**Publications:**

**Books and Book Chapters**

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Elina D. Coneva. 2020. Assessment of Size Controlling Peach Rootstocks for High Density Orchards in Alabama. SR ASHS Annual Meeting. Louisville, KY, February 5.

Dylan G. Teel, Elina D. Coneva, and Matthew D. Price. 2020. Effect of Rootstock Cultivar on Consumer Quality Attributes of ‘Aztec Fuji’ Apple. SR ASHS Annual Meeting. Louisville, KY, February 5.

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Mirbod, O., D. Choi, L. He, P. Heinemann, R. Marini, and J. Schupp. 2021. In-Field Apple Size and Location Tracking Using Machine Vision to Assist Fruit Thinning and Harvest Decision-Making. Proc. ASABE DOI: https://doi.org/10.13031/aim.212100831. Paper Number: 210083

Gasic, K., Reighard, G.L, C.A. Saski, J. Adelberg, K. Baumgartner, P. Brannen, D. Chavez, T. Gradziel, R. Hammerschmidt, A. Iezzoni, B. Koc, T. Mark, J.C. Melgar, G. Schnabel, N. Tharayil, and M. Vassalos. 2021. Solutions to the Armillaria root rot threat affecting the U.S. stone fruit industry. Southeastern Professional Fruit Workers Conference. Virtual. Oct. 28, 2021.

Reighard, G. and D. Ouellette. 2021. Performance of new rootstock cultivars in South Carolina. Southeastern Professional Fruit Workers Conference. Virtual. Oct. 28, 2021.

Reighard, G. 2021. Implementing short- and long-term approaches to manage ARR. Armillaria planning conference. Virtual. October 25, 2021.

Gasic, K., S. Miller, G. Barac, C. Saski, G. Schnabel, and G. Reighard. Breeding for Prunus rootstock tolerance to replant diseases. 2021. XII International Symposium on plum and prune genetics, breeding and pomology. Zlatibor, Serbia. Sept. 14-17, 2021. Poster PI-07

Gasic, K., C.A. Saski, J. Adelberg, K. Baumgartner, P. Brannen, D. Chavez, T. Gradziel, R. Hammerschmidt, A. Iezzoni, B. Koc, T. Mark, J.C. Melgar, G.L. Reighard, G. Schnabel, N. Tharayil, and M. Vassalos. 2021. Solutions to the Armillaria Root Rot Affecting the U.S. Stone Fruit Industry. ASHS Virtual Annual Meeting, Denver, CO., August 9, 2021.

Reighard, G.L. 2021. Moderator for Rootstock Session at the ISHS XII International Symposium on Integrating Canopy, Rootstock and Environmental Physiology in Orchard Systems. Virtual. July 29, 2021.

Reighard, G.L. and NC-140 members. 2021. Thirty-three years evaluating rootstocks for peach in the NC-140: what have we learned. ISHS XII International Symposium on Integrating Canopy, Rootstock and Environmental Physiology in Orchard Systems. Virtual. July 28, 2021.

Reighard, G.L. 2021. Panelist for the “Brown Bag” Rootstock Session of the XIIth International Society of Horticultural Science Symposium on Integrating Canopy, Rootstock and Environmental Physiology in Orchard Systems. WSU hosted via Virtual. July 28, 2021.

Reighard, G.L, K. Gasic, C.A. Saski, J. Adelberg, K. Baumgartner, P. Brannen, D. Chavez, T. Gradziel, R. Hammerschmidt, A. Iezzoni, B. Koc, T. Mark, J.C. Melgar, G. Schnabel, N. Tharayil, and M. Vassalos. 2021. Solutions to the Armillaria Root Rot Affecting the U.S. Stone Fruit Industry. ISHS XII International Symposium on Integrating Canopy, Rootstock and Environmental Physiology in Orchard Systems. Virtual. July 26, 2021

Foster, J. Kingsley-Richards, S.L., and Bradshaw, T. Effect of Summer Hedging on Return Bloom, Yield, Tree Growth, and Juice Quality of Apples Grown for Cider. Not for publication. Proceeding from XII International Symposium on Integrating Canopy, Rootstock and Environmental Physiology in Orchard Systems. (Acta Horticulturae). Submitted June 2021.

