

Dissecting lentil crop growth in contrasting environments using digital imaging and genome-wide association studies

unpublished

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Derek Wright, Sandesh Neupane, Karsten Neilson, Tania Gioia & Kirstin E Bett. **Dissecting lentil crop growth in contrasting environments using digital imaging and genome-wide association studies.** *unpublished.* (2024) 00: 1-10

which is follow-up to:

- Sandesh Neupane, Derek Wright, Raul Martinez, Jakob Butler, Jim Weller, Kirstin Bett. **Focusing the GWAS Lens on days to flower using latent variable phenotypes derived from global multi-environment trials.** *The Plant Genome.* (2022) 16(1): e20269. doi.org/10.1002/tpg2.20269
- https://github.com/derekmichaelwright/AGILE_LDP_GWAS_Phenology

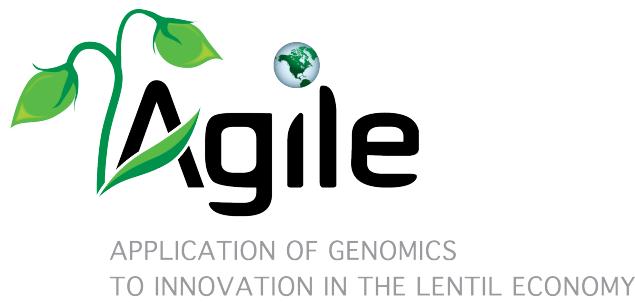
- Derek M Wright, Sandesh Neupane, Taryn Heidecker, Teketel A Haile, Clarice J Coyne, Rebecca J McGee, Sripada Udupa, Fatima Henkrar, Eleonora Barilli, Diego Rubiales, Tania Gioia, Giuseppina Logozzo, Stefania Marzario, Reena Mehra, Ashutosh Sarker, Rajeev Dhakal, Babul Anwar, Debashish Sarker, Albert Vandenberg, and Kirstin E. Bett. **Understanding photothermal interactions can help expand production range and increase genetic diversity of lentil (*Lens culinaris* Medik.).** *Plants, People, Planet.* (2021) 3(2): 171-181.
 - https://github.com/derekmichaelwright/AGILE_LDP_Phenology
-

- https://github.com/derekmichaelwright/AGILE_LDP_GWAS_Phenology
- View as pdf
- View as HTML
- Source Code Vignette (Growth_Rates_Vignette.html)

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AGILE & P²IRC Projects



Collaborators

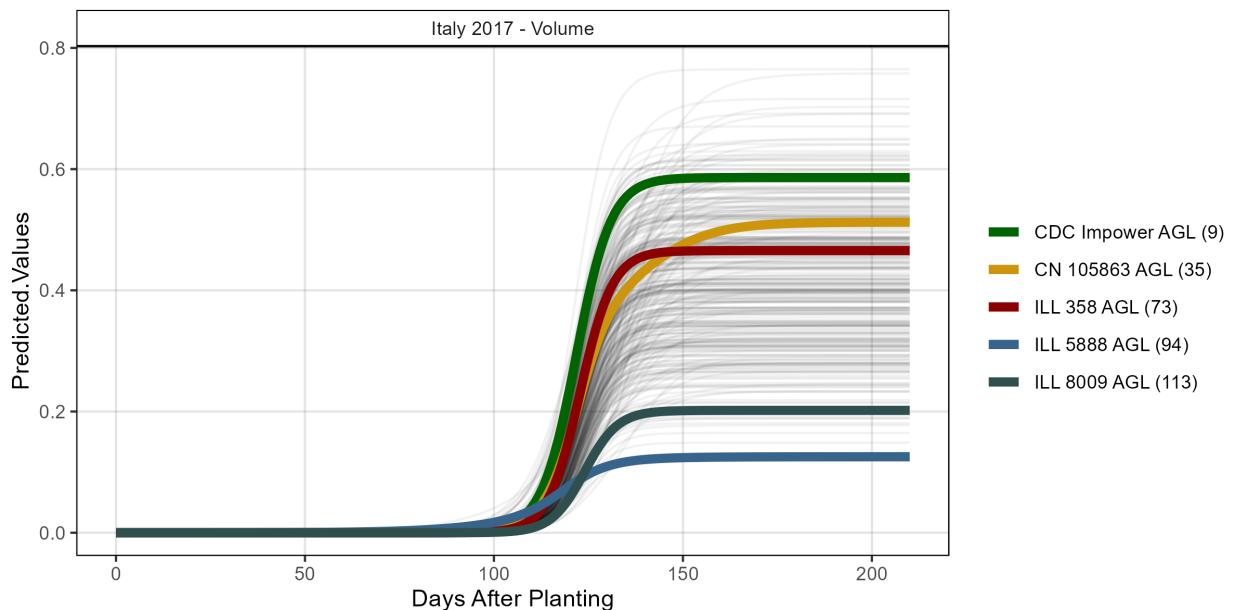
- Department of Plant Sciences and Crop Development Centre, University of Saskatchewan, Saskatoon, Saskatchewan, Canada
 - School of Agriculture, Forestry, Food and Environmental Sciences, University of Basilicata, Potenza, Italy
-

Raw Data & Growth Curve Modeling

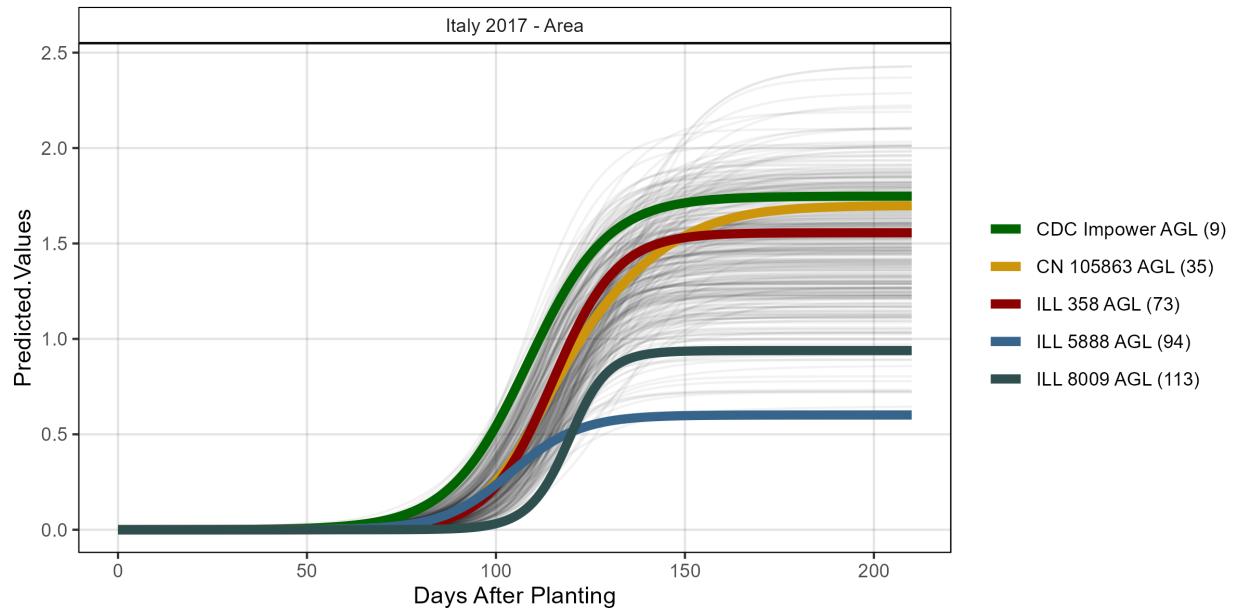
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Metaponto, Italy 2017

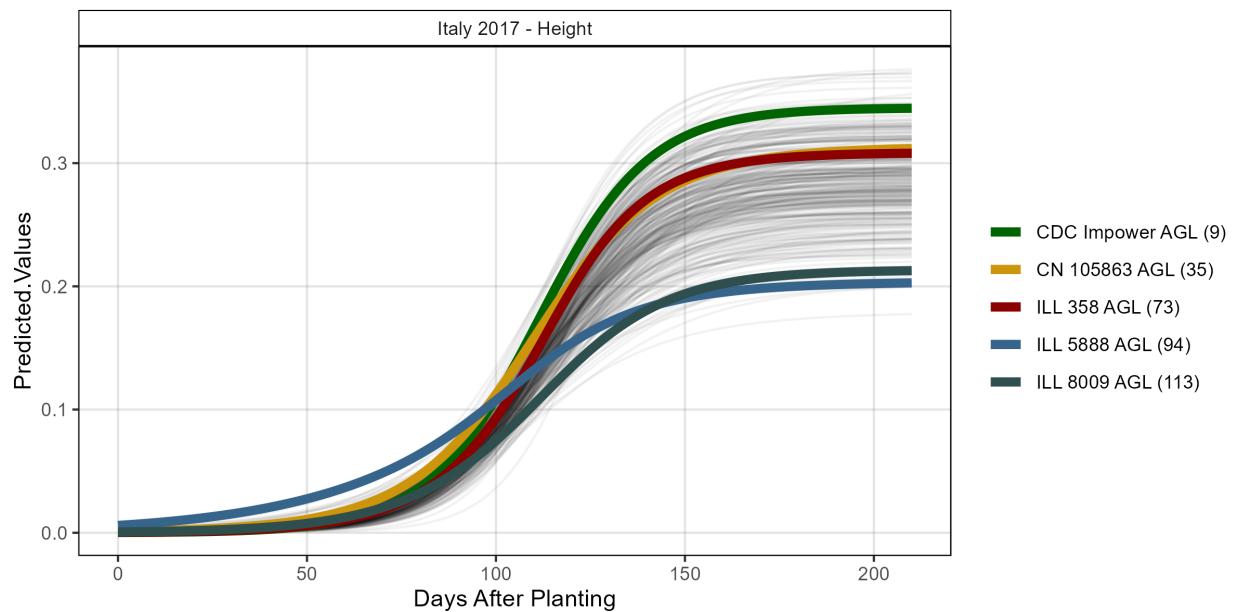
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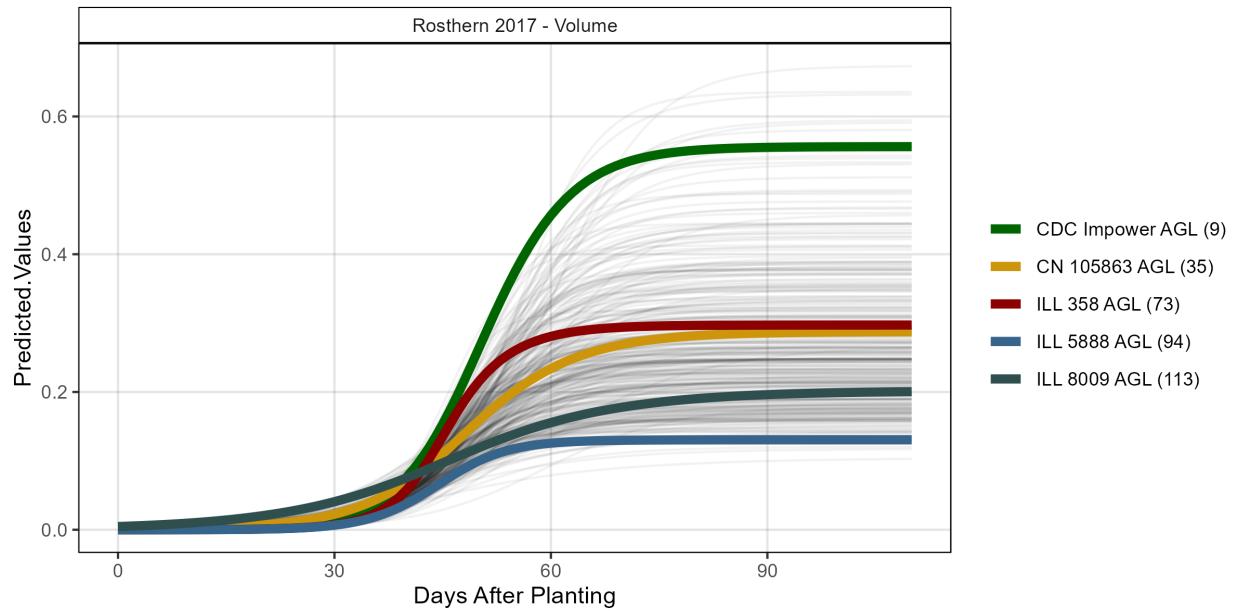


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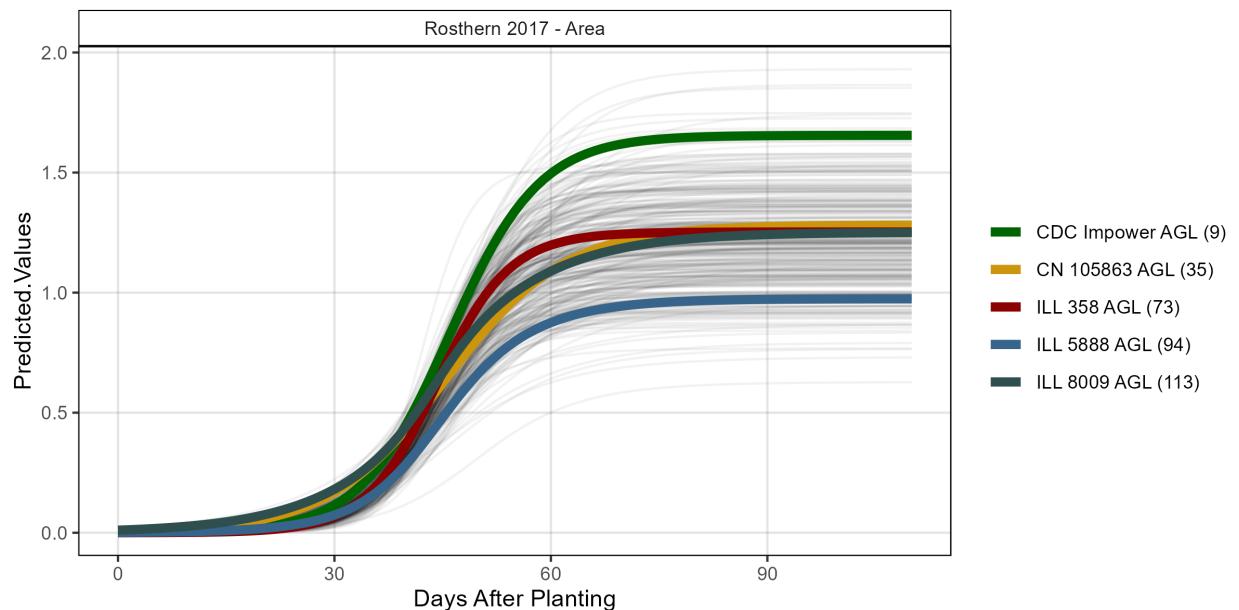


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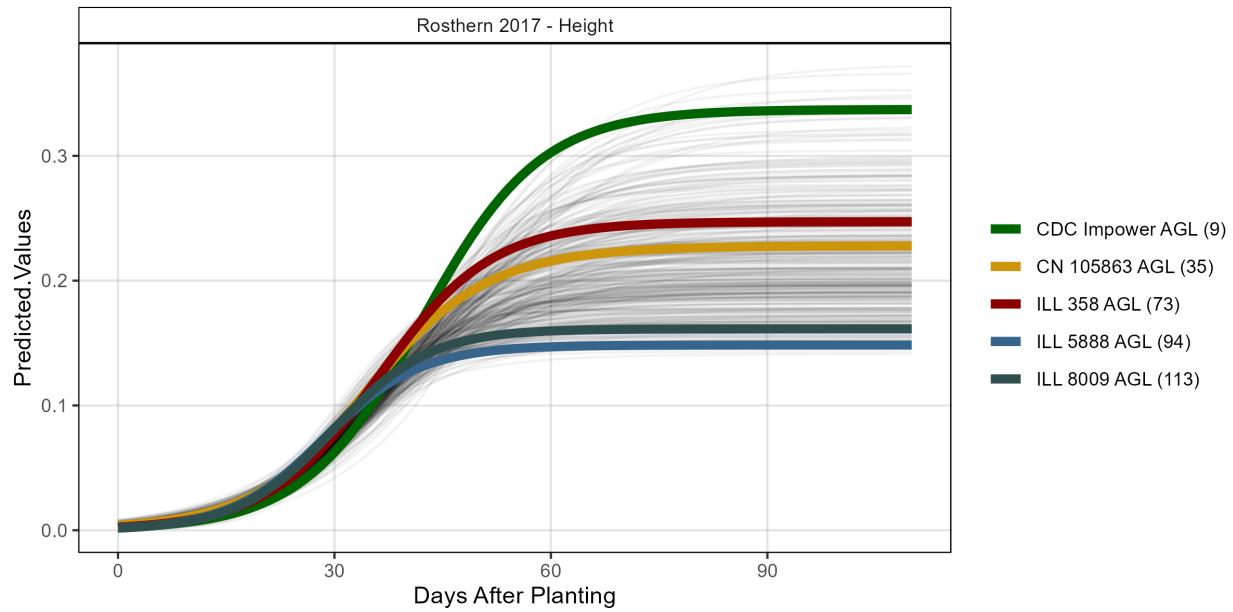
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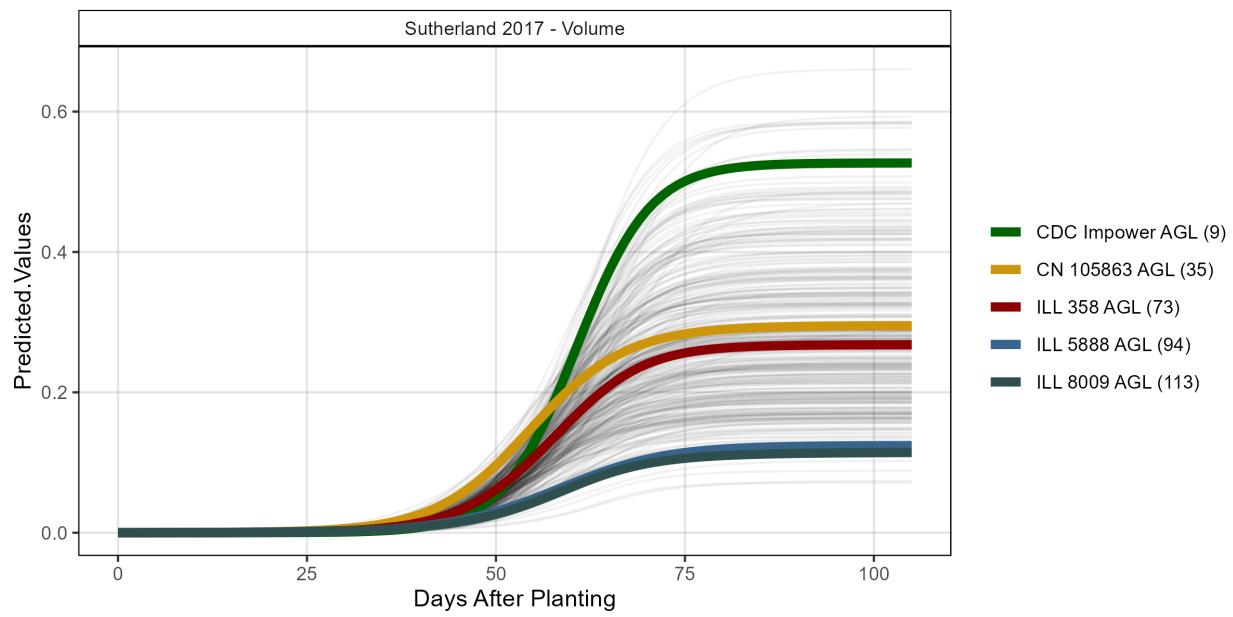


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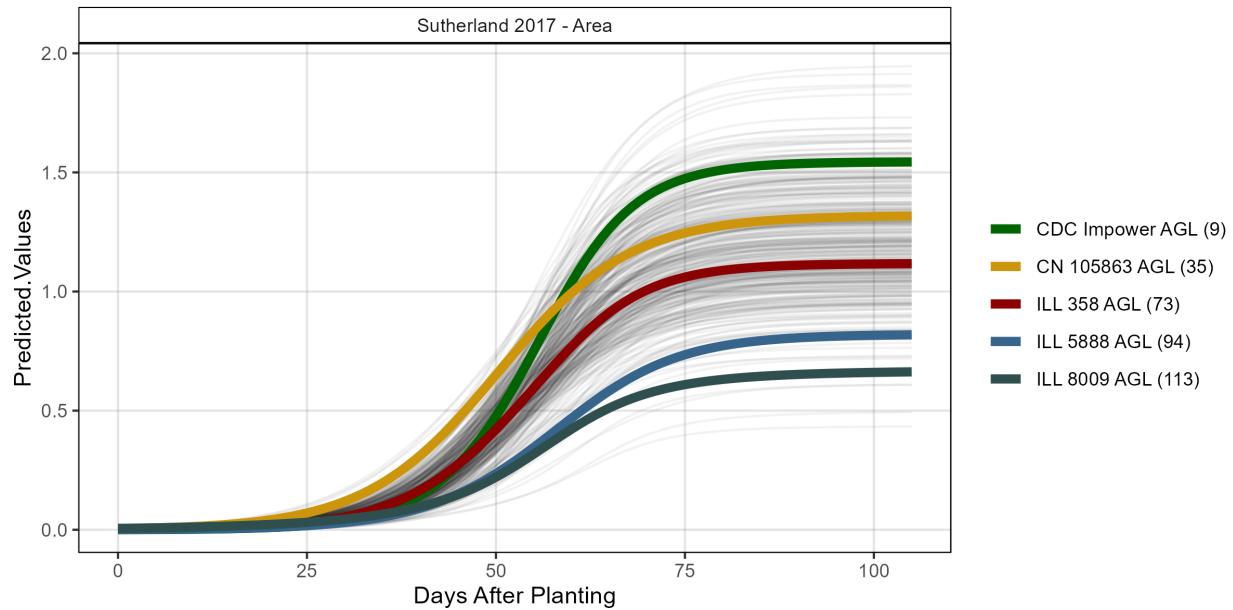


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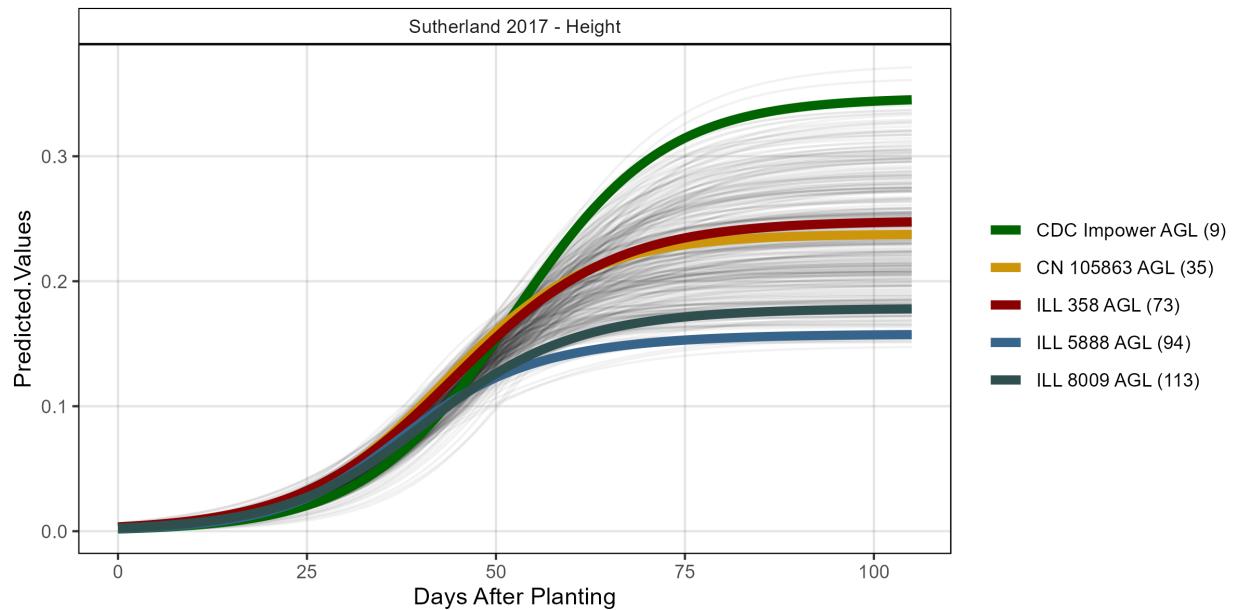
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Sutherland, Canada 2018

