



1. List your research and extension projects under the official NCCC 212 objectives, emphasizing collaborative projects with other researchers.

Objective 1 - Develop improved small fruit germplasm through cooperative breeding and evaluation programs:

N/A

Objective 2 - Develop practices for small fruit production tailored for climatic and market needs of growers.

Strawberry:

Advancing Strawberry Production in the Northeast. R.G. Sideman and K.M. Orde, University of NH, Durham NH; L. McDermott, Cornell Cooperative Extension, Hudson Falls NY; E Hodgdon, Cornell Cooperative Extension, Plattsburgh NY; D. Conner, University of VT, Burlington VT.

Grapes:

Yield and performance of seedless table grape cultivars grown in two training systems (Munson and VSP) in New Hampshire. NH Agricultural Expt. Station, Hatch Project NH00685. R.G. Sideman, M. Cogswell and K.M. Orde, University of NH, Durham NH; G. Hamilton, University of NH Extension, Goffstown NH.

Other small fruit crops:

Feasibility of in-ground production of fig in USDA hardiness zone5B using various winter protection strategies. NH Agricultural Expt. Station, Hatch Project NH00685. R.G. Sideman, University of NH, Durham NH.

Objective 3 - Evaluate pre- and postharvest fruit quality components, including enhanced flavor, texture/firmness, shelf life, and phytonutrients.

N/A

Objective 4 – Identify opportunities and collaborate on the development of extension resources for multistate, regional, national, and/or international audiences.

Strawberry:

Advancing Strawberry Production in the Northeast. R.G. Sideman and K.M. Orde, University of NH, Durham NH; L. McDermott, Cornell Cooperative Extension, Hudson Falls NY; E Hodgdon, Cornell Cooperative Extension, Plattsburgh NY; D. Conner, University of VT, Burlington VT.

2. Include any data, germplasm/cultivar descriptions, research results, etc. that you would like to discuss at the meeting.

Strawberry: As part of a new collaborative project with colleagues in NY, VT, NH and ME, we have worked on three objectives: 1) on-farm evaluation of low tunnels to enhance fruit quality for June-bearing strawberry; 2) evaluating winter protection strategies for cold-climate strawberry

production, and 3) updating the Strawberry Production Guide for the Northeastern US and Canada.

Grape: In 2015, we established a research vineyard containing eight seedless table grape cultivars using two training systems: vertical-shoot positioning (VSP) and Munson (M). During the past five years, we assessed vine vigor and incidence of diseases and insect pests, and collected yield data. We have observed significant differences among varieties in incidence of powdery mildew, downy mildew, and anthracnose, as well as in fruit yield and quality. We found that the VSP training system reached harvest maturity at least one year earlier than the other systems, thus increasing early yield potential; but vines trained to the MM system have produced higher annual yields once established. In the past year, we established a new replicated trial within this vineyard evaluating newer seedless table grape cultivars.

Fig: We have just begun to study systems of winter protection of figs grown in-ground, and to investigate the effects of different protection strategies on growth and fruiting patterns for four fig cultivars. Over the past two winters, we measured the effects of different winter protection systems (winter blankets, heavy rowcover, leaves, low tunnels, and high tunnels) on overwinter survival and subsequent plant growth and fruit set for several fig cultivars. We observed significant effects of protection system (but not cultivar) on winter survival, and significant effects of both production system AND cultivar on fruit set and timing of fruit ripening. We published a preliminary report describing our results, and plan to continue work evaluating pruning systems.

3. List retrievable or archived publications arising from your collaborative research and extension projects.

- Orde, KM, R Marini, K Demchak and RG Sideman. 2021. 'Albion' strawberry responds to mulch treatments and low tunnels covered with photoselective films. *HortScience*, 56(9):1005-1014. <https://doi.org/10.21273/HORTSCI15886-21>
- Orde, KM and RG Sideman. 2021. Winter survival and second-year spring yields of day-neutral strawberry in the Northeast are influenced by cultivar and the presence of low tunnels. *HortTechnology* 31(1):77-88. <https://doi.org/10.21273/HORTTECH04734-20>
- Sideman, R.G. UNH Extension Research Report: Figs for cold climates – 2021. Published April 2021. <https://extension.unh.edu/resource/research-report-figs-cold-climates-2021>.