

Response of selected full-sib yellow mealworms to diet and density modifications : a GxE analysis

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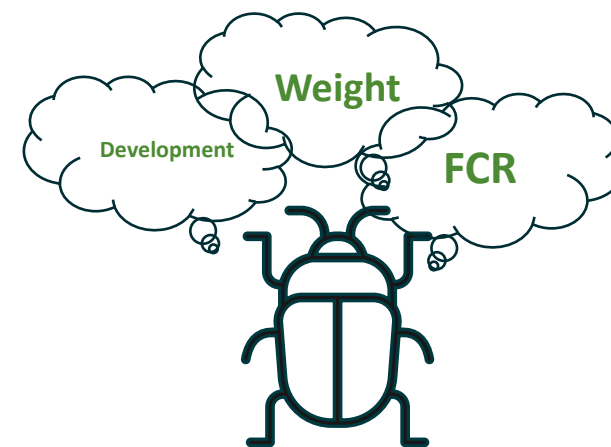


YnFABRE
Ynsect's FAcTory of BREeders

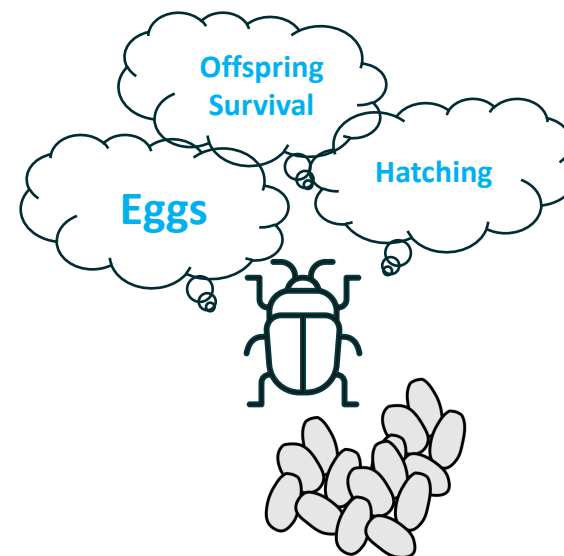


Reference population

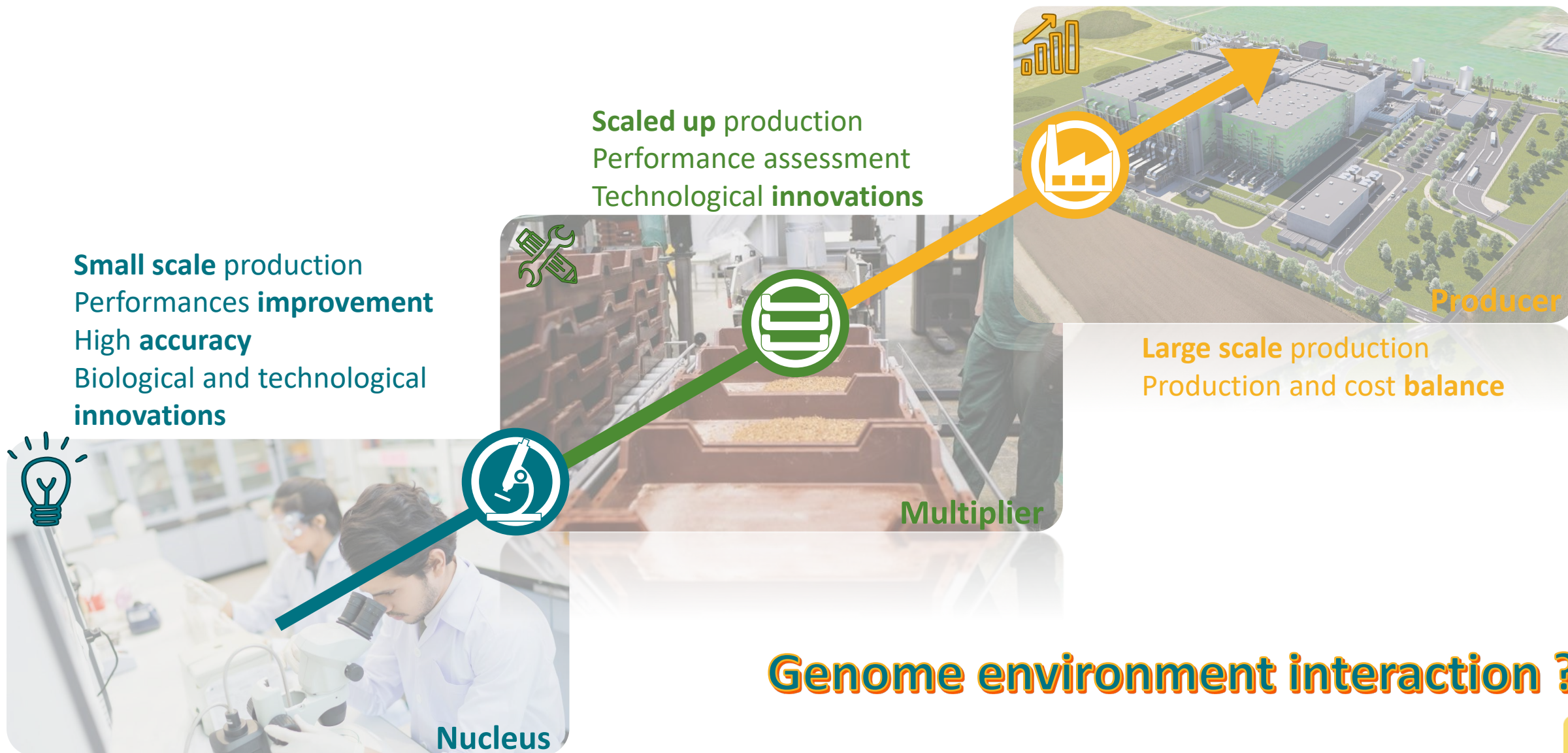
Sellem et al. (2024)