Figures

Figure 1

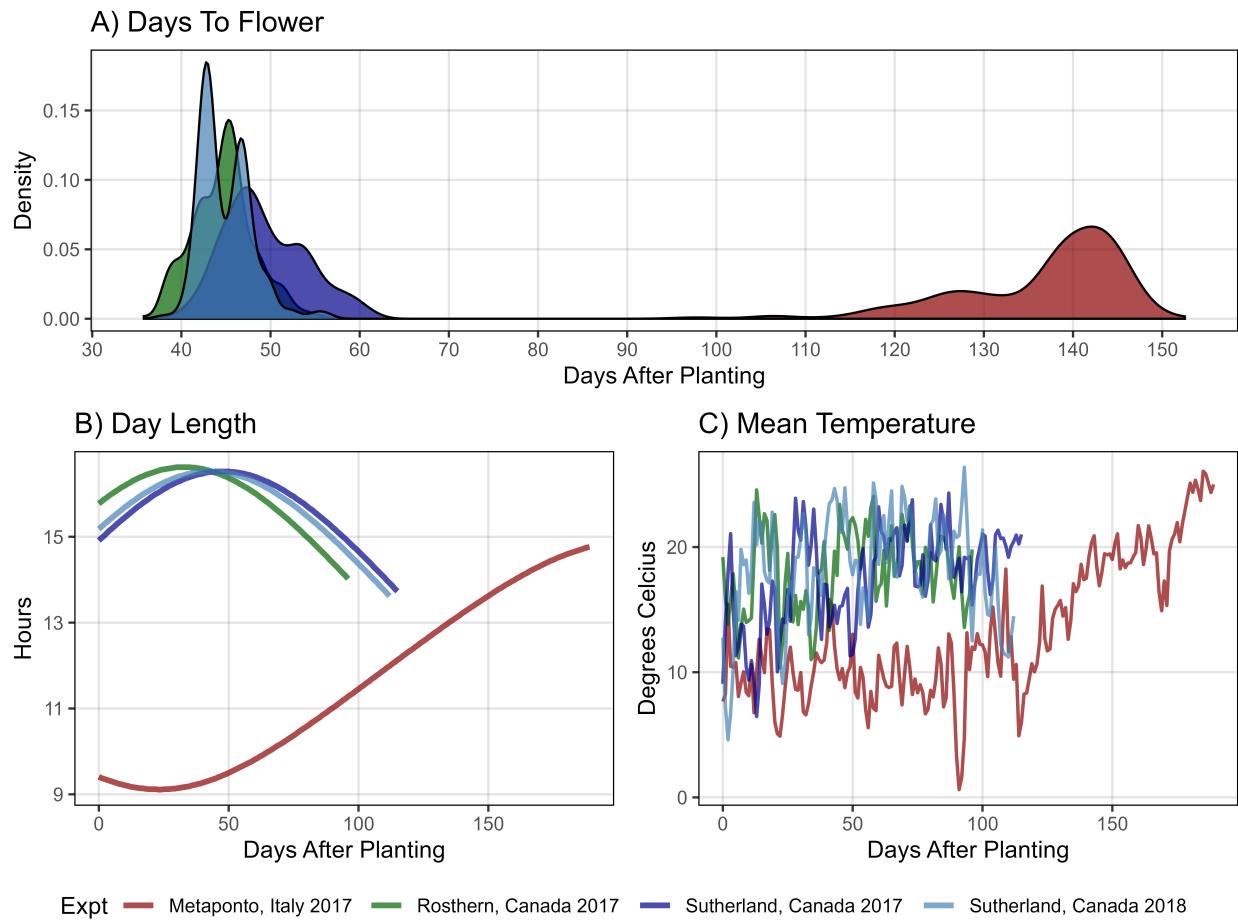


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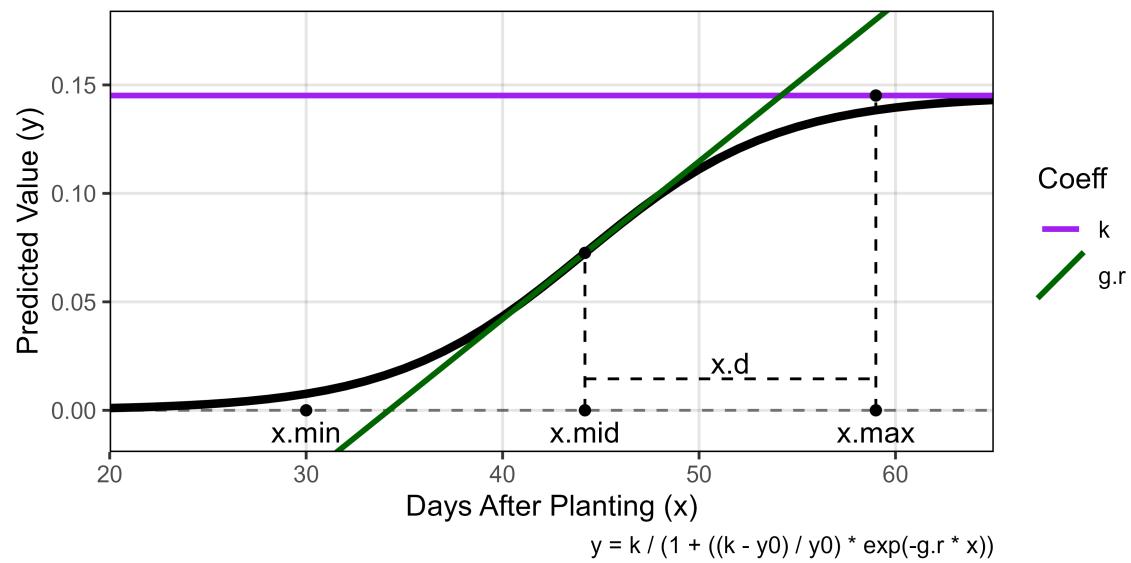


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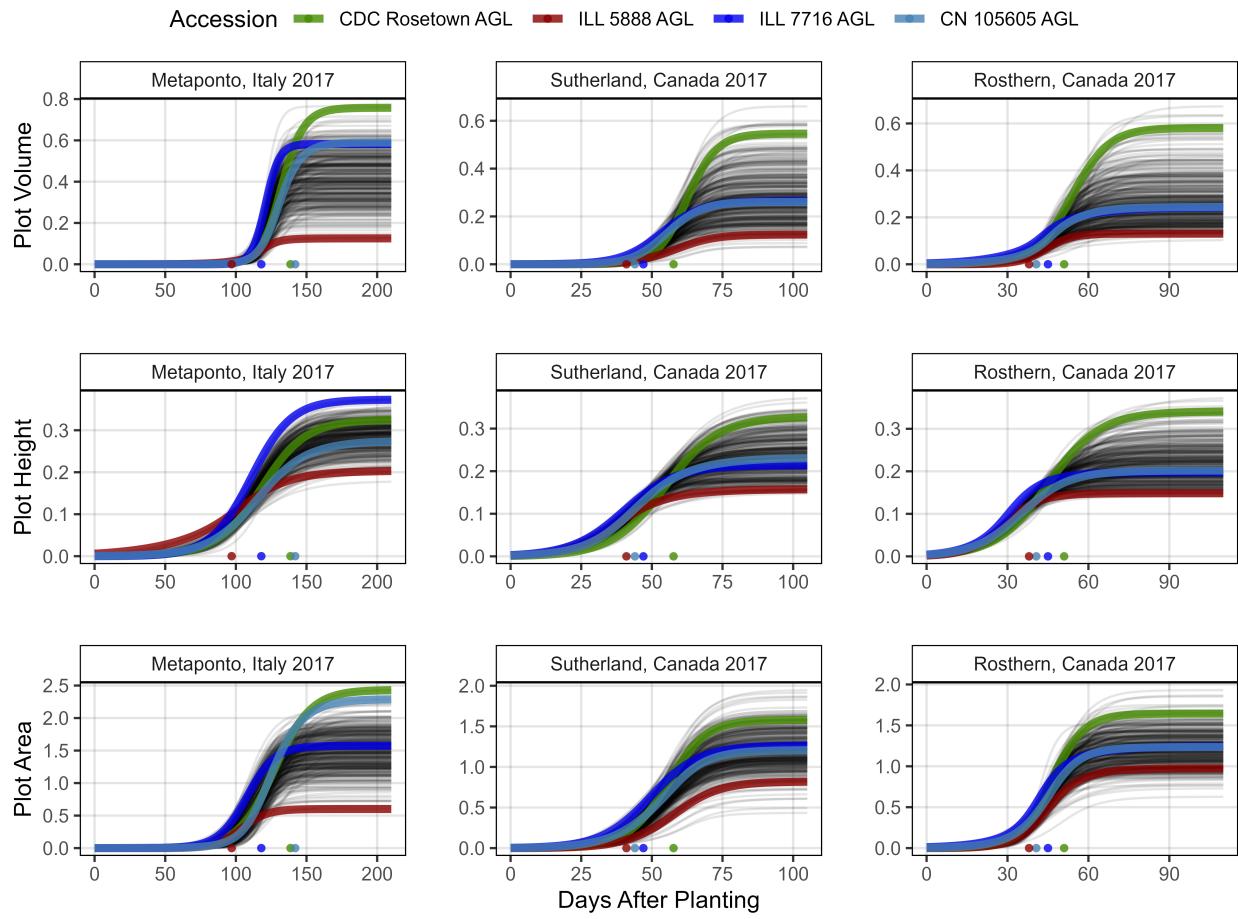
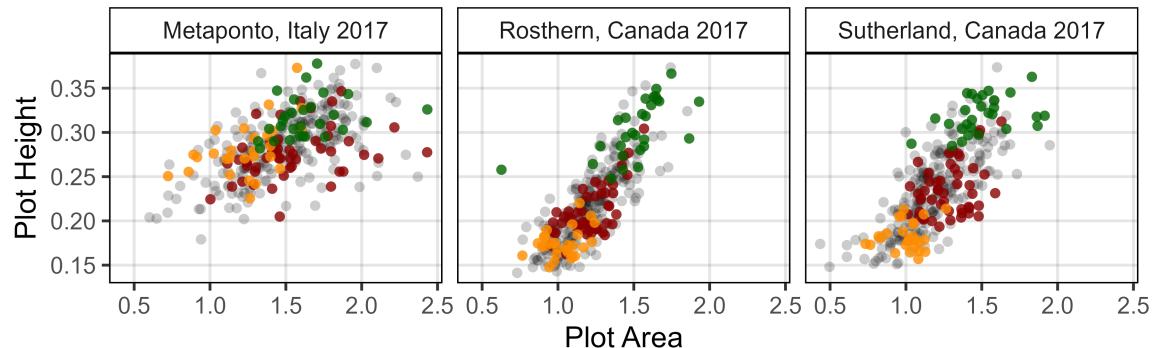


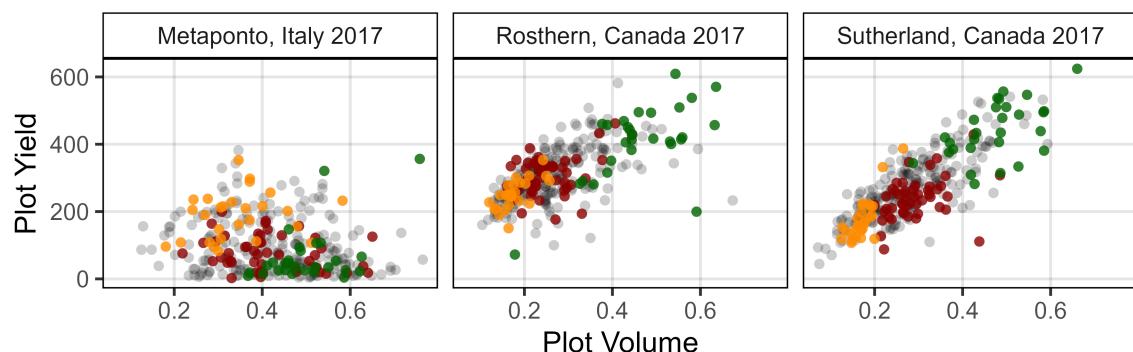
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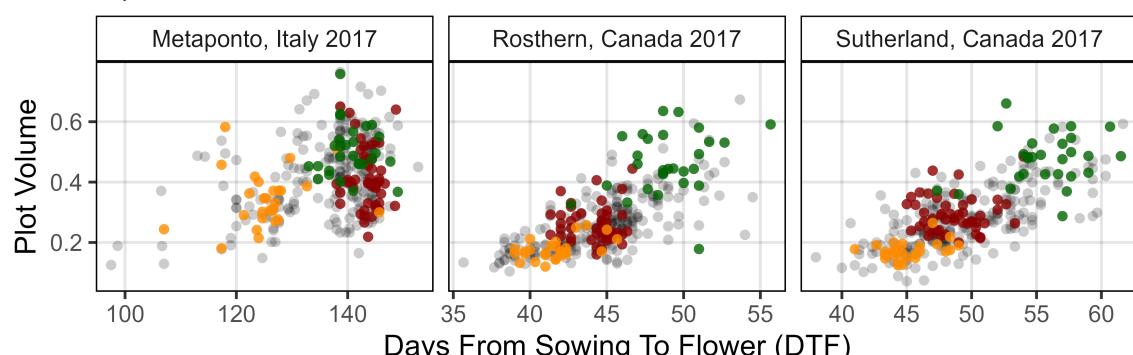
A) Height x Area



B) Yield x Volume



C) Volume x DTF



Accession Origin ● Canada ● India ● Iran ● Other

Figure 5

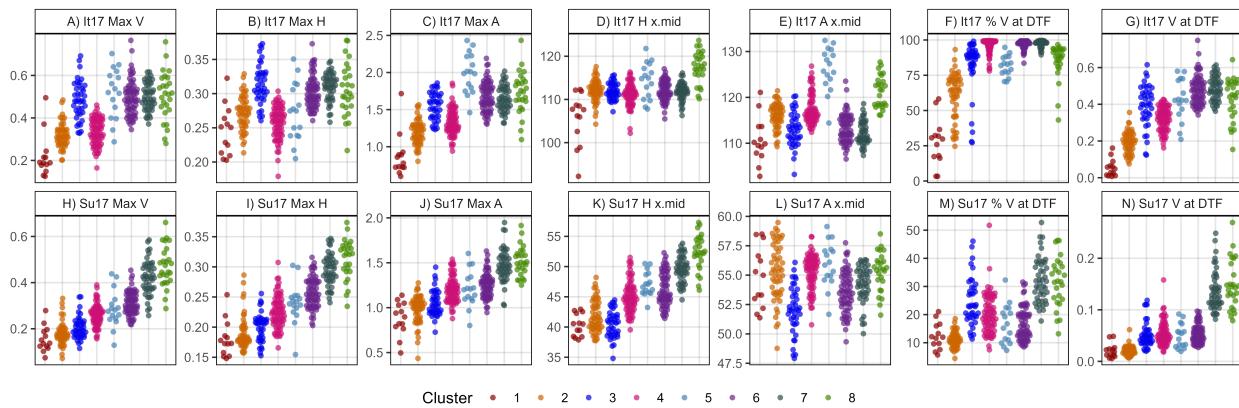


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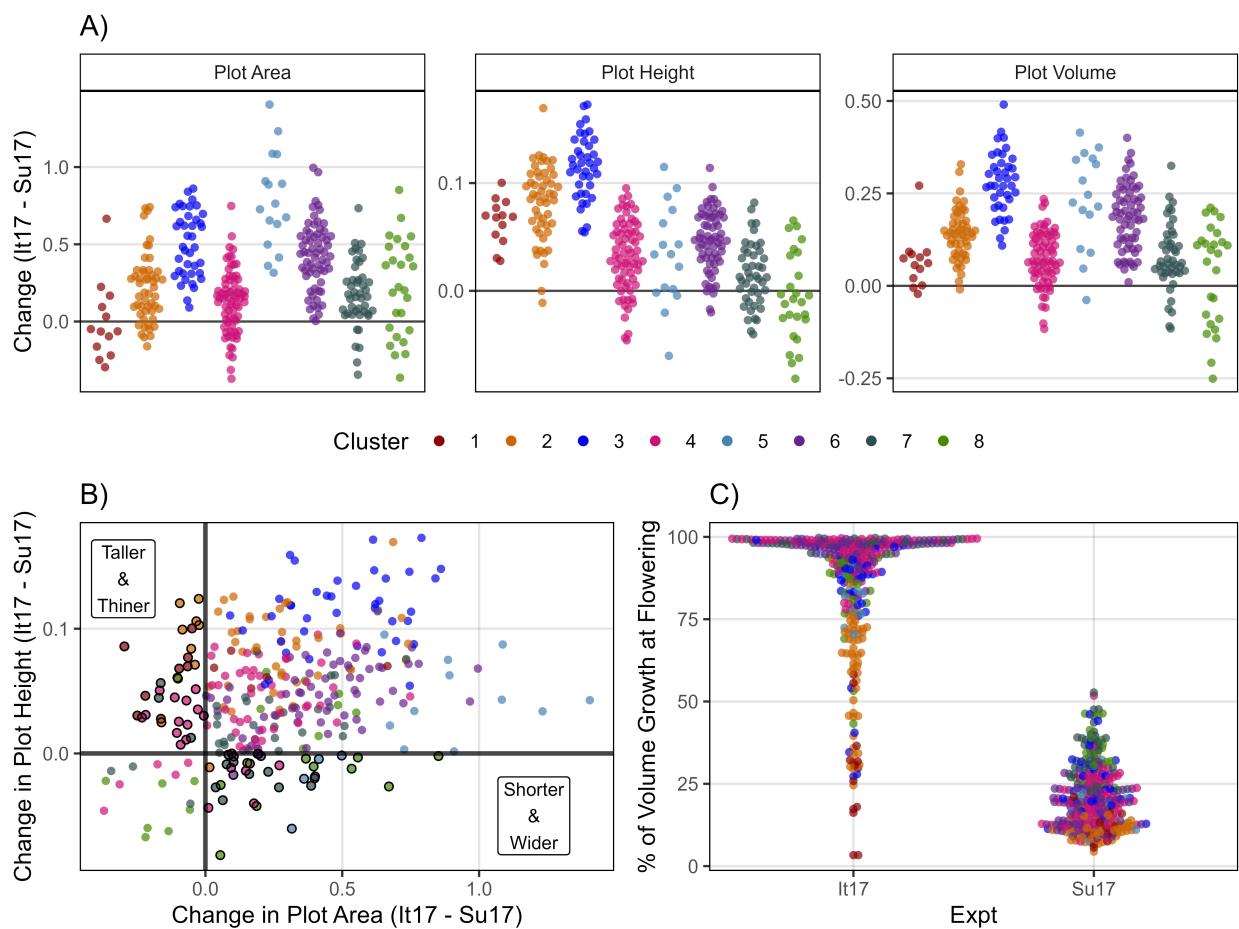


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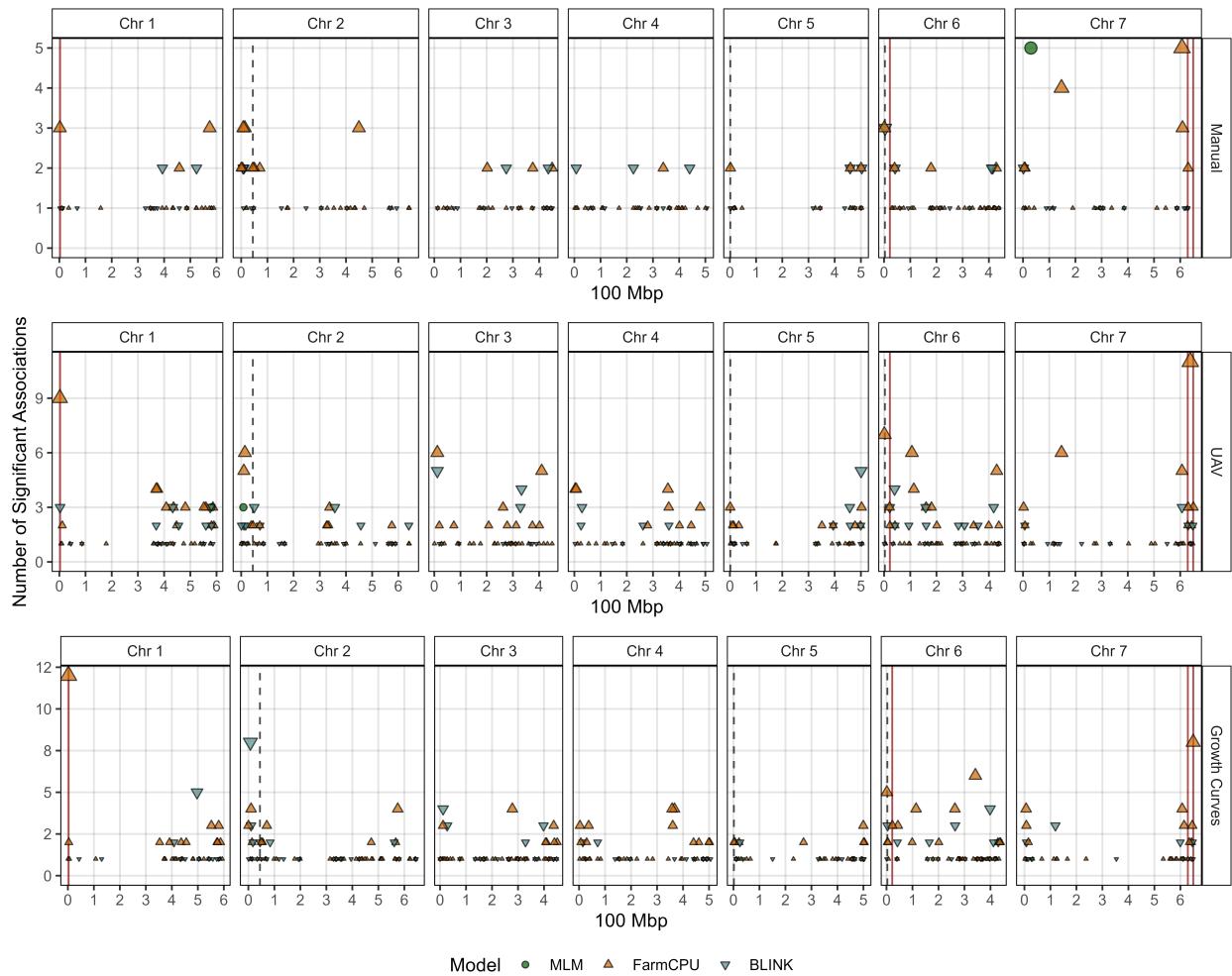
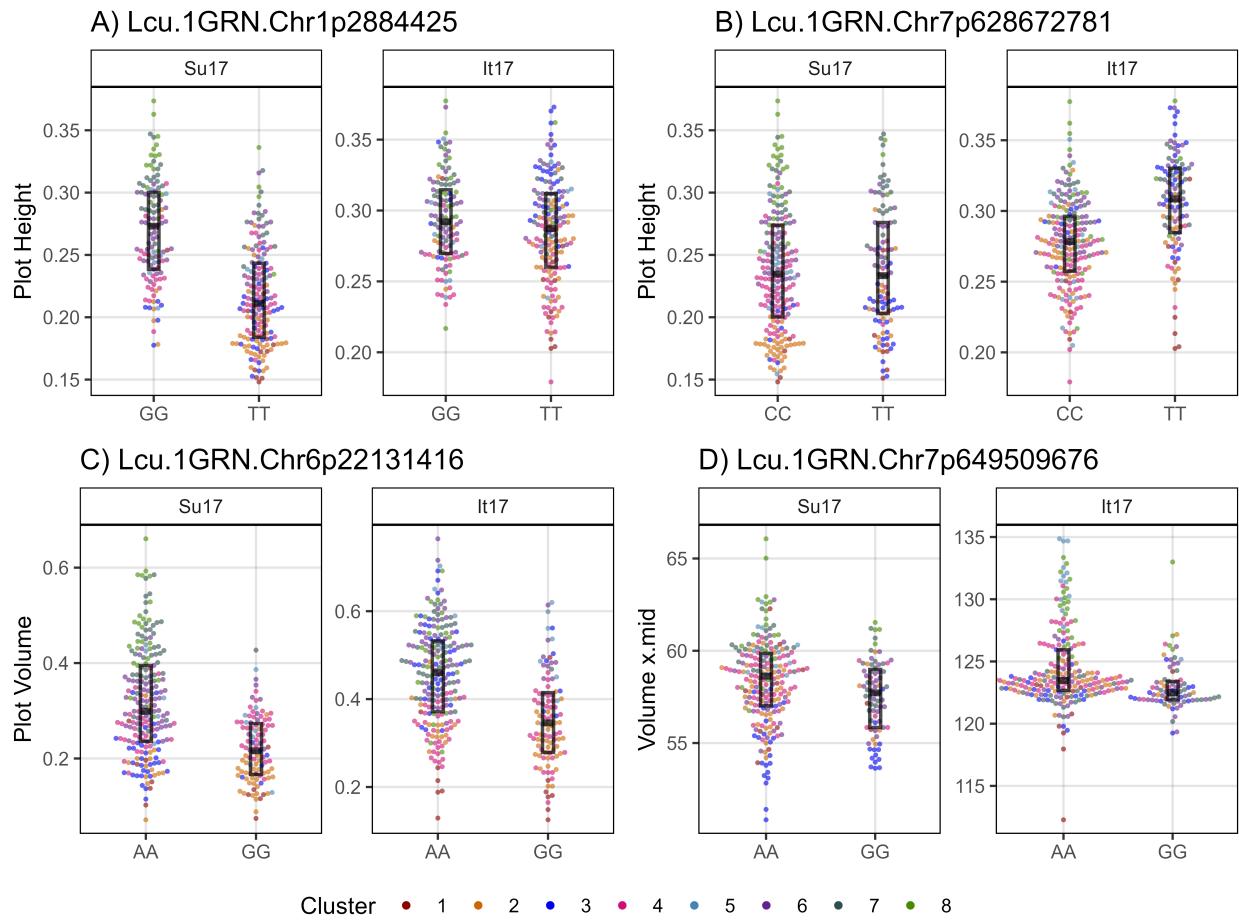


