DuPont, S.T  

**Context Statement**

Washington tree fruit provides healthy food for the world and is a significant economic driver to regional and state economies and employment. Nationally, Washington ranks first in the production of apples, sweet cherries, and pears. The Washington tree fruit industry contributes more than $6 billion of annual impact to the state’s economy. Acreage includes 179,146 acres of apples, 20,965 acres of pears, 42,198 acres of cherries, and 2,907 acres of stone fruit [1]. With more than 1,600 operations and 1,400 primary operators the industry is large with diverse challenges. On average the Pacific Northwest region produces about 76% of the U.S. fresh apple crop, 87% of the US fresh pear crop, and 84% of US fresh cherries [2]. Operations and acres are distributed across eight major fruit producing counties in Central Washington (Table 1). This position is a regional position with a focus on North Central Washington and statewide coverage for key topic areas.

Table 1. Acreage and operations in major Washington tree fruit producing counties.

<table>
<thead>
<tr>
<th>County</th>
<th>Cherry Operations</th>
<th>Cherry Acreage</th>
<th>Pear Operations</th>
<th>Pear Acreage</th>
<th>Apple Operations</th>
<th>Apple Acreage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chelan</td>
<td>296</td>
<td>5,654</td>
<td>231</td>
<td>7,815</td>
<td>257</td>
<td>7,917</td>
</tr>
<tr>
<td>Douglas</td>
<td>171</td>
<td>3,127</td>
<td>38</td>
<td>893</td>
<td>108</td>
<td>7,501</td>
</tr>
<tr>
<td>Okanogan</td>
<td>122</td>
<td>3,265</td>
<td>128</td>
<td>3,263</td>
<td>208</td>
<td>15,856</td>
</tr>
<tr>
<td><strong>North Central total</strong></td>
<td><strong>589</strong></td>
<td><strong>12,046</strong></td>
<td><strong>397</strong></td>
<td><strong>11,971</strong></td>
<td><strong>573</strong></td>
<td><strong>31,274</strong></td>
</tr>
<tr>
<td>Adams</td>
<td>9</td>
<td>7,976</td>
<td>9</td>
<td>253</td>
<td>26</td>
<td>3,598</td>
</tr>
<tr>
<td>Grant</td>
<td>169</td>
<td>348</td>
<td>37</td>
<td>1,024</td>
<td>208</td>
<td>51,093</td>
</tr>
<tr>
<td><strong>Central total</strong></td>
<td><strong>178</strong></td>
<td><strong>8,324</strong></td>
<td><strong>46</strong></td>
<td><strong>1,277</strong></td>
<td><strong>234</strong></td>
<td><strong>54,691</strong></td>
</tr>
<tr>
<td>Benton</td>
<td>116</td>
<td>4,616</td>
<td>10</td>
<td>204</td>
<td>91</td>
<td>9,854</td>
</tr>
<tr>
<td>Franklin</td>
<td>84</td>
<td>2,966</td>
<td>4</td>
<td>NA</td>
<td>109</td>
<td>10,788</td>
</tr>
<tr>
<td>Yakima</td>
<td>398</td>
<td>12,078</td>
<td>277</td>
<td>6,166</td>
<td>496</td>
<td>58,670</td>
</tr>
<tr>
<td><strong>South Central total</strong></td>
<td><strong>598</strong></td>
<td><strong>19,660</strong></td>
<td><strong>291</strong></td>
<td><strong>6,370</strong></td>
<td><strong>696</strong></td>
<td><strong>79,312</strong></td>
</tr>
</tbody>
</table>


**LOCATION:** This position is headquartered at the WSU Tree Fruit Research and Extension Center (TFREC; www.tfrec.wsu.edu) in Wenatchee, Washington. The TFREC is one of four research and Extension centers of WSU CAHNRS. The United States Department of Agriculture (USDA-ARS) Tree Fruit Research Lab is located on the TFREC campus. This is the first CAHNRS Extension position to be located at a research station versus at a County office. The location allows for collaboration with multiple research programs.

**INDUSTRY SUPPORT:** The tree fruit industry provides significant support for research and extension in Washington. It provides approximately $4 million research dollars per year through competitive grants. A recently approved $32 million tree fruit endowment from the state’s tree fruit producers currently supports three endowed research positions and two Extension positions. No endowment funds go directly to this position. There are multiple active industry organizations including the North Central Washington Fieldmen’s Association, Okanogan Horticultural Association, POM club, North West Cherry Growers, Northwest Pears, the Tree Fruit Research Commission, Northwest Hort Council, and Washington Tree Fruit Association. Twelve major packing houses and four warehouses (Northwest Wholesale, Wilbur Ellis, Chamberlin, GS Long) have field staff and annual meetings providing opportunities for partnership and amplification of WSU Extension information.
TEAM: In 2015, the year of initiation for this position, the Tree Fruit Extension Team was formalized. In 2015 the team consisted of 1.3 FTE. Currently the team includes Extension 3.5 FTE focused on horticulture, 1 FTE post harvest, 1 FTE produce safety and 1.3 FTE pathology/entomology (including this position). 1 FTE is Tree Fruit Research Commission personnel, and 2 FTE is funded from endowment funds.

