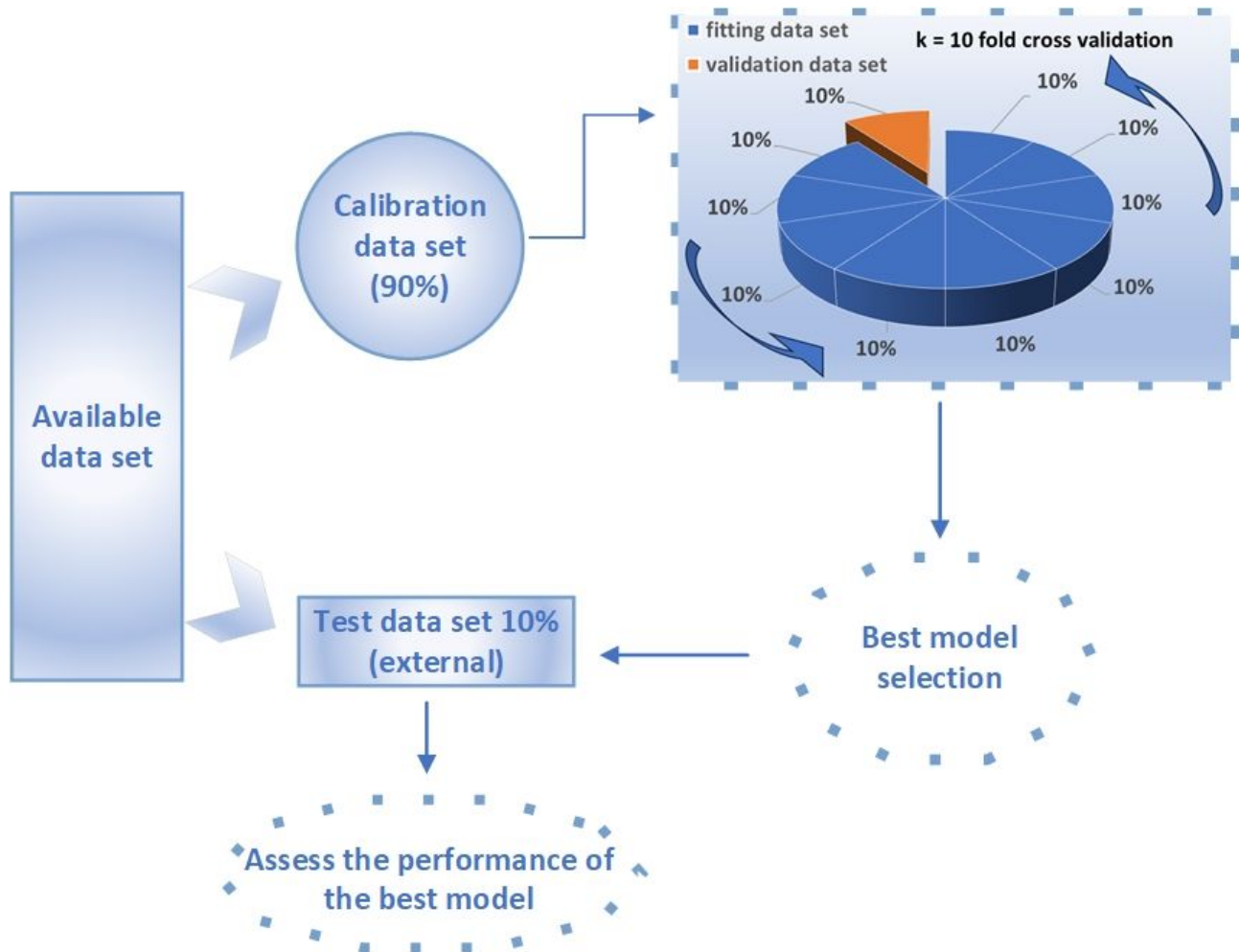


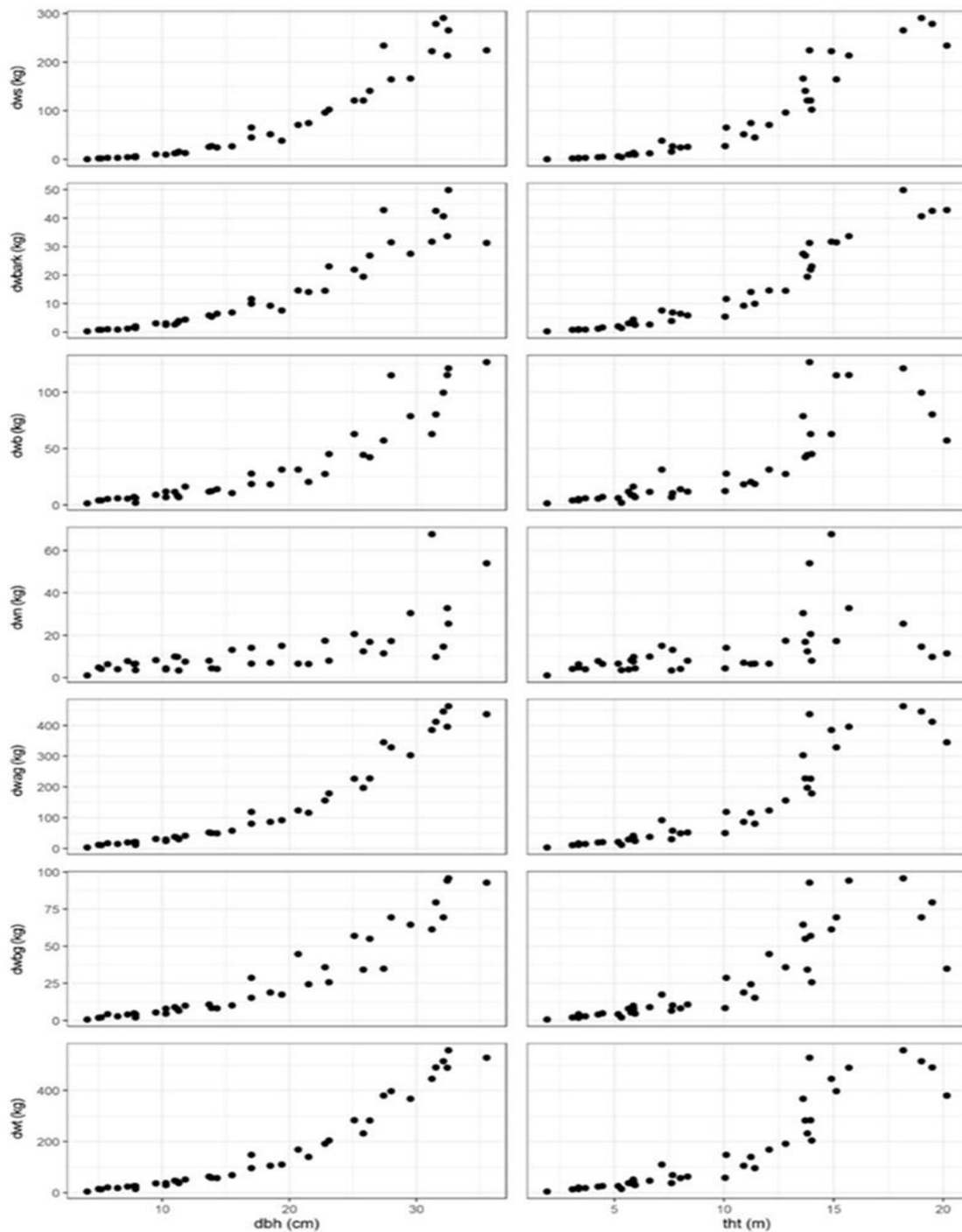
## Supplementary Material

**Fig. S1** – Data division. Three-way data splits method.

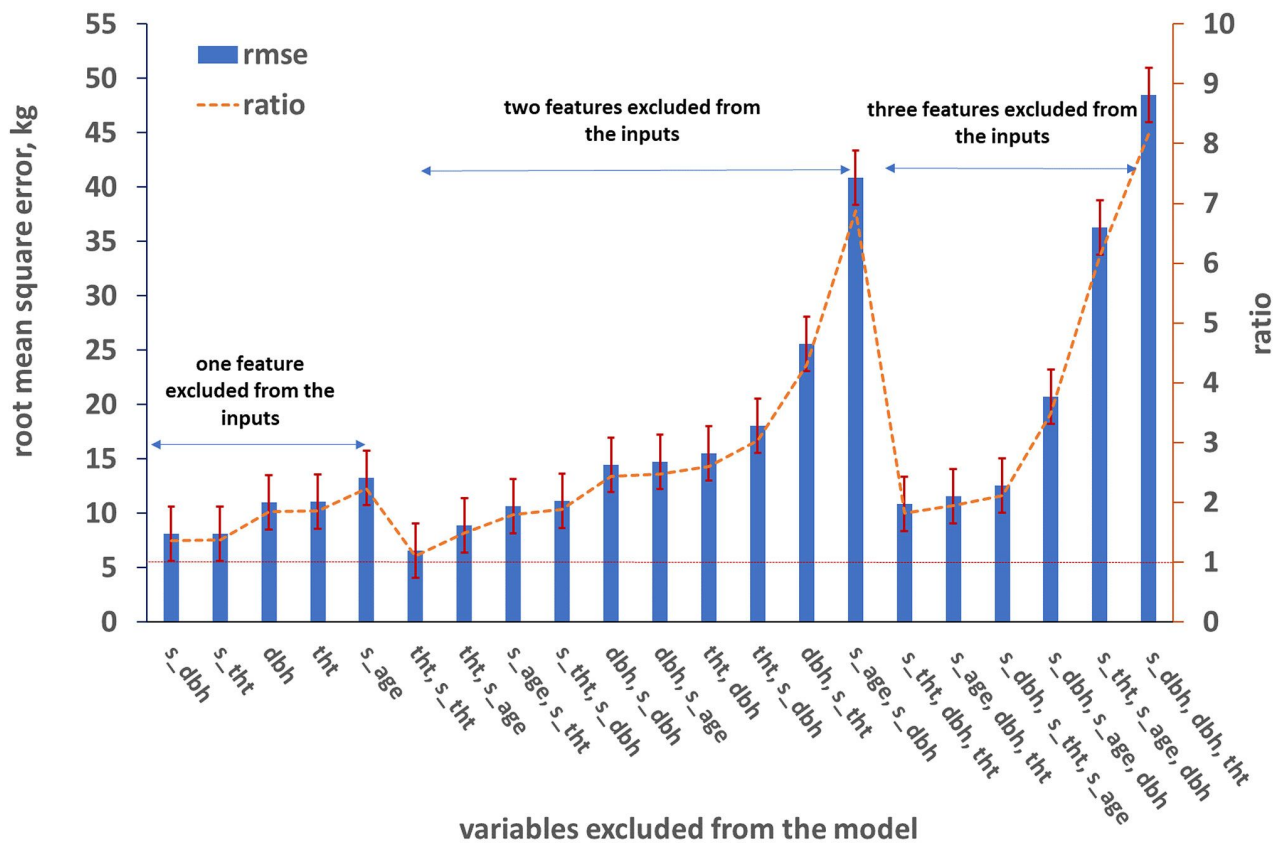


**Exploring machine learning modeling approaches for biomass and carbon dioxide weight estimation in Lebanon cedar trees**

**Fig. S2** – Relationship between dry a) stem wood (dws), b) stem-bark (dwbark), c) branches (live + dead) (dwb), d) needle (dwn), e) total above-ground biomass (dwag), f) below-ground biomass (dwbg) and g) total biomass (dwt) of the sampled trees and the tree diameter at breast height (dbh) and total height (tht).



**Fig. S3** – Sensitivity analysis for the variable (dwb).



## Exploring machine learning modeling approaches for biomass and carbon dioxide weight estimation in Lebanon cedar trees

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**Fig. S4** – (a) Sum of the component biomass estimations (dwn, dwb, dws, dwbark, dwbg, dwag) derived by LMANN and SVR modeling approaches, versus the observed total biomass (dwt), along with the (b) LMANN histogram and (c) SVR histogram, of their respective residuals.