Figure 8



Supplemental Tables

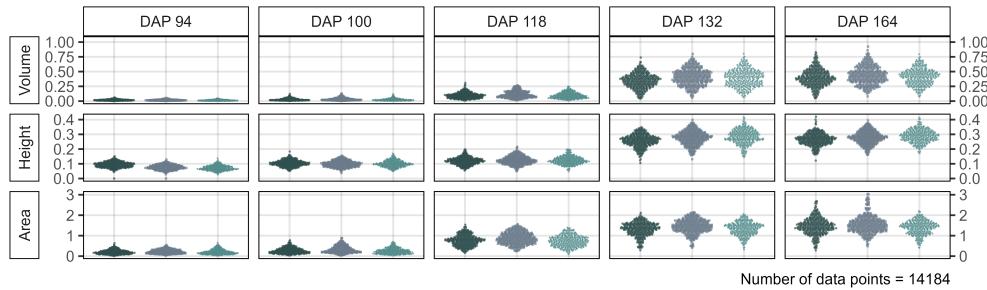
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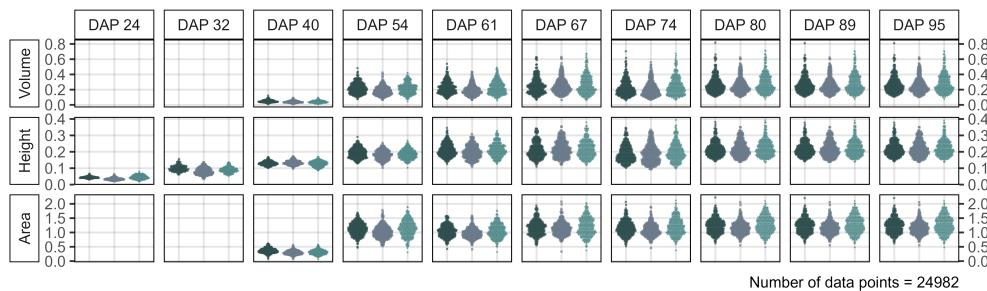
Supplemental Figures

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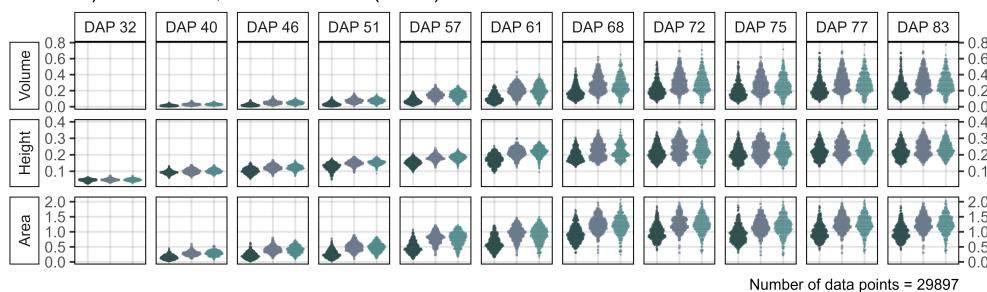
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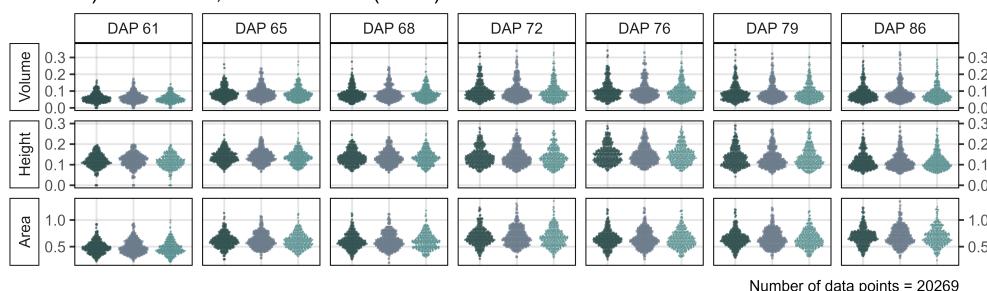
B) Rosthern, Canada 2017 (Ro17)



C) Sutherland, Canada 2017 (Su17)



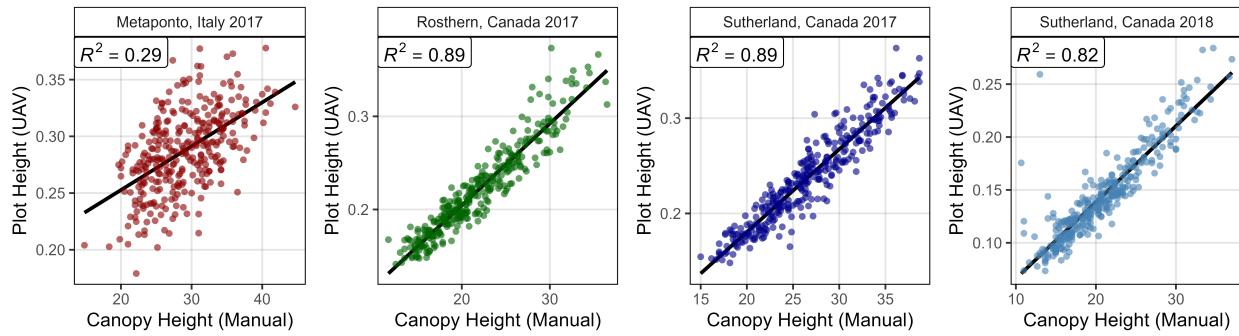
D) Sutherland, Canada 2018 (Su18)



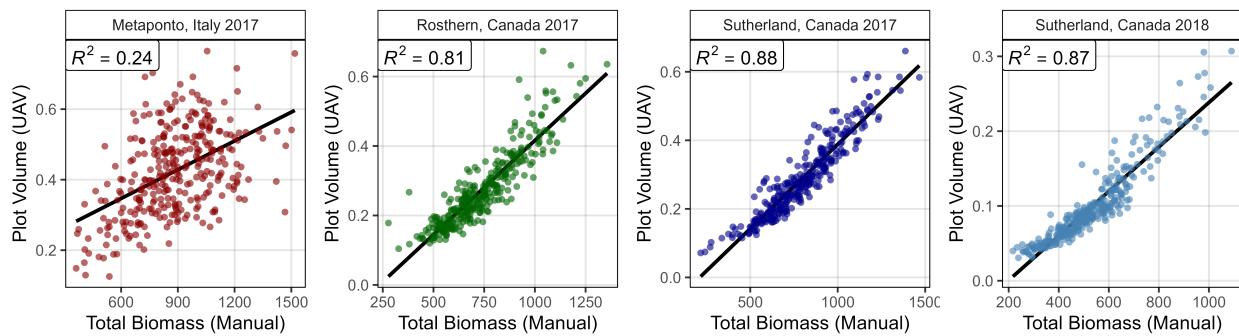
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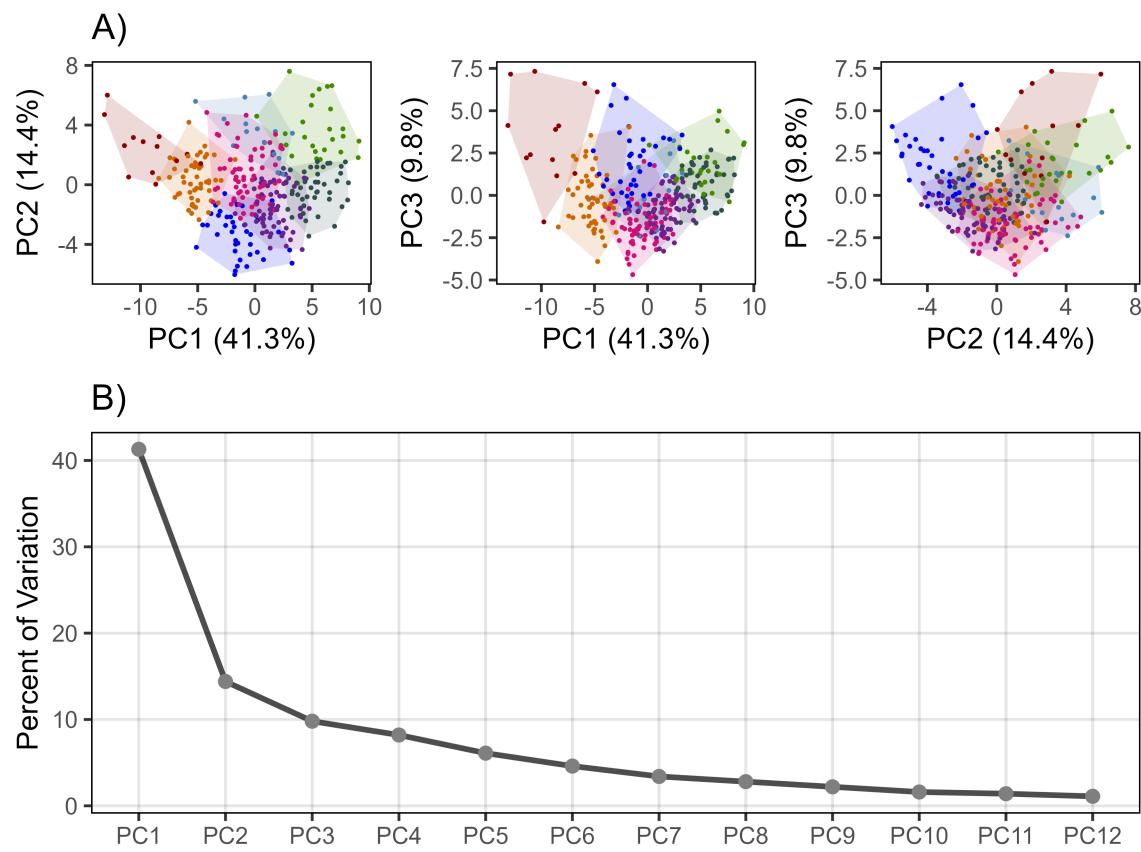
A) Plot Height (UAV) x Canopy Height (Manual)



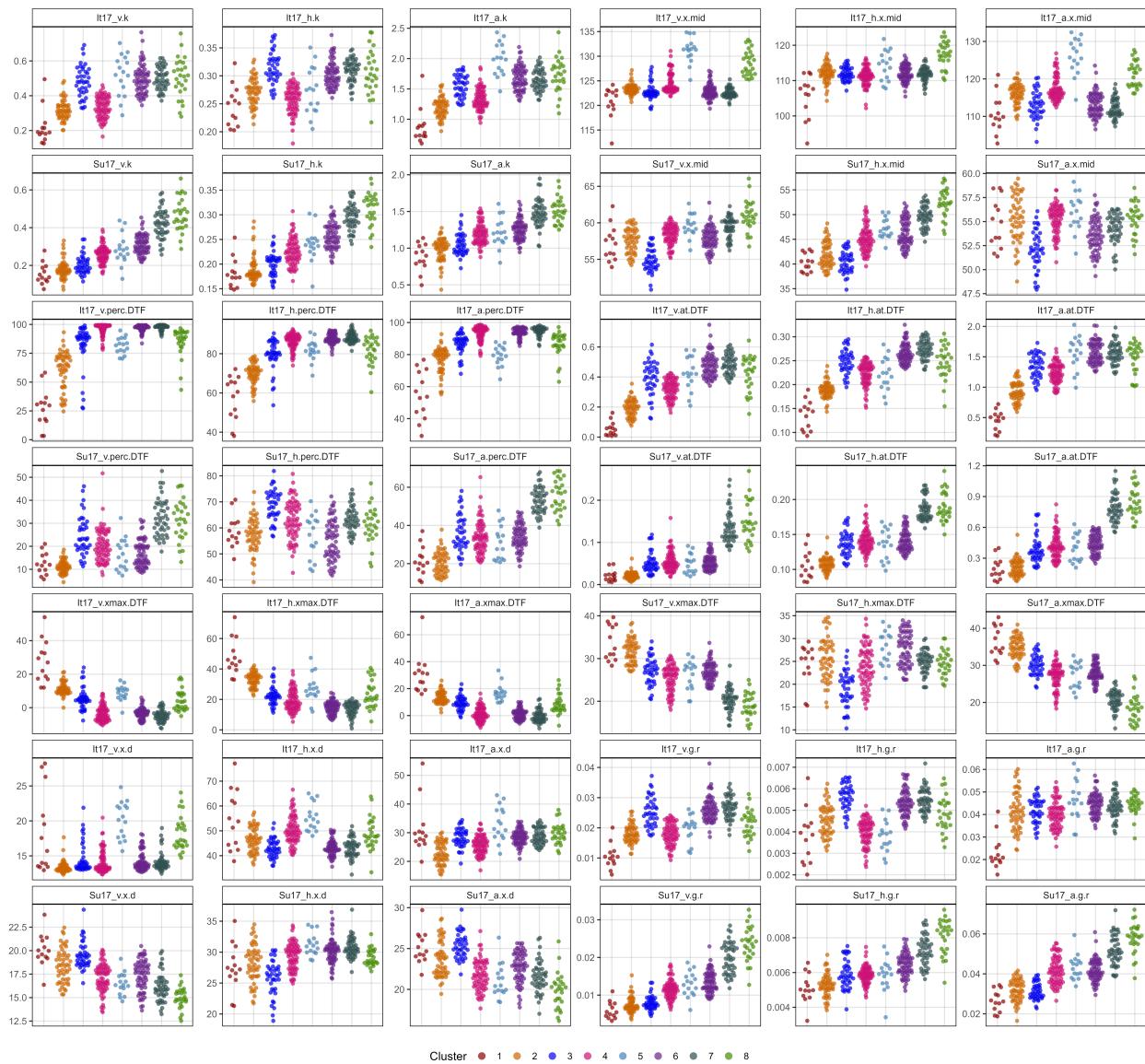
B) Plot Volume (UAV) x Biomass (Manual)



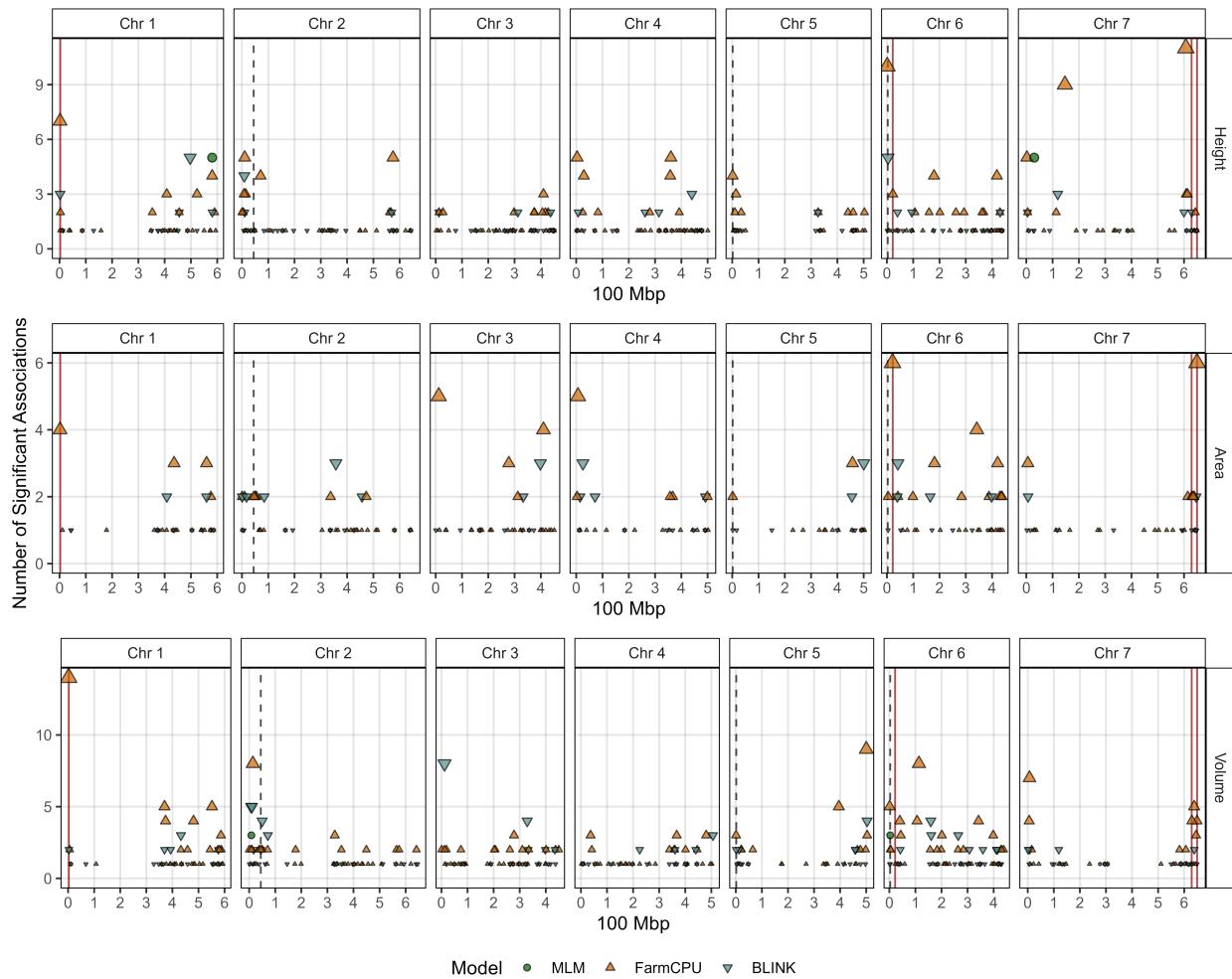
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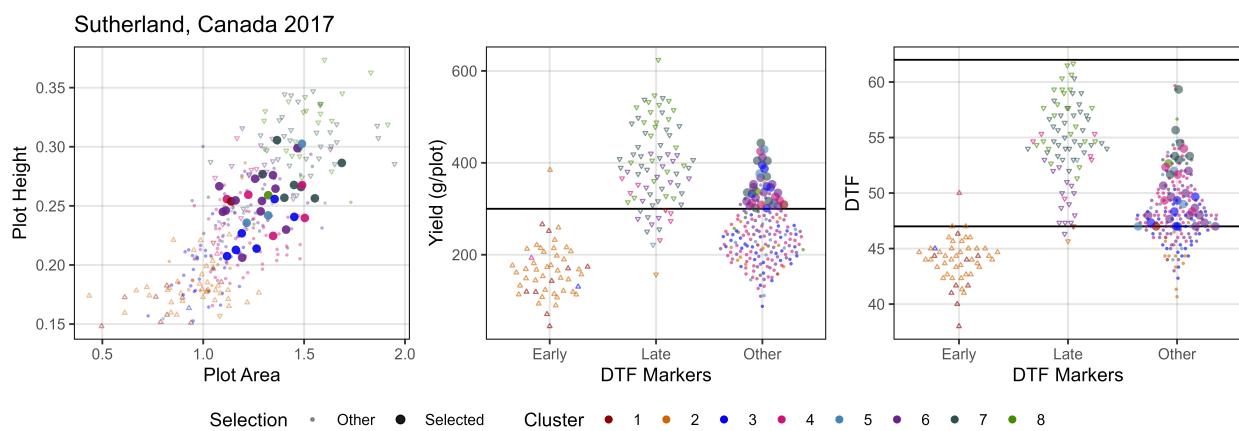
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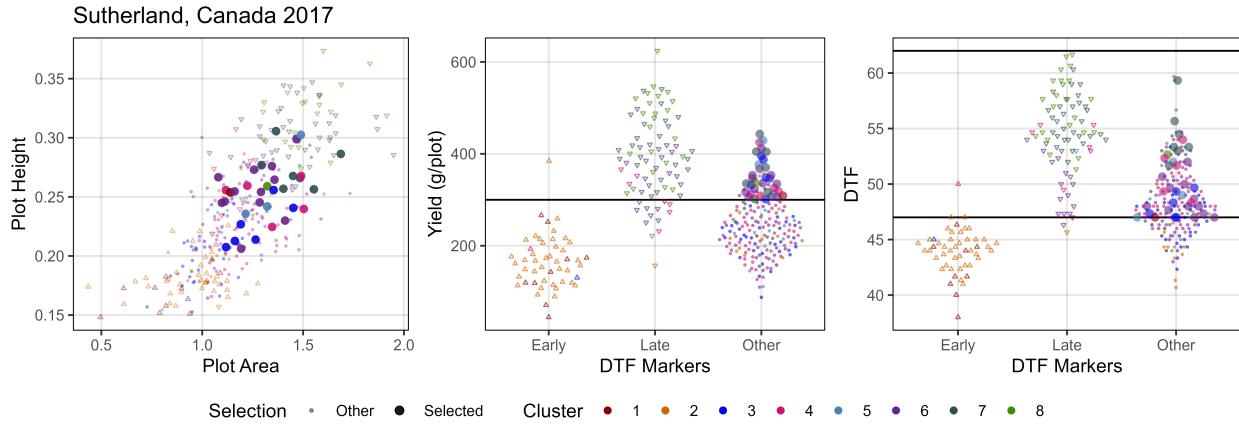


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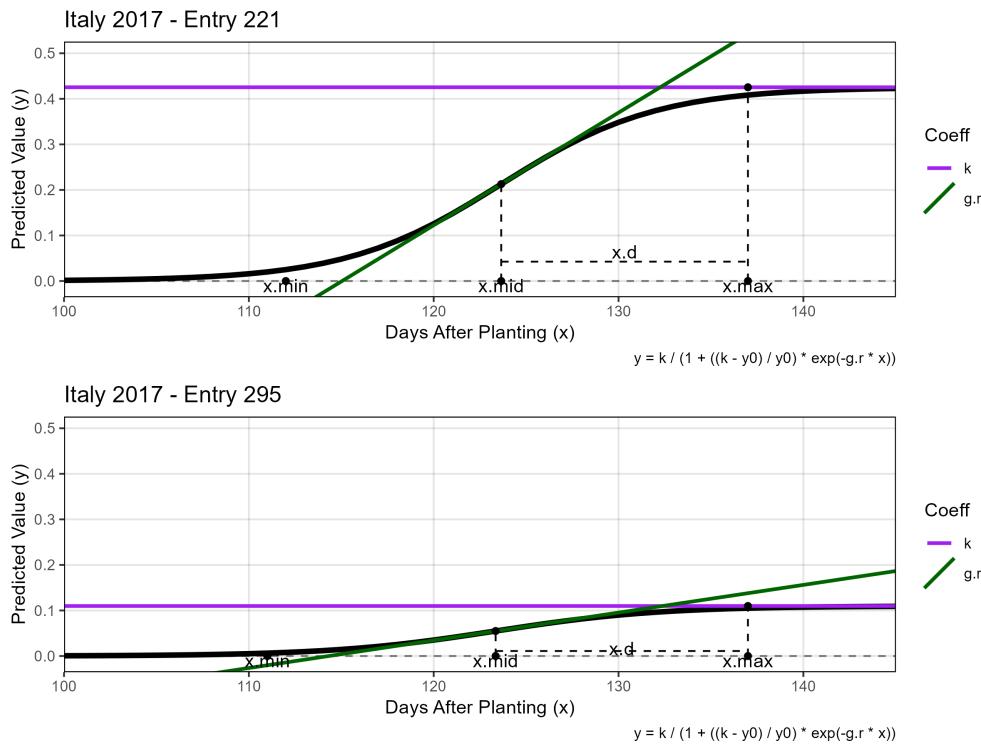
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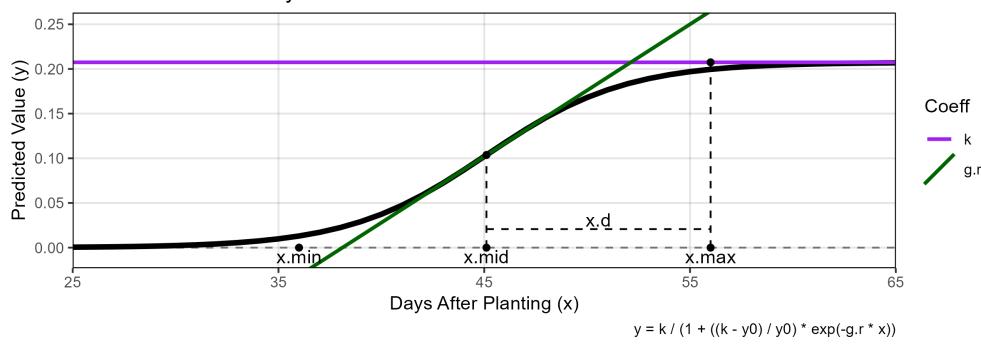


