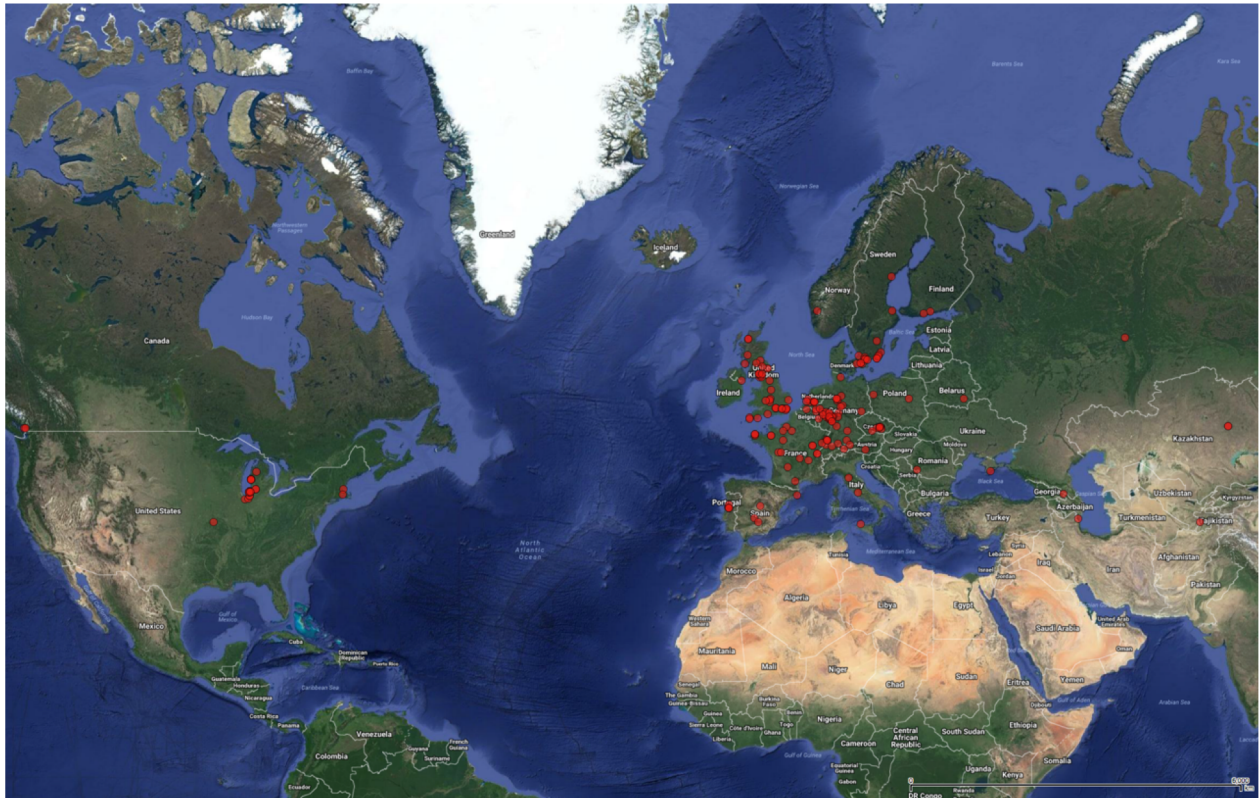