Foster, J. Kingsley-Richards, S.L., and Bradshaw, T. Summer Applications of NAA and Ethephon Show Little Effect on Return Bloom, Yield, Tree Growth, and Juice Quality of Cider Apple Cultivars. Proceeding from XII International Symposium on Integrating Canopy, Rootstock and Environmental Physiology in Orchard Systems. (Acta Horticulturae). Submitted June 2021

Kalcsits, L., Valverdi, N., & Reid, M. (2021). Timing of water limitations affects source to sink differences in δ13C composition in apple. Accepted to ISHS Irrigation Management in Horticultural Crops and the pre-print is published in bioRxiv.   
<https://doi.org/10.1101/2021.07.20.453133>

M. Schwartz and M. Muehlbauer. 2021. “Use of Rootstocks for Optimization of Quality, Growth, and Yield of Honeycrisp Apples in New Jersey.” NR-ASHS Conference. Virtua

Shwartz, M. 2021. Cook Honors thesis project. Use of Rootstocks for Optimization of Quality, Growth, and Yield of Honeycrisp Apples.

Moran, R. 2021. Shoot and flower bud cold temperature tolerance in three peach cultivars exposed to four days of warm deacclimating temperatures. [2021 Orchard Systems | ISHS Symposium](https://2021orchardsystems.com/), International Society of Horticultural Science. Oral, Presented virtually.

Einhorn, T. 2021. Advances and future vision for managing pear trees in modern high-density orchards. Wallace Heuser Presidential Lecture, International Fruit Tree Association, Feb. 24, 2021.

**Outreach Oral Presentations**

Coneva, E. 2020. Size-Controlling and Disease Resistant Peach Rootstocks for   
Sustainable Peach Production in Alabama. National Association of County   
Agricultural Agents Annual Conference, Virginia Beach, VA (online).

Elkins, R. Rootstocks and orchard systems for European pears. 2020 Sacramento River   
District Pear Research Meeting, February 4, 2020, Walnut Grove and 2020 North Coast Pear Research Meeting, February 6, 2020, Lakeport.

Tweedy, Carolina E. Developing rooting protocol on non-P. communis pears and promising wild pear germplasm: a prerequisite study for in vitro screening Armillaria resistance. 2020 Sacramento River District Pear Research Meeting, February 4, 2020, Walnut Grove and 2020 North Coast Pear Research Meeting, February 6, 2020, Lakeport.

Μinas ΙS. “The impact of the environment & genotype on peach cold hardiness & damage”, Mid-Atlantic Fruit & Vegetable Convention, Jan 2020, Hershey, PA.

Μinas ΙS. “Pre- & postharvest factors affecting peach fruit quality”, Mid-Atlantic Fruit & Vegetable Convention, Jan 2020, Hershey, PA.   
Μinas ΙS. “The peach industry in USA: challenges & opportunities for CO peaches”, Western Colorado Horticultural Society Annual Conference, Jan 2020, Grand Junction, CO.

Anthony BM, Minas IS. “Influence of Thinning Severity on Peach Productivity and Fruit Quality”, Western Colorado Horticultural Society Annual Conference, Jan 2020, Grand Junction, CO.

Pieper J, Minas IS. “Rootstock and canopy position effect on peach fruit quality”, Western Colorado Horticultural Society Annual Conference, Jan 2020, Grand Junction, CO.

Sterle DG, Minas IS. “Peach Cold Hardiness in Western Colorado”, Western Colorado Horticultural Society Annual Conference, Jan 2020, Grand Junction, CO.

Sterle DG, Μinas ΙS. Peach Hardiness in Western Colorado. Roger’s Mesa Brown Bag Talk

Minas IS. “Peach Cold Hardiness & Rootstock Research Update” 2019 Michigan Spring Peach Meeting, Michigan Peach Sponsors & Michigan Horticultural Society, SW Michigan Research and Extension Center, Michigan State University, Mar 2019, Benton Harbor, MI.

