. Vogeles, R. J. Faulder, R. J. Bartelt, and C. J. Moore. 2001. Pheromone-Mediated Mass-Trapping and Population Diversion as Strategies for Suppressing *Carpophilus* Spp (*Coleoptera: Nitidulidae*) in Australian Stone Fruit Orchards. Agricultural and Forest Entomology 3:41-47.

**0356 JOINTED GOATGRASS: A THREAT TO U.S. WHEAT PRODUCTION**

Wang, Z.N., R. S. Zemetra, J. Hansen, and C. A. Mallory-Smith. 2001. The Fertility of Wheat (*Triticum aestivum*) x Jointed Goatgrass (*Aegilops cylindrica*) Hybrid and its Backcross Progenies. Weed Science 49:340-345.

Pester, T.A., S. J. Nissen, and P. Westra. 2001. Absorption, Translocation, and Metabolism of Imazamox in Jointed Goatgrass and Feral Rye. Weed Science 49:607-612.

**0379 AQUACULTURE, WASHINGTON**

Zhu, S., and S. Chen. 2001. Effects of Organic Carbon on Nitrification Rate in Fixed Film Biofilters. Aquacultural Engineering 25:1-11.

**0394 GRASS SEED CROPPING SYSTEMS FOR A SUSTAINABLE AGRICULTURE**

Barker, R. E., J. A. Kilgore, R. L. Cook, A. E. Garay, and S. E. Warnke. 2001. Use of Flow Cytometry to Determine Ploidy Level of Ryegrass. Seed Sci. and Tech. 29:493-502.

**ANIMAL SCIENCE**

**0167 ENHANCEMENT OF DIETARY ENERGY USE FOR MAINTENANCE, GROWTH, AND LACTATION BY BEEF CATTLE**

- Bogdanov, G., M. Zubez, D. Melnychuk, K. Johnson, D. Johnson, M. Orlic, M. Bezugly, V. Tsyupko, L. Sologub, V. Yanovych, I. Ibatullin, and O. Mykhaylov. 2001. Methane: Biological and Ecological Aspects, Sources of Formation, Problem of the gas Emissions Mitigation in View of Regional and Field Peculiarities and Global Consequences. *The Animal Biology (Ukraine)* 579.222:547.211:636.2/3.
- Bogdanov, G., H. Westberg, K. Johnson, O. Ilyansky, O. Medvedovsky, and O. Mychalovin. 2001. Methodological Aspects of Methanogenesis and Ruminant Methane Emission Peculiarities Studying. *The Animal Biology (Ukraine)* 591.132.
- Westberg, H., K. A. Johnson, M. Huyler, and B. K. Lamb. 2001. Inventory of Methane Emissions for U.S. Cattle. *J. Geophysical Research. Atmospheric Chemistry* 106:12,633-12,642.
- 0213 DIETARY & GENETIC MANIPULATION OF THE LIPID COMPOSITION & PALATABILITY OF RED MEAT**
- Huerta, M., R. L. Kincaid, J. D. Cronrath, J. Busboom, A. B. Johnson, and C. K. Swenson. 2001. Interaction of Dietary Zinc and Growth Implants on Weight Gain, Carcass Traits and Zinc in Tissues of Growing Beef Steers and Heifers. *Anim. Feed Sci. Tech.* 95:15-32.
- 0237 EQUINE MUSCLE HEALING AND REGENERATION**
- Stewart N. T., K. M. Byrne, C. Ragle, and M. V. Dodson. 2001. Patterns of Expression of Muscle Specific Markers of Differentiation in Satellite Cell Cultures Determined Using the Enzyme Linked Immunoculture Assay (ELICA) and the Confocal Immunofluorescent Assay (CIFA). *Cell Biology International* 25:873-884.
- Vierck J. L., K. M. Byrne, and M. V. Dodson. 2001. Assessing Dot and Western Blots Through the Use of Image Analysis and Pixel Quantification of Electronic Images. *Methods in Cell Science* 23: 313-318.
- 0304 ALTERING FERMENTATION OF PLANT FIBER**
- Nelson, M. L., H. H. Westberg, and S. M. Parish. 2001. Effects of Tallow on Energy Metabolism of Wethers Fed Barley-Finishing Diets. *J. Anim. Sci.* 79:1892-1904.
- 0331 IMPORTANCE OF DIETARY CAROTENOIDS ON IMMUNITY AND CANCER IN THE CANINE AND FELINE**
- Chew, B. P., B. C. Weng, H. W. Kim, T. S. Wong, J. S. Park, and A. J. Lepine. 2001. Uptake of B-Carotene by Ovarian and Uterine Tissues and Effects on Steroidogenesis During the Estrous Cycle in Cats. *Amer. J. Vet. Res.* 62:1063-1067.
- 0374 NUTRIENT MANAGEMENT: FEEDING FOR REDUCED EXCRETION OF NITROGEN, PHOSPHORUS, ZINC, AND SELENIUM BY RUMINANTS**
- O'Connor, G. A., R. B. Brobst, R. L. Chaney, R. L. Kincaid, L. R. McDowell, G. M. Pierzynski, A. Rubin, and G. G. Van Riper. 2001. Molybdenum Standards for the Land Applications of Biosolids. *J. Environ. Qual.* 95:15-32.
- Rock, M. J., R. L. Kincaid, and G. E. Carstens. 2001. Effects of Prenatal Source and Level of Dietary Selenium on Passive Immunity and Thermometabolism of Newborn Lambs. *Sm. Rum. Res.* 40:129-138.
- 0706 GERM CELL AND EMBRYO DEVELOPMENT AND MANIPULATION FOR THE IMPROVEMENT OF LIVESTOCK**
- Bosch P., J. M. de Avila, J. E. Ellington, and R. W. Wright, Jr. 2001. Heparin and Ca<sup>2+</sup>-Free Medium Can Enhance Release of Bull Sperm Attached to Oviductal Epithelial Cell Monolayers. *Theriogenology* 56:247-260.