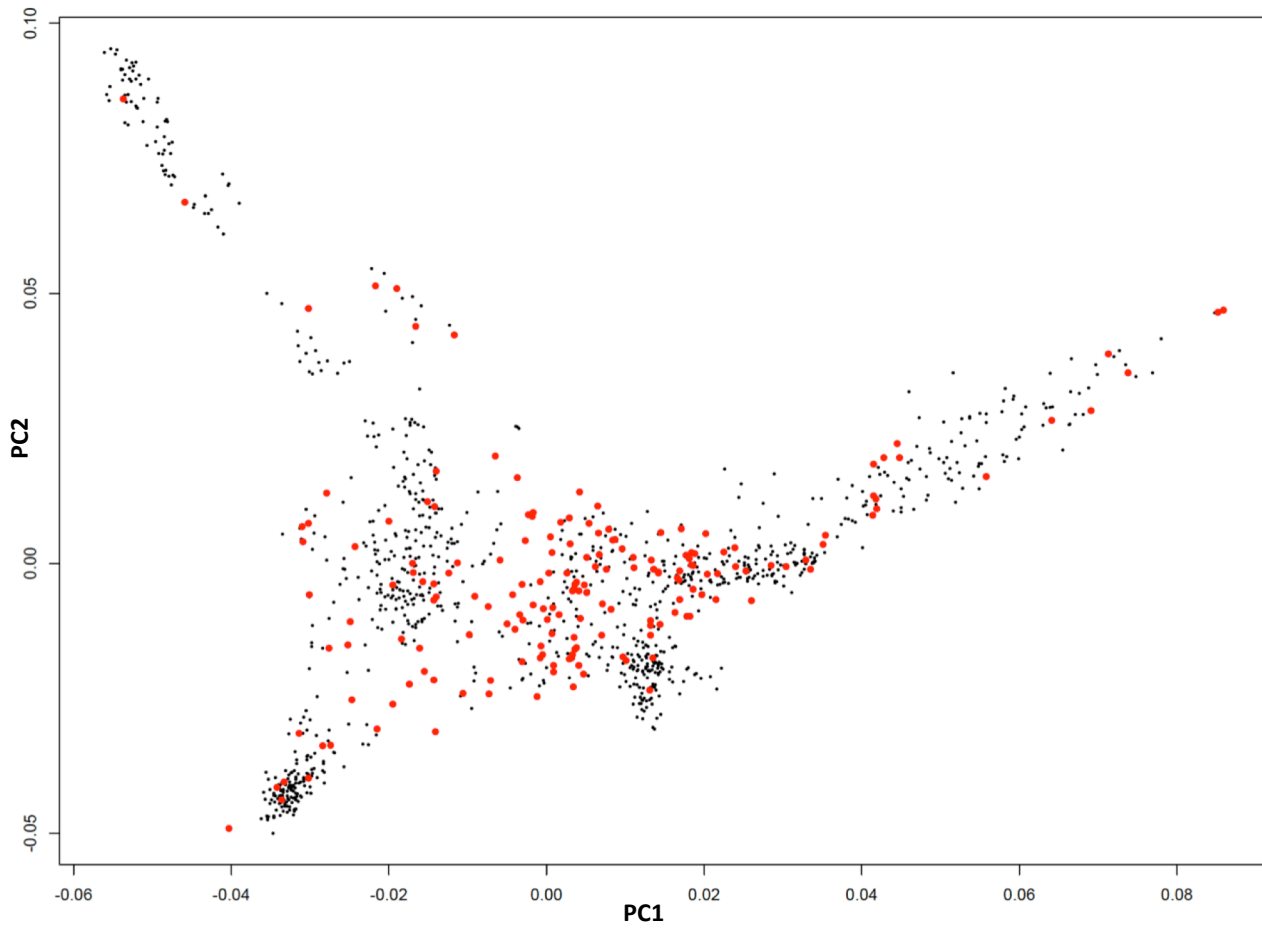