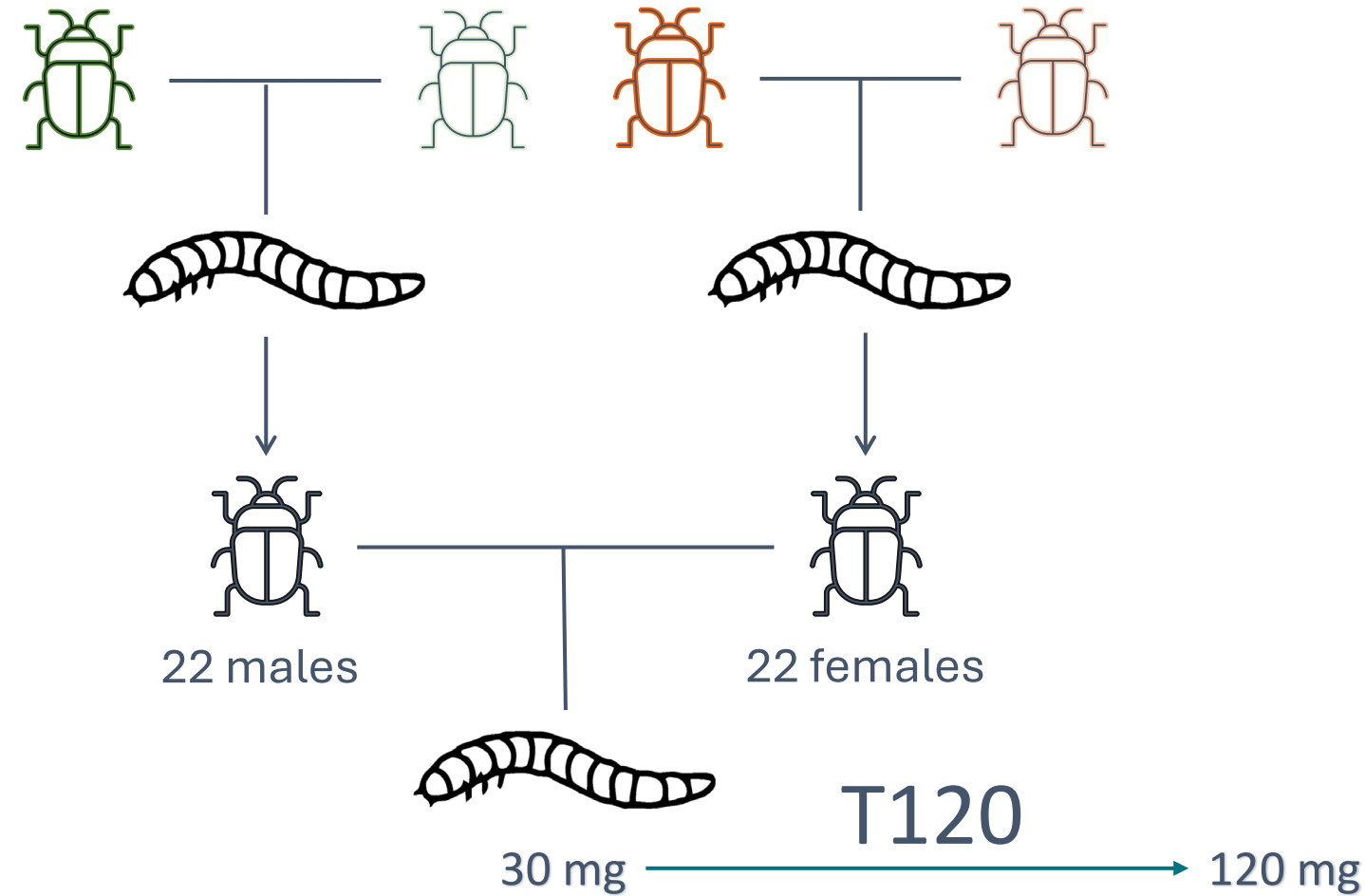
Growth



Reproduction



Material and methods



Diet : high
Density : low

Diet : high
Density : high

Diet : low
Density : low