**0709 MASTITIS RESISTANCE TO ENHANCE DAIRY FOOD SAFETY**

Middleton, J. R., L. K. Fox, T. H. Smith. 2001. Management Strategies to Decrease the Prevalence of Mastitis Caused by One Strain of *Staphylococcus Aureus* in a Dairy Herd. *JAVMA* 218:1615-1618.

Middleton, J. R., and L. K. Fox. 2001. Therapeutic Cessation of Lactation of *Staphylococcus Aureus*-Infected Mammary Quarters. *J. Dairy Sci.* 84:1976-1978.

Joo, Y. S., L. K. Fox, W. C. Davis, G. A. Bohach, and Y. H. Park. 2001. *Staphylococcus Aureus* Associated with Mammary Glands of Cows: Genotyping to Distinguish Different Strains Among Herds. *Vet. Micro.* 80:131-138.

Ebling, T. L., L. K. Fox, K. W. Bayles, G. A. Bohach, K. M. Byrne, W. C. Davis, and W.A. Ferens. 2001. Bovine Mammary Immune Response to an Experimental Intramammary Infection with a *Staphylococcus Aureus* Strain Containing a Gene for Staphylococcal Enterotoxin C1. *J. Dairy Sci.* 84:2044-2050.

**0913 MOLECULAR MECHANISMS REGULATING SKELETAL MUSCLE GROWTH AND DIFFERENTIATION**

Stewart, N. T., K. M. Byrne, C. Ragle, and M. V. Dodson. 2001. Patterns of Expression of Muscle-Specific Markers of Differentiation in Satellite Cell Cultures: Determination by Enzyme-Linked Immunoculture Assay (ELICA) and Confocal Immunofluorescent Microscopy (CIFA). *Cell Biology International* 25:873-884.

Vierck, J. L., L. Krabbenhoft, Y. Chen, K. M. Byrne, and M. V. Dodson. 2001. Assessing Western and Dot Blots Through the Use of Image Analysis and Pixel Quantification of Electronic images. *Methods in Cell Science* 23:313-318.

**BIOLOGICAL SYSTEMS ENGINEERING**

**0271 PRESERVATION OF FOODS BY OSCILLATING MAGNETIC FIELDS**

Fernandez-Molina, J. J., G. V. Barbosa-Canovas, and B. G. Swanson. 2001. Tecnologias Emergentes Para la Conservacion de Alimentos Sin Calor. *Arbor J.* 661:155-170.

Harte, F., M. F. San Martin, A. H. Lacerda, H. L. M. Lelieveld, B. G. Swanson, and G. V. Barbosa-Canovas. 2001. Potential Use of 18 Tesla Static and Pulsed Magnetic Fields on *Escherichia Coli* and *Sacharomyces Cerevisae*. *J. Food Processing and Preservation* 25:223-235.