HISTORY OF POSITION: This position builds on the work of Tim Smith who previously held the position. Regional collaborations in place included a five-day Tree Fruit Days annual conference and an established fire blight applied research program.

POSITION DESCRIPTION: Regional Tree Fruit Extension Specialist, Washington State University Extension. This is a 12-month, tenure-track faculty position within the WSU Extension Agriculture and Natural Resources (ANR) Program Unit. The position works as an integral member of the Tree Fruit Team to provide leadership for Extension programs and applied research in North-central Washington for commercial tree fruits. The position is headquartered at the WSU Tree Fruit Research and Extension Center in Wenatchee, Washington. Focus areas may include but are not limited to: orchard management, horticulture, pest and disease management, soil health, and farm business management.

JOB DUTIES AND RESPONSIBILITIES:

- Communicate with industry stakeholders (e.g., growers, orchard managers, packers and shippers, other tree fruit industry representatives, and relevant professionals) in North-central Washington to identify key priorities.
- Work cooperatively with industry stakeholders to develop effective Extension educational and applied research programs that address high priority issues facing the tree fruit industry.
- Plan and conduct annual educational programs and also provide training opportunities for industry stakeholders to receive pesticide applicator credit-based recertification training.
- Engage actively as a member of the WSU Tree Fruit Team, the ANR Program Unit and participate as an affiliate faculty member in an appropriate Academic Department of CAHNRS or a Research and Extension Center.
- Acquire both financial and human resources through grants, contracts, and gifts to support the development and delivery of the educational programs.
- Build capacity to sustain and grow programs through constituent empowerment and/or leadership development.
- Document program impacts through quantitative evaluation and other means and make timely reports.
- Engage in professional development to update and expand personal skillset and be willing to redirect efforts in response to changing industry needs.
- Extend the reach of WSU Extension by integrating distance technology into program delivery through computer applications, decision support tools, web pages, on-line course development, electronic mailings, educational videos, multimedia and other emerging technologies.
- Promote communications and effective working relationships between industry stakeholders and Washington State University.
- Engage diverse audiences and communities.
- Become knowledgeable about and promote WSU Extension programs.

Washington ranks first in the production of apples, sweet cherries, and pears contributing more than $6 billion of annual impact to the state’s economy. Identifying, developing and implementing best management practices is critical for enhancing the productivity, profitability and environmental sustainability of this important industry. DuPont's program helps stakeholders learn and apply research based best management practices for tree fruit in three key areas: sustainable orchard pest and disease management, soil and water management, next generation tree fruit network as well as providing extension support in other areas. Across programs outputs include: 10 peer reviewed journal articles; 7 peer reviewed Extension publications; 5 applied research projects; 74 articles and creative works; 83 workshops, field days and trainings serving 8,504 participants; 111 talks reaching 4,114 orchardists and industry professionals; and 655 consultations with support from $2,338,933 in grants and contracts. Program evaluations were conducted for a subset of programs. Overall short-term impacts include 74% of participants reported learning a good or great deal (N=2,199) and 78% planned to adopt new practices based on information from DuPont's programs (N=1,852). Longer term impacts are noted by program area.

Sustainable Orchard Pest and Disease Management
In needs assessments growers sited pest and disease issues including fire blight, little cherry disease, psylla and mites as high priority challenges. Pear producers spend $1,000 to $1,900/A on pear psylla and mite control while at the same time the tools in their toolbox are increasingly ineffective due to resistance. Fire blight is an important disease of apple and pear with annual national losses and control costs estimated at over $100,000 million. For example, 88% of pear and 17% of apple acres in WA were impacted in 2018 resulting in an estimated $37 million in direct losses. More than 238,856 cherry trees equivalent to 974 acres have been removed between 2015 and 2020 due to little cherry and X-disease costing the industry $30 million in reduced revenue in 2020 alone and $115 million in lost revenue and establishment costs during the seven-year re-establishment period.

Outputs (2016-2020): DuPont has given 72 presentations to 8,686 participants and organized 18 trainings with 499 participants on sustainable pest and disease management topics including pear IPM, little cherry disease and fire blight. DuPont conducted fire blight research trials annually to test the efficacy of 24 to 40 new and existing products. A Pear IPM team was formed with Beers, Nottingham, Strohm and 18 consultants and growers. Fourteen to twenty pear blocks were monitored weekly (26 weeks, 4 years) providing natural enemy and pest data real-time to stakeholders with the goal of creating thresholds and a scouting network to move Pear IPM toward sustainable solutions. DuPont has done 463 consultations (farm visits/phone calls) with growers on pest and disease problems including diagnostics for 110 samples. Products include 6 peer reviewed journal articles and 4 peer reviewed Extension publications.