Diet : low
Density : high

26°C

60% RH

Constant darkness



Low diet : Farm diet
High diet : Ynfabre diet

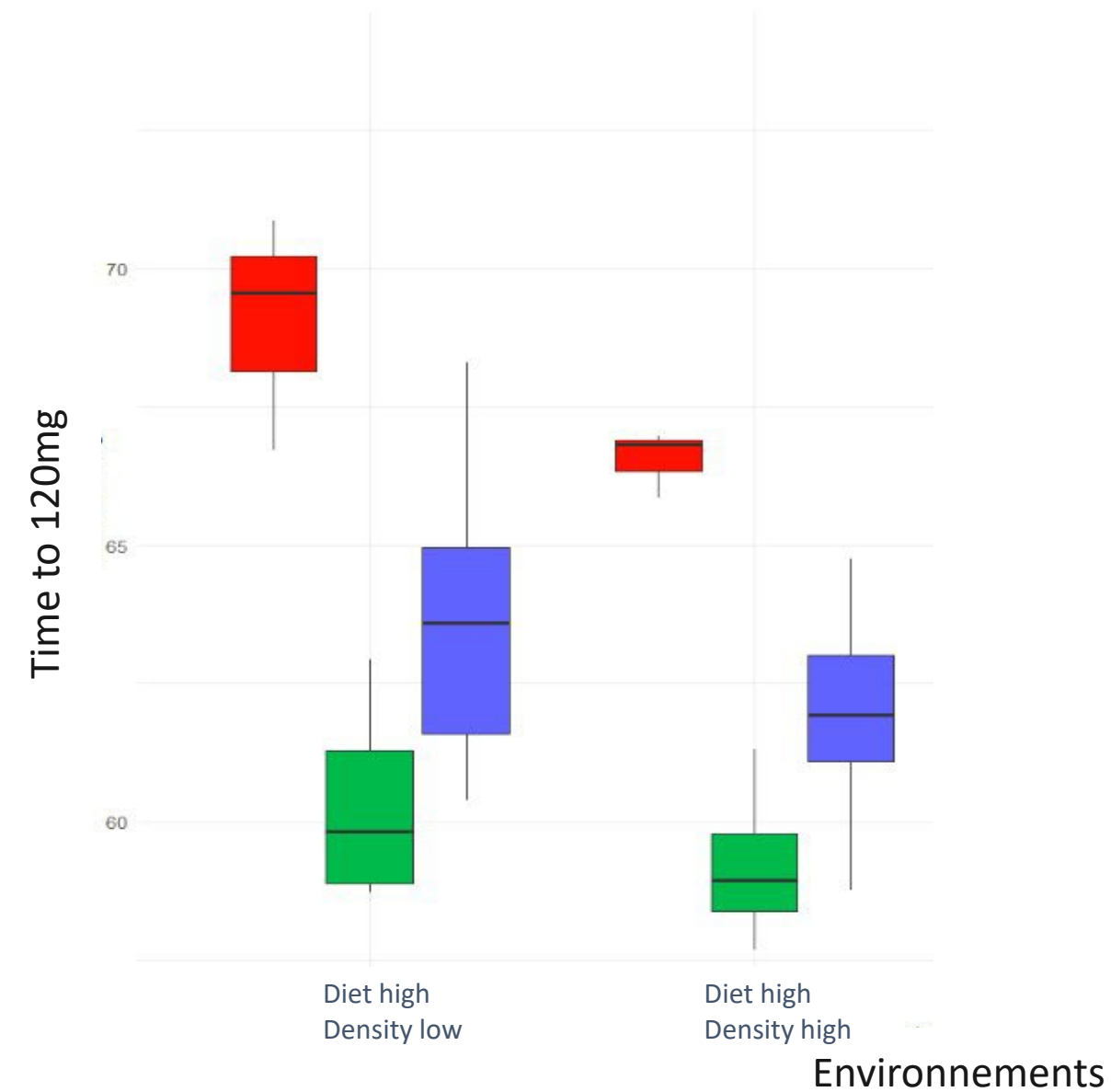


Low density : 0,1g/cm²