Minas IS. “Environmental bases for cold hardiness & damage in peach”, Indiana Horticultural Congress & Trade Show, Department of Horticulture and Landscape Architecture, Purdue University & Purdue Cooperative Extension Service, Feb 2019, Indianapolis, IN.

Minas IS. “Pre- & postharvest factors affecting peach fruit quality”, Indiana Horticultural Congress & Trade Show, Department of Horticulture and Landscape Architecture, Purdue University & Purdue Cooperative Extension Service, Feb 2019, Indianapolis, IN.

Minas IS. “Environmental Bases for Cold Hardiness and Damage in Peach”, Western Colorado Horticultural Society Annual Conference, Jan 2019, Grand Junction, CO.

Minas IS. “CSU Pomology Research Program Update”, Western Colorado Horticultural Society Annual Conference, Jan 2019, Grand Junction, CO.

Minas IS. “Fruit growth & thinning-Harvest & postharvest handling”, Lecture within the frame of the 2nd Principles of Tree-Fruit Production: beginner growers’ edition workshop (30 tree fruit growers participants), Organized under the frame of Western Colorado Horticulture Society (WCHS) Annual meeting, WCRC-OM, Colorado State University, January 20, 2020, Grand Junction, CO.

Minas IS. “Pruning peach and cherry trees under different canopy architectures in the CSU’s experimental orchard”, Demonstration in the field within the frame of the 2nd Principles of Tree-Fruit CO-2020 State Report NC-140 Production: beginner growers’ edition workshop (30 tree fruit growers participants), Organized under the frame of Western Colorado Horticulture Society (WCHS) Annual meeting, WCRC-OM, Colorado State   
University, January 20, 2020, Grand Junction, CO.

Minas IS. “Tree pruning, training & cropping systems”, Lecture within the frame of the 2nd Principles of Tree-Fruit Production: beginner growers’ edition workshop (30 tree fruit growers participants), Organized under the frame of Western Colorado Horticulture Society (WCHS) Annual meeting, WCRC-OM, Colorado State Univ., January 20, 2020, Grand Junction, CO.

Minas IS. “Bearing habits of fruit trees-Flowering & pollination-Dormancy, rest breaking, cold hardiness & frost protection”, Lecture within the frame of the 2nd Principles of Tree-Fruit Production: beginner growers’ edition workshop (30 tree fruit growers participants), Organized under the frame of Western Colorado Horticulture Society (WCHS) Annual meeting, WCRC-OM, Colorado State University, January 20, 2020, Grand Junction, CO.

Minas IS. “Climate & Tree Fruits-Cultivars & Rootstocks selection-Orchard establishment”, Lecture within the frame of the 2nd Principles of Tree-Fruit Production: beginner growers’ edition workshop (30 tree fruit growers participants), Organized under the frame of Western Colorado Horticulture Society (WCHS) Annual meeting, WCRC-OM, Colorado State University, January 20, 2020, Grand Junction, CO.

Minas IS. “Pruning & training sweet cherry trees on TSA, Super Slender Axe (SSA), Kym Green Bush (KGB), Bi-axe and Bi-UFO for high density plantings”, Demonstration in the field within the frame of the 1st Pruning & Training: Peaches & Cherries under different training systems workshop (30 tree fruit growers participants), Organized under the frame of Western Colorado Horticulture Society (WCHS) Annual meeting, WCRC-OM, Colorado State University, January 14, 2019, Grand Junction, CO.

Minas IS. “Pruning & training peach trees on Perpendicular-V, Bi-axe (V in the row) as well as tall spindle axe (TSA) for high density plantings”, Demonstration in the field within the frame of the 1st Pruning & Training: Peaches & Cherries under different training systems workshop (30 tree fruit growers participants), Organized under the frame of Western Colorado Horticulture Society (WCHS) Annual meeting, WCRC-OM, Colorado State University, January 14, 2019, Grand Junction, CO.