Outcomes (2016-2020): DuPont evaluated outcomes for three pest and disease management projects: pear IPM, little cherry disease and fire blight. Eight pest and disease management workshops were evaluated with 237 participants surveyed. 77% reported learning a good or great deal and 79% planned to adopt new practices based on what they learned. The impact of Pear IPM programing including applied research, workshops and publications was surveyed at the end of a three-year project. 94% of growers and consultants reported using at least one of the IPM practices demonstrated by the project impacting 11,641 acres (N=34). 47% of growers and 35% of consultants planned to implement one or more additional practices affecting 9,837 acres. Selective IPM programs maintained fruit quality and averaged $173 per acre in spray costs savings. With 20,400 acres of pears in Washington (NASS, 2019) the savings would equal $3.5 million from initial spray costs reductions alone if biologically based IPM was widely adopted. In a 2020 survey of X-disease/little cherry disease management conducted at an online seminar 89% of respondents said they had changed management practices over the last two years as a result of information from the WSU/OSU team (N=160). For example, 86% scouted and sampled symptomatic trees (N=215), 77% removed infected trees (N=197), and 70% applied post harvest sprays for leafhoppers (N=188). Notably growers have become much more aggressive about the removal of infected trees. A 2020 survey with responses from orchardists managing 26% of WA/OR cherry acreage documented 105,468 infected trees removed in 2020 versus only 10,274 in 2018. Aggressive tree removal is critical to slow the spread of this epidemic outbreak of cherry disease. DuPont's WSU Extension program is the primary resource for fire blight control information for WA growers. In a 2021 survey 79% of respondents managing 89,000 acres said they used WSU Extension information to inform their fire blight management decisions (N=230). 28% believed WSU information improved their control programs. 52% said they avoided a product with low efficacy. Avoiding non-efficacious fire blight programs is critical to preventing outbreaks which
can kill trees and result in orchard removal. For example, one large grower removed 56,000 trees in 2018 due to fire blight. At $8 average per tree plus labor costs and 3 years of lost production he estimates one fire blight event cost their orchard over $1,000,000 in one season (approx. $18/tree). With 24 million apple trees less than four years old in Washington (WA Tree Survey 2017), a susceptible age for death from fire blight, and 20% of apple acres affected in a bad year, 52% of growers avoiding a non-efficacious product may have saved the industry $215 million in a year with high disease pressure.

**Soil and Water Management**

6,000 acres of apples planted every year in Washington on average are at risk to apple replant disease while potential risks to human and environmental health threaten to eliminate fumigation which is currently the only technology available to reduce replant risk. Synchronization of irrigation applications with tree needs is critical in order to improve fruit quality and make most efficient use of a scarce resource. Delineating which soil quality indicators and soil building practices best correlate with consistent high quality fruit production will allow producers to increase yield potential and decrease reliance on external outputs.

**Outputs (2016-2020):** Three field research trials (10 acre, 1 acre, 1 acre) were implemented with two alternative treatments to fumigation for replant control with partners Mazzola, Robinson, Baird and Godwin. An orchard floor management trial including four organic treatments was installed at the Sunrise Research Orchard and on-farm trials were conducted collaborating with Gebbers Farm and Rod Wedel. DuPont gave 29 presentations for 2,666 participants, organized 7 workshops for 256 participants, and conducted 84 farm visits/consultations on soil and water management. Products include 4 peer reviewed journal articles and 3 peer reviewed Extension publications.

**Outcomes (2016-2020):** Program evaluation was conducted after five soil and water management workshops. Of 151 workshop participants surveyed, 84% reported learning a good or great deal and 88% planned to adopt new practices. Nine of sixteen growers receiving consultations changed their irrigation practices. In one case study block changing to micro-sprinklers eliminated run off and increased fruit size resulting in $692 to $2,234 per acre in increased returns. In a second case study use of soil moisture sensors to determine irrigation needs resulted in 3,660 lbs per acre fewer rejected fruit. Participants learned key concepts and planned to apply what they learn. For example, of 72 participants in an Orchard Floor Management Workshop surveyed, 74% increased their knowledge as a result of extension training and 70% planned to adopt new practices including adding organic matter through wood chip mulch, compost and clippings. Of surveyed participants in Orchard Biorenovation educational opportunities 95% learned a good or great deal (N=36) and 95% said they were likely or very likely to try Biorenovation in the future (N=36). Participants learned key management techniques to make Biorenovation successful including the ‘need to apply plastic right after incorporation,’ ‘volume of material to get a good result,’ ‘apply in summer and wait till spring to plant.’ Soil Health Workshop participants surveyed responded that they learned a good or great deal (76%; N=45) and planned to apply new practices (90%; N=41), for example ‘Based on the soil health research presented here, I am going to incorporate soil health parameters into regular soil testing.’ As a result of this programming for example over 150 acres of apples received wood chip mulch in 2020-2021.

**Next Generation Tree Fruit Network**

Washington tree fruit contributes $6 billion of annual impact to the state’s economy with 4,700 farms stewarding 245,216 acres. In order to sustain this important industry and the vibrant communities that depend on it in Central Washington, the tree fruit industry has prioritized supporting the next generation of tree fruit producers.

**Outputs (2016-2020):** The Next Generation Network founded in 2016 has 393 members. Collaborators include co-founder Lindsay Morrison and the North Central Washington Fieldmen’s Assoc. DuPont organized 18 field days and study circles for a total of 644 participants on topics including pear pruning, orchard trellis and training systems, managing calcium disorders, marketing, irrigation, economics and harvest. DuPont contributed 8 newsletter articles in 2016, 11 in 2017, 10 in 2018, 4 in 2019, and 12 in 2020 and 12 web pages and 14 videos to treefruit.wsu.edu helping to meet the need young growers have for digital media.