A.

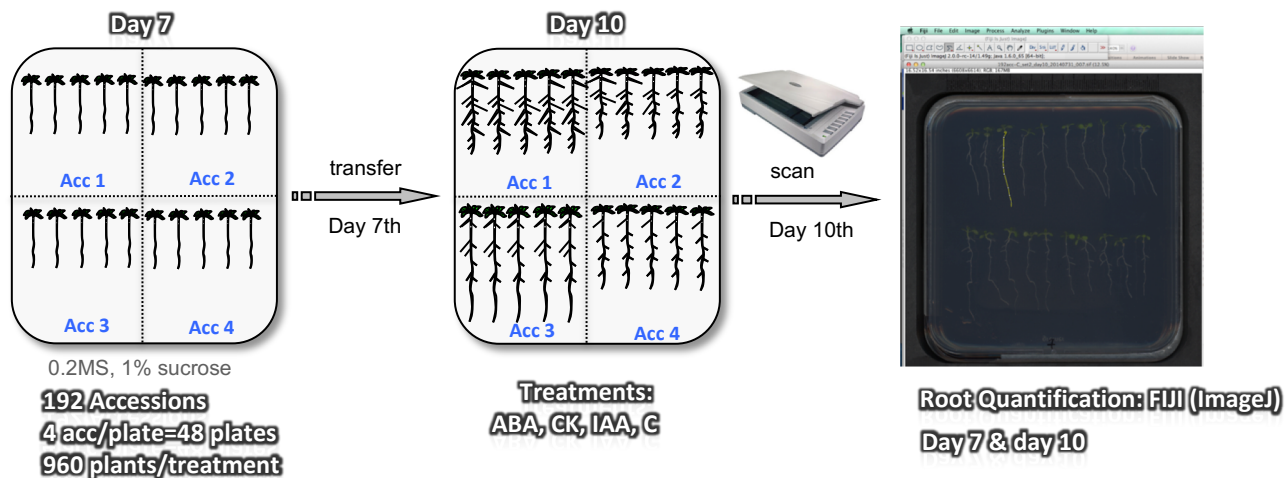


B.

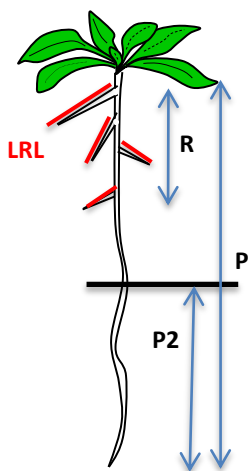


Supplemental Figure 1

A.