High density : 0,7g/cm²

Results group-wise



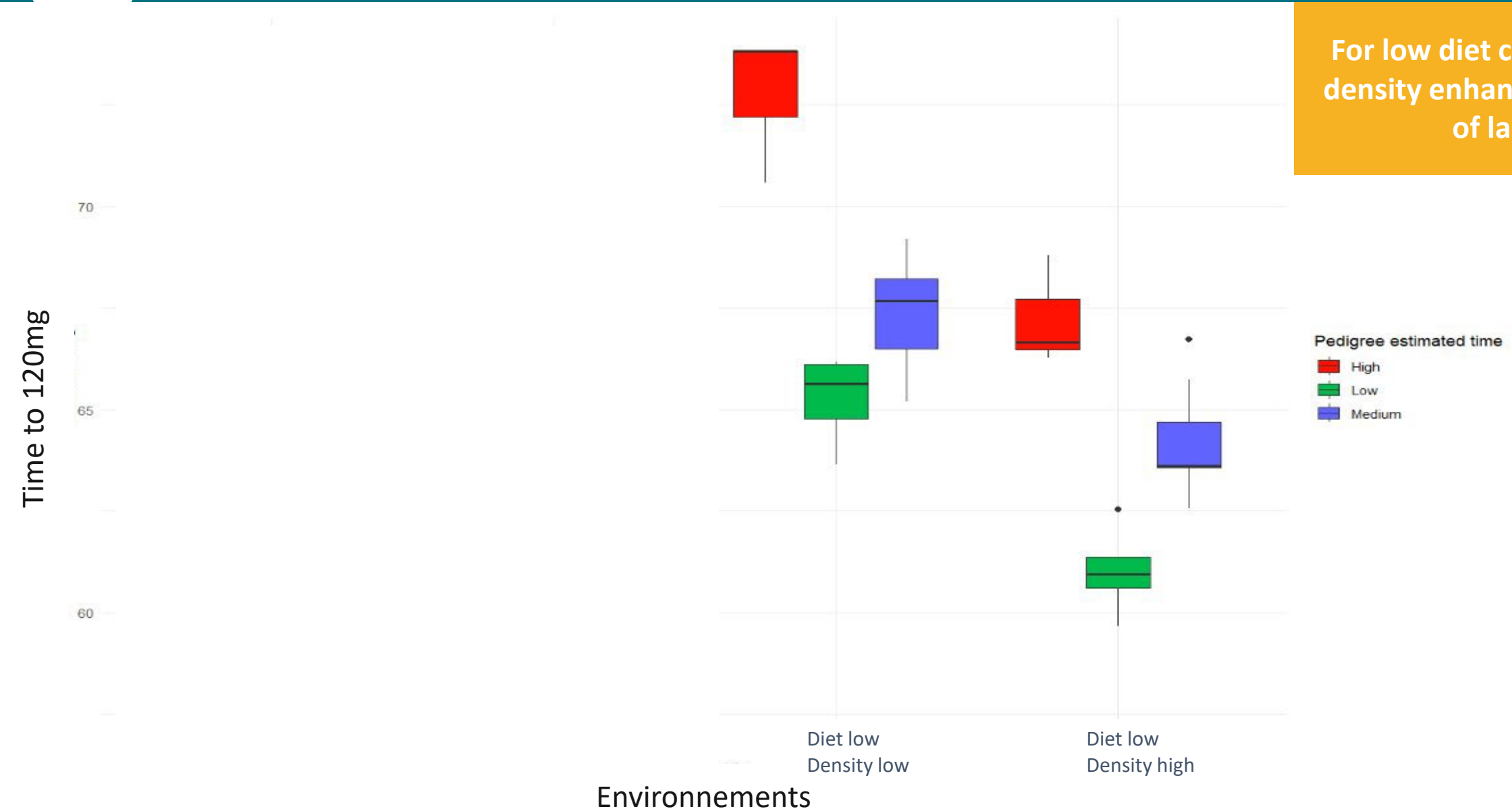
For high diet condition, high density enhance the growth of larvae