**Outcomes (2016-2020):** Of 185 participants surveyed 90% reported that they increased their knowledge a good or great deal as a result of Next Generation Network programing. 73% planned to apply what they learned, adopting new practices including planting new varieties, using new trellis systems, conducting soil analysis and using automated irrigation.
VITA

S. Tianna DuPont
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tianna.dupont@wsu.edu

EDUCATION

University of California Davis, CA
M.S. Integrated Pest Management Graduate Group
Department of Nematology
March 2008

Whitman College Walla Walla, WA
B.A. Environmental Studies and Politics
Minor Biology
May 2001

EMPLOYMENT

A. University Related

Tree Fruit Extension Specialist,
Assistant Professor – Washington State University
Nov 2015 - present

Extension Educator – Horticulture- Penn State Extension
Nazareth, PA
Aug 2008 – Nov 2015

Research Fellow – The Land Institute
Salina, KS
Mar 2008 – Aug 2008

Graduate Research Assistant – University of California
Davis, CA

B. Other

Greenhouse Manager/ Field Assistant – Garden of Eve
Mar 2005 – Aug 2005

Summary 2016 to April 2021
$2,338,933 leveraged by this PI.
10 peer reviewed journal articles.
7 peer reviewed extension publications.
5 applied research projects.
74 articles and creative works.
83 workshops, field days and trainings
serving 8,504 participants.
111 talks reaching 4,114 orchardists and industry professionals.
655 consultations

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111 talks reaching 4,114 orchardists and industry professionals.
655 consultations
Riverhead, NY

Research Assistant – The Rodale Institute
Kutztown, PA

Jun 2004 – Jan 2005

Agriculture Extension Specialist – US Peace Corps
Cochabamba, Bolivia

Jan 2002 – April 2004

Intern – Fields Farm
Bend, OR

May 2001 – Oct 2001

HONORS AND AWARDS

Western Extension Directors Association - Extension Excellence Team Award 2021
Golden Apple Award for Best Presentation, Orchard Pest Management, Portland OR 2019
WSU CAHNRS Team Award for Tree Fruit Extension Team 2018
SARE Sustainable Agriculture Fellow 2013
NACAA Communications Award. Website. National Finalist 2011
Land Institute Graduate Research Fellow 2006-2008
United Nations Food and Agriculture Grant 2003

GRANTS, CONTRACTS, AND FUND GENERATION

A. Grants and Contracts

$2,338,933 leveraged by this PI since date of hire. $1,676,675 as lead PI. $2,077,613 to PI’s program, $271,967 to Co-PIs where DuPont lead. $7,739,884 total.

- $1,862,800 grants
- $63,313 Sponsorship and Program Revenue
- $151,500 MOAs

Lead Project Director/Author

Tree Removal for X-disease and Little Cherry Disease Infected Orchards. WSDA Specialty Crop Block Grant. PI: DuPont, S.T. Collaborators: Nielson, M., Carpenter, W., Matthews, K., Roos, J., Loa, P., Harper, S. $249,200. (10/2021-9/2024) (1,2,3,4,5 $249,200)

Scouts and Thresholds: Implementing Biologically Based Pear IPM. WSDA Specialty Crop Block Grant. PI: Strohm, C., DuPont, S.T., Nottingham, L. $249,459. (10/2021-9/2024) (1,2,3,4,5 $249,459)

Fire Blight Product Testing for Effective Recommendations. Fresh Pear Committee. PI: DuPont, S.T. $44,073. (05/2020-04/2023) (1,2,3,4,5 $44,073)

1Key to indicators or description of contributions to Grants, Contracts and Fund Generation: 1 = Provided the initial idea; 2 = Developed research/program design and hypotheses; 3 = Authorship of grant application; 4 = Developed and/or managed budget; 5 = Managed personnel, partnerships, and project activities.

IPM Methods to Control Replant Disease of Tree Fruit. USDA-NIFA Crop Protection. PI: DuPont, S.T. Co-PI: Mazzola, M. $195,711. (09/2017 - 08/2020) (1,2,3,4,5 $195,711)

Sustainable Pear Pest Management. Specialty Crop Block Grant. PI: DuPont, S.T. Collaborator Beers, E. $247,684. (10/16-9/19) (1,2,3,4,5 $247,684)


Fire Blight Management: New Products and Effective Rates. Fresh Pear Committee. PI: DuPont, S.T. $31,117. (06/2017-05/2019) (1,2,3,4,5 $31,117)


Reducing Risk for Organic Vegetable Farm Start-up, Risk Management Agency. PI: DuPont, S.T.: CO-PI: Runkel, S. $43,564. (10/2012-09/2013) (1,2,3,4,5 $7,000)


Rolled Down Cover Crop Mulch for Pumpkin and Soybean Production, Sustainable Agriculture Partnership Grant. P.I.: DuPont, S. T. $9,357 (03/2009-10/2010) (1,2,3,4,5 $9,357)

Managing Soil Food Webs for Enriched and Suppressive Soils: Effects of cover crop diversity and quality, USDA Sustainable Agriculture Graduate Student Grant. PI: DuPont, S. T. $11,000 (2006-2008) (1,2,3,4,5 $11,000)