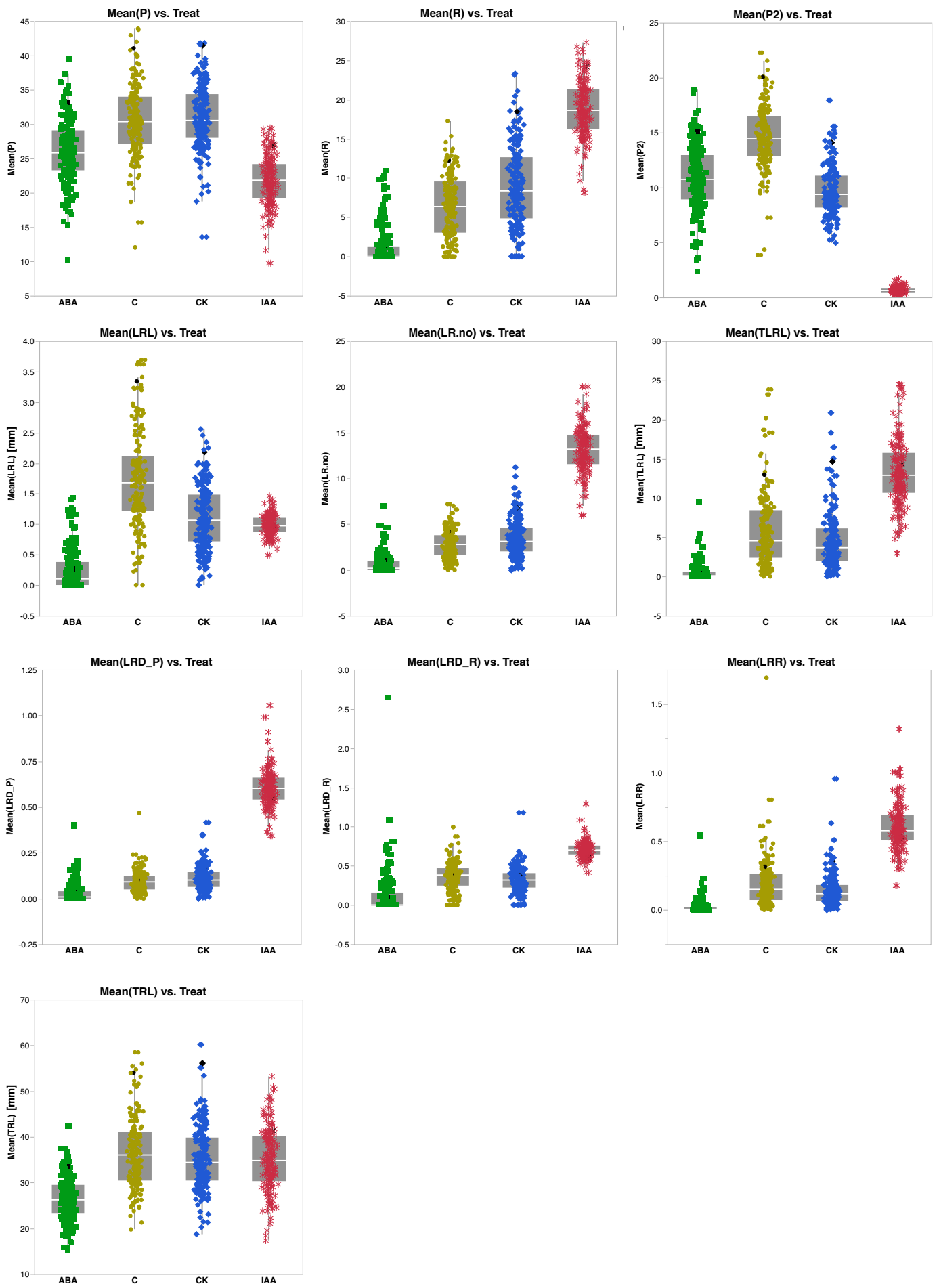


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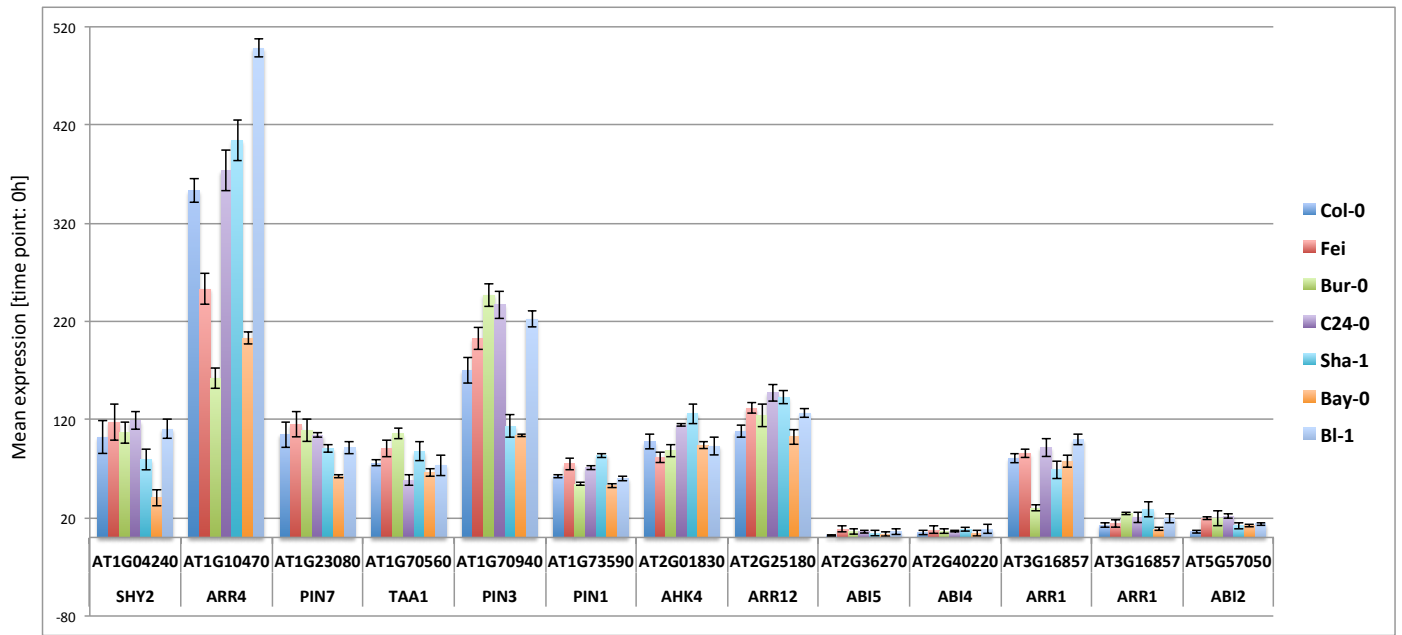


