PRASHANT BHANDARI

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EDUCATION

PhD in Horticultural Sciences, University of Florida Aug 2019 - May 2023 (expected)
Dissertation title: "Genetic architecture of horticultural traits in fresh-market tomato."
I performed my Ph.D. studies with Dr. Tong Geon Lee in applied tomato genetics to enhance genetic gain for fresh-market tomato yield by employing classical genetics/breeding disciplines and tomato genome data.

Bachelor of Science in Agriculture, Agriculture and Forestry University, Nepal 2014 - 2018

PUBLICATIONS

To enhance genetic gain for tomato yield
1. **Bhandari, P.**, Kim, J. Lee, T.G. Genetic architecture of fresh-market tomato yield. *BMC Plant Biology* 23, 18 (2023). https://doi.org/10.1186/s12870-022-04018-5
Significance and Role: Characterized genetic variations underlying variability in yield in contemporary tomato. I contributed to the methodology, data analysis, data visualization, and writing.

Resources for achieving applied genetics
2. **Bhandari, P.**, Shekasteband, R., Lee, T. G. (2022). A consensus genetic map and linkage panel for fresh-market tomato. *Journal of the American Society for Horticultural Science, 147*(1), 53-61.
3. **Bhandari, P.**, Lee, T. G. (2021). A genetic map and linkage panel for the large-fruited fresh-market tomato. *Journal of the American Society for Horticultural Science, 146*(2), 125-131.
Significance and Role: Constructed the first linkage and consensus linkage map of fresh-market tomatoes from elite breeding lines. I contributed to the data analysis, data visualization, and writing.

R workflow for model selection in QTL mapping
4. **Bhandari, P.**, Lee, T.G. postQTL: a QTL mapping R workflow to improve the accuracy of true positive loci identification. *BMC Research Notes* 15, 153 (2022). https://doi.org/10.1186/s13104-022-06017-z
Significance and Role: Integrated multiple statistical approaches in a reproducible workflow for increased accuracy of model selection in underpowered QTL studies. I contributed to the conception and design of the work, the acquisition, analysis, and interpretation of data, and drafted the work.

MANUSCRIPTS UNDER PREPARATION

*1. **Bhandari, P.**, Lee, T.G. Using machine learning and partial dependence to evaluate the robustness of best linear unbiased prediction (BLUP) for phenotypic values.*
***Significance and Role**: Detected confounds and non-linear relationships between field trial replications using interpretable machine learning diagnostic tools. I contributed to the conception and*

design of the work, the acquisition, analysis, and interpretation of data, and drafted the work.

2. ***Bhandari, P.****, Lee, T.G. Temperature fluctuation threatens large-fruit numbers in fresh-market tomato.*
Significance and Role*: Mapping a locus for large-fruit number in the colder fall season across populations. The effect of temperature fluctuation on the economically important trait underscores the extent of damage a changing climate can cause to the industry. I contributed to the conception and design of the work, the acquisition, analysis, and interpretation of data, and drafted the work.*

ORAL PRESENTATIONS

1. **Bhandari, P.**, Lee, T.G. (2022) Genetic architecture of agronomic traits in fresh-market tomato. The 2022 American Society for Horticultural Science annual conference.
2. **Bhandari, P.**, Shekasteband, R., Lee, T.G. (2021) A consensus genetic map and linkage panel for fresh-market tomato. The 2021 American Society for Horticultural Science annual conference.
3. **Bhandari, P.**, Lee, T.G. (2020) Development of a high-density genetic linkage map and a universal linkage panel of the US large-fruited, fresh-market tomatoes. The 2020 American Society for Horticultural Science annual conference.

TEACHING EXPERIENCE

University of Florida
Teaching Assistant, Bioinformatic Technologies (PCB7922) to Dr. Tong Geon Lee

PROFESSIONAL SERVICE

Membership
American Society for Horticultural Science (2019 - Present)
Reviewer
Scientia Horticulturae

AWARDS

Graduate Scholarship (fully funded) by Plant Breeding Graduate Initiative, University of Florida
Merit Scholarship for undergraduate studies (fully funded) by Agriculture and Forestry University

REFERENCES

Available upon request.