CO-PI


Cascadia Conservation District Irrigation Efficiency for Fruit Quality and Environmental Sustainability, Bonneville Environmental Foundation. PI Cushman, M. CO-PI DuPont, S.T. $49,500 (2018-2020) (5)


B. Program Revenue Generation and Sponsorships

Extension Winter Program Support. North Central Washington Fieldmen’s Association. $10,000 (08/2020-02/2021) (1,4,5 $10,000)

Extension Field Day and Winter Program Support. North Central Washington Fieldmen’s Association. $2,500 (01/19-12/19) (1,4,5 $2,500)

North Central Washington Tree Fruit Days Sponsorship. Pear Bureau NW, North Central Washington Fieldmen’s Association, NW Cherries, Orchard and Vineyard Supply, FMC (1/19) (1,4,5 $13,313)

Next Generation Tree Fruit Network Sponsorship. North Central Washington Fieldmen’s Association. $7,500 (01/19-12/19) (1,4,5 $7,500)
Next Generation Tree Fruit Network Sponsorship. North Central Washington Fieldmen’s Association. $7,500 (01/18-12/18) (1,4,5 $7,500)


Next Generation Tree Fruit Network Sponsorship. North Central Washington Fieldmen’s Association. $7,500 (01/16-12/16) (1,4,5 $7,500)

Extension Field Day and Winter Program Support. North Central Washington Fieldmen’s Association. $5,000 (01/16-12/16) (1,4,5 $5,000)

C. MOA’s and funding secured from Public, Non-profit, and Private entities


Efficacy and Phytotoxicity of Biopesticides on Apple for the Control of Fire Blight. IR4. DuPont, S.T. (07/18-06/19) (4,5 $7,500)


Efficacy and Phytotoxicity of Biopesticides on Apple for the Control of Fire Blight. IR4. DuPont, S.T. (01/17-12/17) (4,5 $9,000)


PUBLICATIONS AND CREATIVE WORK

A. Peer-reviewed Journal Articles.


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2Key to indicators or description of contributions to Publications and Creative Work: 1 = Developed the initial idea; 2 = Obtained or provided funds or other resources; 3 = Collected data; 4 = Analyzed data; 5 = Wrote/created product; 6 = Edited product.


DuPont, S. T. Potato leaf hopper, flea beetle, Colorado potato beetle control with Grandevo. Entomological Notes. 2014. (3,4,5)

Glover, J.D., Culman, S.W., DuPont, S.T., Broussard,W., Young, L., Mangan, M., Mai, J., Crews, T.E., DeHaan, L.R., Buckley, D., Ferris, H., Turner, R.E., Reynolds, H., Wyse,D. Harvested perennial grassland
provide ecological benchmarks for agricultural sustainability. Agriculture Ecosystems and Environment. 2010. (3,4,5)

Cullman, S., DuPont, S.T., Glover, J.D. Long-term impacts of high-input annual cropping and unfertilized perennial grass production on soil properties and belowground food webs in Kansas, USA. Agriculture Ecosystems and Environment. 2010. (3,4,5)

DuPont, S.T., Cullman, S., Ferris, H., Buckley, B., Glover, J.D. No-tillage conversion of harvested perennial grassland to annual cropland reduces root biomass, decreases active carbon stocks, and impacts soil biota. Agriculture Ecosystems and Environment. 2010. (3,4,5)

DuPont, S.T., Ferris, H., and Van Horn, M., Cover crop quality and quantity affect soil food webs and nutrient cycling in soils. Applied Soil Ecology. 2008. (1,2 3,4,5)

B. Plant Disease Management Reports


C. Peer-reviewed Extension Publications.


DuPont, S.T., Granatstein, D., Sallato, B. Soil Health in Orchards. Washington State University. 2020. EM120E. (1,5,6)


DuPont, S. T. Keeping Produce Fresh: Postharvest Handling for Market Growers and Farm-to-Institution Sales. The Pennsylvania State University. 2015. EE0162


D. Educational Digital Media (Videos, computer programs, mobile apps, dynamic web-pages, social media, blogs, online modules, decision aids, email list-serves, etc.) (Designate products that received formal peer-review with a * and indicate the entity managing the review.)


Quiet Creek Weed Management. Penn State Extension. DuPont, S. T. 2012

Plant Propagation Case Study, Quiet Creek Farm, Kutztown, PA. DuPont, S. T. 2012. Penn State Extension Start Farming Video. * eXtension.edu

Pest Management Case Study: Quiet Creek Farm, Kutztown, PA. DuPont, S. T. 2012. Penn State Extension Start Farming Video. * eXtension.edu

E. Other Publications and Creative Works


DuPont, S.T. *Adding to the Codling Moth IPM Tool Box.* Fruit Matters, August 1, 2018.


DuPont, S.T., Kalscits, L. **Moving Beyond Calcium Sprays.** Fruit Matters, April 21, 2018.


DuPont, S.T. Musacchi, S. **Pear Pruning and Horticulture in Higher Density Systems Demonstration.** Fruit Matters, February 12, 2018


DuPont, S. T. **Dealing with Fire Blight Once it is in the Orchard.** Fruit Matters, July 22, 2017.