C.

| Short Symbol of Trait | Name of Trait | Formula |
|-----------------------|--------------------------------|----------------|
| P | Primary root length | - |
| P2 | Growth of P after the transfer | - |
| R | Branching zone | - |
| LRL | Average lateral root length | - |
| LR.No | Lateral root numbers | - |
| TLRL | Total lateral root length | $LR.L * LR.No$ |
| TRL | Total root length | $TLRL + P$ |
| LRD_P | Root density in P | $LR.No / P$ |
| LRD_R | Root density in R | $LR.No / R$ |
| LRR | Length ratio | $TLRL / P$ |



Supplemental Figure 3



Supplemental Figure 4

Ch.3, 6127399

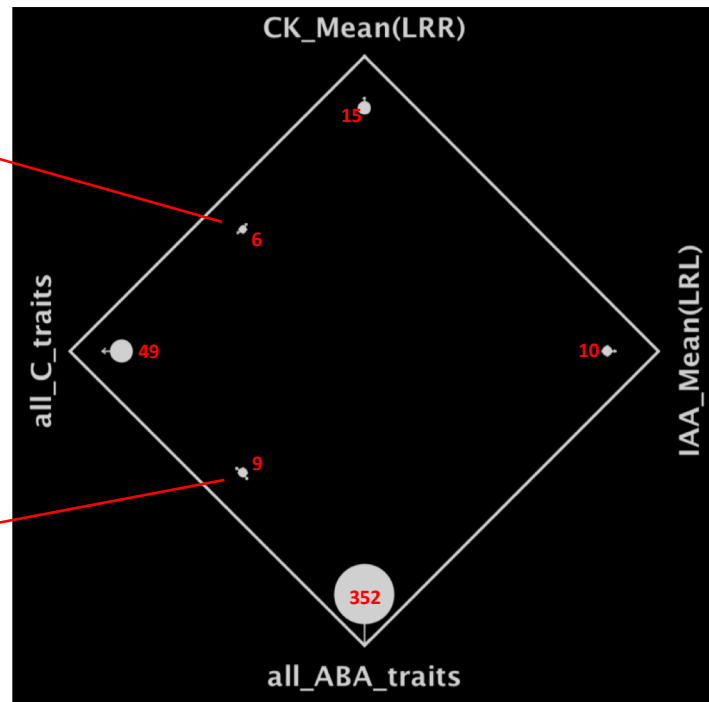
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AT3G17910
AT3G17920

Ch.3, 18730847

AT3G50450
AT3G50460
AT3G50470
AT3G50480
AT3G50490

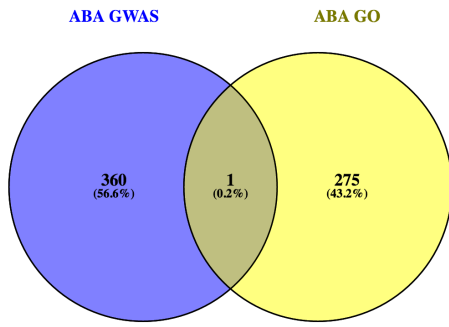
Ch.5, 25847727

AT5G64667
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AT5G64680
AT5G64685