San Martin, M. F., F. Harte, H. Lelieveld, G. V. Barbosa-Canovas, and B. G. Swanson. 2001. Inactivation Effect of an 18-T Pulsed Magnetic Field Combined with Other Technologies on *Escherichia Coli*. *J. Innovative Food Science & Emerging Technologies* 2: 273-277.

**0341 MECHANICAL DYNAMICS IN AGRICULTURAL PRODUCTION, HARVESTING AND POSTHARVEST SYSTEMS**

Baritelle, A. L., and G. M. Hyde. 2001. Commodity Conditioning to Reduce Impact Bruising. *J. Postharvest Biology and Technology* 21:331-339.

Baritelle, A. L., G. M. Hyde, J. K. Fellman, and J. Varith. 2001. Using 1-MCP to Inhibit the Influence of Ripening on Impact Properties of Pear and Apple Tissue. *J. Postharvest Biology and Technology* 23:153-160.

**0371 APPLICATION OF ELECTROMAGNETIC ENERGY AT MICROWAVE AND RADIO FREQUENCIES IN FOOD AND AGRICULTURE PROCESSES**

Feng, H., J. Tang, R. P. Cavalieri, and O. A. Plumb. 2001. Heat and Mass Transport in Microwave Drying of Hygroscopic

- Porous Materials in a Spouted Bed?  
AIChE Journal 74:1499-1511.
- 0467 IMPROVEMENT OF THERMAL AND ALTERNATIVE PROCESSES FOR FOOD**
- Barbosa-Canovas, G. V., J. J. Fernandez-Molina, and B. G. Swanson. 2001. Pulsed Electric Fields: A Novel Technology for Food Preservation. *J. Agro-Food Industry Hi-Tech.* 12:9-14.
- Fernandez-Molina, J. J., G. V. Barbosa-Canovas, and B. G. Swanson. 2001. Tecnologias Emergentes Para la Conservacion de Alimentos Sin Calor. *J. Arbor* 661:155-170.
- Giner, J., V. Gimeno, G. V. Barbosa-Canovas, and O. Martin. 2001. Effect of Pulsed Electric Fields Processing on Apple and Pear Polyphenoloxidases. *J. Food Science and Technology International* 7:339-345.
- Harte, F., M. F. San Martin, A. H. Lacerda, H. L. M. Lelieveld, B. G. Swanson and G. V. Barbosa-Canovas. 2001. Potential Use of 18 Tesla Static and Pulsed Magnetic Fields on *Escherichia Coli* and *Sacharomyces Cerevisae*. *J. Food Processing and Preservation* 25:223-235.
- Rodrigo, D., A. Martinez, F. Harte, G. V. Barbosa-Canovas, and M. Rodrigo. 2001. Study of Inactivation of *Lactobacillus Plantarum* in Orange-Carrot Juice by Means of Pulsed Electric Fields: Comparison of Inactivation Kinetics Models. *J. of Food Protection* 64:259-263.
- San Martin, M.F., F. Harte, H. Lelieveld, G. V. Barbosa-Canovas, and B. G. Swanson. 2001. Inactivation Effect of an 18-T Pulsed Magnetic Field Combined With Other Technologies on *Escherichia Coli*. *J. Innovative Food Science and Emerging Technologies* 2:273-277.
- Zarate-Rodriguez, E., E. Ortega-Rivas, and G. V. Barbosa-Canovas. 2001. Effect of Membrane Pore on Quality of Ultra Filtered Apple Juice. *International Journal of Food Science and Technology* 366:663-667.
- 0990 TECHNOLOGY AND PRINCIPLES FOR ASSESSING AND RETAINING POSTHARVEST QUALITY OF FRUITS AND VEGETABLES**
- Baritelle, A. L. and G. M. Hyde. 2001. Commodity Conditioning to Reduce Impact Bruising. *J. Postharvest Biology and Technology* 21: 331-339.
- Baritelle, A. L., G. M. Hyde, J. K. Fellman, and J. Varith. 2001. Using 1-MCP to Inhibit the Influence of Ripening on Impact Properties of Pear and Apple Tissue. *J. Postharvest Biology and Technology* 23: 153-160.
- 3227 NON-CHEMICAL PEST CONTROL IN FRUITS AND NUTS USING ELECTROMAGNETIC ENERGY**
- Wang, S., and J. Tang. 2001. Radio Frequency and Microwave Alternative Treatments for Insect Control in Nuts: a Review. *Agricultural Engineering Journal* 10:105-120.
- Wang, S., J. N. Ikediala, J. Tang, J. D. Hansen, E. Michtham, R. Mao, and B. Swanson. 2001. Radio Frequency Treatments to Control Codling Moth in In-Shell Walnuts. *J. Post-Harvest Biology and Technology* 22:29-38.
- 4225 THERMAL MORTALITY OF INSECTS AND POSTHARVEST CONTROL OF INSECT PESTS IN NUTS**
- Wang, S., J. Tang, and R. Cavalieri. 2001. Modeling Fruit Internal Heating Rates for Hot Air and Hot Water Treatments. *J. Post-harvest Biology and Technology* 22: 257-270.
- 7990 MEASUREMENT AND CONTROL OF FRUIT AND VEGETABLE IMPACT SENSITIVITY**
- Baritelle, A. L. and G. M. Hyde. 2001. Commodity Conditioning to Reduce