DuPont, S.T., Kalscits, L. **Calcium Recommendations for Apples.** Fruit Matters, May 08, 2017.

Eastwell, K. DuPont, S. T. **Western X and other Cherry Viruses.** Fruit Matters, April 25, 2017.

DuPont, S. T. **Fire Blight Season Approaches.** Fruit Matters, April 24, 2017.


DuPont, S.T. **Cankers Removal Now is Critical for Fire Blight Management.** Fruit Matters, February 27, 2017.

Yang, W., DuPont, S.T. **Cherry Calcium Management Update.** Fruit Matters, February 5, 2017.

DuPont, S.T. Kalscits, L., Musacchi, S. **Photoselective Anti Hail Netting.** Fruit Matters, August 2016.


DuPont, S.T., Bixby-Brosi, A. **Little Cherry Disease Sampling and Diagnosis.** Fruit Matters, June 2016.

DuPont, S.T., Peters, T. **Irrigation Scheduling Tool Available Online and as a New Phone Ap.** Fruit Matters, May 2016.


DuPont, S.T., Mussachi, S., Gix, B. **Bartlett Pear Pruning.** Fruit Matters, March 2016.


DuPont, S. T., Grozinger, C.M., Fliesher, S. **Pollinator Declines.** Vegetable and Small Fruit Gazette. March 2015.

DuPont, S. T., Grozinger, C.M., Fliesher, S. **What Can We Do to Encourage Native Bees?** Vegetable and Small Fruit Gazette. May 2015.


F. Trade Articles


PRESENTATIONS
A. International


B. National


C. State


2012. Manejo Sostenible de Suelos. (Soil Health, Spanish) Mid Atlantic Vegetable Growers Association. Hershey, PA. (invited)


D. Regional & Local


December 5, 2019. Pear IPM Season in Review. Pear IPM Discussion Group. Cashmere, WA.


March 14, 2019. Little Cherry Disease. Chelan Fruit Grower Meeting. Omak, WA. (invited)

March 9, 2019. Little Cherry Disease. McDougall Grower Meeting. Wenatchee, WA. (invited)


March 6, 2019. Little Cherry Disease. Blue Bird Grower Meeting. Wenatchee, WA. (invited)

February 20, 2019. Fire Blight an Interactive Discussion. POME Club. Yakima, WA. (invited)

February 15, 2019. Little Cherry Virus. Manson Growers. Manson, WA.

February 5, 2019. Conociendo los Insectos Buenos en la Huerta (Getting to Know the Good Guys in our Orchards, *Spanish*). Okanogan Horticultural Association Annual Meeting. Okanogan, WA.


November 1, 2018. Can We Achieve Success with an IPM Approach To Pear Production? Pear IPM Discussion. Cashmere, WA.


April 26, 2018. A Discussion of Fire Blight Management. Fruit Club, Pasco, WA. *(invited)*

April 18, 2018. A Discussion of Fire Blight Management. POM Club, Yakima, WA. *(invited)*


February 8, 2018. Conserving Natural Enemies: A Basis for Pear IPM. Manson Growers. Manson, WA.


February 1, 2018. Conserving Natural Enemies: A Basis for Pear IPM. Northwest Wholesale. Okanogan, WA. *(invited)*


Wenatchee, WA.


January 9, 2018. Cherry Powdery Mildew Questions & Answers Fireblight Control Updates Dealing With 
Fireblight in the Orchard. Northwest Wholesale. Wenatchee, WA. (invited)


February 23, 2017. Soil Biology - Benefits and Belowground Concerns. Manson Growers. Manson, WA.


February 9, 2017. Managing Fire Blight After a Bad Year. North West Wholesale Grower Meeting. Royal 
City, WA. (invited)

February 1, 2017. Managing Root Rots and Tree Health by Improving Soil Quality. Northwest Wholesale 
Organic Meeting. Chelan, WA. (invited)


basic principles for improving soil health. Northwest Wholesale. Orroville, WA. (invited)

January 23, 2017. Managing Fire Blight in your orchard after a problem year, the use of antibiotics 
Kausmin, Mycoshield, and Actigard. Use of Blossom Protect and Serenade with Cueva. 
Northwest Wholesale. Orroville, WA. (invited)

WA.


Chelan WA.


(invited)

December 1, 2016. Below Ground Benefits and Concerns. Wilbur Ellis Team Training. Wenatchee, WA. 
(invited)

November 15, 2016. WA38 Update. Okanogan Horticultural Society. Omak, WA.

Rock Island, WA.

October 11, 2016. Active Carbon in the Orchard – What Does it Do for You? Organic Orchard Floor 
Management Workshop. Rock Island, WA.

Wenatchee, WA. (invited)

March 1, 2016. Irrigation Scheduling. Chelan Fruit. Chelan, WA. *(invited)*

February 23, 2016. Orchard Biorenovation. Manson Fruit. Manson, WA.

February 23, 2016. Irrigation Scheduling. Manson Fruit. Manson, WA.