Additional Figures

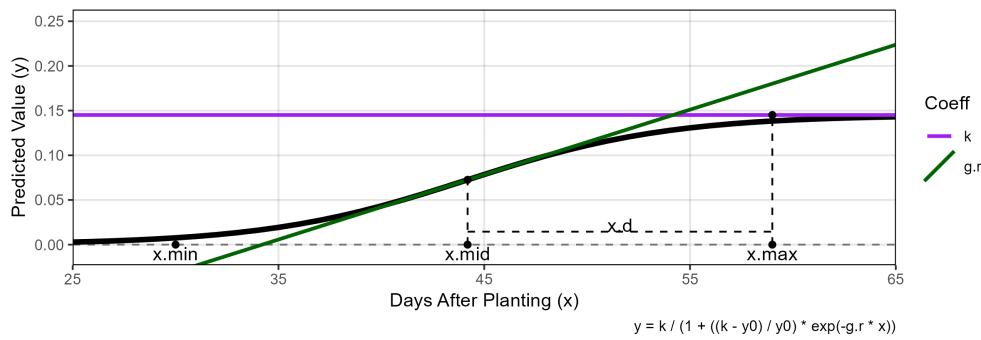
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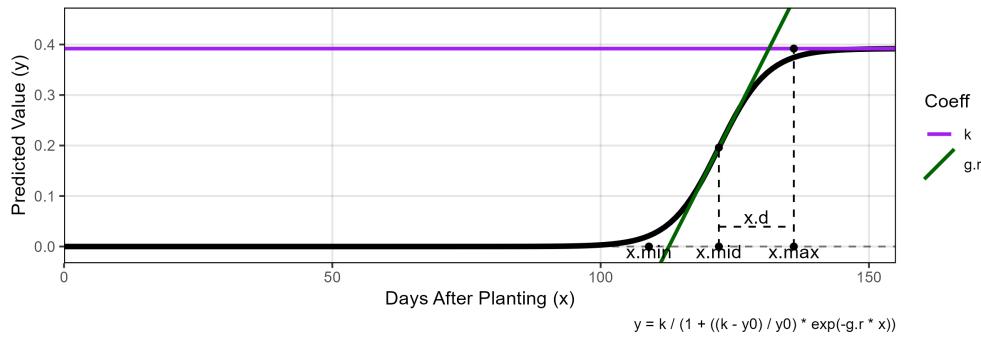
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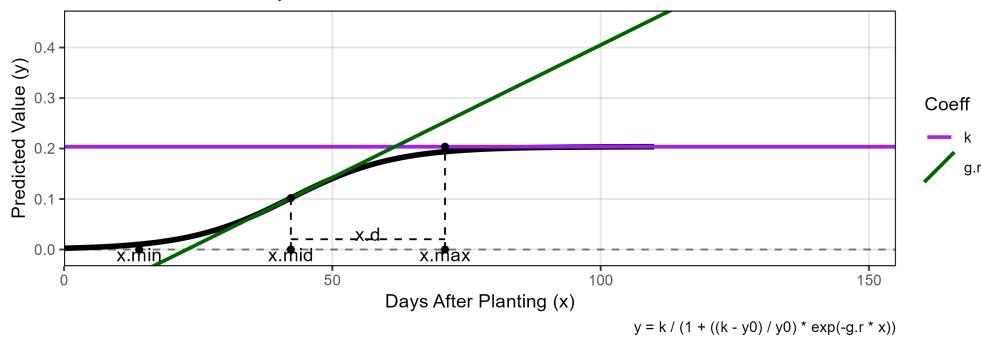
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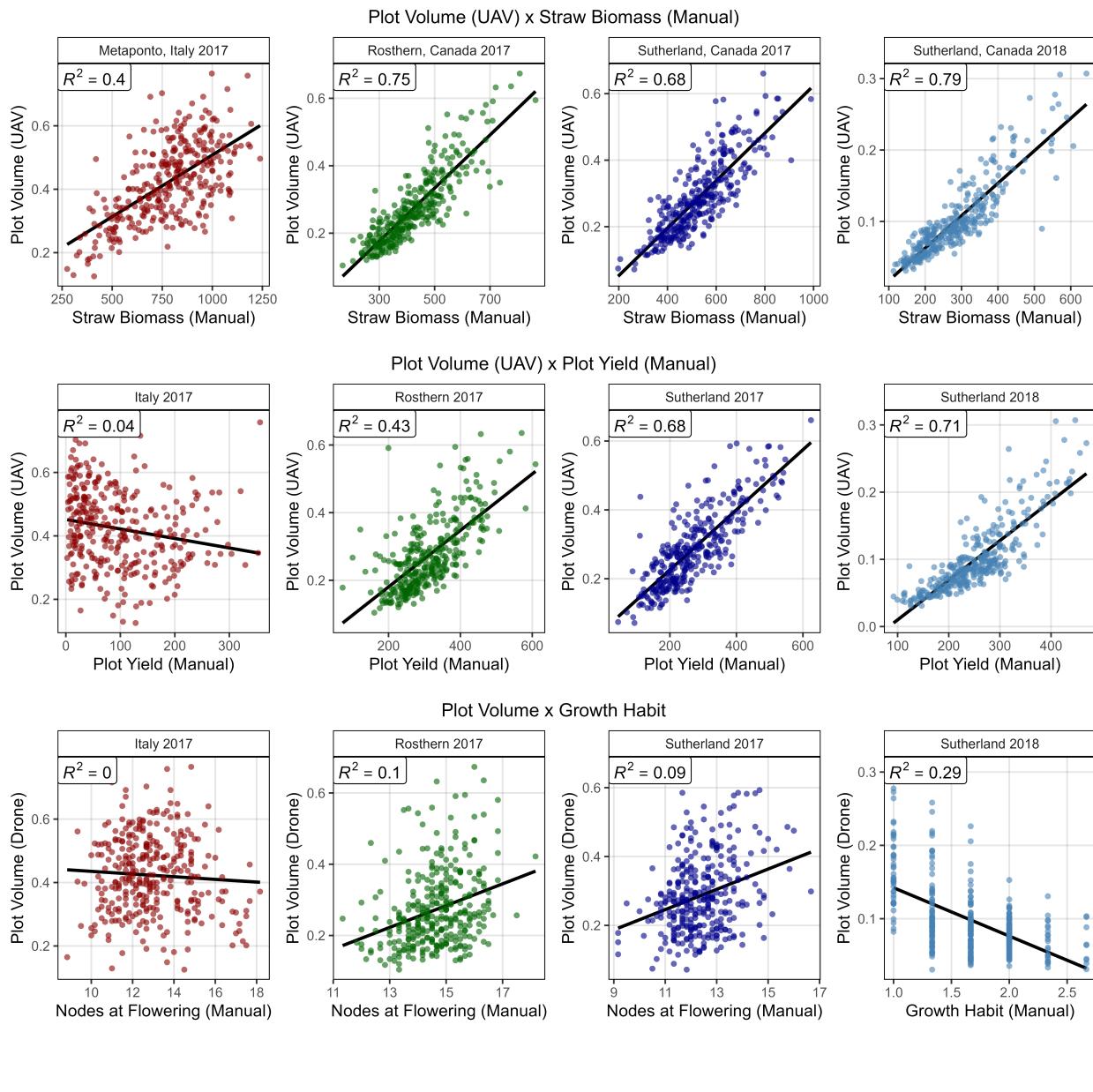
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Rosthern 2017 - Entry 107



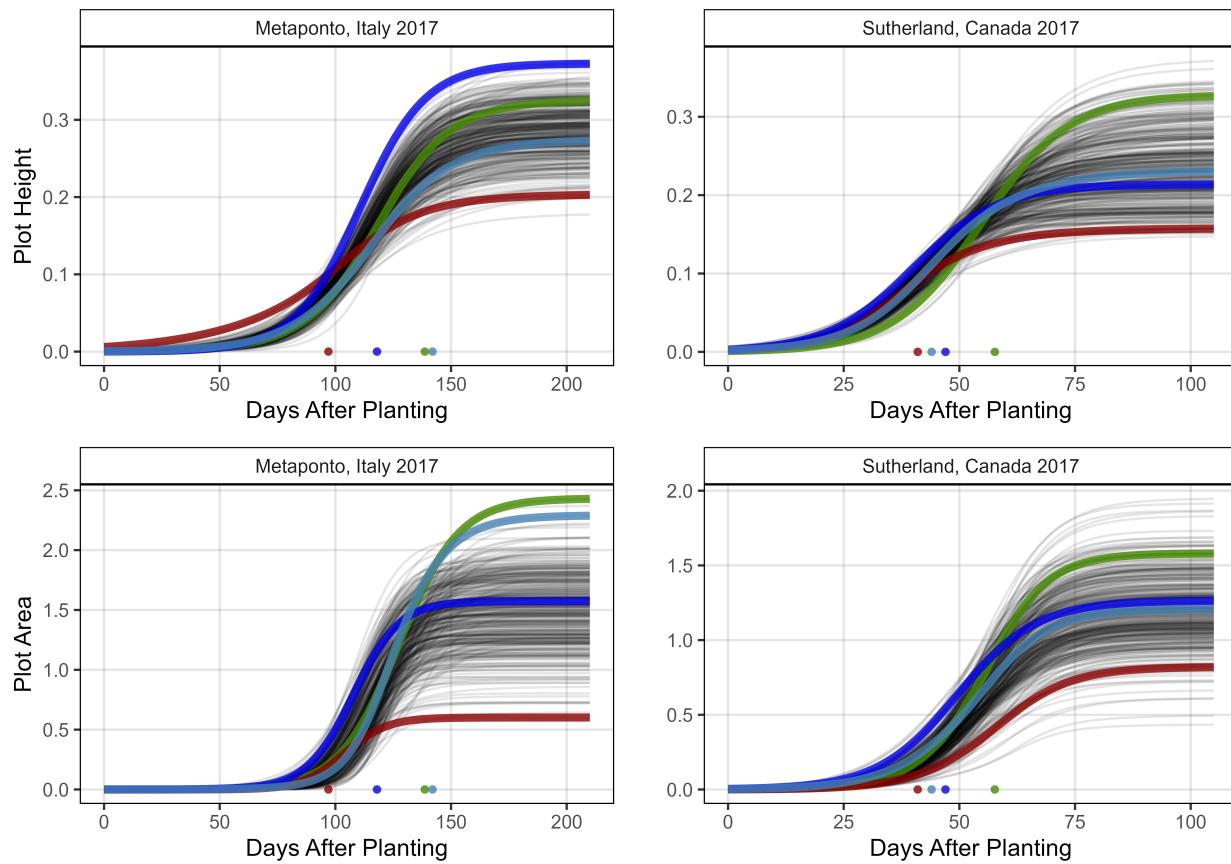
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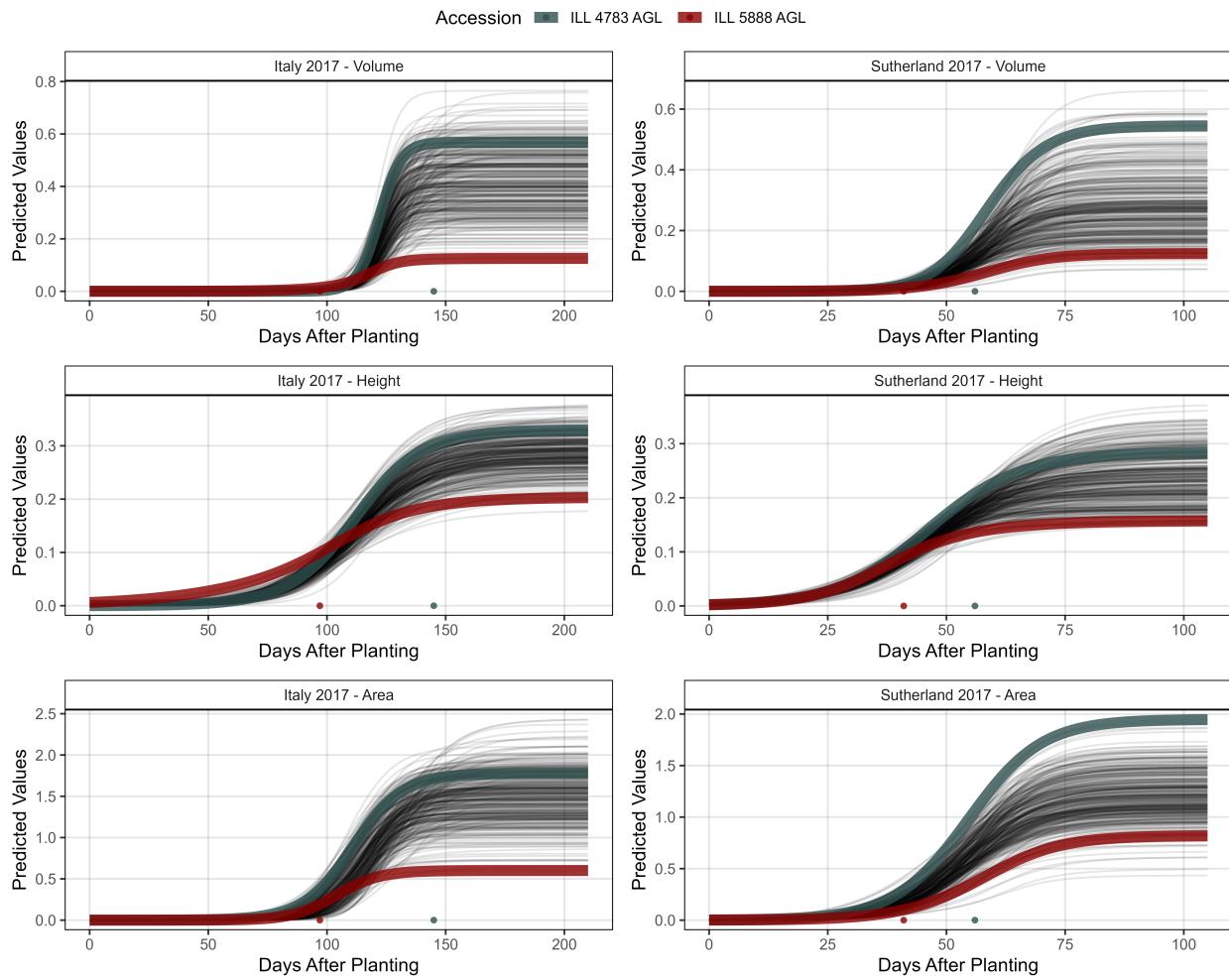


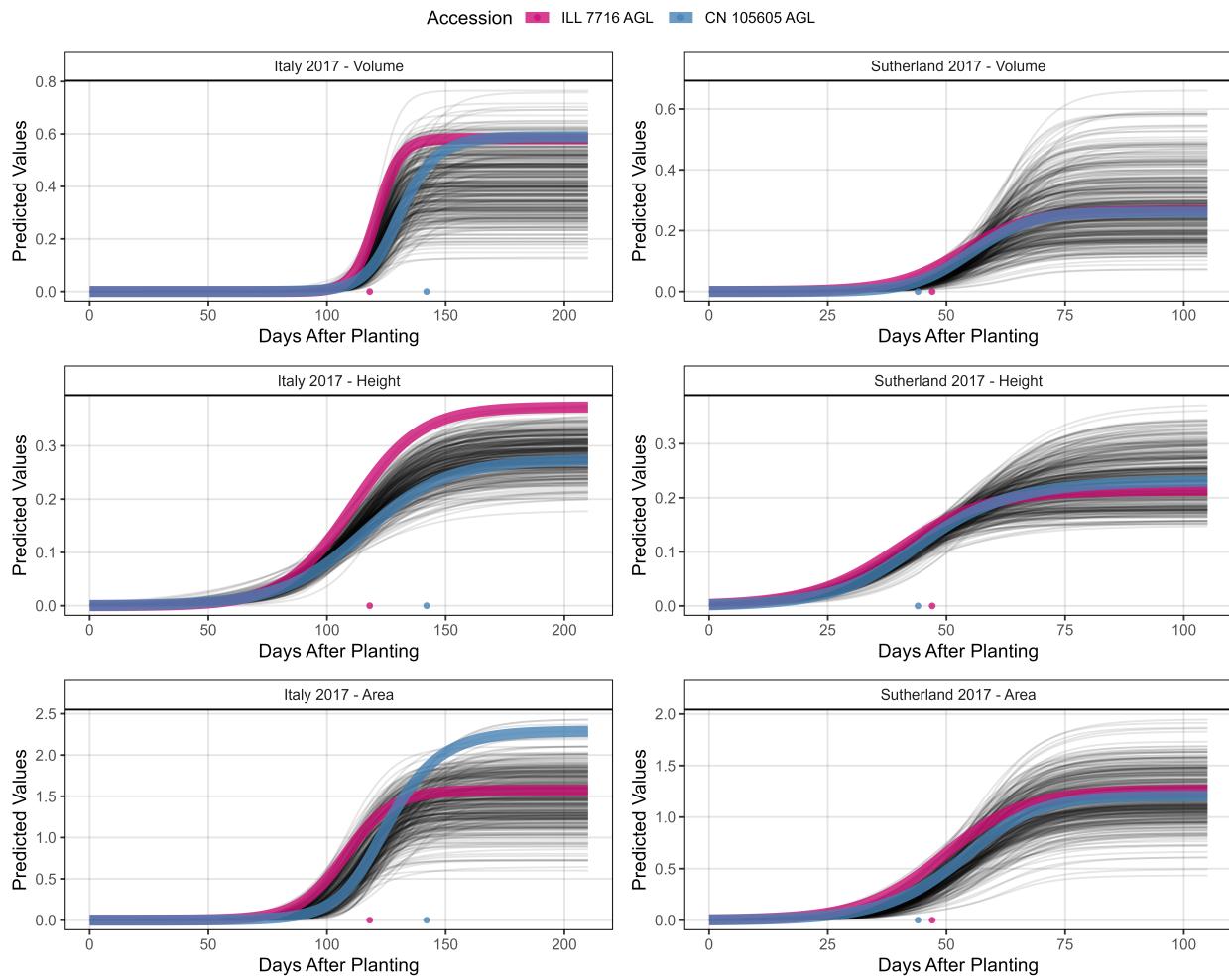
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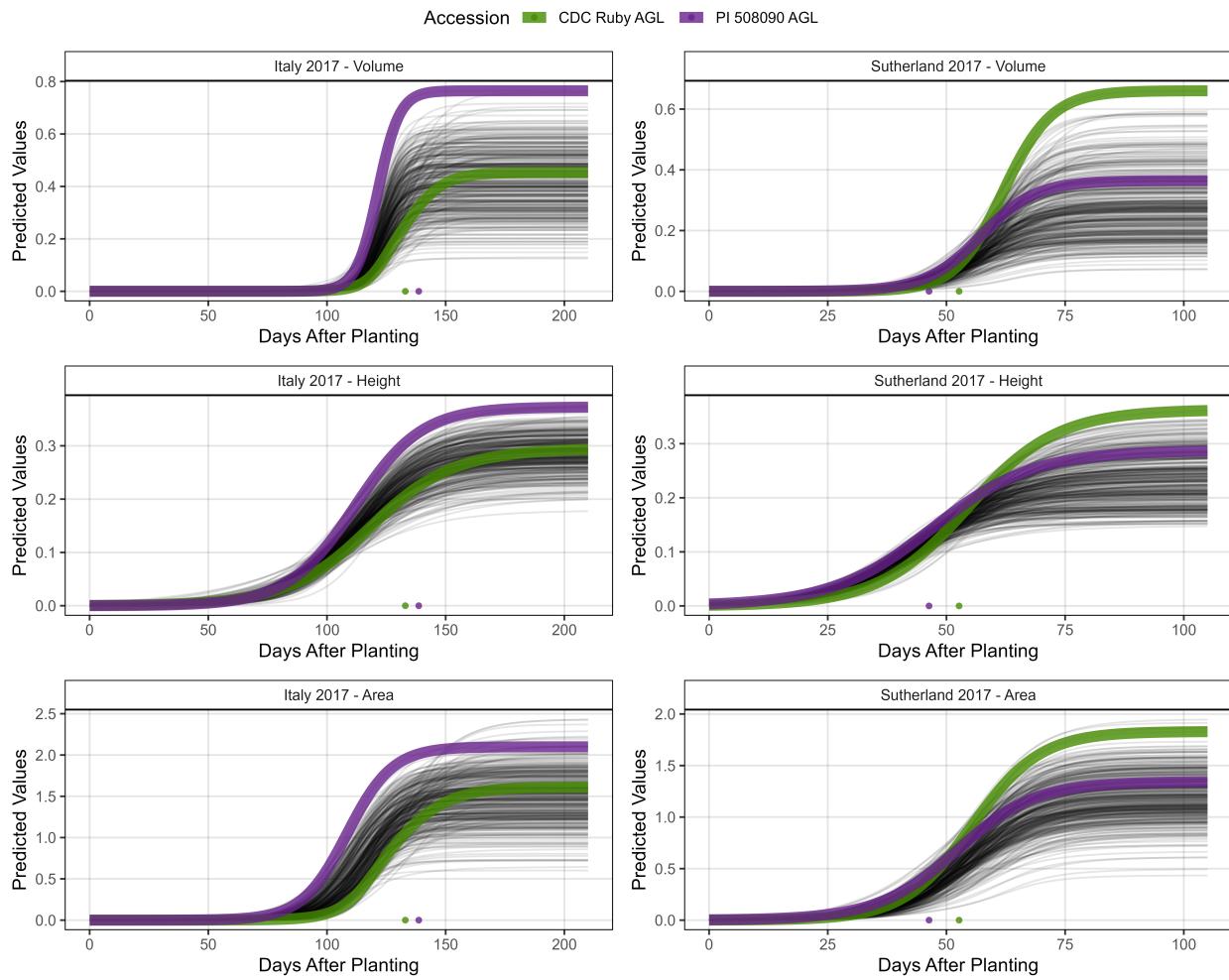
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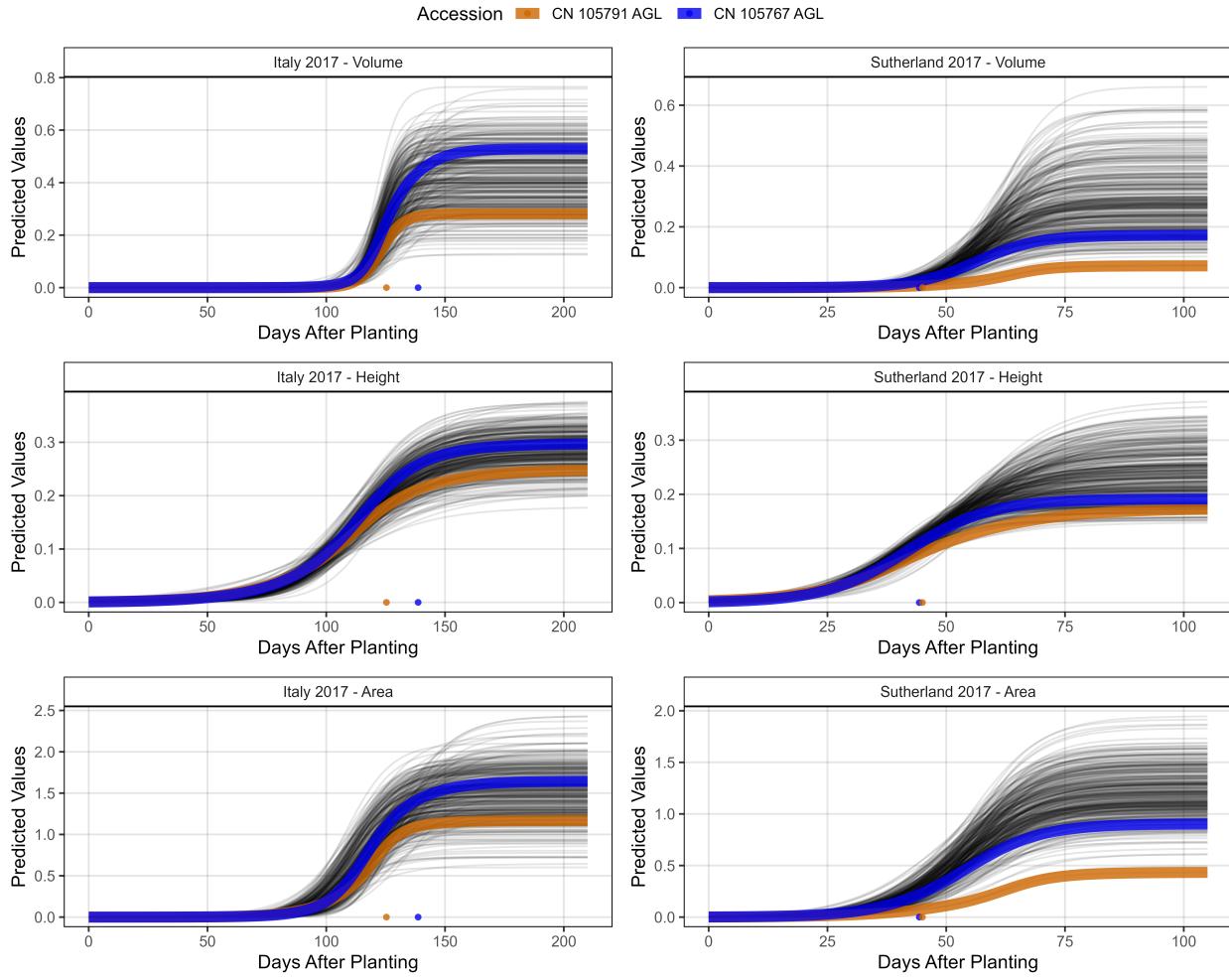
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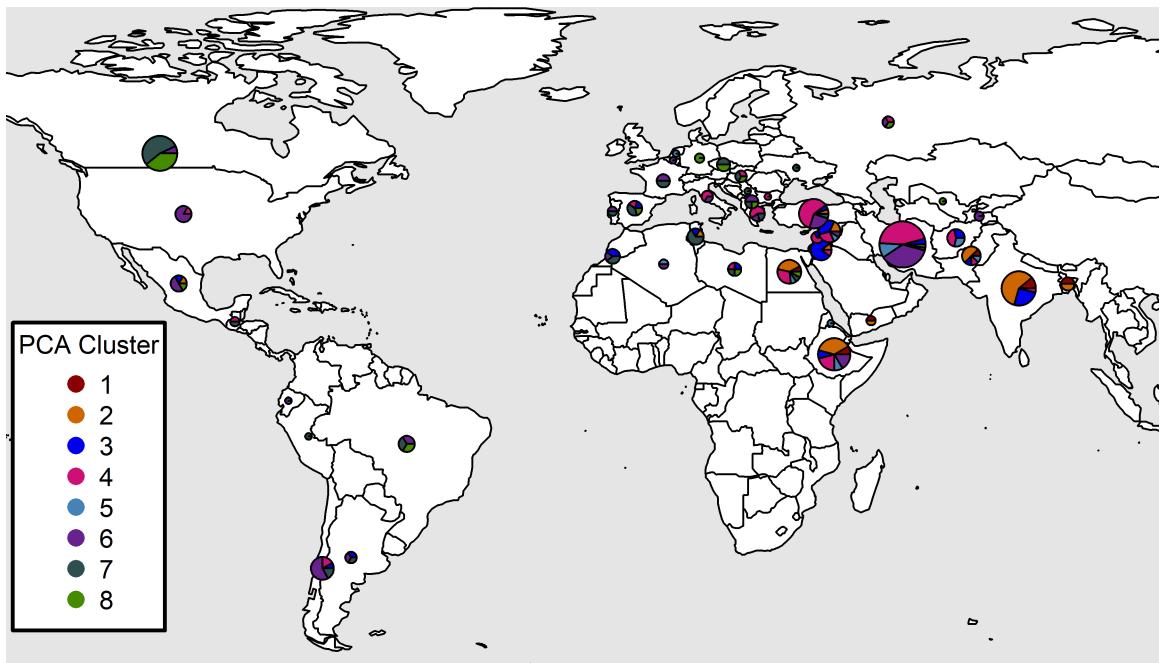




