

comparing yield data, there was no significant difference in yield between BA and KT treatments among tested cultivars. When comparing cultivars regardless PGR treatments, significant differences were observed among cultivars. In order of increasing edible rhizome yield (root weight), CW produced the highest yield followed by KY and then HY. CW had significantly less biological root weight than that of either HY or KY. Based on our data, there was no significant impacts of in vitro PGR treatments on subsequent micropropagated ginger seedling growth and rhizome yield.

Specified Source(s) of Funding: USDA/NIFA

1:03 PM Genetic Variation of Bioactive Compounds and Phenotypic Responses in Peony (*Paeonia lactiflora*) Cultivars

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Abstract: Peony is one of major medicinal plants that have been pharmacologically used for more than 1200 years in East Asia. Among *Paeonia* species, *Paeonia lactiflora*, in particular, has been reported for its effects on immune system, inflammation, oxidative stress, and so on. It is important to identify a better cultivar for industrialization of bioactive compounds associated with those effects. Thus, this study aimed to evaluate the relationship between bioactive compounds and phenotypic responses in five cultivars of peony (*Paeonia lactiflora*) in order to find potential biomarkers of a promising cultivar having higher medicinal value, that is to say, containing more bioactive compounds than others, along with plant performance. Plant height, stem diameter, and root weight were highest in 'Taeback' cultivar, compared with other cultivars. Paeoniflorin content was highest in 'Taeback' cultivar, while albiflorin content was highest in 'Sagok', compared with the other cultivars. The combined level of both bioactive compounds was highest in 'Taeback' cultivar. Paeoniflorin was negatively correlated with the number of stem which was positively correlated with root diameter. In addition, paeoniflorin was negatively correlated with total phenolic compounds which was positively correlated with total carbohydrates. Albiflorin was positively correlated with fructose and glucose but negatively with sucrose. Therefore, the results suggested that 'Taeback' and 'Sagok' cultivars could have considerable potential for industrialization of *Paeonia lactiflora*. Also, stem number and the contents of total phenolic compounds and total carbohydrates might be associated with paeoniflorin and albiflorin contents in peony plants. This work was supported by the grant from Research Fund (PJ01709004) of Rural Development Administration, Republic of Korea.

Specified Source(s) of Funding: Research Fund (PJ01709004) of Rural Development Administration, Republic of Korea

1:09 PM Chloroplast Genome Assembly and Molecular Marker Development in Wild-Simulated Ginseng (*P. ginseng*) in South Korea

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Abstract: *Panax ginseng* is a popular medicinal crop grown over a large area in the northern hemisphere. Wild-simulated

ginseng is of particular interest as a high-value-added crop due to its improved antioxidant activity, immunity-enhancing properties, and ability to control blood pressure compared to cultivated ginseng. To date, research on wild-simulated ginseng has mainly focused on its physiological activities and efficacy, whereas genetic research on this plant, such as genome and association analysis, has been lacking. We collected 14 ginseng cultivars and 30 wild-simulated ginseng individuals from Korean wild-simulated ginseng farms in an effort to assemble their chloroplast genomes and identify polymorphisms specific to wild-simulated ginseng. We assembled approximately 156 kbp of the chloroplast genomes from each of these plants and identified 17 polymorphic sites in their chloroplast genomes. We developed molecular markers based on these polymorphic loci (single nucleotide polymorphisms and insertion/deletions) and performed genotype analysis of the ginseng cultivars and wild-simulated ginseng individuals, laying the foundation for further genetic analysis of this important medicinal crop.

12:15 PM – 1:15 PM

Local Food Systems: Marketing and Economics (Poster)

Moderator: Jayesh Samtani,

12:15 PM Introductory Remarks

12:21 PM Come to the Table: Connecting Food, Farm, and Health

Eric Bendfeldt¹; Jayesh Samtani^{*1}; E. French Price²; Kim Niewolny¹; Becky Gartner²; Marcus Comer³; M. Nita¹; Thomas Bolles²; Andrea Wann²; Roy Flanagan²; Kenner Love² and Jeanelle Smith², (1)*Virginia Tech*, (2)*Virginia Cooperative Extension*, (3)*Virginia State University*

Abstract: The Come to the Table: Connecting Food, Farm and Health as a Virginia food value chain research and extension initiative supported by Virginia Tech's College of Agriculture and Life Sciences' 2021 Internal Integrated Competitive Grant Program had two primary objectives: 1) develop and formalize an internal integrated multi-disciplinary food system planning approach across CALS and VCE Planned Program Teams and 2) build capacity for trans-disciplinary coordination, cooperation, and collaboration across VCE Planned Program teams and the land-grant universities to strengthen comprehensive food value chain coordination and responsiveness from field-to-fork for greater food system and community resilience. Key short-term outcomes of this initiative included 124 faculty and personnel from CALS, Extension, University, ARECs, throughout Extension districts responding to the Virginia Community, Local, and Regional Food Systems Programming survey to gauge the relevance and importance of values-based impacts to their professional roles within food system programming. The eight values-based impacts included the following: agricultural profitability; economic development and innovation; food security; healthy people; justice and fairness; safe, nourishing food and water; and sustainable farmland and natural resources. Although agricultural profitability had the most rankings of primary relevance to programming, food security ranked the highest in relevance followed by safe, nourishing food and water, healthy people, sustainable farmland and natural resources, and then agricultural profitability. When asked what area of values-based impact needs the most attention in their communities, food security and healthy people ranked first and second. In addition to the Virginia Community, Local, and