Minas IS. “Pruning & Cytospora Management”, Lecture within the frame of the 1st Pruning & Training: Peaches & Cherries under different training systems workshop (30 tree fruit growers participants), Organized under the frame of Western Colorado Horticulture Society (WCHS) Annual meeting, WCRC-OM, Colorado State University, January 14, 2019, Grand Junction, CO.

Minas IS. “Peach & cherry training systems”, Lecture within the frame of the 1st Pruning & Training: Peaches & Cherries under different training systems workshop (30 tree fruit growers participants), Organized under the frame of Western Colorado Horticulture Society (WCHS) Annual meeting, WCRC-OM, Colorado State University, January 14, 2019, Grand Junction, CO.

Minas IS. “Tree pruning & training responses”, Lecture within the frame of the 1st Pruning & Training: Peaches & Cherries under different training systems workshop (30 tree fruit growers participants), Organized under the frame of Western Colorado Horticulture Society (WCHS) Annual meeting, WCRC-OM, Colorado State University, January 14, 2019, Grand Junction, CO.

Minas IS. “Bearing habits of fruit trees”, Lecture within the frame of the 1st Pruning & Training: Peaches & Cherries under different training systems workshop (30 tree fruit growers participants), Organized CO-2020 State Report NC-140 under the frame of Western Colorado Horticulture Society (WCHS) Annual meeting, WCRC-OM, Colorado State University, January 14, 2019, Grand Junction, CO.

Farcuh, M. Effect of Rootstocks on the Quality Characteristics of Honeycrisp Fruit Tree Fruit: Horticulture/Physiology Session. Mid-Atlantic fruit and vegetable convention, Hershey, PA, USA. February 10, 2021.

Farcuh, M. Evaluating the Use of Reflective Groundcovers on Fruit Quality of Honeycrisp and Fuji Apple Cultivars in the Mid-Atlantic. Young Grower Alliance Session. Mid-Atlantic fruit and   
vegetable convention, Hershey, PA, USA. February 9, 2021

Farcuh, M. Effect of Apple Maturity and Storage Temperatures on Fruit Quality. Bay Area Fruit School, Queenstown, MD, February 10, 2021

Peck, G. 2021 Hard Cider PWT Tour: Capital District Region. Tour stops included, Samascott Orchards (Kinderhook, NY), Indian Ladder (Altamont, NY), and Nine Pin Cider (Albany, NY). 25 Aug. Attendees: 85.

Robinson, T.L. 2021. Precision thinning: From dormant to rescue thinning. NY Fruit Conference, Feb. 4, 2021. (250 people).

Robinson, T.L. 2021. Plant new orchards for coming technology. NY Fruit Conference, Feb. 4, 2021. (250 people).

Robinson, T.L., L. Cheng, M. Miranda Sazo, C. Kahlke, M. Basedow, C. Watkins. 2021. A statewide effort in 2021to manage crop load, nutrient status, and bitter pit of Honeycrisp. NY Fruit Conference, Feb. 4, 2021. (250 people).

Robinson, T.L., L. Cheng, M. Miranda Sazo, C. Kahlke, M. Basedow, C. Watkins. 2021. A multipronged strategy to manage Honeycrisp in 2020. NY Fruit Conference, Feb. 4, 2021. (250 people).

Schupp, J. 2021. Results from REDpulse defoliation trial. Presented at the virtual Penn State Winter Commercial Tree Fruit School, 22 Feb 2021.

Schupp, J. 2021. New technologies for peach production. Presented at the virtual Penn State Winter Commercial Tree Fruit School, 1 March 2021.

Schupp, J. 2021. Future Directions for Peach Training Systems. Presented at the virtual Cornell Extension Stone Fruit Training Systems Workshop, 16 March 2021.

Schupp, J. 2021. Chemical Thinning Considerations for 2021. Presented at the 2021 Virtual Orchard Meeting II, 6 May 2021.