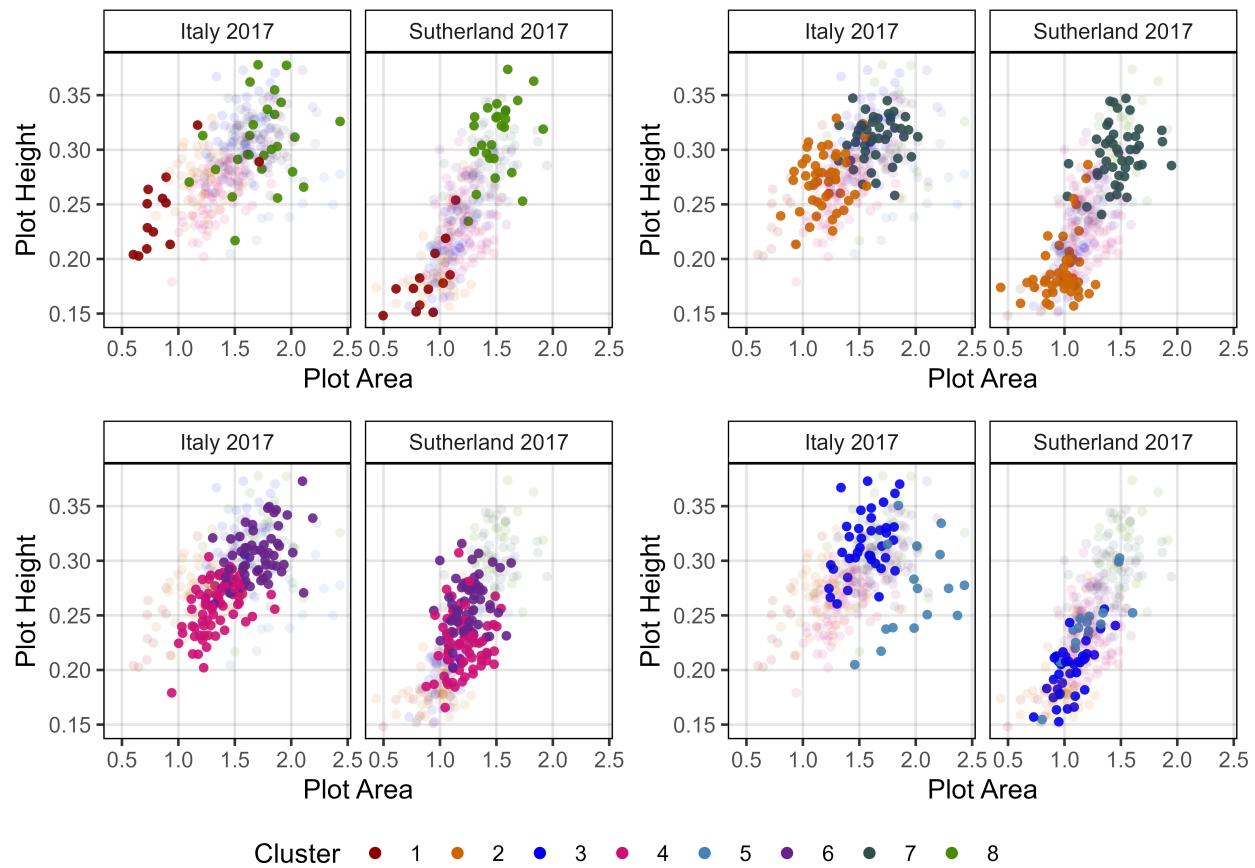




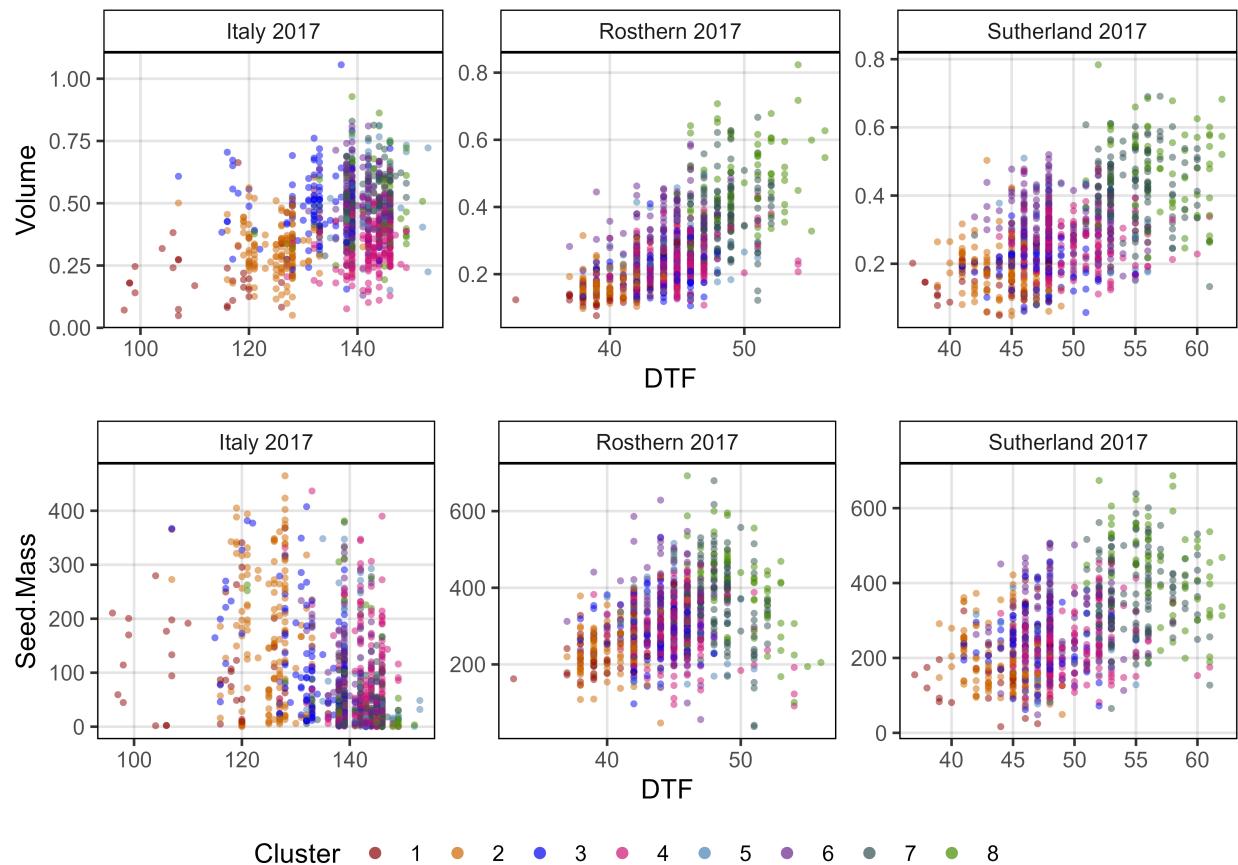
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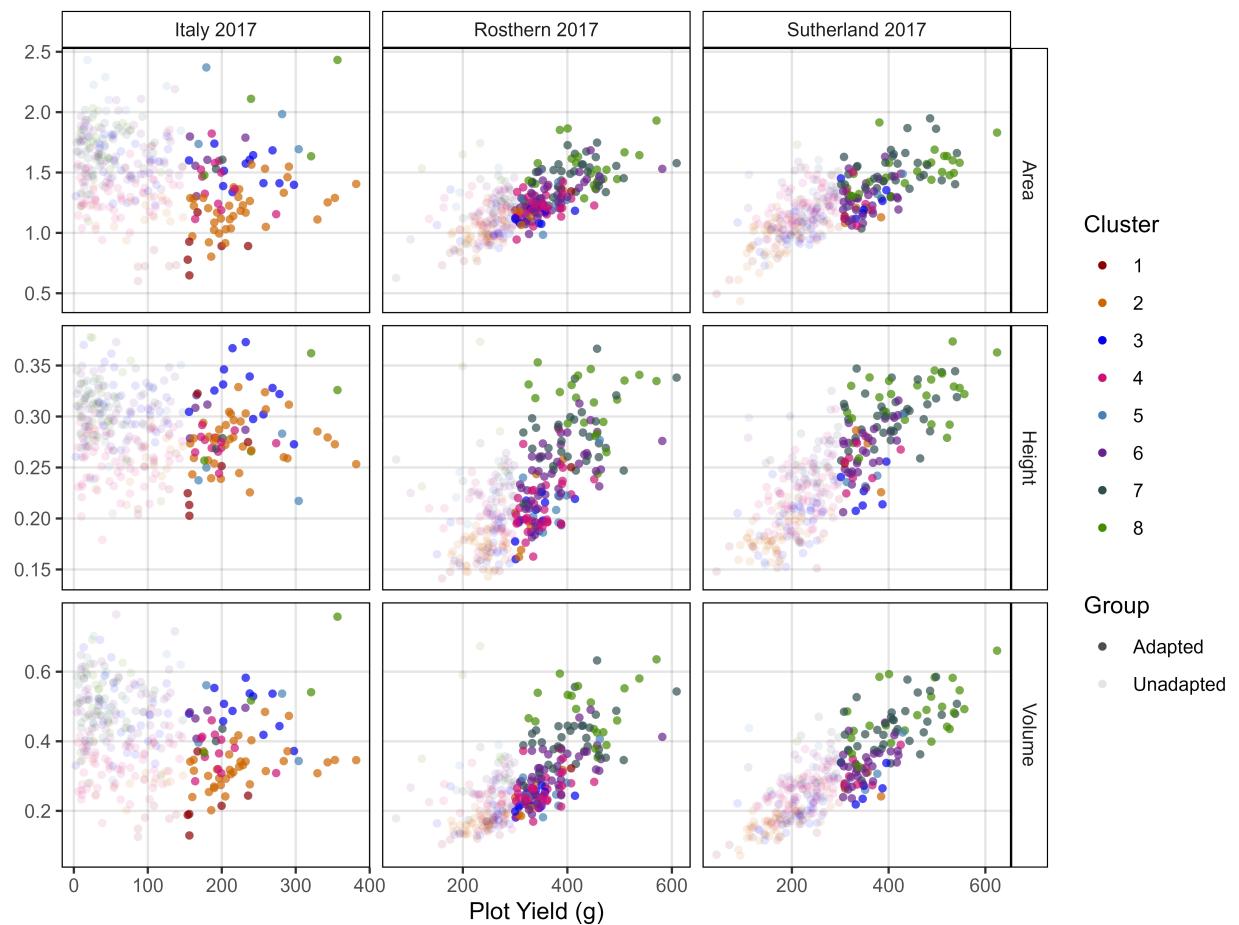
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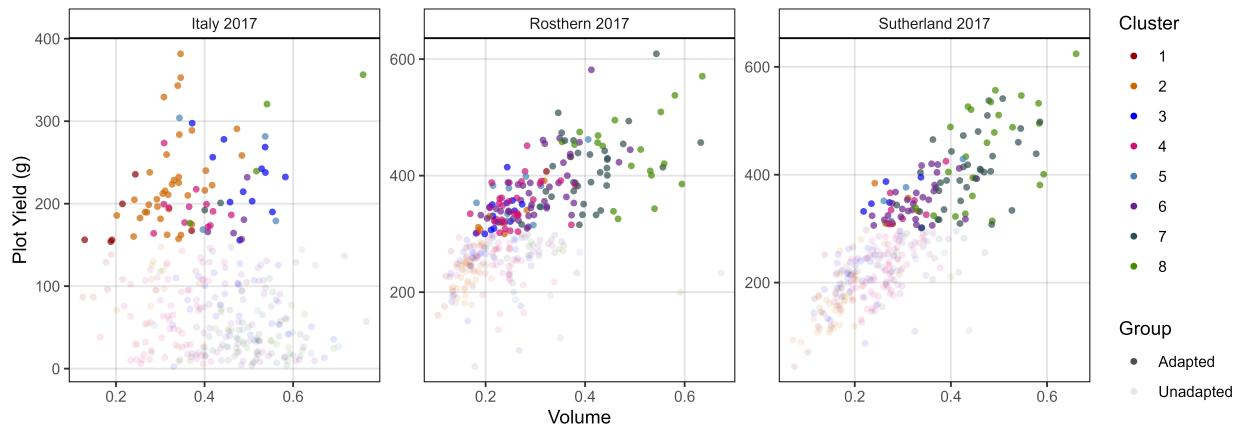


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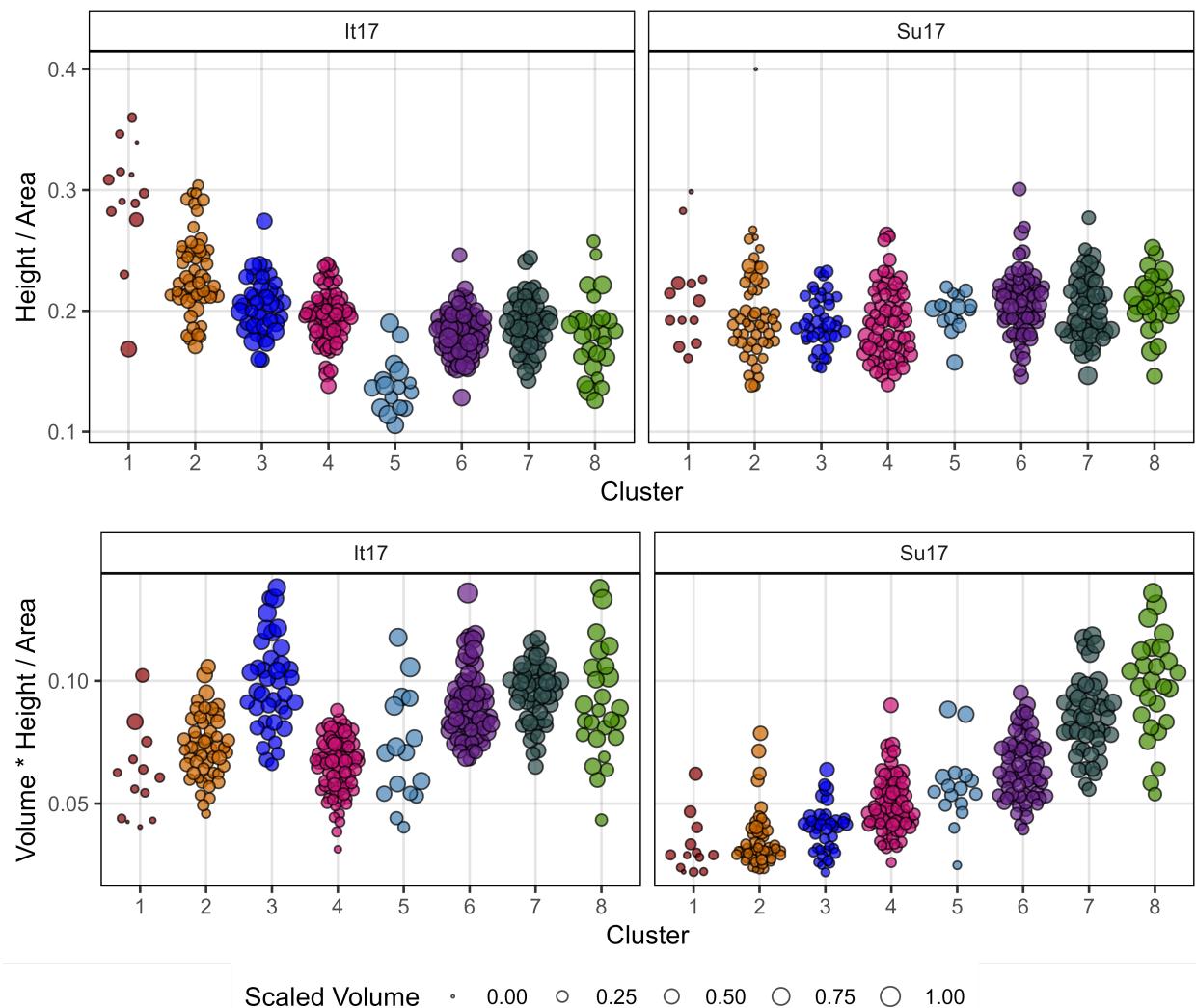


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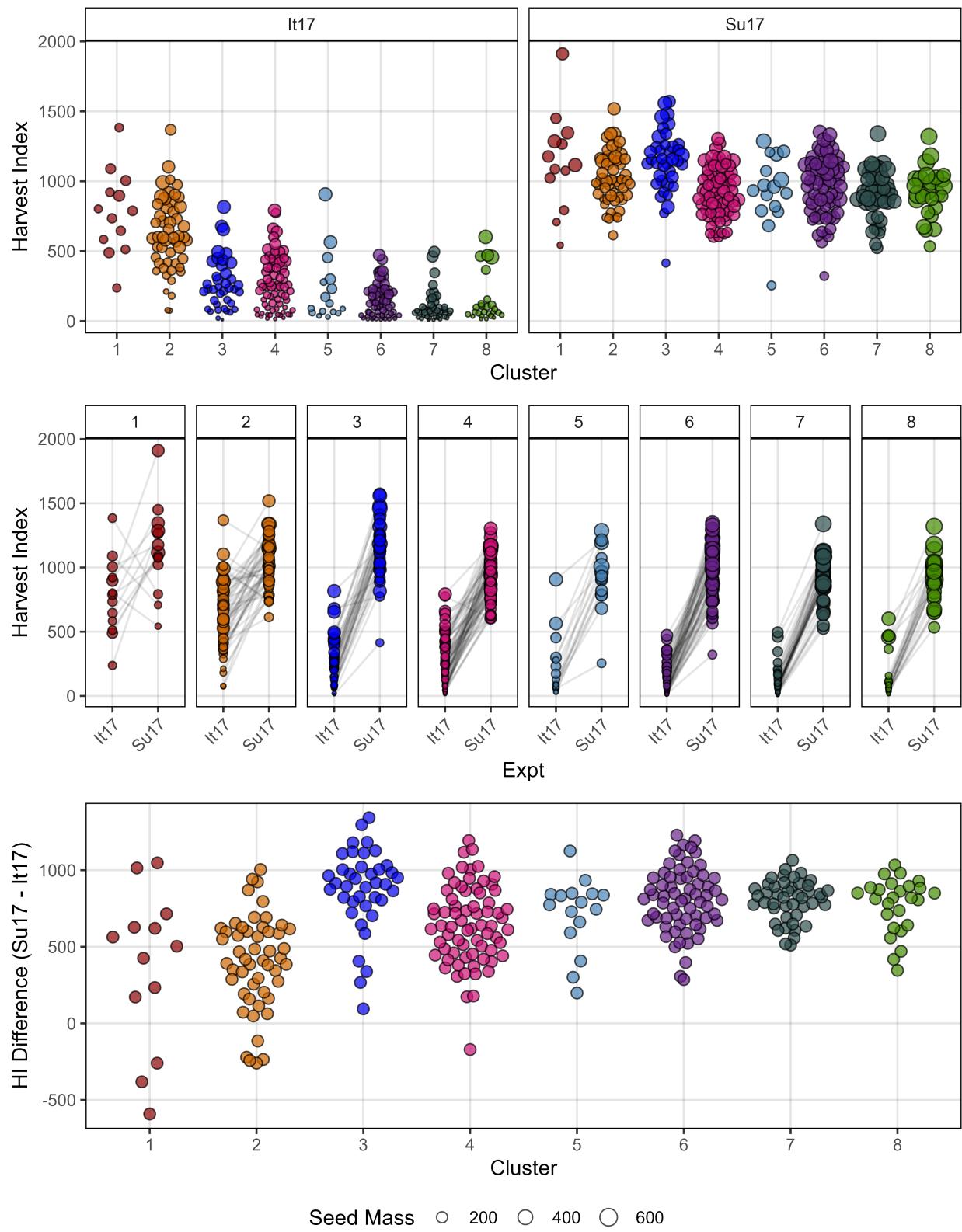




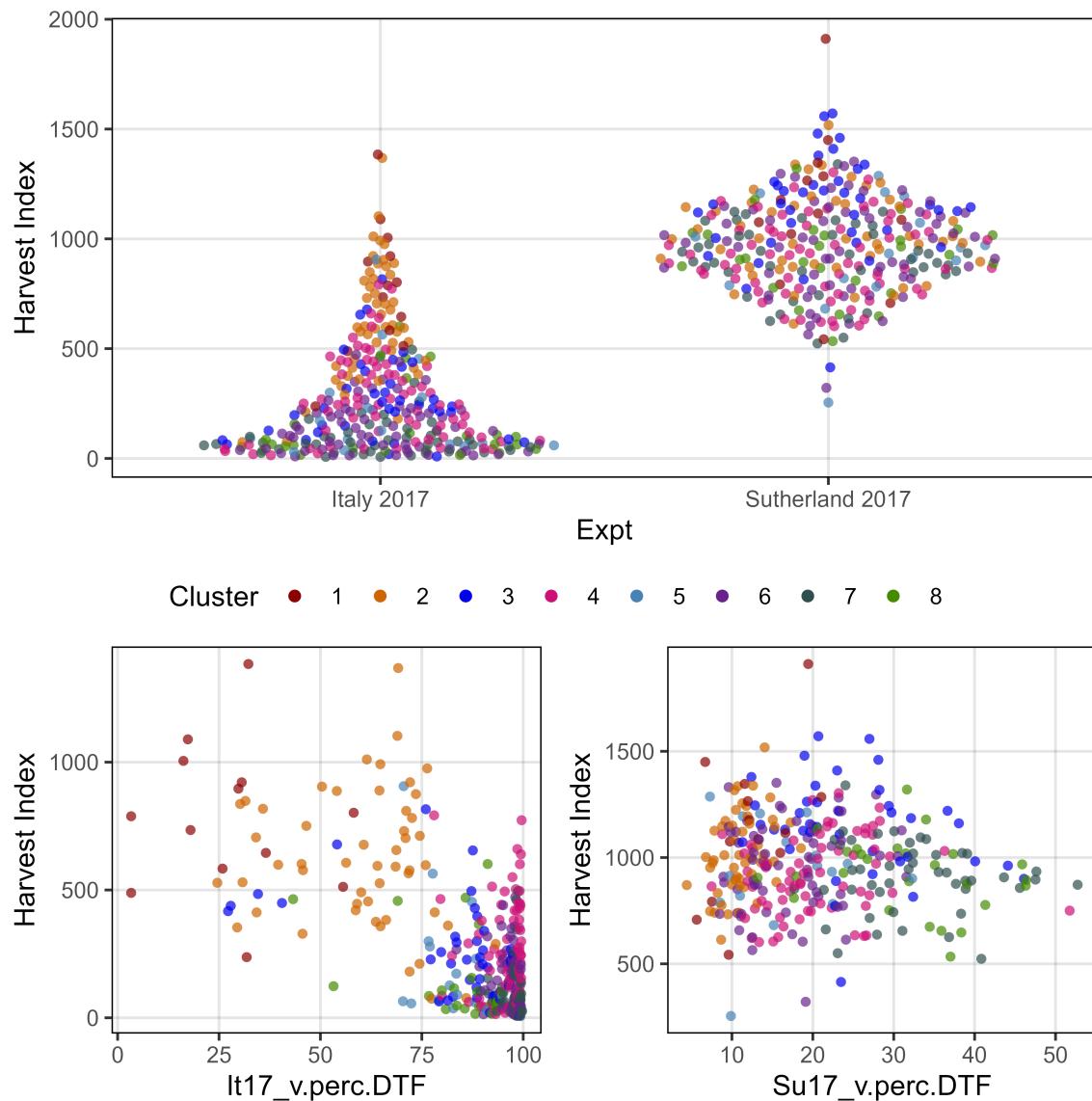
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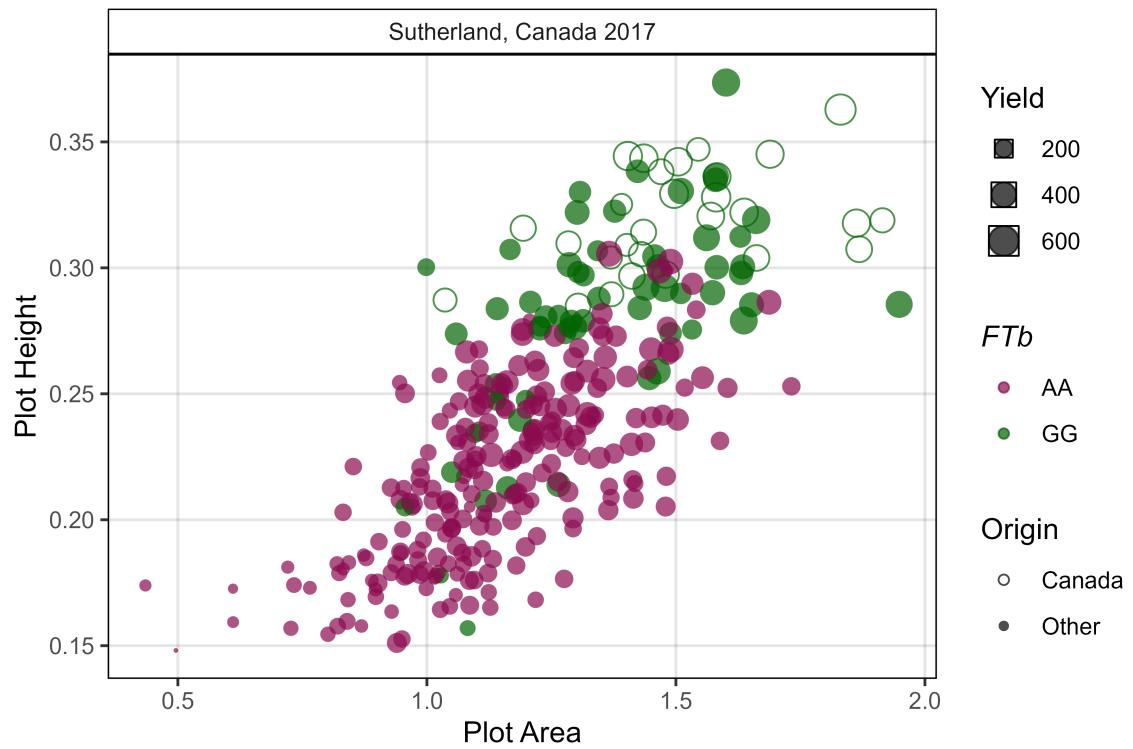
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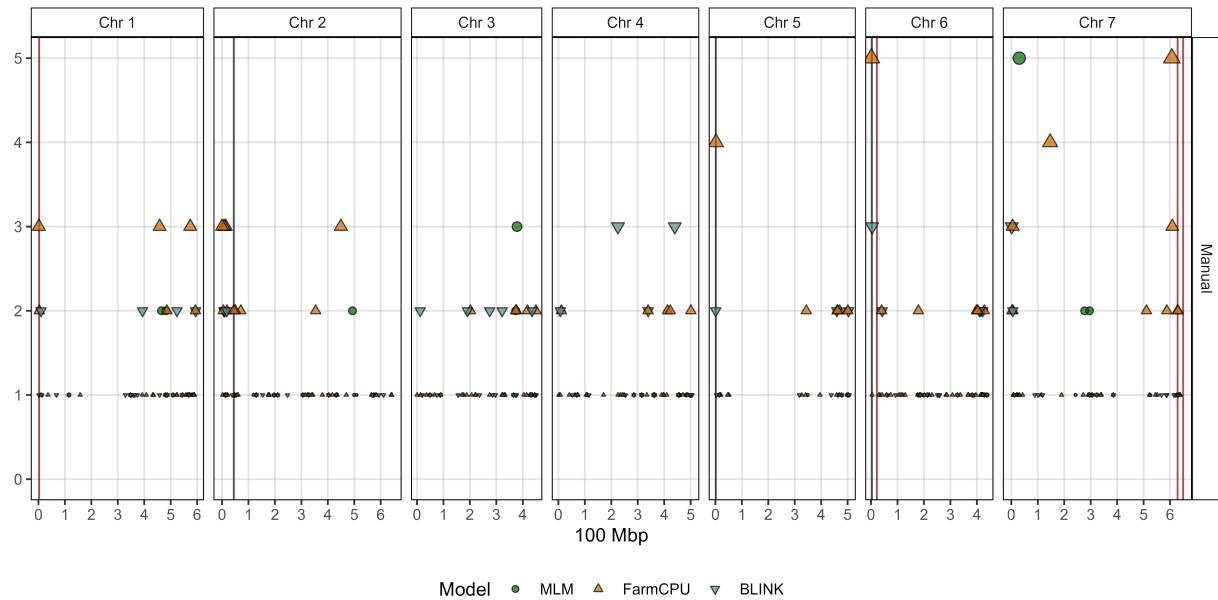