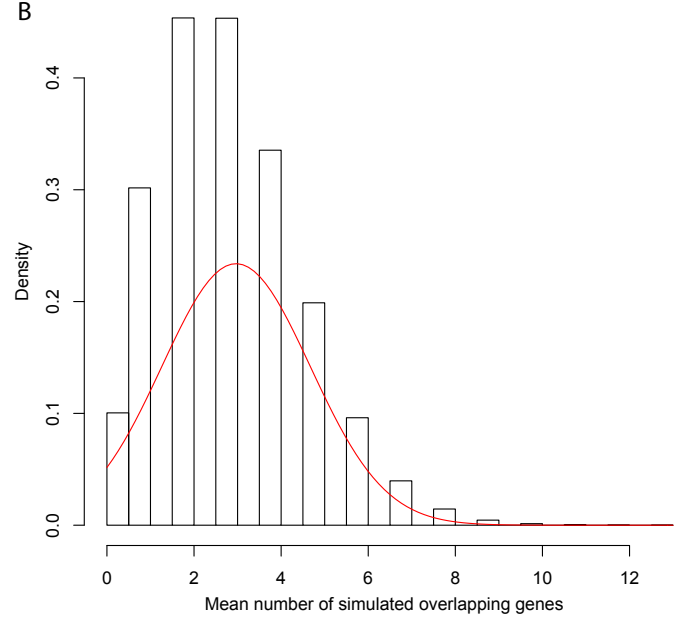


Supplemental Figure 5

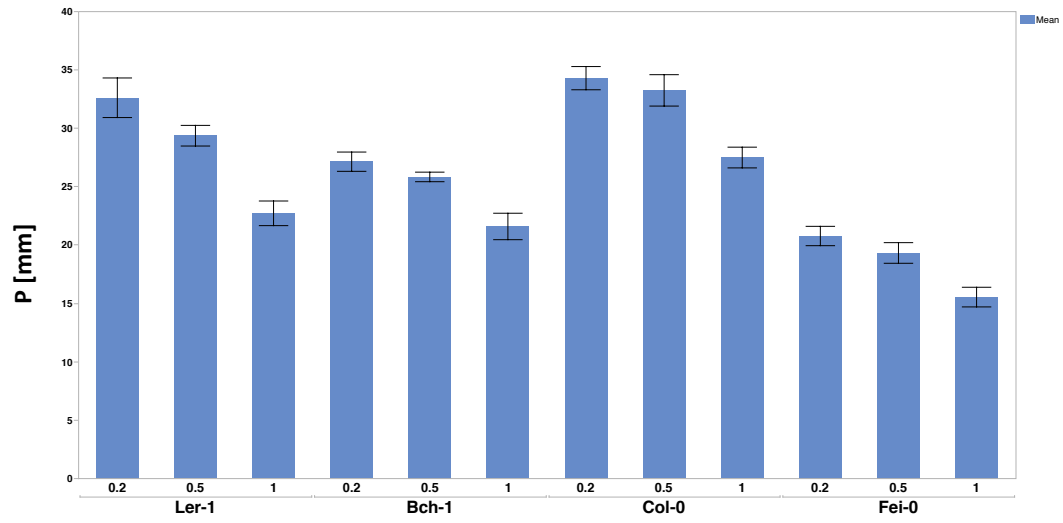
A



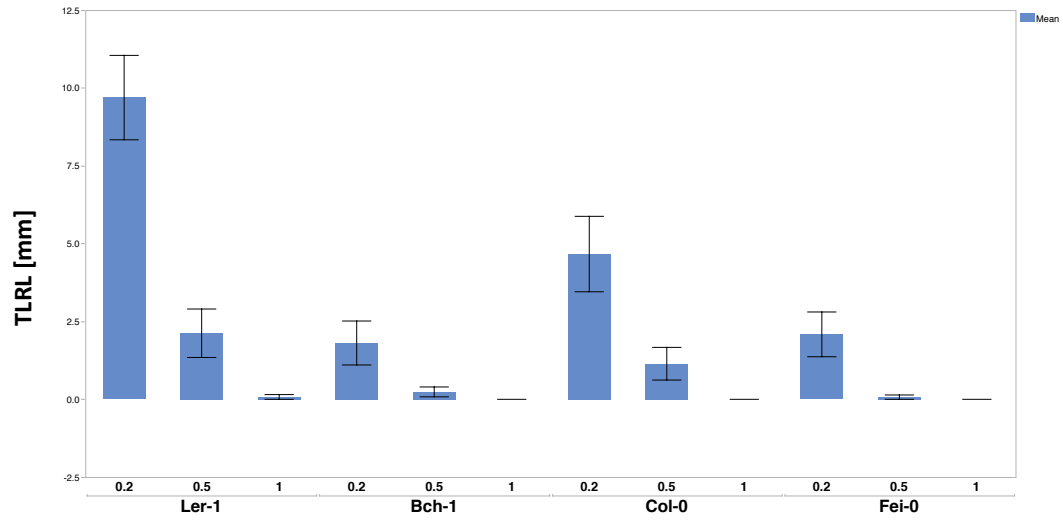
B