Impact Bruising. *J. Postharvest Biology and Technology* 21:331-339.

Baritelle, A. L., G. M. Hyde, J. K. Fellman, and J. Varith. 2001. Using 1-MCP to Inhibit the Influence of Ripening on Impact Properties of Pear and Apple Tissue. *J. Postharvest Biology and Technology* 23:153-160.

## **CROP AND SOIL SCIENCES**

### **0152 CHARACTERIZATION OF FLOW AND TRANSPORT PROCESSES IN SOILS AT DIFFERENT SCALES**

Bittelli, M., M. Flury, G. S. Campbell, and E. J. Nichols. 2001. Reduction of Transpiration through Foliar Application of Chitosan. *Agricultural Forest Meteorol.* 107:167-175.

Posadas, A.N.D., D. Gimenez, M. Bittelli, C. M. P. Vaz, and M. Flury. 2001. Multifractal Characterization of Particle Size Distributions. *Soil Sci. Soc. Am. J.* 65:1361-1367.

### **0182 IMPACT OF NO TILL ON SOIL QUALITY PHYSICAL, CHEMICAL, AND MICROBIAL PROPERTIES**

Cox, D., D. Bezdicek, and M. Fauci. 2001. Effects of Compost, Coal Ash, and Straw Amendments on Restoring Quality of Eroded Palouse Soil. *Biol. Fertil. of Soils* 33:365-372.

### **0232 BREEDING AND GENETICS OF WINTER WHEAT**

Cai, X., S. S. Jones, and T. D. Murray. 2001. Molecular Cytogenetic Characterization of *Thinopyrum* Genomes Conferring Perennial Growth Habit in Wheat-*Thinopyrum* Amphiploids. *Plant Breeding* 120:21-26.

Scheinost, P., D. Lammer, X. Cai, T. Murray, and S. Jones. 2001. Perennial Wheat: A Sustainable Cropping System for the Pacific Northwest. *American Journal of Alternative Agriculture* 16:146-150.

Jones, S., T. Murray, S. Lyon, C. Morris, and R. Line. 2001. Registration of 'Bruehl' Wheat. *Crop Science* 41:2006-2007.

### **0250 CROPPING SYSTEMS RESEARCH FOR LOW-PRECIPITATION DRYLAND IN EASTERN WASHINGTON**

Donaldson, E., W. F. Schillinger, and S. M. Dofing. 2001. Straw and Grain Yield Relationships in Winter Wheat. *Crop Science* 41:100-106.

Schillinger, W.F. 2001. Minimum and Delayed Conservation Tillage for Wheat-Fallow Farming. *Soil Science Society of America Journal* 65:1203-1209.

### **0251 BREEDING OF VALUE-ADDED BARLEY BY INCORPORATION OF PROTEIN-ENGINEERED BETA-GLUCANASES**

Horvath, H., L. G. Jensen, O. T. Wong, E. Kohl, S. E. Ullrich, J. Cochran, C. G. Kannangara, and D. von Wettstein. 2001. Stability of Transgene Expression, Field Performance, and Recombination Breeding of Transformed Barley Lines. *Theor. Appl. Genet.* 102:1-11.