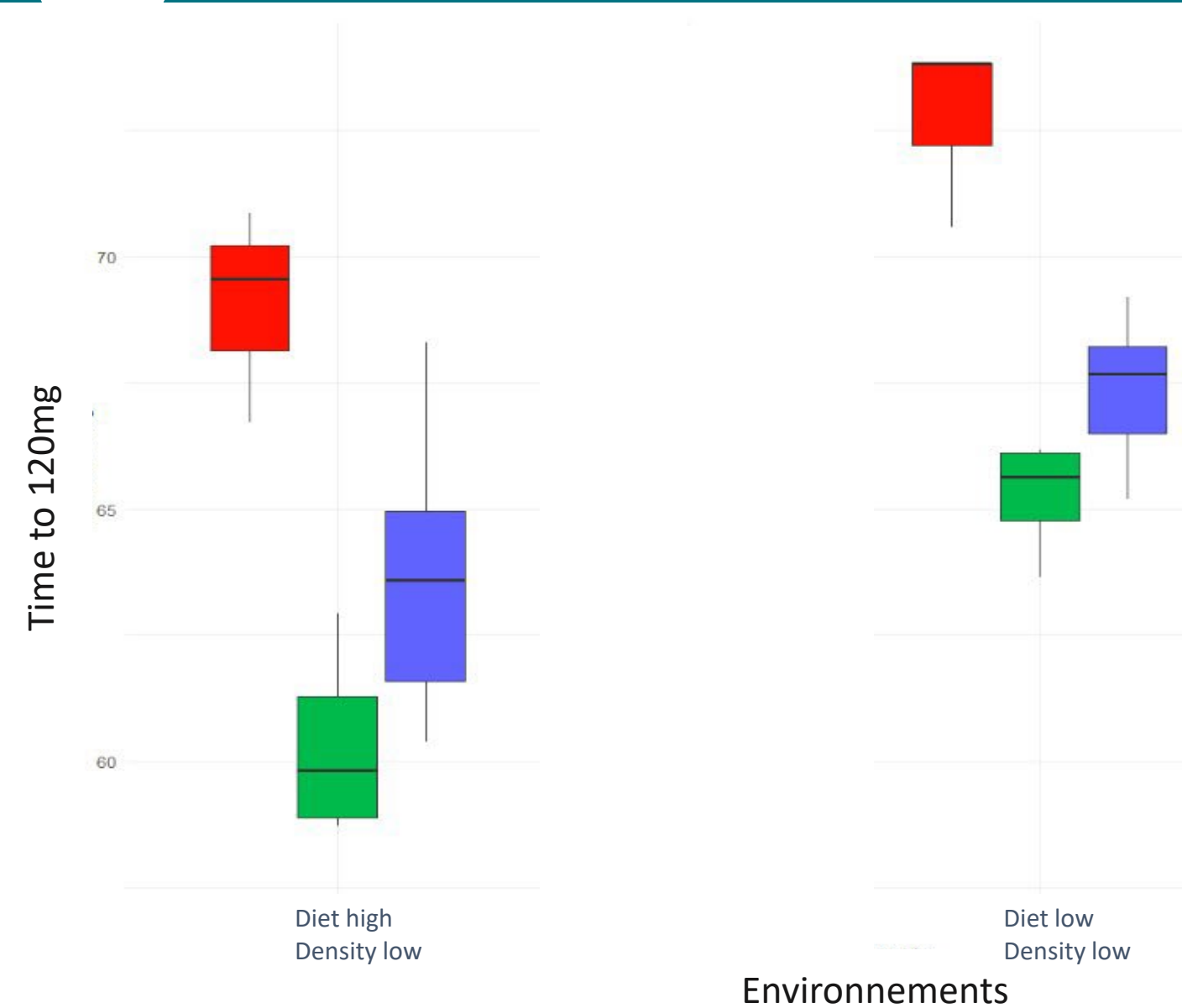
Results group-wise



For low diet condition, high density enhance the growth of larvae