Schupp, J. 2021. Peach rootstock demonstrations. Linvilla Farms, Media, PA, July 7, 2021 Hilltop Orchards, York Springs, PA, July 22, 2021 Shenot Farm, Wexford, PA, July 28, 2021

Schupp, J., M. Farcuh, B. Slaybaugh and J. Cline. Color enhancing technologies for apples: Reflective fabrics and defoliators – Grower panel presented at the virtual Mid-Atlantic Fruit and Vegetable Conference, 10 Feb 2021.

Schupp, J. 2021. Enhancing Competitiveness of Pennsylvania Peach Growers with Improved Growing Systems and Size-Controlling Rootstocks. Penn State Ag Council College of Ag Sciences Research Tour. Fruit Research and Extension Center, Biglerville, PA 30 Sept 2021.

Reighard, G.L. 2021. Cropping southeastern peaches consistently under a warming climate. Southeast Regional Fruit & Vegetable Conference. Virtual. Jan. 7, 2021.

Black, B. “Research Update: rootstocks, models and HD cherries” Utah State Horticulture Association annual conference (virtual) meeting. 21 Jan 2021 (attendance unavailable, typically 90+).

Black, B. “Micro-scale Fruit Farming,” Micro-scale farming session, Utah Urban and Small Farms Conference. Virtual Meeting 1 March 2021 (205 participants).

Bradshaw, T. New England Cider Apple Project: Early results. Northeast Integrated Pest Management (IPM) Research Update Conference (online). 3/31/ 2021

Bradshaw,T. All about crabapples. Friends of the UVM Horticulture Farm Workshop.3/20/2021

Bradshaw, T. Tree Row Volume: What it is, why it matters, and how to use it. New England Winter Fruit Seminar Series. 3/23/2021

Bradshaw, T. Apples. Vermont Agriculture and Food System Strategic Plan presentation to the House & Senate Agriculture Committee. 2/11/2021

Bradshaw, T. Cider apples in 2021: Where do we Stand? New England Winter Fruit Seminar Series. 2/09/2021

Casagrande Biasuz, E., Lee Kalcsits. Rootstocks Affect the Hydraulic System in Malus domestica Borkh. with Downstream Consequences to Gas Exchange, Isotope Composition, and Growth.

Evans K (2021) Pear rootstock and apple scion breeding. WSU Research Experience and   
Education Undergraduate program field visit. July 9th, 2021.

Griffin A. (Advisor Prof. Stefano Musacchi) presented his seminar titled “Apple Rootstocks: Tools for Orchard Management (A rootstock review) and graduated in M.S. in Agriculture on August 12th 2021.

Kalcsits, L. Rootstock Choice Strongly Affects Bitter Pit Incidence in Honeycrisp. Washington   
State Tree Fruit Association Annual Meeting. December 6th, 2020.

Musacchi S. (Author & Presenter), How to Optimize Fruit Quality in Modern Apple Orchards: The Roles of Light, Training System, Rootstocks, and Crop Load. Robert Carlson Lecture. 2021 IFTA Annual Conference. Wednesday, Feb 24th, 2021.

Musacchi, S. 14o SENAFRUT (Brazil) Virtual Conference. November 17,   
2020, "Rootstocks and Training Systems for Modern Apple Orchards," SENAFRUT, Virtual, Brazil. (November 17th, 2020).   
Teh SL (2021) Pear rootstock breeding. HORT 503 Guest Lecture (virtual format). November 15th, 2021.

Teh SL C (2021) Overview of WSU apple scion and pear rootstock breeding programs. Field Tour – Cascade Christian Academy High School. Orondo, WA. May 4th, 2021.

Teh SL, Evans K, Dhingra A (2021) WSU pear rootstock breeding – continuing report. Northwest Pear Research Review (virtual format). February 17th, 2021.