### **0256 SOIL CONDITIONS, CROP PRODUCTIVITY AND GROUND WATER QUALITY IN SOME WESTERN WASHINGTON SOILS**

Kleinman, P., A. N. Sharpley, K. Garley, W. M. Jarrell, S. Kuo, R. G. Menon, R. Meyers, K. R. Reddy, and E. O. Skogeley. 2001. Interlaboratory Comparison of Soil Phosphorus Extraction Methods. *Comm. Soil Sci. Plant Tissue Anal.* 32: 2325-2345.

Kuo, S. 2001. Factors to Consider in Managing Cover Crop Residues. *PNW Sustainable Agriculture* 12:5-7.

Kuo, S., B. Huang, and R. Bembenek. 2001. Effects of Winter Cover Crops on Soil Nitrogen Availability, Corn Yield, and Nitrate Leaching. *The Scientific World Journal* 1: 22-29.

**0257 DEVELOPING SITE SPECIFIC APPROACHES FOR CROP NUTRIENT MANAGEMENT IN IRRIGATED AG SYSTEMS**

Davenport, J. R., and E. M. Bentley. 2001. Potassium Fertilizer Form, Source and Time of Application Influence Potato Yield and Quality in the Columbia Basin. *Am. J. Potato Res.* 78:311-318.

Davenport, J. R., and J. D. Jabro. 2001. Assessment of Hand Held Ion Selective Electrode Technology for Direct Measurement of Soil Chemical Properties. *Commun. Soil Sci.Plant Anal.* 32:3077-3085.

**0267 FLOW AND TRANSPORT IN POROUS MEDIA AT DIFFERENT SPATIAL SCALES**

Chu, Y., Y. Jin, M. Flury, and M. V. Yates. 2001. Mechanisms of Virus Removal During Transport in Unsaturated Porous Media. *Water Resour. Res.* 37:253-263.

Jin, Y., and M. Flury. 2001. Fate and Transport of Viruses in Porous Media. *Adv. Agron.* 77:1-63.

**0281 ALTERNATE CROPS AND CROPPING SYSTEMS FOR IRRIGATED CENTRAL WASHINGTON**

Hang, An N., M. J. Silbernagel, and P. N. Miklas. 2001. Registration of Large-Seeded USWA-12 and USWA-13 Virus Resistant Great Northern Dry Bean Germplasms. *Crop Sci.* 41:606.

**0282 GERMPLOASM AND CULTIVAR DEVELOPMENT OF HOP**

Kenny, S., M. Biendl, R. Burkhardt, K. Krofta G. Nickerson, T. Pruneda, R. Schmidt, and J. Murphey. 2001. Determination of Hop Essential Oils by Capillary Gas Chromatography. *J. Am. Soc. Brew. Chem.* 59:222-225.

**0306 PM-10 PARTICULATE EMISSION PREDICTION & CONTROL FROM AG LAND IN THE PNW COLUMBIA PLATEAU**

Busacca, A. J., H. M. Marks, and R. Rossi. 2001. Volcanic Glass in Soils of the Columbia Plateau, Pacific Northwest U.S. *Soil Science Society of America Journal* 65:161-168.

Donaldson, E., W. F. Schillinger, and S. M. Dofing. 2001. Straw Production and Grain Yield Relationships in Winter Wheat. *Crop Science* 41:100-106.

Schillinger, W. F. 2001. Minimum and Delayed Conservation Tillage for Wheat-Fallow Farming. *Soil Science Society of America Journal* 65:1203-1209.

Vaughan, J. K., C. S. Claiborn, and D. Finn. 2001. April 1998 Asian Dust Event Over the Columbia Plateau, *Journal of Geophysical Research* 106:18, 381-18, 402.

**0323 REMOTE SENSING FOR LAND MANAGEMENT**

Kunch, T., B.E. Frazier, W.L. Pan, and A.M. Smith. 2001. Satellite Radar Assessment of Winter Cover Types. *Can. J. Remote Sens.* 27:603-615.

**0332 EVALUATION AND MANAGEMENT OF TURFGRASS SPECIES AND CULTIVARS**

Johnston, W. J., C. T. Golob, C. M. Kleene, W. L. Pan, and E. D. Miltner. 2001. Nitrogen Leaching through a Floating Sand-Based Golf Green Under Golf Course Play and Management. *Int. Turf. Res. Soc. J.* 9:19-24.

Poole, G. J., and W. J. Johnston. 2001. Diversity of Green-Type *Poa Annua* in the Pacific Northwest. *Golf Course Management* 69:66-69.