Results group-wise

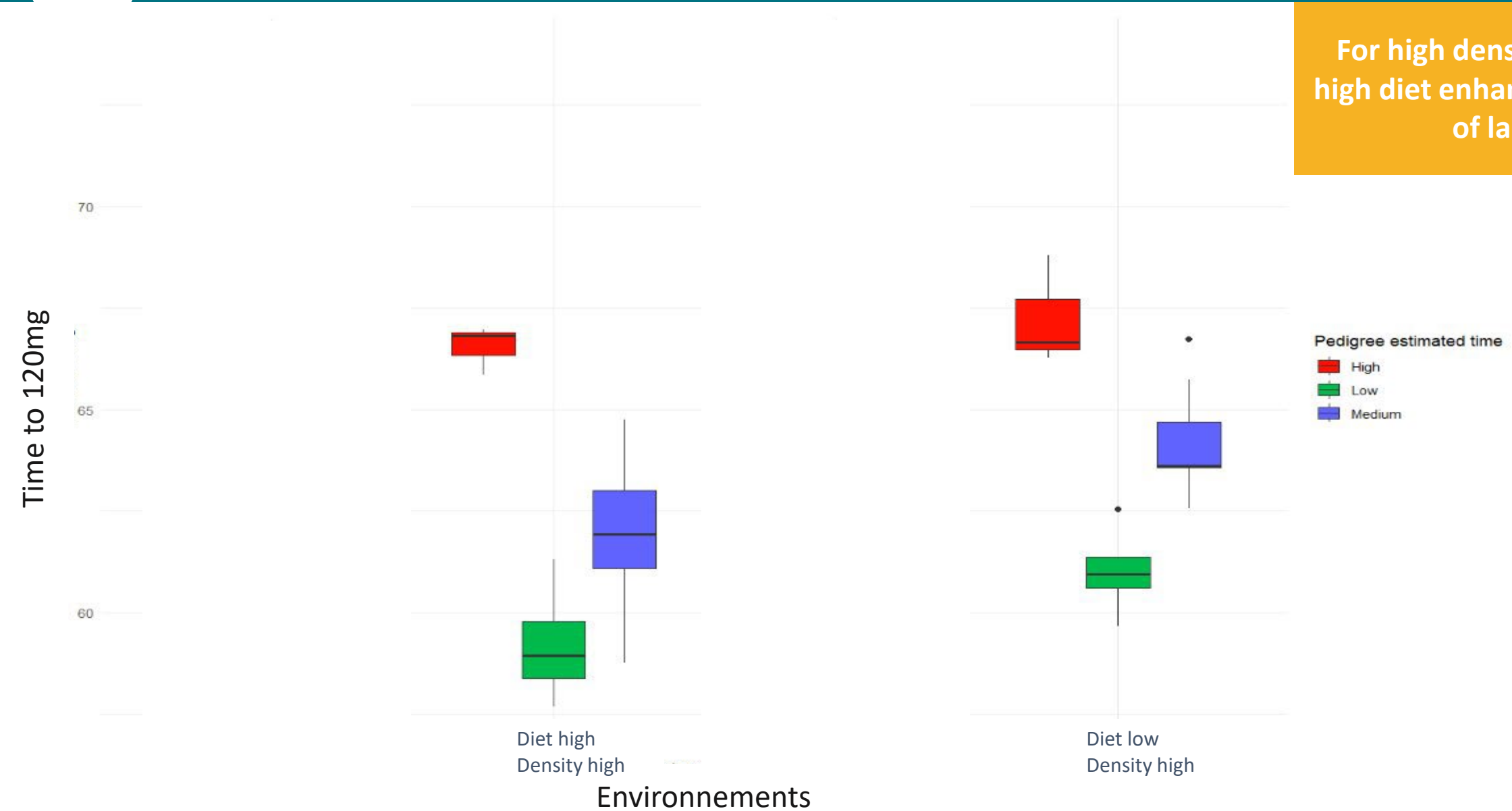


For low density condition, high diet enhance the growth of larvae