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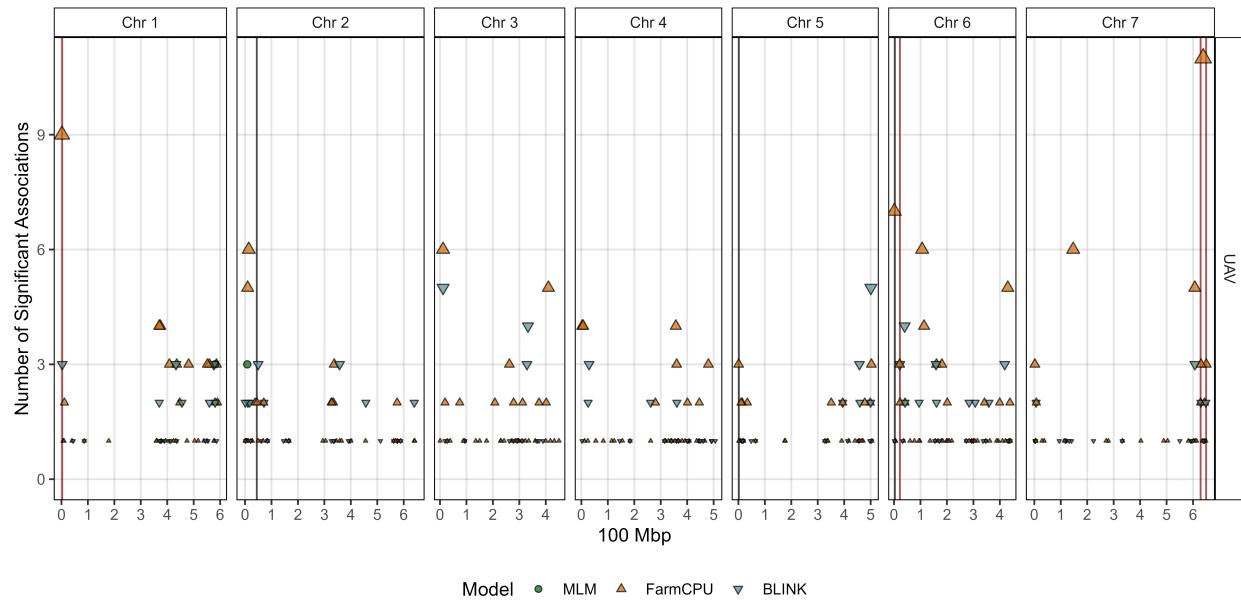


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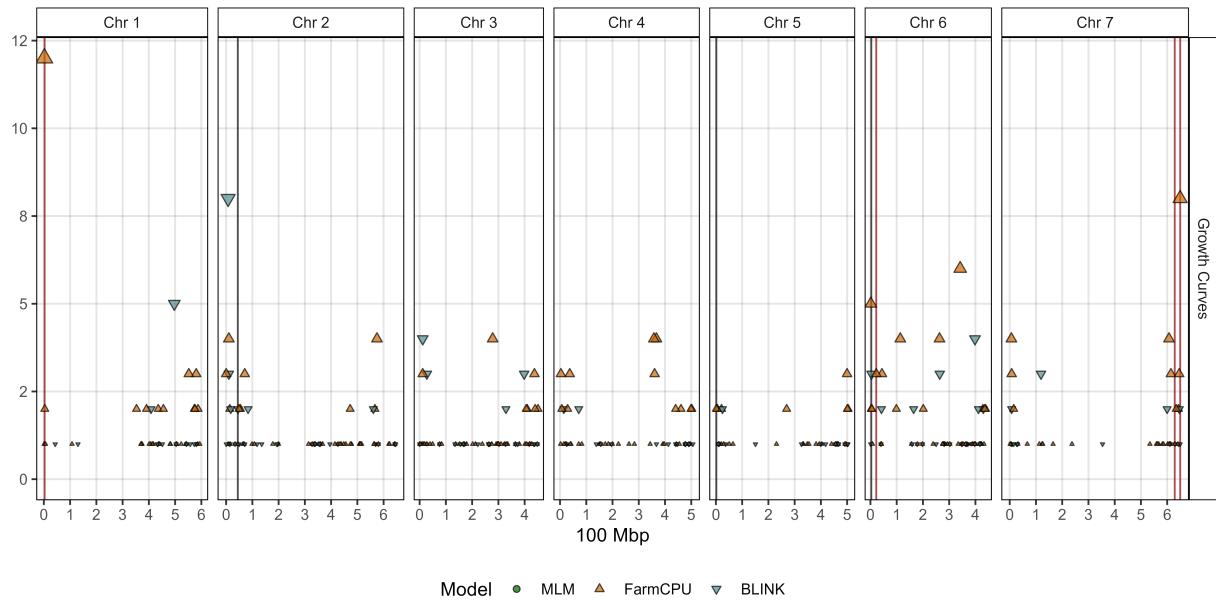
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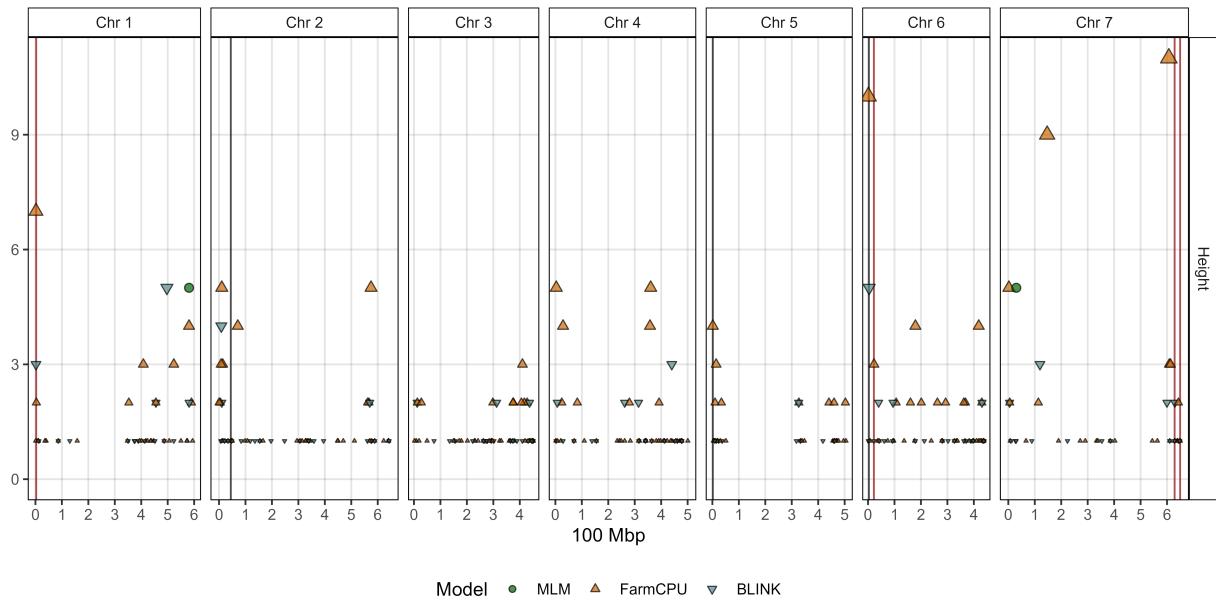
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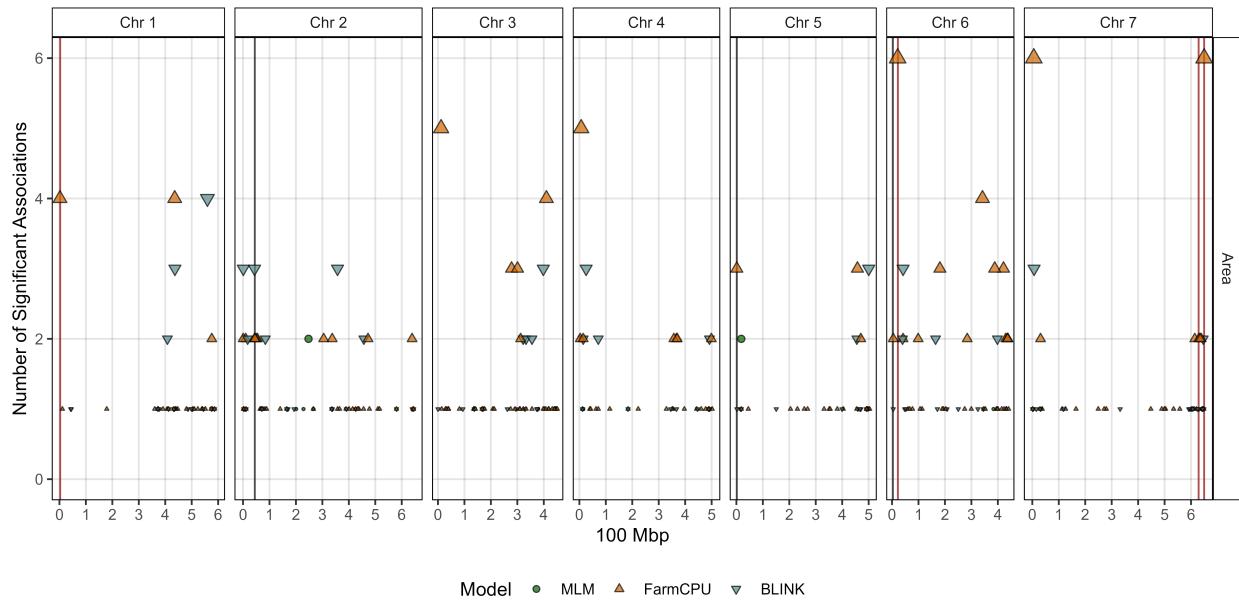
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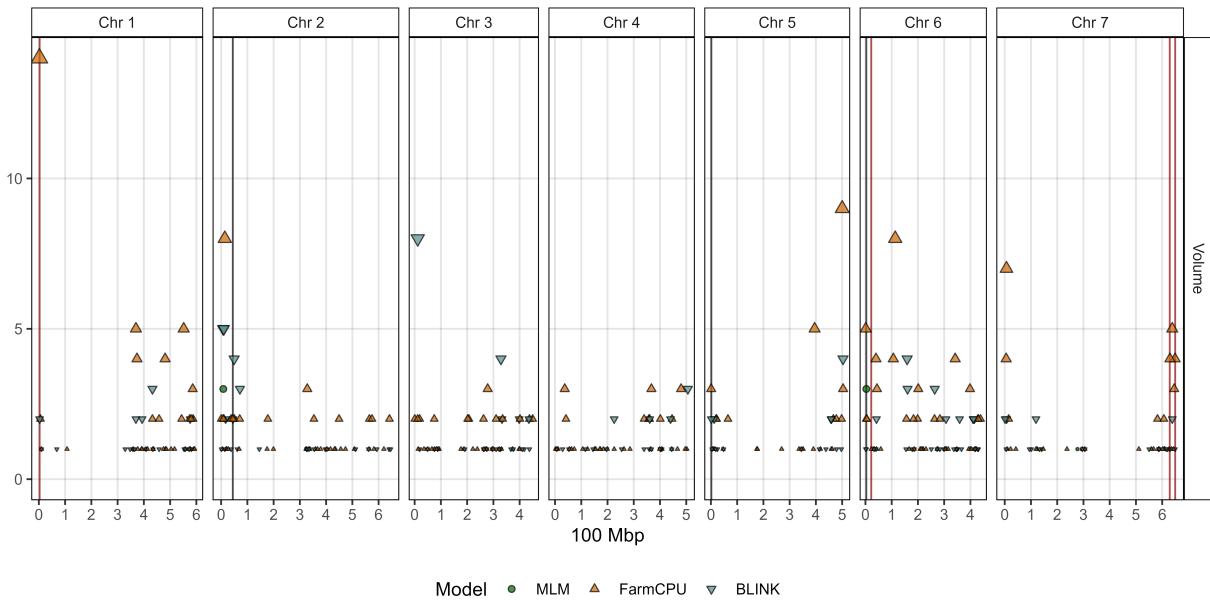
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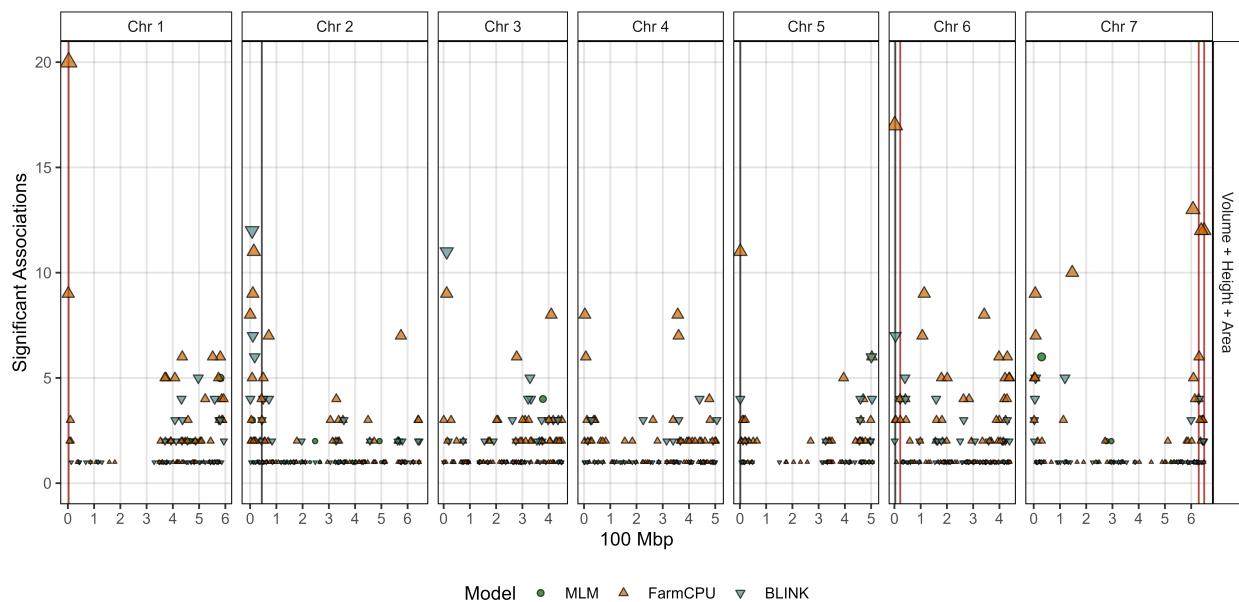
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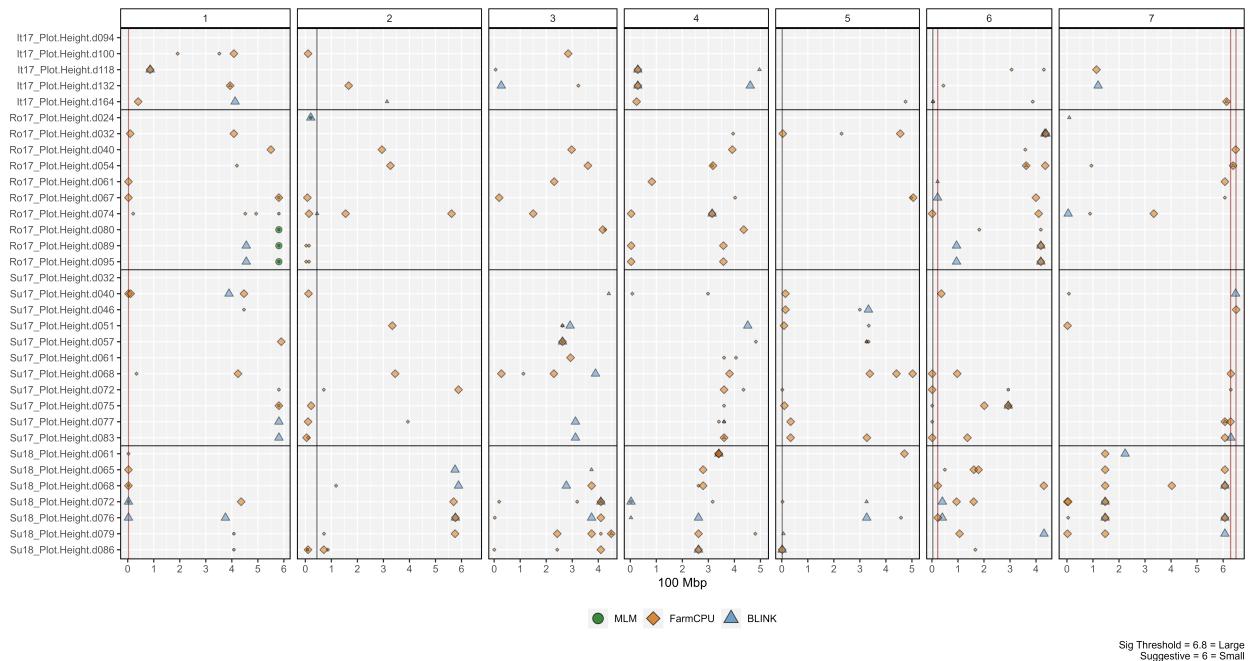


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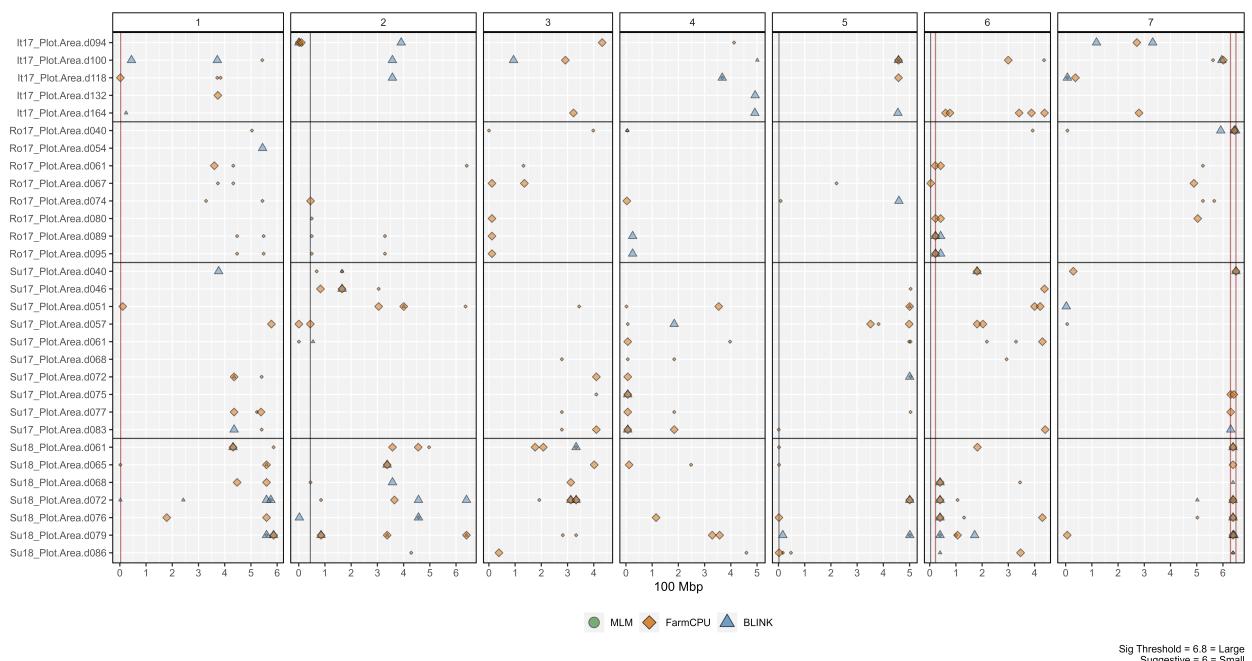