January 14, 2016. Soil Quality. What is it What does It do for you? Northwest Wholesale Wenatchee, WA *(invited)*


2013. Soil Quality and Vegetable Crops. SE Pennsylvania Vegetable Production seminar. Doylestown, PA. *(invited)*

2013. Meeting the Post-Harvest Needs of Vegetables from Field to Harvest. Buy Fresh Buy Local. Bethlehem, PA. *(invited)*

2012. All about Cover Crops. Vegetable and Small Fruit Update. Fleetwood, PA. *(invited)*

D. Outreach and Workshops


November 19, 2020. Little Cherry Disease Nursery Recommendations. – 11 participants (Lead organizer S. Harper)


October 27, 2020. Field Day: Alternative Controls to Replant Disease. Tonasket, WA. - 9 participants (5 person or less groups)


May 27, 2020. Pear Irrigation Virtual Field Day. – 58 participants


December 5, 2019. Pear IPM Season Review. Cashmere, WA. - 35 participants


December 3, 2019. Listening Session. Omak, WA. – 12 participants


October 17, 2019. Listening Session. Wenatchee, WA. – 24 participants

August 8, 2019. Field Day Sunrise Research Station. Rock Island, WA. – 102 participants (collab. TFREC faculty)

August 1, 2019. Scout Training Field Day. Wenatchee, WA. – 20 participants

June 14, 2019. Cherry Preharvest Tour. Orroville, WA. – 10 participants


February 15, 2019. Manson Growers. Manson, WA. – 70 participants


January 17, 2019. Pear Day. Wenatchee, WA. – 190 participants


January 15, 2019. Manejo de Frutales. Wenatchee, WA. – 65 participants (Spanish)

November 1, 2018. Pear IPM Discussion. Cashmere, WA. – 15 participants


August 27, 2018. Uruguayan visitors. Cashmere, WA. – 5 participants (Spanish)
June 14, 2018. Pear IPM Discussion. Cashmere, WA. – 22 participants
February 6, 2018. Okanogan Horticultural Day. Okanogan, WA. – 130 participants
February 5, 2018. Pear Pruning and Horticulture Demonstration. Yakima, WA. – 54 participants
February 8, 2018. Manson Growers. Manson, WA. – 50 participants
October 4, 2017. Pear IPM study circle. Cashmere, WA. – 24 participants
September 17, 2017. WA38 Field Day. Rock Island, WA. – 102 participants (co-organizer fruit team)
July 24, 2017. Pear IPM monthly study circle. Cashmere, WA. – 11 participants
June 29, 2017. Pear IPM monthly study circle. Cashmere, WA. – 6 participants
June 12, 2017. Improving Sprayer Performance. Omak, WA. – 16 participants
June 1, 2017. Pear IPM Field Visit. Cashmere, WA. – 31 participants
March 3-4, 2017. Fruit School -Organic Insect and Disease Management. Omak, Wenatchee, Prosser, WA. – 99 participants (co-organizer fruit team)
February 23, 2017. Manson Growers. Manson, WA. – 70 participants
January 17, 2017. Stone Fruit Day. Wenatchee, WA. – 300 participants
September 14 & 22, 2016. WA38 Fall Field Days. Rock Island, WA. – 218 participants
June, 2016. Tree Fruit Summer Field Visits. Prosser, WA. – 103 participants
March 4, 2016. WA38 Spring Field Visits. Rock Island, WA. – 99 participants
January 18, 2016. Lake Chelan Horticultural Society. Chelan, WA. – 150 participants

PROFESSIONAL SERVICE

A. University

• 2021. Tree Fruit Research Center Orchard Manager Hiring Committee.
• 2020. Diversity, Equity and Inclusion Committee Tree Fruit Research and Extension Center.
• 2020. Hiring committee Endowed Chair Tree Fruit Plant Pathology.
• 2018. Co-hosted Plant Pathology 525 Field Plant Pathology class.
• 2018. Master Gardener Training Chelan County.
• 2017-present. Crop Protection Guide Coordinator. Included organizing three editor meetings, three stakeholder meetings, reminders and help for edits, proofing of guide.
• 2017. Host for University administrators from Pakistan’s University of Agriculture Faisalabad.
• 2016 to 2018. Tree Fruit Research Center Strategic Planning.
• 2016. Host Plant Pathology 525 Field Plant Pathology.
• 2016. Co-organizer for Organic Mini Symposia as part of ANR annual meeting.
• 2016. Hosted Food Safety Specialist Applicant. Participated in candidate reviews.
• 2016. Participated in Post Harvest ITT candidate interviews.
• 2016. Lecture Horticulture Seminar.
B. Professional Society

- 2016. Coordinated Next Generation session for Washington State Tree Fruit Association annual meeting.

C. Community

- 2016. Activity for event for high school students to encourage college and agriculture careers.

D. Review Activities (journal article reviews and editorial service)

- 2021. University of Idaho Extension peer reviewer. 2021-0636
- 2021. WSU peer reviewer 2020-2049.
- 2020. Review. Plant Disease. PDIS-12-20-2585-RE.R1
- 2017. WSU peer reviewer.
- 2016. Peer Reviewer WSU Publication.

E. Industry

- 2021. Co-coordinator Cherry Institute as a webinar series with recorded presentations.

ADMINISTRATIVE RESPONSIBILITY

- Manage budgets for five grants and multiple MOAs – approx. $220,000 annual.
- Promotion of outreach events including online event management, flier creation, press releases.
- Event registration and evaluation.
- Listserve management.
- Website management.