Poole, G. J., W. J. Johnston, and R. C. Johnson. 2001. *Poa Annua* Diversity on Golf Greens in the Pacific Northwest, USA. *Int. Turf. Res. Soc. J.* 9:192-197.

**0334 IMPROVING SPRING WHEAT VARIETIES FOR THE PACIFIC NORTHWEST**

- Linscott, T. M., N. A. Bosque-Perez, K. K. Kidwell, D. J. Schotzko, and R. S. Zemetra. 2001. Genetic Control of Russian Wheat Aphid (*Diuraphis noxia*). Resistance in Wheat Accession PI 47545. *Euphytica* 121:31-35.
- Morris, C. F., M. Lillemo, M. C. Simone, M. J. Giroux, S. L. Babb, and K. K. Kidwell. 2001. Prevalence of Puroindoline Grain Hardness Genotypes Among North American Spring and Winter Wheats. *Crop Sci.* 41:218-228.
- 0373 CARBON AND NITROGEN CYCLING AND MANAGEMENT IN ALTERNATIVE CROPPING SYSTEMS**
- Johnston, W. J., C. T. Golob, C. M. Kleene, W. L. Pan, and E. D. Miltner. 2001. Nitrogen leaching through a Floating Sand-Based Golf Green Under Golf Course Play and Management. *International Turfgrass Society Research Journal* 9:3-8.
- Kunch, T., B. E. Frazier, W. L. Pan, and A.M. Smith. 2001. Satellite Radar Assessment of Winter Cover Types. *Can. J. Rem. Sensing* 27: 603-615.
- Pan, W. L., F. L. Young, and R. P. Bolton. 2001. A Scanner-Based, Portable Rhizotron System for Monitoring Field-Grown Russian Thistle (*Salsola iberica*) Roots. *Weed Tech.*15:762-766.
- 0598 EOLIAN SOILS, GLOBAL CHANGE, AND WASHINGTON AGRICULTURE**
- Busacca, A. J., H. M. Marks, and R. Rossi. 2001. Volcanic Glass in Soils of the Columbia Plateau, Pacific Northwest U.S. *Soil Sci. Soc. Am. J.* 65:161-168.
- King, M., A. J. Busacca, F. F. Foit Jr., and R. Kemp. 2001. Identification of Disseminated Trego Hot Springs Tephra in the Palouse, Washington State. *Quaternary Research* 56:165-169.
- O'Geen, A. T. and A. J. Busacca. 2001. Faunal Burrows as Indicators of Paleo-Vegetation in Eastern Washington, U.S.A. *Palaeogeography*
- Palaeoclimatology Palaeoecology* 169:23-37.
- 0688 DEVELOPING CROPS AND CROPPING SYSTEMS FOR MOISTURE-LIMITING ENVIRONMENTS**
- Takahashi, T., P. M. Chevalier, and R. A. Rupp. 2001. Storage and Remobilization of Soluble Carbohydrates after Heading in Different Plant Parts of a Winter Wheat Cultivar. *Plant Production Science* 4:160-165.
- 0689 ENVIRONMENTAL IMPROVEMENT OF WESTERN WASHINGTON AGRICULTURAL LANDS UTILIZING FORAGE GRASSES AND SILAGE CORN**
- Bary, A. I., D. M. Sullivan, S. C. Fransen, and C. G. Cogger. 2001. Supercow: A Liquid Manure Applicator for Small Plot Research. *Agron. J.* 93:1344-1345.
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**MT VERNON REU**

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**PROSSER IAREC**

*Projects: Associated with Department of Crop and Soil Sciences*

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*Projects: Associated with Department of Entomology*

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*Project: Associated with Department of Plant Pathology*

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*Projects: Associated with Department of Horticulture and Landscape Architecture*

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### **0270 BIOLOGY AND CONTROL OF ARTHROPOD PESTS OF BERRY CROPS**

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*Projects: Associated with Department of Horticulture and Landscape Architecture*

### **0375 ALTERNATIVE CROPPING SYSTEMS**

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### **0954 BIOGEOCHEMISTRY AND MANAGEMENT OF SALTS AND POTENTIALLY TOXIC TRACE ELEMENTS IN ARID-ZONE SOILS, SED**

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### **1090 PEST MANAGEMENT OF DIRECT PESTS OF APPLE IN WASHINGTON TREE FRUIT ORCHARDS**

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