Results group-wise



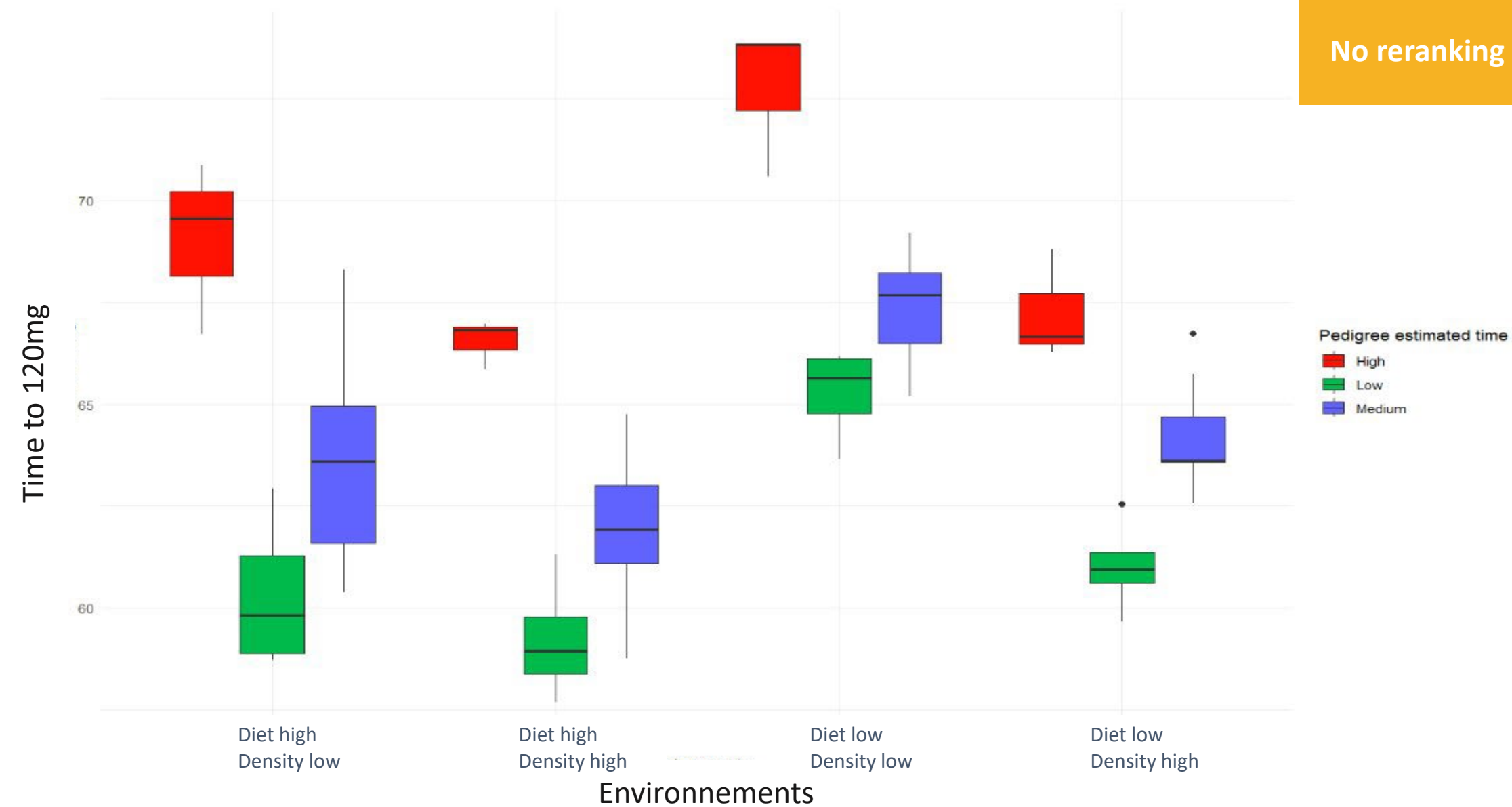
For high density condition, high diet enhance the growth of larvae