PROFESSIONAL & SCHOLARLY ORGANIZATION AFFILIATIONS

Soil Science Society of America 2006 to present

PROFESSIONAL DEVELOPMENT

- November 2020 – Diversity, Equity and Inclusion training w Bernardita Sallato at Faculty Meeting.
• January 2019 – Orchard Pest Management Conference. Portland, OR.
• December 2019 – How to Have Impossible Conversations. Peter Boghossian, James Lindsay.
• July 2019 – International Fire Blight Conference. Traverse City, MI.
• 2016 to present – Monthly North Central Washington Fieldmen’s breakfast.
• 2016 to present – Weekly (in season) North West Wholesale breakfast.
• December 2017 – Centered Leadership 5-part online training by Joanna Barsh, Mckinsey and Co.
• December 2017 – What Works for Women at Work 3-part online training by Joan Williams. 1: Strategies for Navigating Prove it Again Bias; 2: The Tightrope; 3: The Maternal Wall.
• December 2017 – Assisted the Washington State Tree Fruit Association Annual Conference.: 13 lectures.
• 2017 – Assisted ten industry trainings and research reviews in Washington state learning integrated pest management and horticulture topics.
• January 2017 – Orchard Pest Management Conference. Portland, OR.
• January 2016 – Orchard Pest Management Conference. Portland, OR.
• 2016 – Assisted the Washington State Tree Fruit Association Annual Conference.
• 2016 – Six orchard winter full day trainings.

Teamwork, Leadership, and Professional Conduct

*Demonstrates teamwork and leadership in convening and guiding a coordinated outreach program that fully utilizes the statewide network of Extension, research faculty, and other educational resources.*

• Active participant in the Tree Fruit Extension Team.
• Contributor – Tree Fruit News bi-weekly publication coordinating with team members and department faculty (2,021 subscribers) (12 contributions 2020, 4 articles 2019, 10 articles 2018)
• Collaborates to support tree fruit team priority project: treefruit.wsu.edu.

*Supports multidisciplinary teams for effective impacts.*

• Supports outreach to meet emerging needs. E.g. worked with Scott Harper and Tobin Northfield to compile collaborative presentation/panel on X phytoplasma and Little Cherry Virus, mapping tool, updated web articles and with extension team on field days.
• Co-PI supporting outreach efforts for Post Harvest Diseases with PI Achour Amiri.
• Collaborator (Co-PI) on 2020 to 2021 Pear IPM Project with PI Louis Nottingham.
• Supporting member on team led by Lee Kalscits to improve irrigation in pears 2018-2020.

*Engages internal colleagues and external partners (e.g., federal and state agencies, private firms, community partners) in developing and delivering educational programs.*

• Supports DAS-Decision Aide System project providing update information for the Fire Blight model.
• Member and programing leader for the North Central Washington Fieldmen’s Association and the Okanogan Horticultural Association.
• Co-founded the Next Generation Tree Fruit Network which now has more than 500 members in collaboration with industry representatives.
• Collaborates regionally with Oregon, New York, Pennsylvania and California on Fire Blight research and outreach, e.g. 2019 collaborative research, collaborative extension publication 2017, grant proposal and National IR4 research collaboration.
• Effort to revamp WSU Crop Protection guide online design and code coordinating with guide editors project completed.
• Led Tree Fruit Team committee to design and carry out two-day Organic Pest Management Fruit School engaging 7 internal and 5 external partners.
• Collaboratively coordinating Pear IPM team of researchers, growers and industry professionals with Dr. Betsy Beers, Dr. Louis Nottingham, 35 consultants and growers. Team expanded in 2019 to Rick Holton in Southern Oregon.
• Team collaboration with tree fruit industry partners on research projects, for example implementation of 12 acre on-farm research trial with Mike Robinson and Jim Baird. Jim said, “I think we had such a great team! You are to be commended for your great effort.”
• Improving irrigation for pears project engages Cascadia Conservation District co-sponsor, Dr. Lee Kalcsits WSU Horticulturalist (lead) and Troy Peters WSU Irrigation specialist works with four collaborating growers.

Effectively creates and leads teams of multi-disciplinary faculty and staff in the delivery of high quality programming that results in desired outcomes.

• Organizes North Central Washington Tree Fruit Days regional conference which highlights the research of twenty plus faculty colleagues (2016 to 2019). One participants said in 2019, “You have taken them [conference] to the next level with expanded trade shows, meals, planning process for agendas etc.”
• Supports outreach efforts of Tree Fruit Research and Extension Station faculty. For example, coordinated Tree Fruit Research Station Field Day in August 2019 with all station faculty.
• Editor for the Crop Protection section of the tree fruit website http://treefruit.wsu.edu/crop-protection/ engaging faculty Betsy Beers, Louis Notthingham, Gary Grove, Achour Amiri, Scott Harper, Mark Mazzola, and Tobin Northfield to create 13 new disease management pages, 15 new Pear IPM pages and migrate 108 insect management pages to the website. Insect management pages for key insects were updated with a new feature which draws in pesticide recommendations from the annually updated Crop Protection Guide.