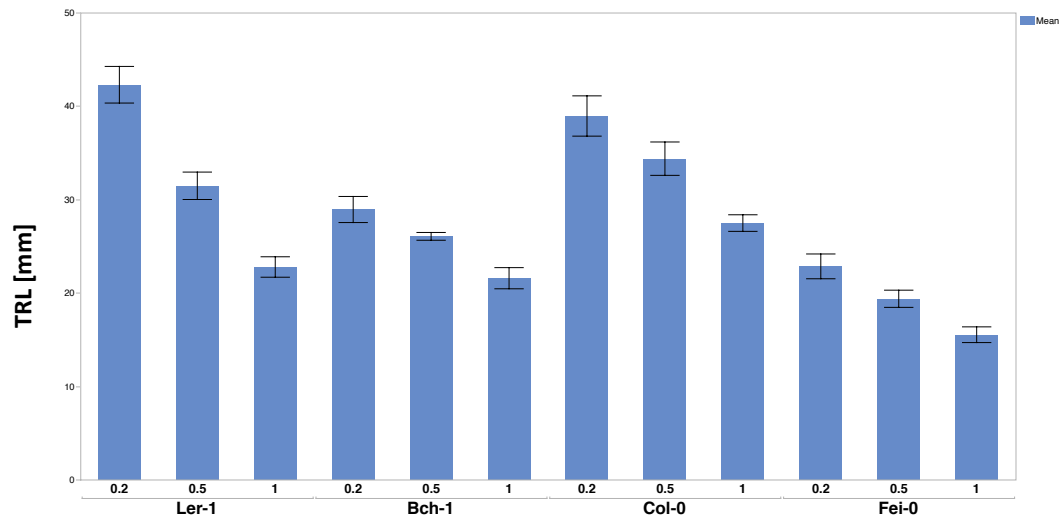
A.



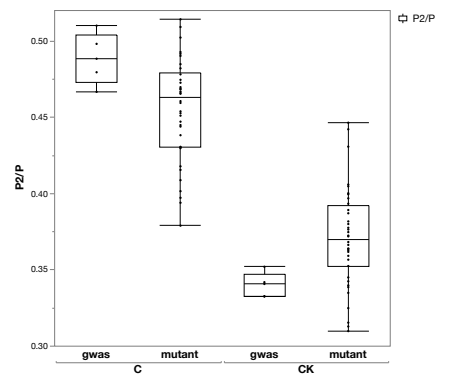
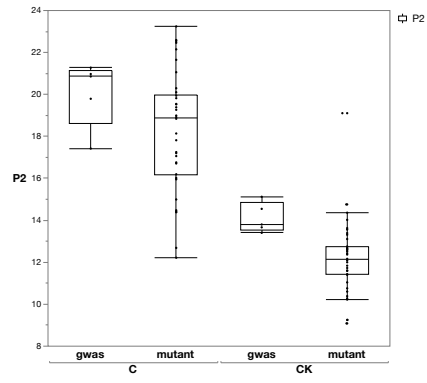
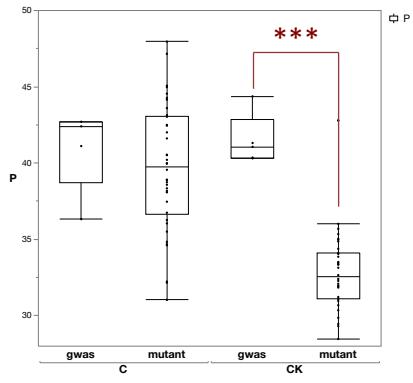
B.



