

Introduction to ImageJ

Improve your image analysis pipeline

<http://bit.ly/intro-imagej>

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Image analysis pipeline

Image analysis is only one of the step in the global data analysis pipeline:

1. Image acquisition
2. Image analysis
3. Data analysis

Sometimes it is easier to improve previous or future steps rather than spend too much time on the image analysis in itself...

Improve image acquisition

- Better lighting conditions
- Keep same distance between camera and object
- Increase contrast between background and object
- Reduce the number of artefact in the object
- Try different sensors (visible, infrared, multispectral)

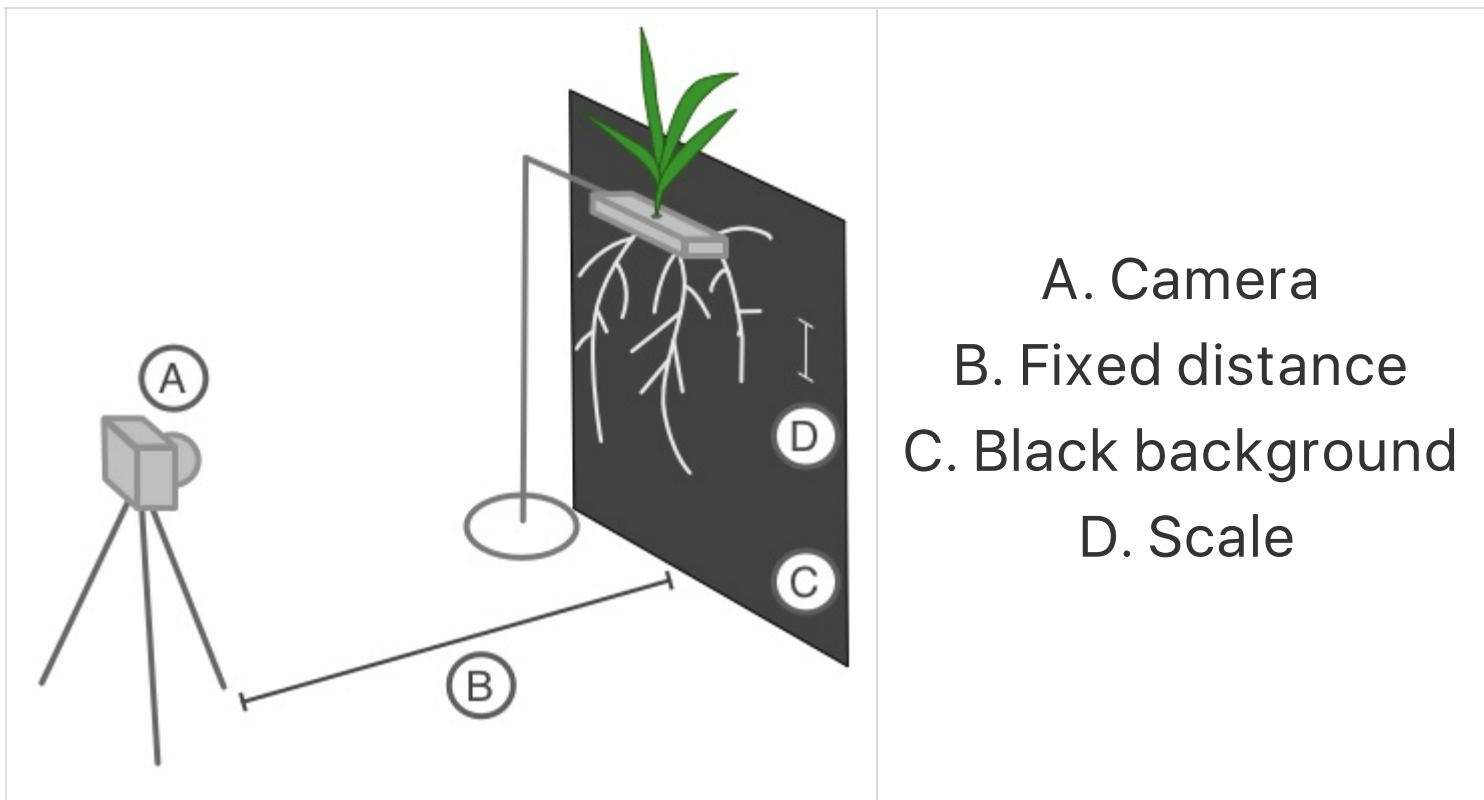
Improve the image acquisition



Improve the image acquisition



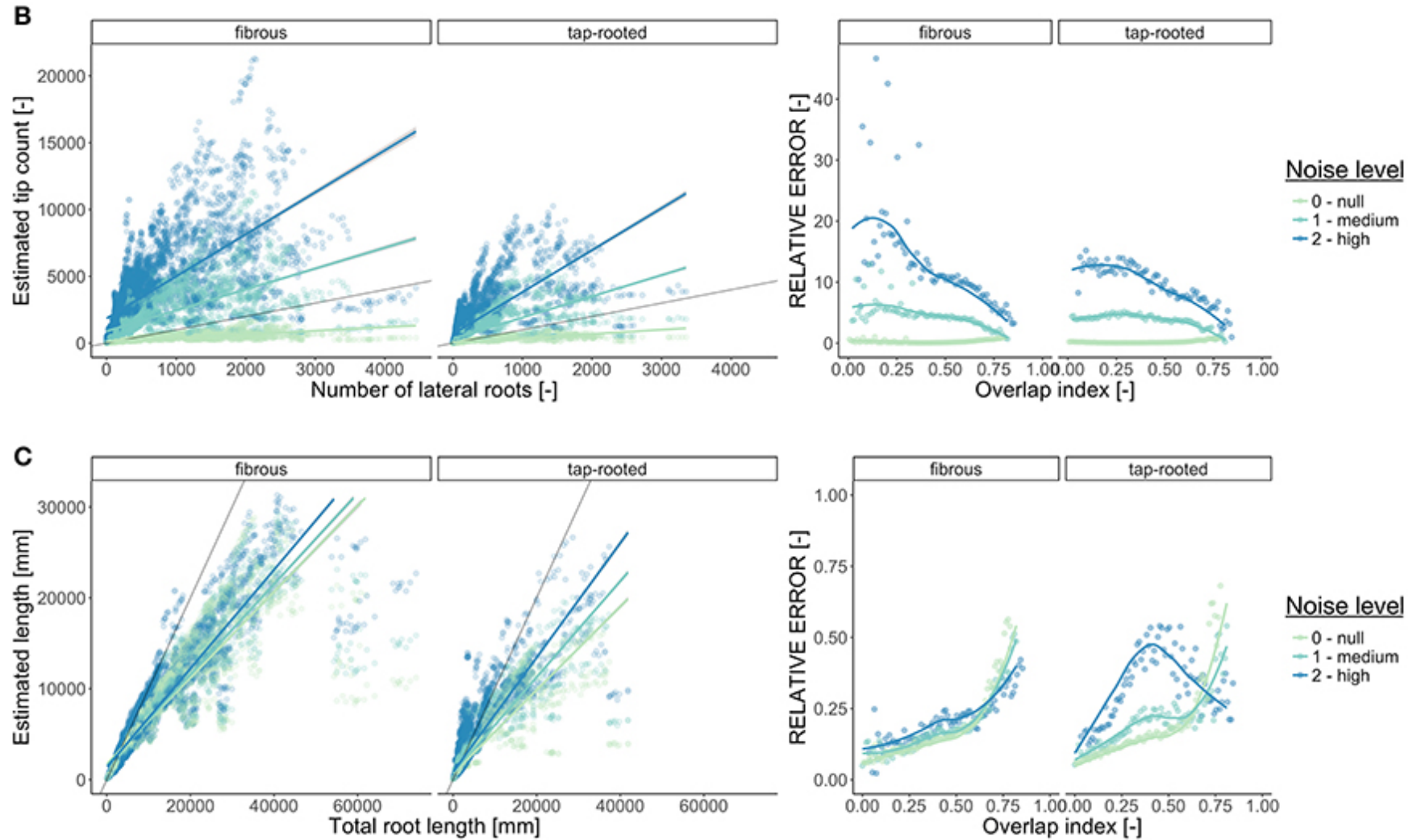
Improve the image acquisition



Improve image analysis

- Calibrate your pipeline
- Find a robust ground-truth dataset
 - manual measurements
 - simulated images
- Estimate the error

Estimate the error



Improve data processing

- Filter out noisy data
- Correctly identify outliers