Victor Blanco, Terence Robinson, Sherif Sherif, Brent Black, Jon Clements, Rob Crassweller, Essie Fallahi, Renae Moran, Megan Muehlbauer, Dwight Wolfe, Hao Xu, Lee Kalcsits. Rootstock and growing environment affect fruit nutrient profile and bitter pit incidence of apple. International Society of Horticultural Sciences Symposium on Mineral Nutrition of Fruit Crops. June 29th, 2021

Lang, G.A. 2021. Orchard Systems for Labor Efficiencies and Profits. Cherry Institute, Washington State University & Washington State Fruit Comm., Jan 12 (virtual).

Lang, G.A. 2021. Tart and Sweet Cherry Rootstocks and Production Systems That Optimize Labor Efficiency, Yield Consistency, and Fruit Quality. Northwest Michigan Orchard and Vineyard Show, Jan 19 (virtual).

Lang, G.A. 2021. The Evolution of Sweet Cherry Production Systems: Training Innovations, Efficiencies, and Their Physiological Basis. Mid-Atlantic Fruit and Vegetable Conference, Feb 11 (virtual).

Lang, G.A. 2021. MSU Peach Tree Training Project Update. Michigan Spring Peach Meeting, March 9 (virtual).

Lang, G.A. 2021. The Evolution of Sweet Cherry Production Systems*.* NY Stone Fruit Workshop, March 16 (virtual).

Lang, G.A. 2021. The Future of Sweet Cherry Orchard Systems. Holovousy Cherry Field Day, Czech Republic, Jun 23 *(virtual*).

Lang, G.A. 2021. Management for Orchards With and Without Cover Systems and the Expected Effects by Zone: Physiological Considerations. UC-Davis/Chile Extension program, July 8 (virtual).

Lang, G.A. 2021. New Technologies in Cherry Production. Fedefruta Fruittrade annual show, Sept 28 (virtual).

Lang, G.A. 2021. Optimizing Fruit Tree Architecture for Production Efficiencies, ICT Adaptation, High Yields and Premium Quality Fruit. Smart AgriTechnology Expo, Bosnia, Nov 16 (virtual).

B. Sallato, A. Wallis, and M. Miranda Sazo. 2021. Honeycrisp Virtual Meet-up: Crop Load Management. Jun 3 (virtual).

Wallis, A., B. Sallato, M. Miranda Sazo. 2021. Honeycrisp Virtual Meet-up: Rootstocks. Jun 17 (virtual).

B. Sallato, M. Miranda Sazo, and A. Wallis. 2021. Honeycrisp Virtual Meet-up: Nutrient Management. Jul 1 (virtual).

Miranda Sazo, M., A. Wallis, and B. Sallato. 2021. Honeycrisp Virtual Meet-up: Harvest and Storage. Jul 15 (virtual).

**Videos**

Youtube video: <https://www.youtube.com/watch?v=N47sGkVgeqA&t=6s>

**Webinars**

Coneva, E. 2020. First Season Yield of ‘Cresthaven’ Peach on Semi-Dwarf, Pest Resistant Rootstocks. Beginning Farmer webinar series of the Commercial Horticulture Team, Alabama Cooperative Extension System, Feb. 24

Robinson, T.L. 2021. Opportunities for stone fruits for NY. Cornell Cooperative Extension Webinar. March 21, 2021. (Total of 100 people).

Robinson, T.L. 2021. Blossom thinning in 2021. Cornell Cooperative Extension Webinar. May 3, 2021. (Total of 100 people).

Robinson, T.L., L. Cheng, M. Miranda Sazo, C. Kahlke, and C. Watkins. 2021. Strategy for Managing Honeycrisp in 2021. Cornell Cooperative Extension Webinar. July 13, 2021. (100 people).

Robinson, T.L., M. Miranda Sazo and Kahlke, C. 2021. The Use of Plant Growth Regulators Near Harvest. Cornell Cooperative Extension Webinar. Aug. 11, 2021. (75 people).

Bradshaw, T. Adding Tree Fruit to a Diversified Farm. Vermont Vegetable and Berry Grower Webinar Series. 12/9/2020.