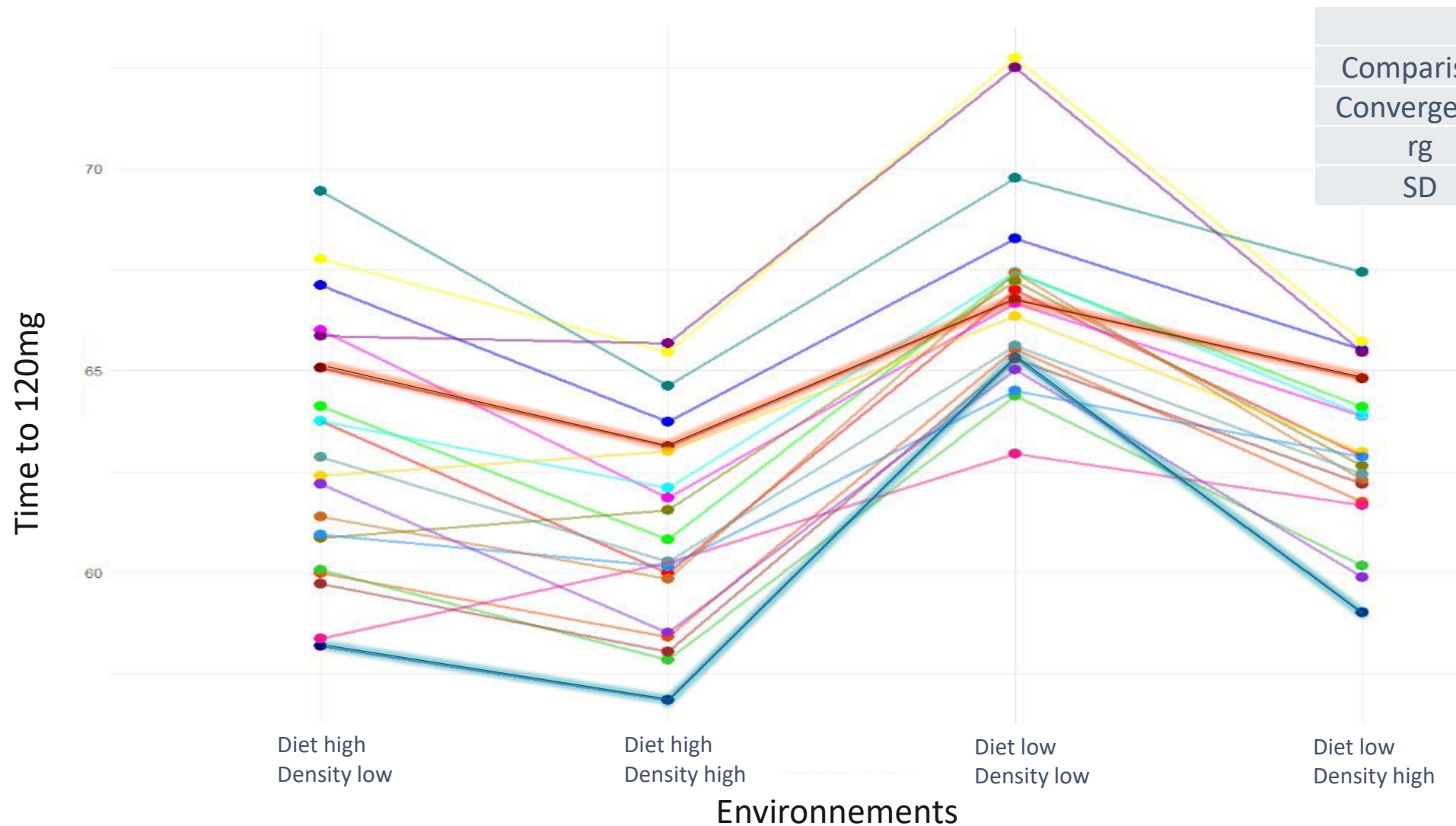
Results group-wise



No reranking among groups



Results family-wise



	Diets	Density
Comparison	High vs Low	High vs Low
Convergence	0.56 E-08	0.94 E-15
rg	N/A	0.910
SD	N/A	0.396

Phenotypic plasticity
High genetic
correlation value for
the density effect
No convergence of the
diet effect for genetic
correlation



Conclusion



GxE interaction in *Tenebrio molitor* for growing larvae

No significant effect of the areal density on growth

No reranking effect

Further studies must be conducted to evaluate the GxE interaction in other parameters

Selection scheme design modification to be closer to the farm conditions





Thank You !



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