PRASHANT BHANDARI

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EDUCATION

PhD in Horticultural Sciences, University of Florida Aug 2019 - Spring 2023 (expected)
Thesis title: "Genetic architecture of horticultural traits in fresh-market tomato."
I did my Ph.D. with Dr. Tong Geon Lee studying recombination, association mapping, and genomic prediction of yield and fruit number trait in fresh-market tomatoes.

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

PUBLICATIONS

Understanding recombination rates within breeding lines (*S. lycopersicum X S. lycopersicum)*
1. **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.
2. **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 conducted the variant calling, data wrangling, and linkage mapping, and drafted the work.

R workflow for model selection in QTL mapping
3. **Bhandari, P.**, Lee, T. G. (2022). Postqtl: A qtl mapping r workflow to improve the accuracy of true positive loci identification. BMC research notes, 15(1), 1–7.
Significance and Role: Integrated multiple statistical approaches in a reproducible workflow to minimize false positives 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 REVIEW

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. (Status: under review; submitted to Molecular Horticulture on 16 Nov 2022)
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.**, Kim, J., Lee, T. G.. Genetic architecture of yield in fresh-market tomato. (Status: under review; submitted to BMC Plant Biology on 26 Sep 2022)
Significance and Role: Identified beneficial alleles and genomic regions for yield improvement. I contributed to acquiring phenotypic data, conducted genome-wide association mapping, and genomic prediction, and drafted the work.

MANUSCRIPTS UNDER PREPARATION

1. **Bhandari, P.**, Lee, T. G.. Temperature fluctuation threatens large-fruit number in fresh-market tomato. (Status: draft completed.)
Significance and Role: Mapped a QTL for large-fruit number detected in the colder fall season across populations. The massive effect of temperature fluctuation on the economically important trait underscores the extent of damage climate change 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. In the 2022 ASHS annual conference.
2. **Bhandari, P.**, Shekasteband, R., Lee, T. G. (2021). A consensus genetic map and linkage panel for fresh-market tomato. In 2021 ASHS 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. In the 2020 ASHS annual conference.

TEACHING EXPERIENCE

University of Florida
Teaching Assistant for PCB7922 Bioinformatic Technologies to Dr. Tong Geon Lee

PROFESSIONAL SERVICE

Membership
American Society for Horticultural Sciences (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