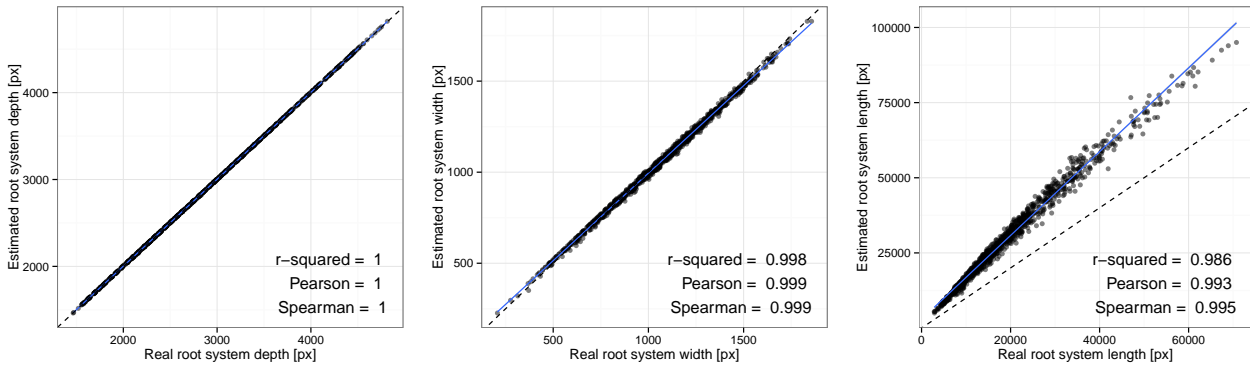# Validation of GLO-RIA

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This document presents the validation of different GLO-RIA measurments. Twoa pproaches were chosen for the validation. First, we compared some of the measurements from GLO-RIA with manual ones (for the directionality). Second, we used the ArchiSimple model (Pagès et al. 2013) to generated images of root systems. Since the images are created using a model, we know the ground-truth values for each of them. This allows us to validate GLORIA on a large number of ground-truth images.
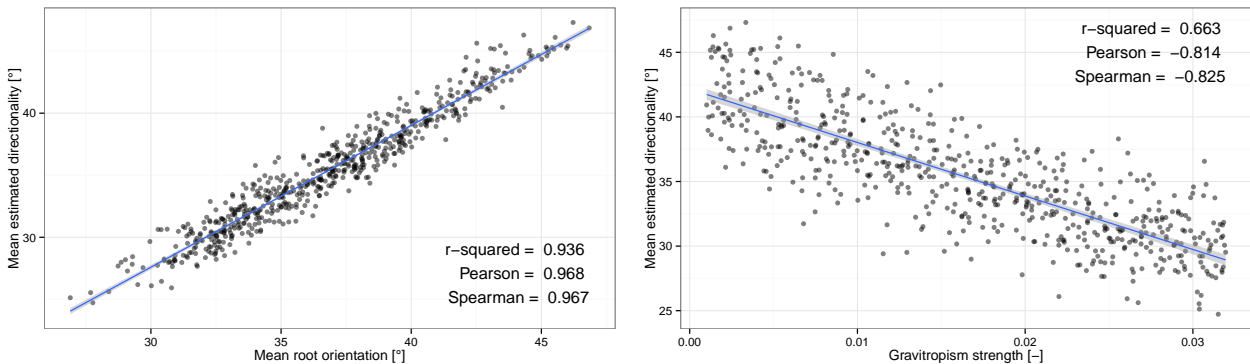
Size related measurements

For the validation of size variables, we used Archisimple to generate 1050 root systems with contrasted size. We compared the results from GLO-RIA with the ground-truth values from the model.

Directionality

For the validation of directionality measurements, we used Archisimple to generate 1050 root systems with contrasted gravitropism. We compared the results from GLO-RIA with the ground-truth values from the model.

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References

Pagès, L., Bécel, C., Boukcim, H., Moreau, D., Nguyen, C., & Voisin, A.-S. (2013). Calibration and evaluation of ArchiSimple, a simple model of root system architecture, 290, 76–84. http://doi.org/10.1016/j.ecolmodel.2013.11.014