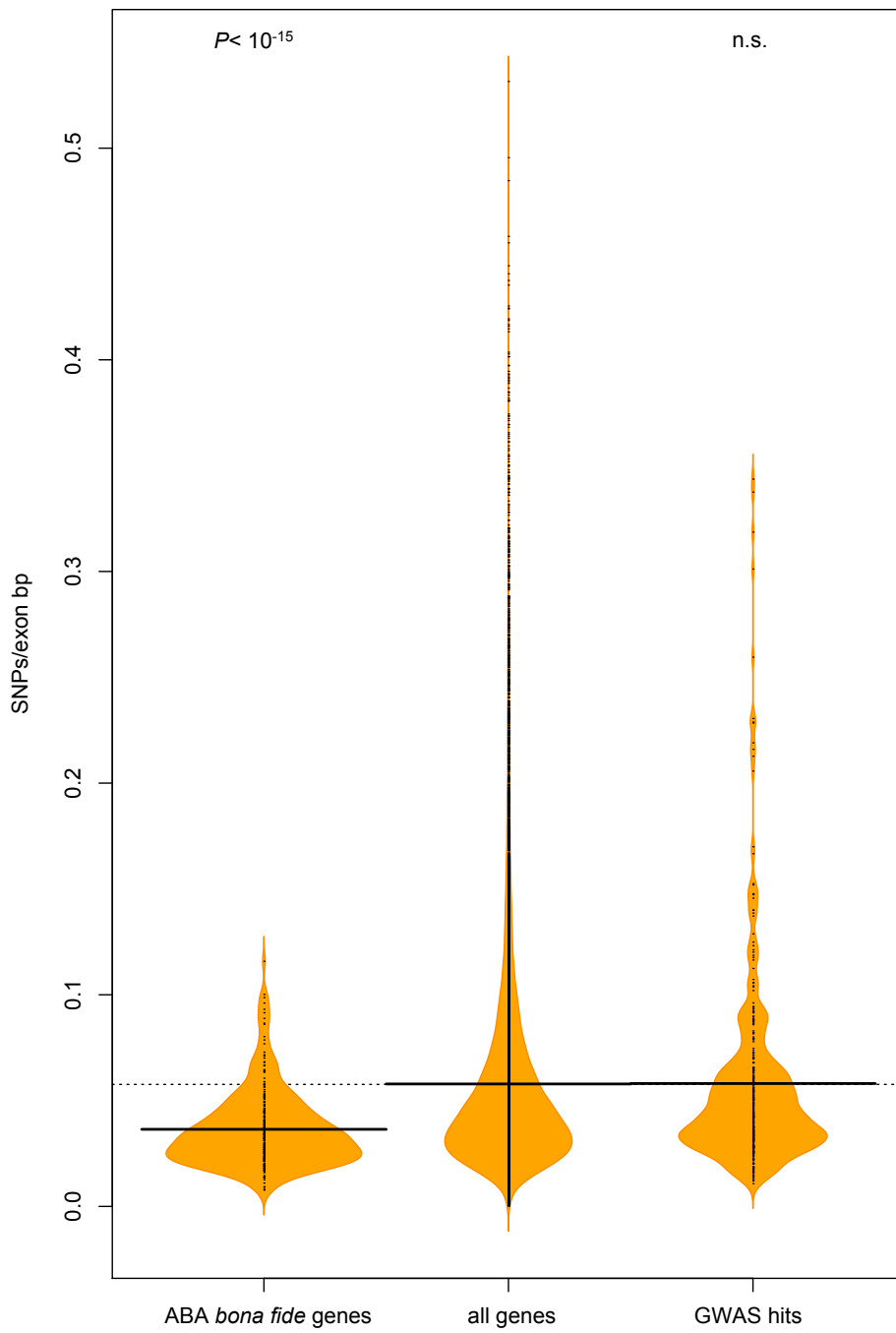
C.



Supplemental Figure 7



Supplemental Figure 10



Supplemental Figure 11