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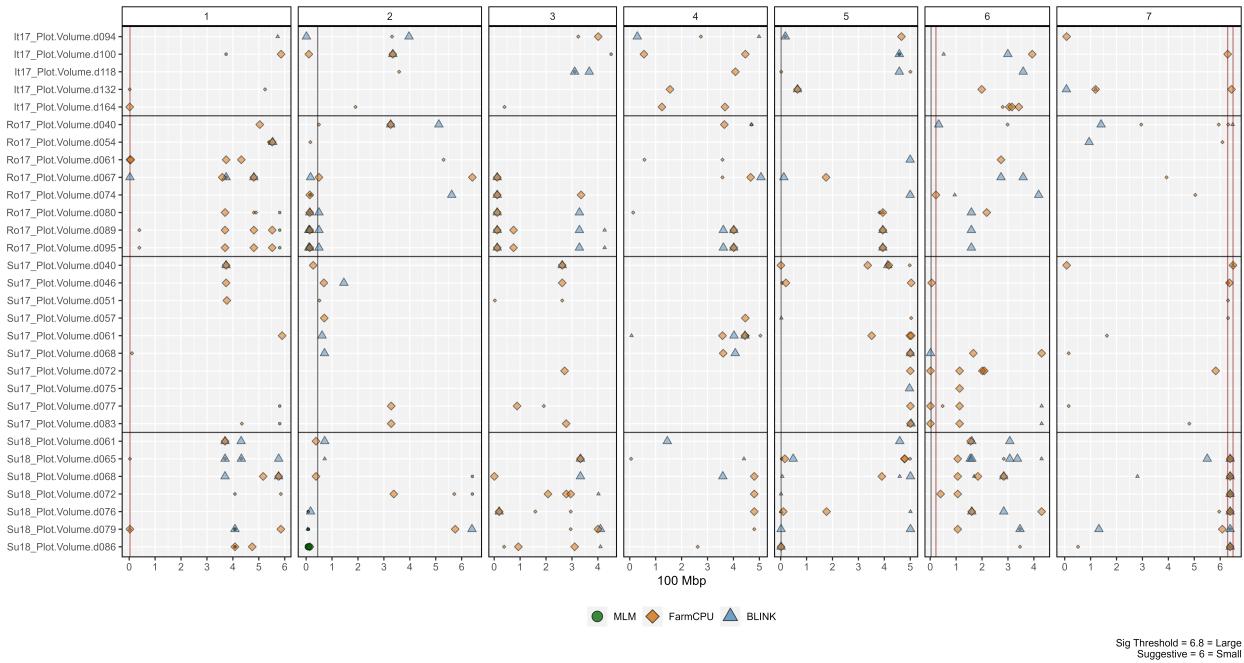
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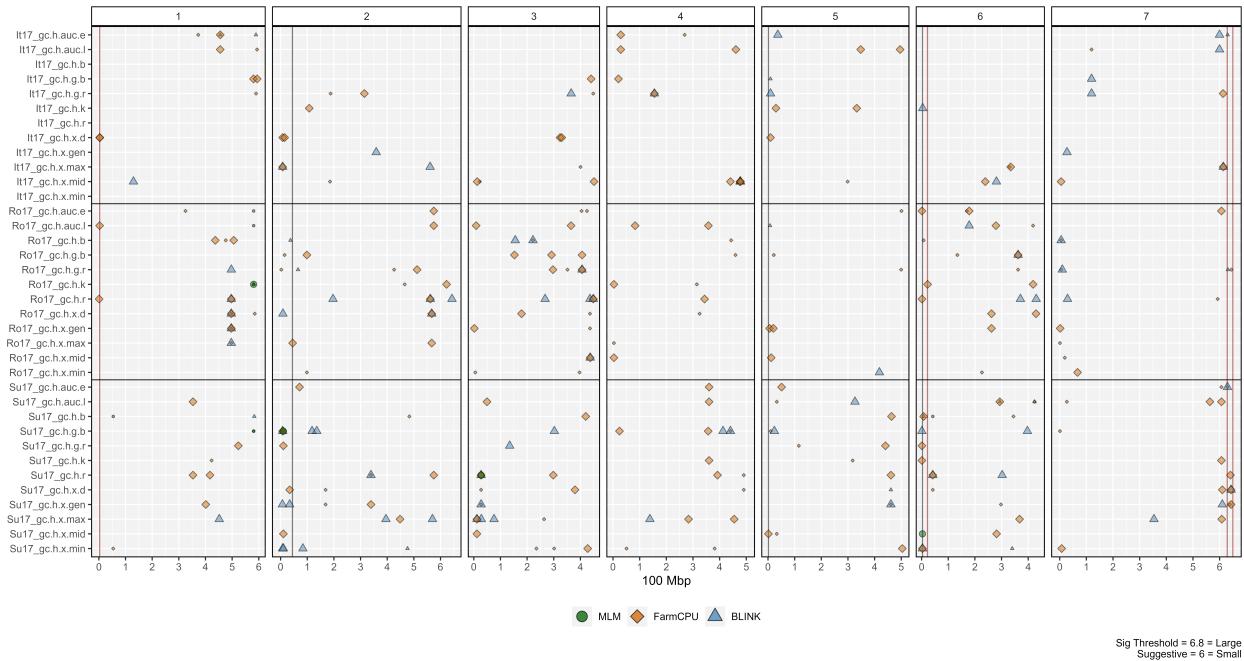
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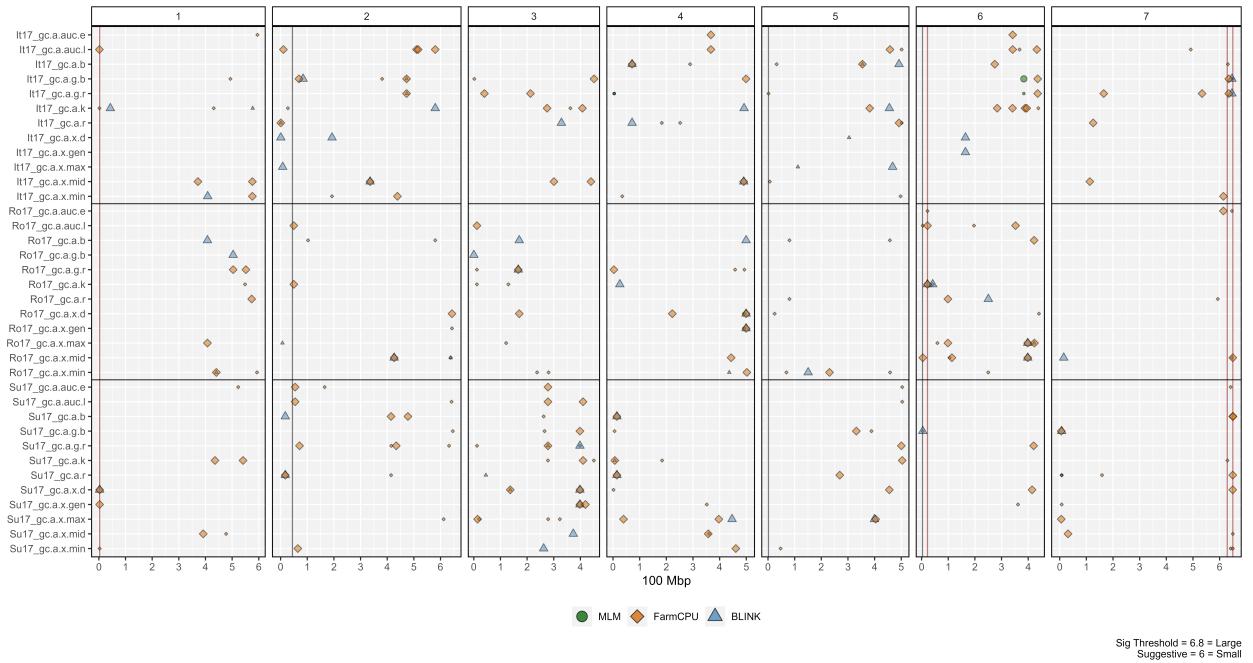
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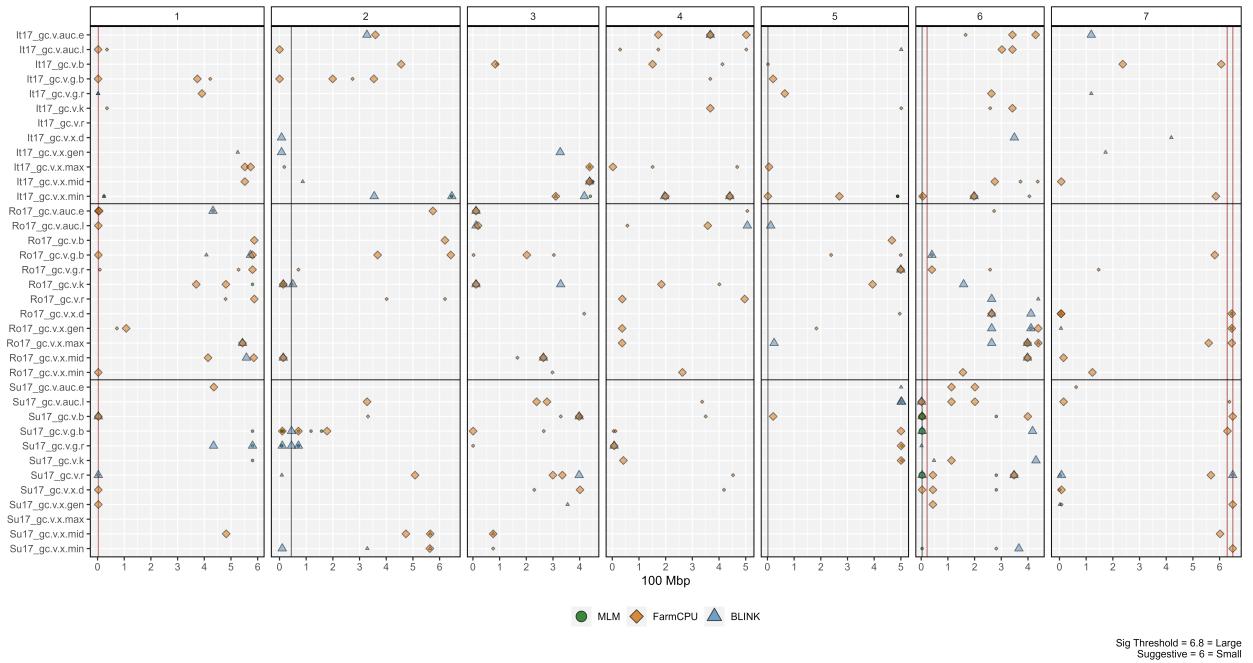
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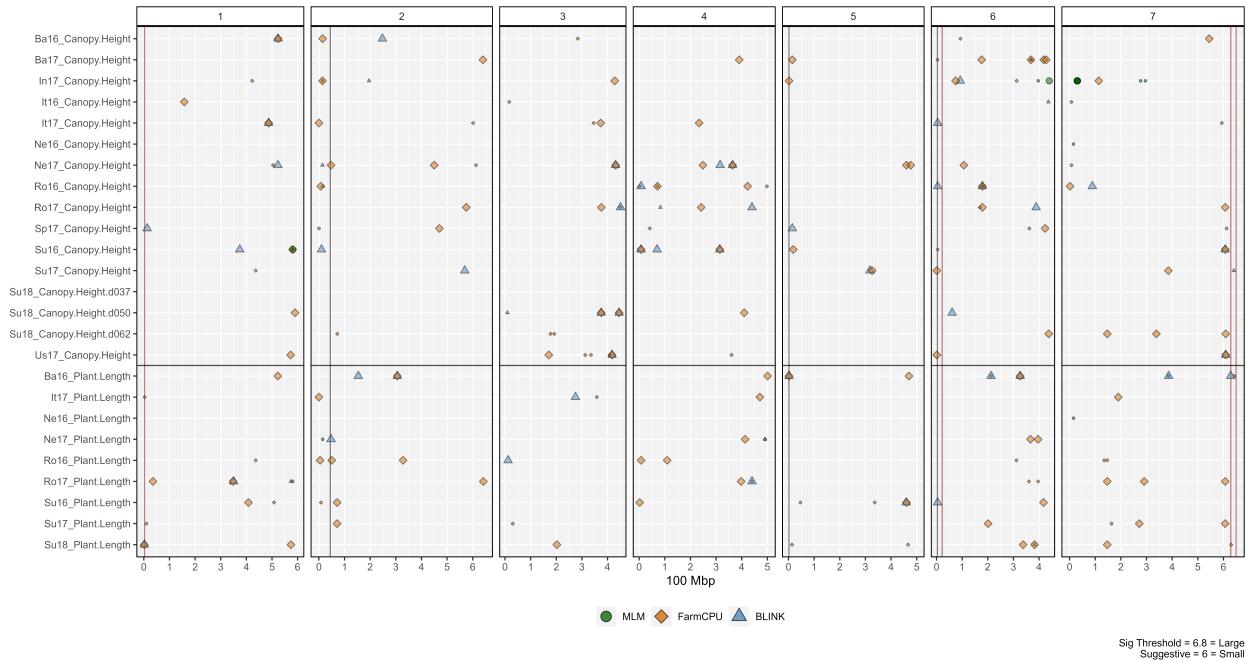
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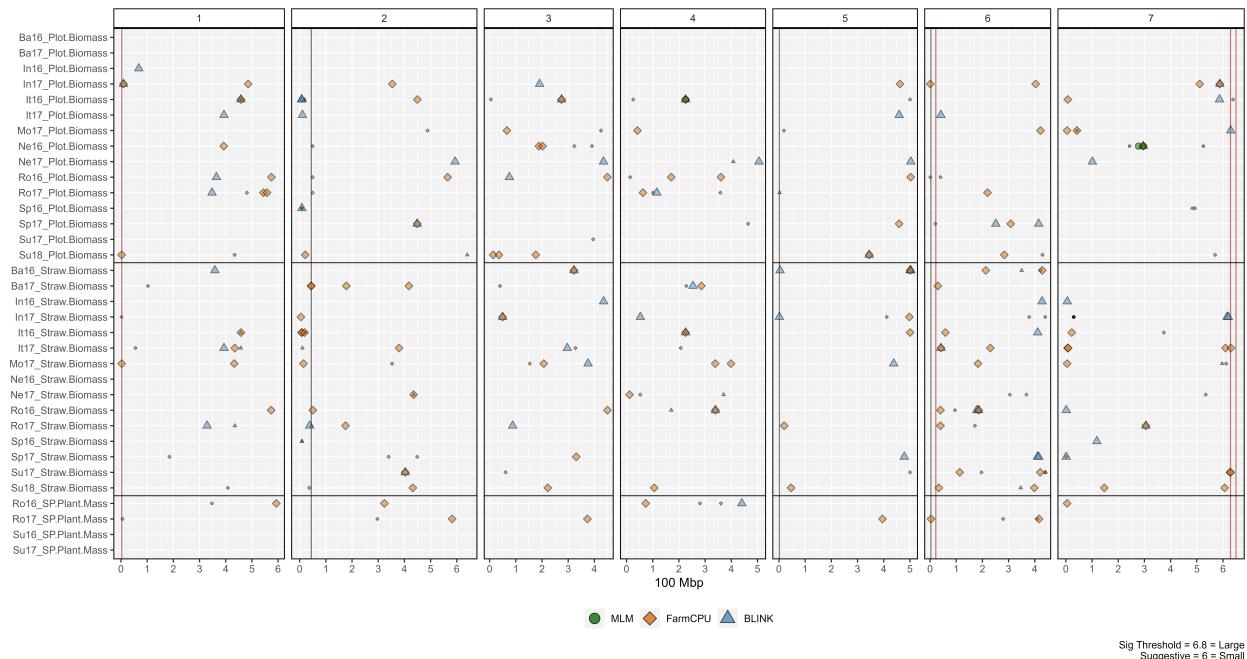
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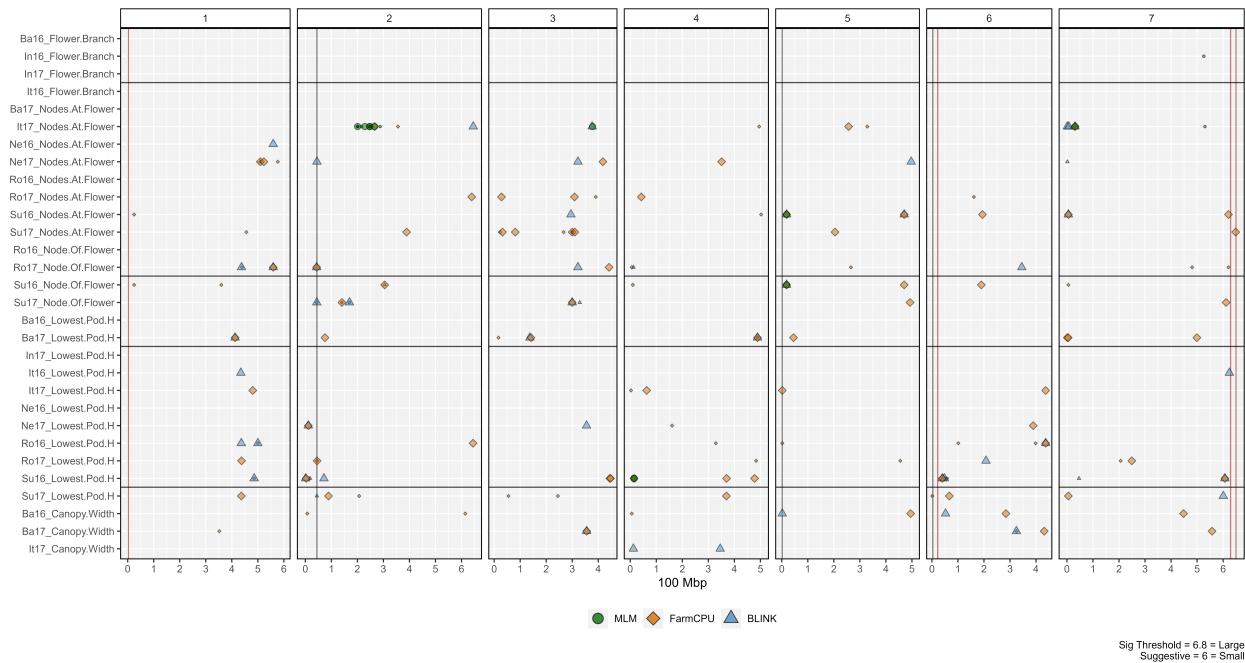
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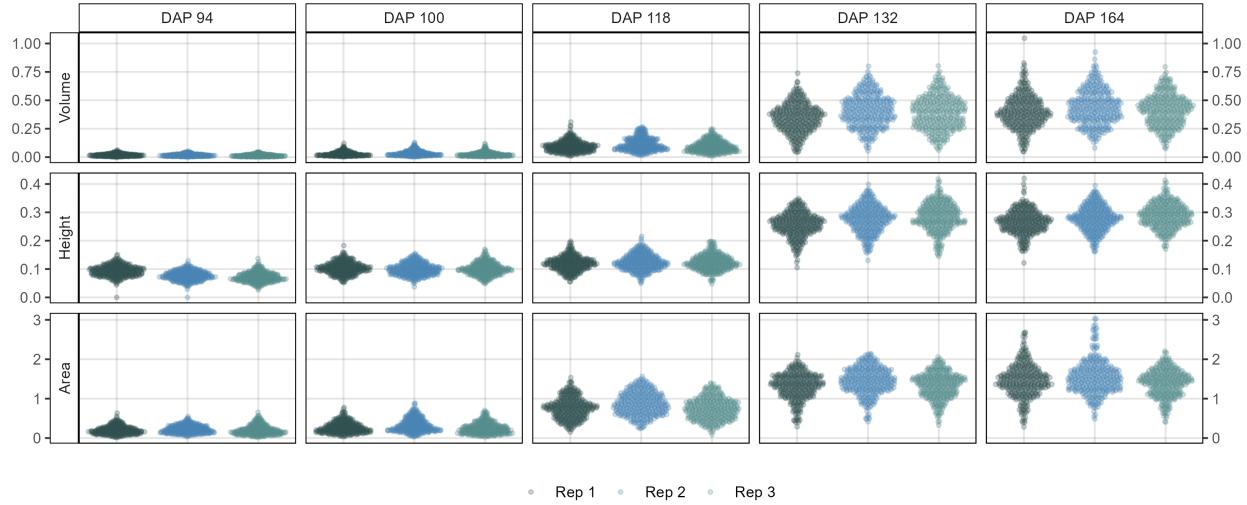


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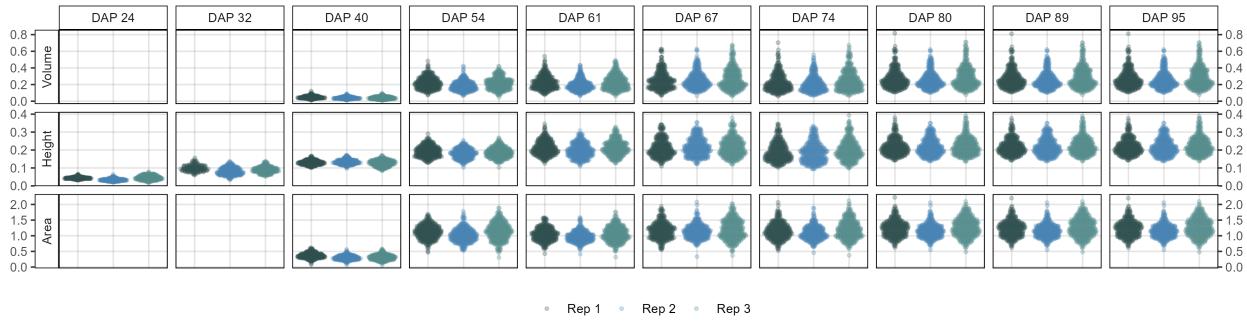
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ggDroneTrait

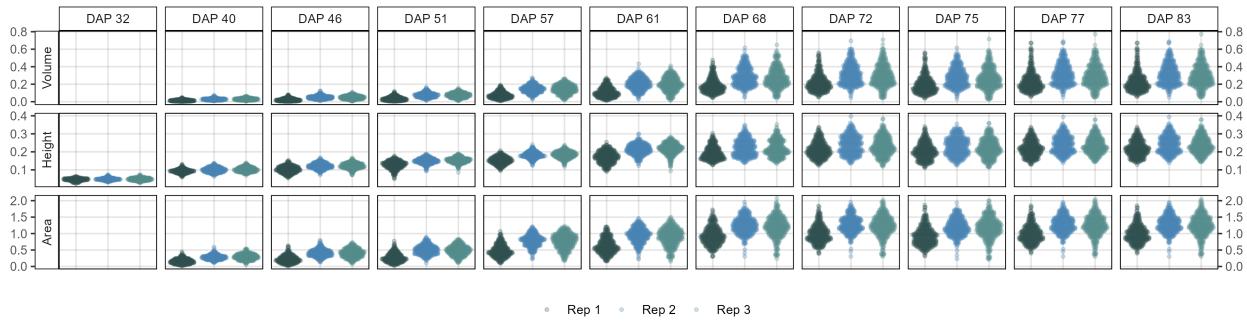
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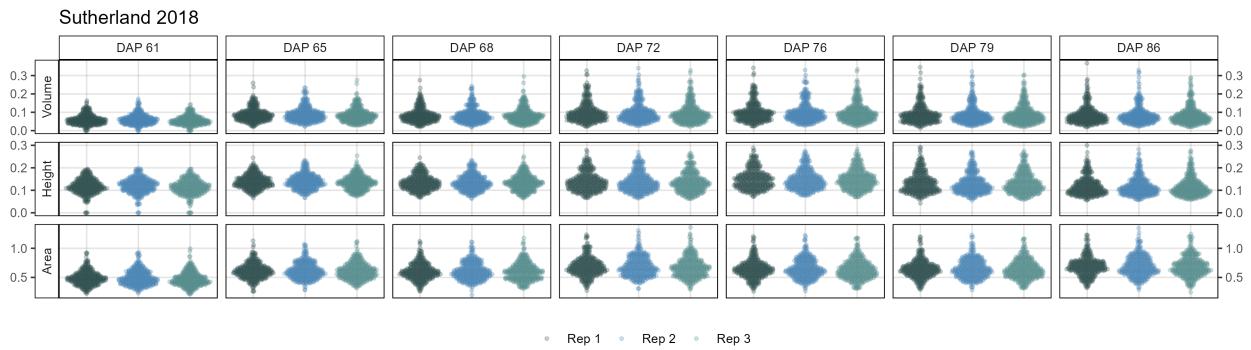