Musacchi, S. Honeycrisp Virtual Meetup #1 - Crop Load Management Part 2 (Stefano Musacchi, 6/12/2021) https://mediaspace.msu.edu/media/Honeycrisp+Virtual+Meetup+1+-  
+Crop+Load+Management+Part+2+%28Stefano+Musacchi%29/1\_cwn2k793.

**Fund leveraging**

Coneva, E. 2020. Assessing Innovative Size Controlling Rootstocks for Enhanced Efficiency of Peach Production Systems. USDA-NIFA-ADAI SCBG. Awarded $40,000.

Coneva, E. Assessing Size Controlling Rootstocks for Enhanced Efficiency of Peach Production Systems. Alabama Agricultural Experiment Station Production Agriculture Research Program Grants, Awarded $50,000.

Coneva, E. 2020. Size Controlling Peach Rootstocks for Alabama. The Alabama Nut, Fruit and Vegetable Industries. Awarded $5,000

Elkins, R. 2020. Rootstocks and orchard systems for European pears. California Pear Advisory Board (CPAB) and Pear Pest Management Research Fund (PPMRF). $30,622.

Montanari, S., K. Baumgartner, P. Brown, J. Postman, S. Wada. 2018 (completed in 2020). Finding sources of resistance to Armillaria mellea within the Pyrus Germplasm Collection. CDFA Specialty Crop Block Grant. $291.012.

Stover, J. 2020. Pear Genomics Research Network website support. CPAB. $1500.

Wada, S. 2020. Maintenance and conservation of pear (Pyrus) germplasm. 2020. CPAB. $19,760.

Minas, I. (PI), Grant, ‘Sustainable peach orchard soil microbiome management to control replant disease’ USDA/NIFA/Western SARE (2020): $350,000 (PI). awarded: Mar, 2020, start: Sep 1, 2020, end: Aug 31, 2023).

Minas, I. (PI), Grant, ‘Peach cold hardiness monitoring and management for improved grower frost control’ Specialty Block Grants, Colorado Department of Agriculture (CDA) (2020): $61,236 (PI). awarded: May, 2020, start: Jan 1, 2021, end: November 1, 2022).

Minas, I. (PI), Grant, ‘New training systems and rootstocks to maximize Colorado cherry orchards productivity and fruit quality potential’ Specialty Block Grants, Colorado Department of Agriculture (CDA) (2020): $53,539 (PI). awarded: May, 2020, start: Jan 1, 2021, end: November 1, 2022).

Minas, I. (PI), Grant, ‘Management strategies to maximize Colorado peach orchards productivity and fruit quality potential’ Specialty Block Grants, Colorado Department of Agriculture (CDA) (2019): $88,885 (PI). Awarded: May, 2019, start: Jan 1, 2020, end:   
November 1, 2021.

Chavez, D.J. 2021. Training systems trial in peach. GA Commodity Commission for Peaches. Funding: $4,000.00

Chavez, D.J., T.G. Beckman, and J.X. Chaparro. 2021. Development of peach and nectarine cultivars for Georgia. Cultivar Development Research Program – UGARF – University of Georgia. Funding: $16,000.00

Gasic, K., et al., D.J. Chavez. 2020-2024. Solutions to the Armillaria Root Rot Affecting the U.S. Stone Fruit Industry. USDA-SCRI. Total Funding: $4,972.730.00. UGA Funding: $223,243.00

Villanueva, Raul (PI), R. Bessin, Z. Viloria, W. Dunwell 2019-2022. Developing Management Strategies Against Invasive Ambrosia Beetles Affecting Apples and Nurseries in Kentucky. Kentucky Specialty Crop Block Grant. About $500 from this grant is being used to cover the cost of Ambrosia beetle research on trees that were previously a part of the 2010 NC-140 apple rootstock trial.

Warmund, M. and M. Kwasniewski. 2020-2021. Optimizing Cultivars and Processing for Hard Cider and Apple wines. MO Dept. of Agriculture $33,398.

