# Supplement to *HortScience* Volume 55(9) September 2020

This supplement contains the abstracts of presentations from the following National Conference and Regional Meetings of the American Society for Horticultural Science

## **ASHS Annual Conference**

### Southern Region-ASHS Annual Meeting

January 31-February 2, 2020, Louisville, KY......S376

# Northeast Region-ASHS Annual Meeting

January 6-January 9, 2020, Philadelphia, PA......S436

Please note that abstracts from the **2020 Northeast Region-ASHS Annual Meeting** are reprinted with permission from the "PROCEEDINGS – VOLUME 5, THE NORTHEASTERN PLANT, PEST, AND SOILS CONFERENCE, 2020." And can be accessed online at https://neppsc.org/wp-content/uploads/2020-NEPPSC-Proceedings-FINAL.pdf

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# **Abstracts of Presentations**

### from the

# Annual Conference

### of the

American Society for Horticultural Science 10 August–13 August, 2020

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### Day 1:

### Day 2:

### Day 3:

### Day 4:

For citation purposes, abstracts should be cited as shown in the following example:

Bachman, G.R., Coker, C.E.H., and Knight, P.R. 2020. Horticulture CSI: The Latest Clues in the Search for the Long Beach Red Radish. HortScience 55(9) S8. (Abstr.)

American Society for Horticultural Science 1018 Duke Street Alexandria, VA 22314 phone: 703-836-4606 fax: 703-836-2024 ashs.org ashs@ashs.org berries (2.21g) had higher berry weight than sprayed berries (2.05g) across all sampling dates, but this trend was not seen in 2019. Sprayed berries had greater skin elasticity than control berries regardless of sampling date in 2018 and 2019. The anthocyanins malvidin-, delphinidin-, and petunidin-3-glucoside made up 70% of total anthocyanins in 'Chambourcin' grapes. Sprayed berries had greater concentrations of individual and total anthocyanins during ripening and at harvest in 2018 and 2019. Therefore, inactive yeast application has potential for more desirable composition at harvest, potentially thicker, more flexible skins, and greater amounts of red-colored anthocyanin compounds for 'Chambourcin' grapes.

#### Effect of Sand Injection and Air Injection on Soil Physical Properties of Creeping Bentgrass Putting Green

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Cultivation practices such as hollow tine core aerification, verticutting, and topdressing have been traditionally used to maintain desirable rootzone physical properties and reduce organic matter build up. Traditional aerification practice can be overly disruptive to the playing surface resulting in fewer rounds of golf being played. Alternative aerification technologies such as Sand Injection and Air Injection has recently been introduced which are less disruptive to playing surface compared to traditional aerification practices. The objective of this study was to determine the effect of a sand injection and air injection on soil physical properties of creeping bentgrass putting green. The experiment was conducted in an existing Penncross creeping bentgrass [Agrostis stoloniferous L.] green at Oklahoma State University Turfgrass Research Station. Aerification events included the application of Sand Injection, Air Injection, and hollow tine alone, hollow tine plus air injection, and hollow tine plus sand injection. The treatments were arranged in a randomized complete block design with four replications of each treatment. Parameters evaluated were assessments of soil volumetric water content, surface firmness, infiltration using double-ring infiltrometer with falling head method, ball roll, rooting mass and soil organic matter content. Hollow tine and treatment that combine hollow tine had a higher infiltration rate, greater reduction in firmness, and lowest ball roll. Air injection had lower impact on surface disruption and ball roll than hollow tine and sand injection. It can be concluded that new cultivation practices could be combine with hollow tine to improve soil physical properties with minimum surface disruption compared to control.

#### Water Use Pattern and Intrinsic Antioxidant Machinery Confer Tetraploid Volkamer Lemon Tolerance to Various Water-deficit Scenarios

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Water deficiency affects the growth and development of many crops. Citrus is a major global fruit crop and its production is reduced by water paucity. The use of polyploid citrus rootstocks has been proposed as a strategy to improve water-deficit resilience. Although tetraploid rootstocks have been found to be more waterdeficit tolerant, the mechanisms of these dynamics are unknown, including how they respond to rapid vs. slow onset of water deficts. In this study, diploid (2x) and tetraploid (4x) Volkamer lemon (Citrus volkameriana Tan. and Pasg.) plants were evaluated under fast and slow onset water-deficit conditions to observe their water use pattern and antioxidant defence machinery. The 2x plants showed more decline in pot water and chlorophyll fluorescence Fv/Fm (pre-dawn) as compared to the 4x. Decreases in these variables were greater in fast the water deficit condition relative to the to slow water deficit condition. Leaf relative water content also decreased in relation with decrease in pot water. The decrease in leaf relative water content was greater in 2x as compared to 4x. Malondialdehyde content in leaves was also greater in 2x plants as compared to 4x, which indicated that 2x have more lipid peroxidation, and thus more oxidative stress, than 4x. Catalase activity and proline content in leaves were greater in 4x plants than 2x in fast and slow treatments. We conclude that Volkamer lemon 4x tolerate more in fast and slow water deficit condition by maintaining their water status protect against oxidative stress with high intrinsic antioxidant machinery.

#### Efficacy of Bagging as an Alternative Insect and Disease Management Tool for Peach (*Prunus persica* L.) in Florida

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