Rosthern 2017



Sutherland 2017

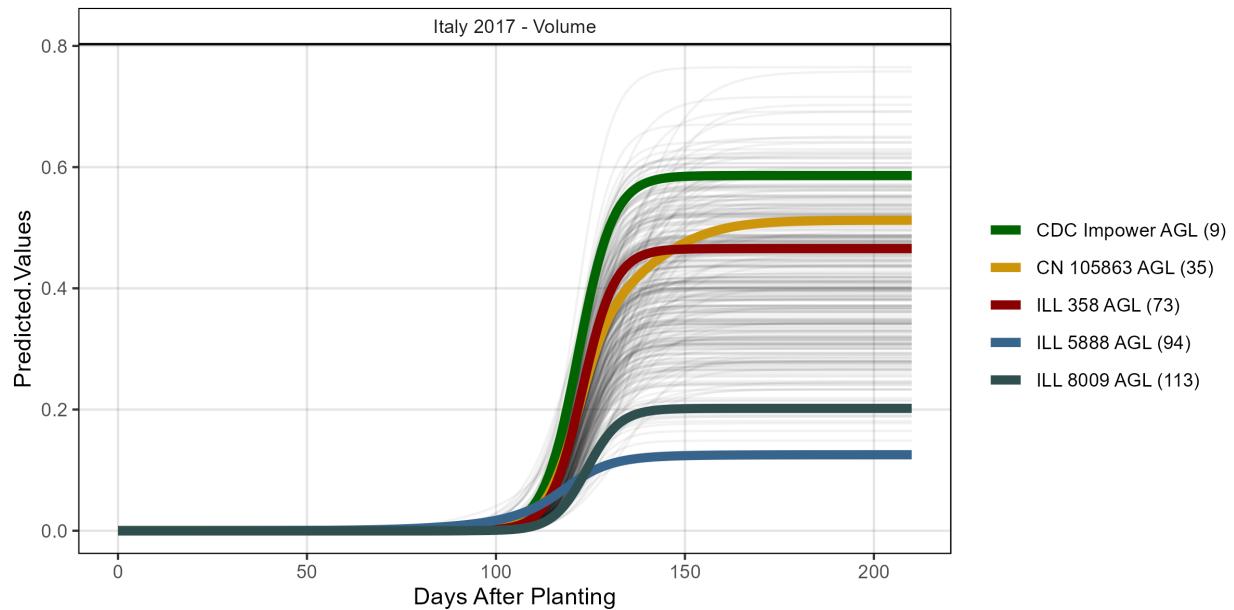




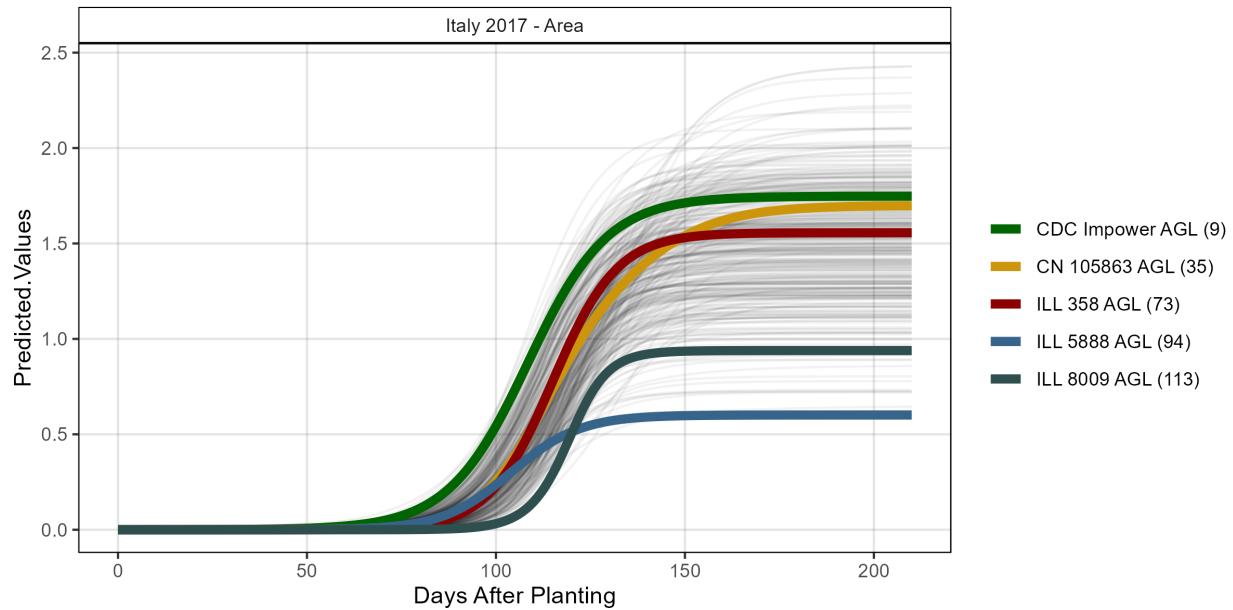
ggGrowthCurves

Italy 2017

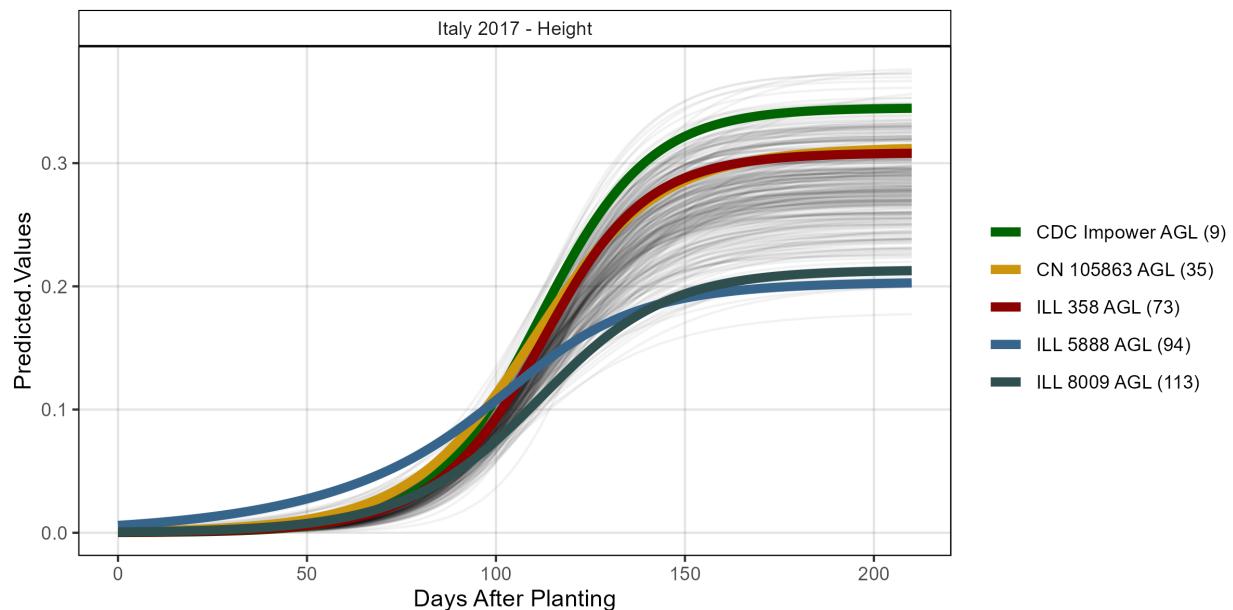
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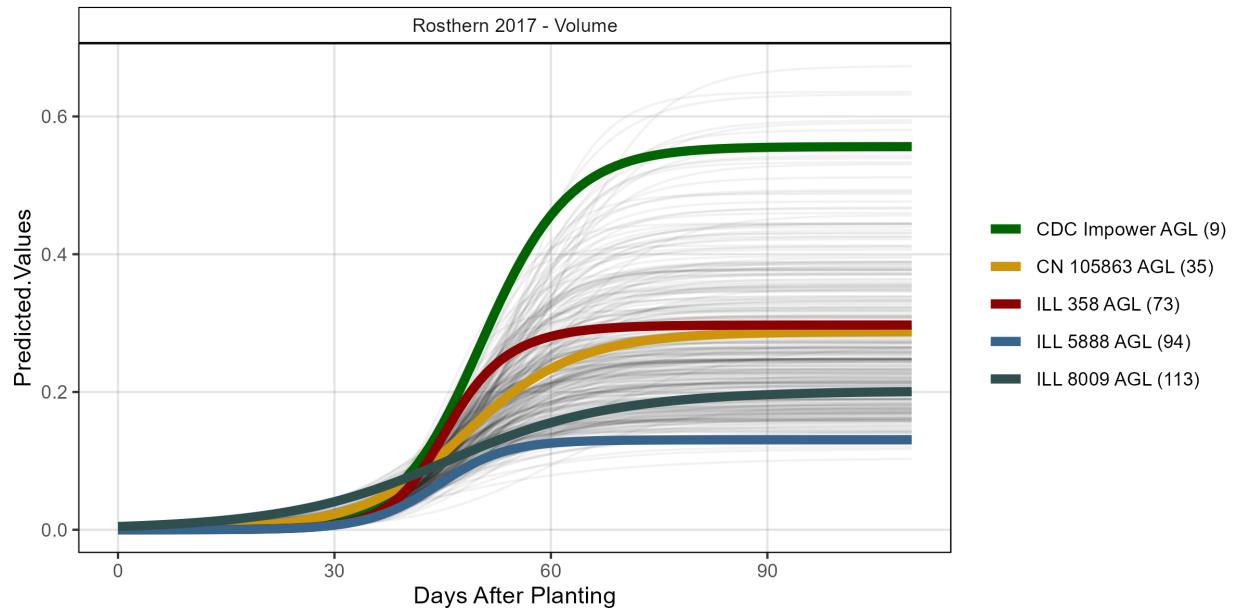


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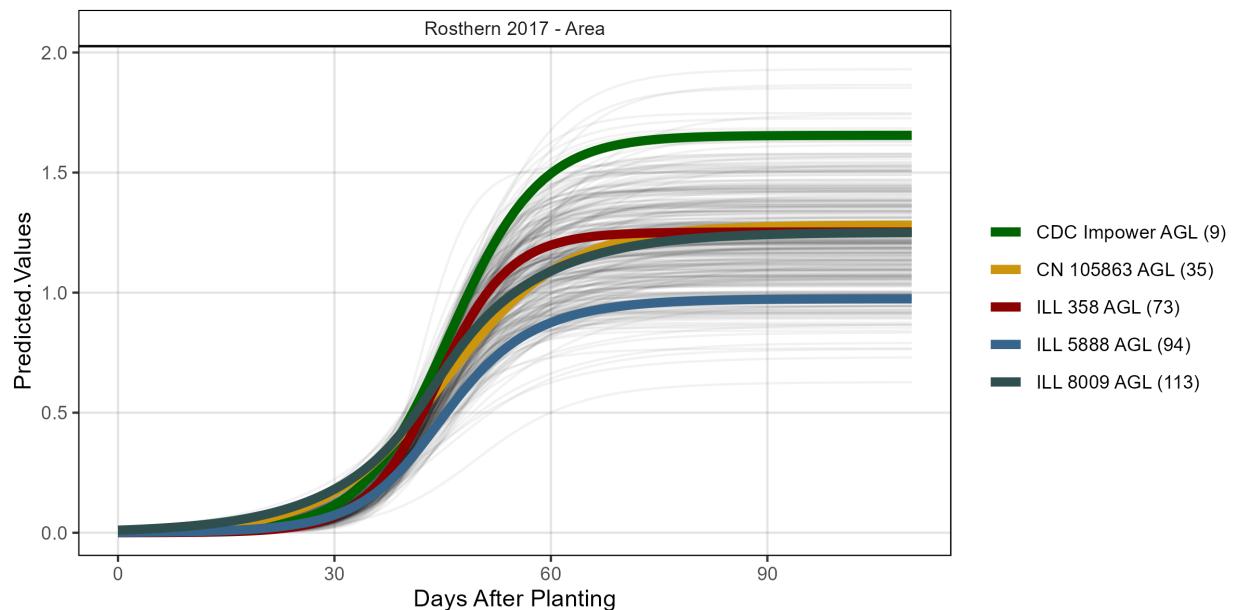


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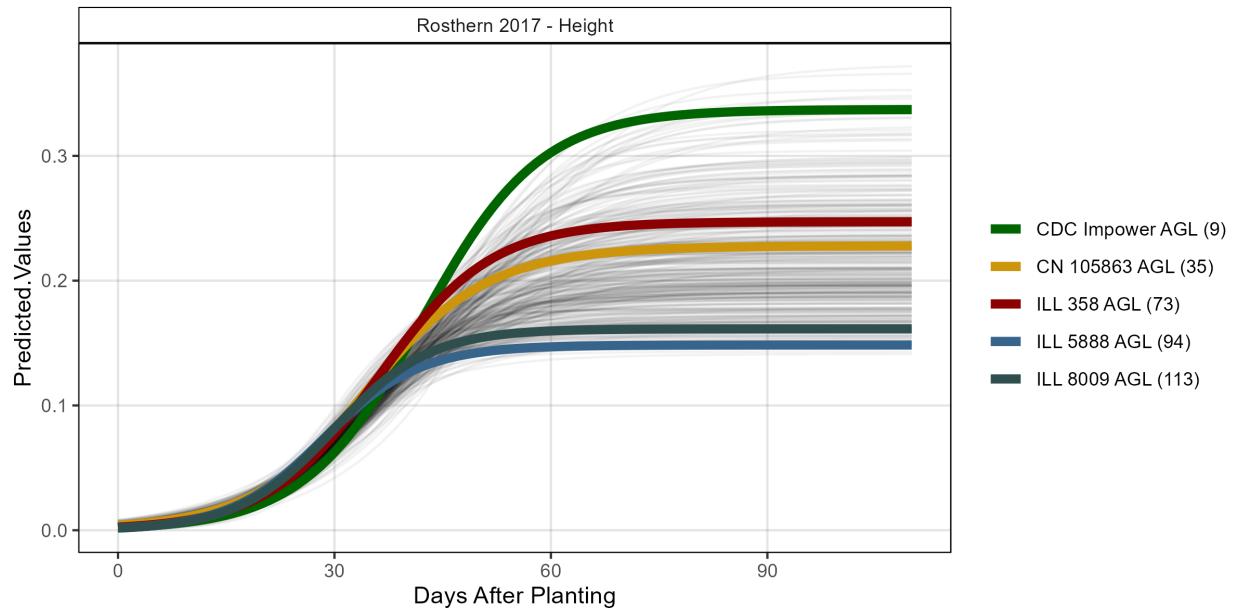
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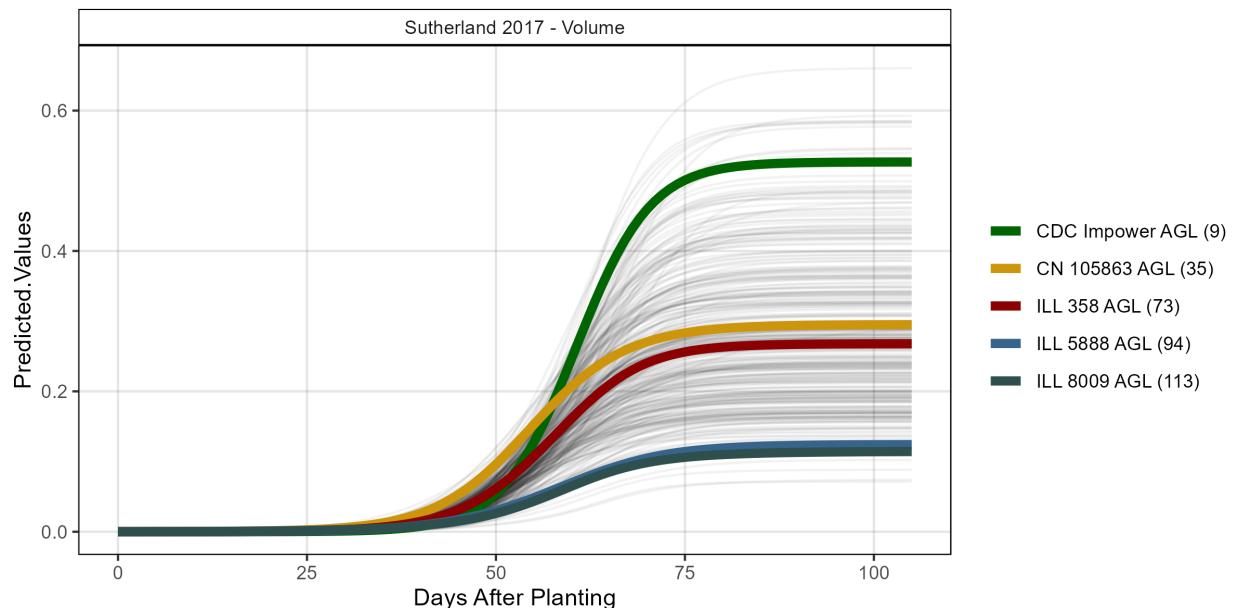


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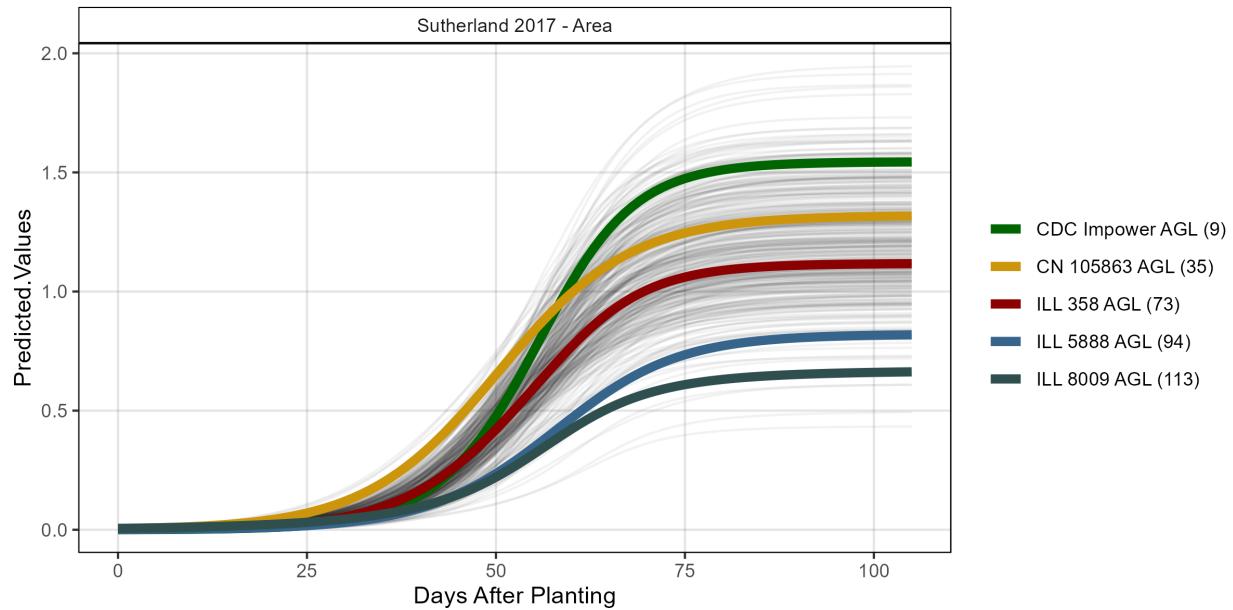


Sutherland 2017

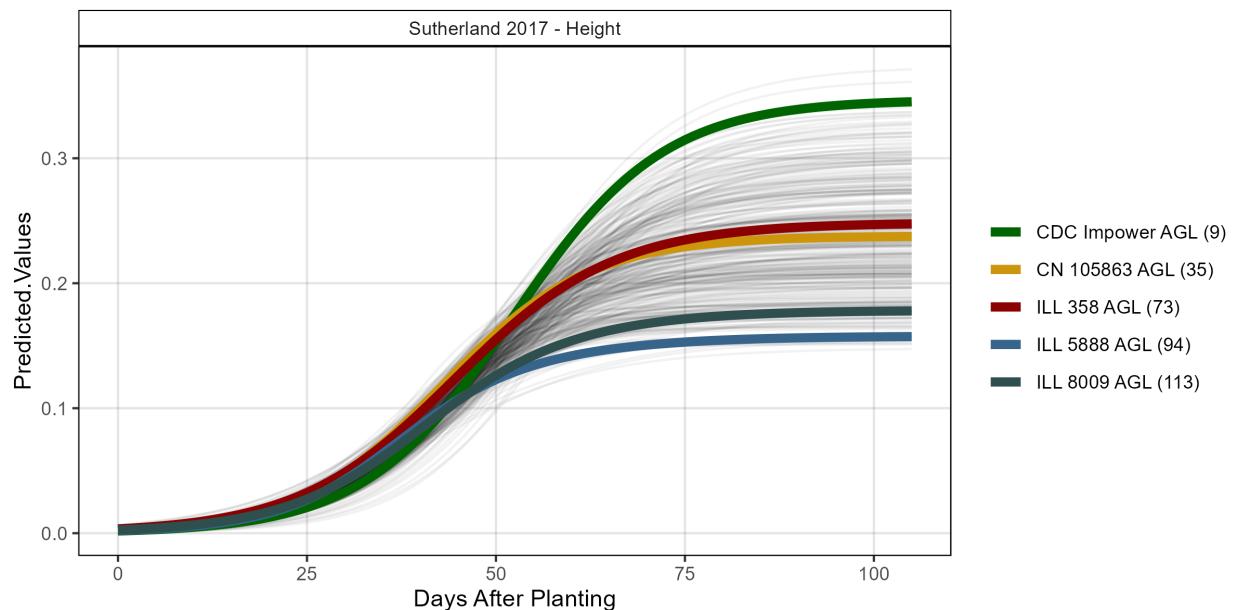
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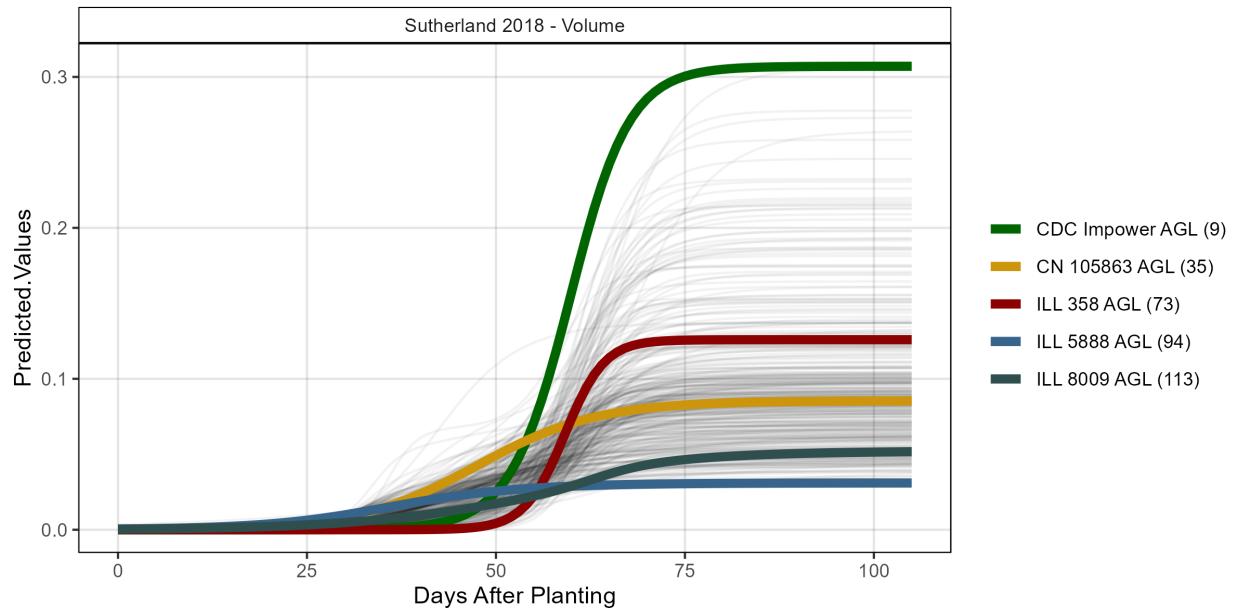


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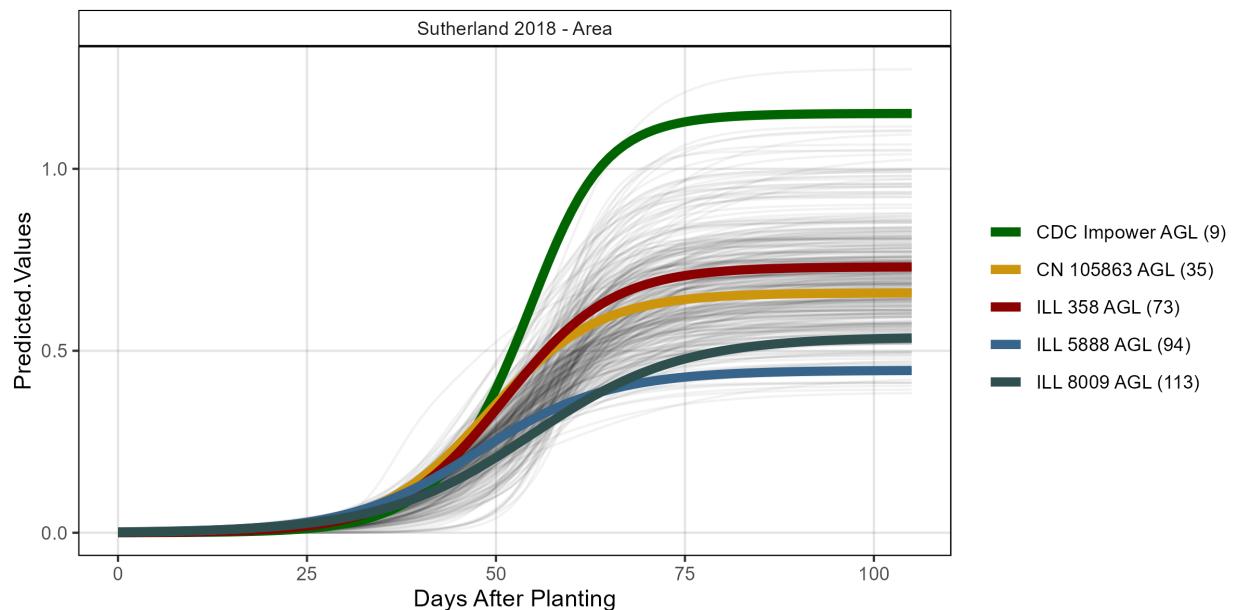


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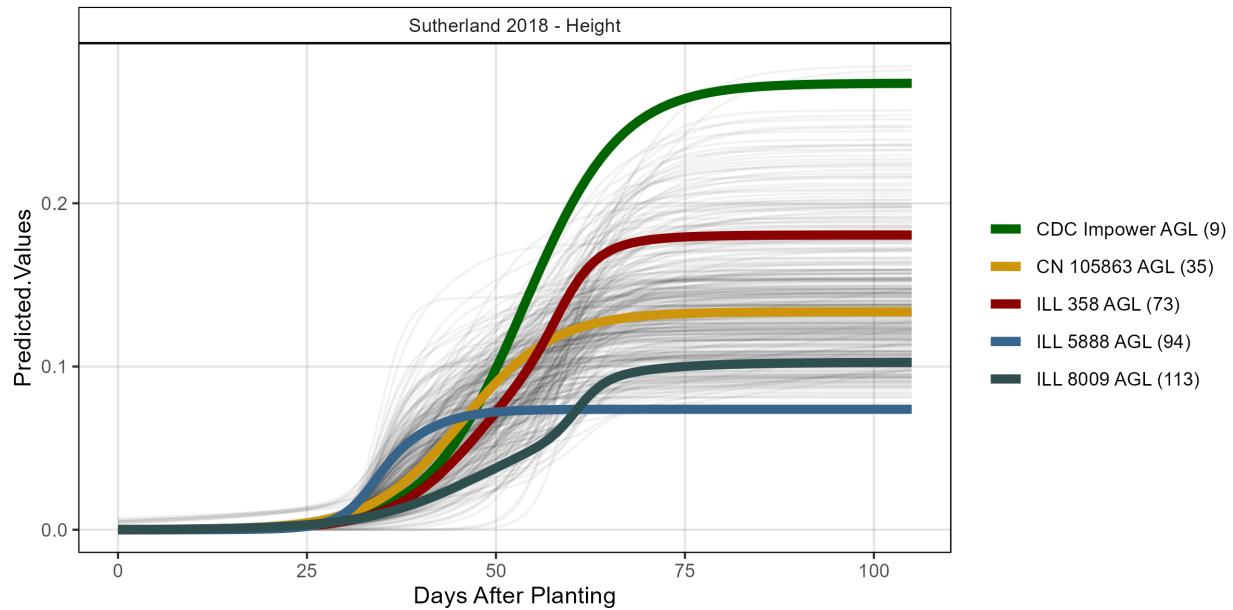
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Manhattan Plots

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