Orchard management systems for improved yield and fruit quality – Sponsored by NY Apple Research and Development Program ($50,000).

Designer apple rootstocks – Sponsored by NY Farm Viability Institute. ($90,000).

Miller, D and A. Kirk. $5,000 Gift from Ohio Fruit Growers Marketing Association in support of NC-140 Hard Cider Rootstock trial.

Crassweller, R., J. Schupp. 2021. Rootstock and Cultivar Evaluations. State Horticultural Association of Pennsylvania $16,547

Crassweller, R., D. Smith 2021. Third Generation Apple System Trials. State Horticultural Association of Pennsylvania $10,500

Reighard, G. 2021. Guardian® rootstock seed sales revenue. South Carolina Foundation Seed. $283,199.

Gasic, K., C. Saski, G. Reighard, G. Schnabel, J. C. Melgar, et al. “Solutions to the Armillaria root rot threat affecting the U.S. stone fruit industry”. USDA-SCRI Standard Research and Extension Grant 2020-02650. September 1, 2020 to August 31, 2024. $4,972,73

Next Generation Support for Northeast Tree Fruit IPM Working Group. Northeast IPM Center. Apr 2021-Mar 2023. PD: T. Bradshaw, co-PIs Wallingford, A., Pinero, J., and J. van Zoeren. $19,760

New England Cider Apple Program: Optimizing Production for High-Value Markets. Northeast SARE Research and Demonstration Grants Program. PD: T. Bradshaw; Co-PIs: J. Clements, C. Cooley, R. Moran, J. Pinero. September 2019 – August 2022. $229,867

Evans, K. A. Dhingra and S.L.Teh. (2019-2022): Pear rootstock breeding. Fresh and Processed Pear Committee Research. Budget: 321,643.

The, s.L. and K. Evans. (2020-2021) Pyrus seed stratification. Northwest Nursery Improvement Institute. PI: Budget: $9,070.

Wiepz, E. Wisconsin Cherry Board funding for maintenance of the 2020 NC140 Tart Cherry High Density Rootstock and Irrigation Trials. $2,500

Moran, R. 2021-2023. Peach Variety Testing and Development for a Local Market. Specialty Crops Research Initiative Block Grant, Maine Dept. of Ag. Forestry and Conservation. $52,402.

Einhorn, T. 2021 Optimizing tree quality for early orchard establishment, Michigan Apple Committee (MAC)- $14,914.

Einhorn, T. 2021. Matching New Rootstock Traits (Dwarfing, Productivity, Disease Resistance) to Michigan Needs, Michigan State Horticulture Society- $14,156.

Einhorn, T., Musacchi, S., Chang, Y., Galimba, K. 2021-2023. Field evaluation and propagation of novel cold hardy quince rootstocks, WTFRC-NW Pear, $270,000.

Lang, G.A. and W. Shane. 2021-23. Orchard Innovations to Sustain Michigan Peach/Nectarine Industry Profitability. USDA-MDARD-SCBGP $90,526.

Lang, G.A. and T. Einhorn. 2020-22. Implementation of Precision Decision Support Systems to Protect and Optimize Michigan Tree Fruit Production. USDA-MDARD-SCBGP $99,119.

Einhorn, T. and G.A. Lang. 2019-21. Development of Precision Decision Support Systems to Protect and Optimize Michigan Tree Fruit Production. USDA-MDARD-SCBGP $99,950.

Lang, G.A. 2021. Tart and Sweet Cherry Orchard Systems That Optimize Labor Efficiency, Production Consistency, and Fruit Quality. Michigan Cherry Committee. $8,282.

Lang, G.A. 2021. Optimizing Planar Sweet Cherry Orchard Technologies and Efficiencies. International Fruit Tree Association. $8,000.

Lang, G.A. and W. Shane. 2021. Advanced Peach/Nectarine Rootstocks and Orchard Systems. International Fruit Tree Association. $6,000.

Lang, G.A. 2021. Optimizing Future Stone Fruit Production Systems. Michigan State Horticultural Society. $10,165.