Introduction to ImageJ

Improve your image analysis pipeline

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Xavier Draye and Guillaume Lobet

Image analysis pipeline

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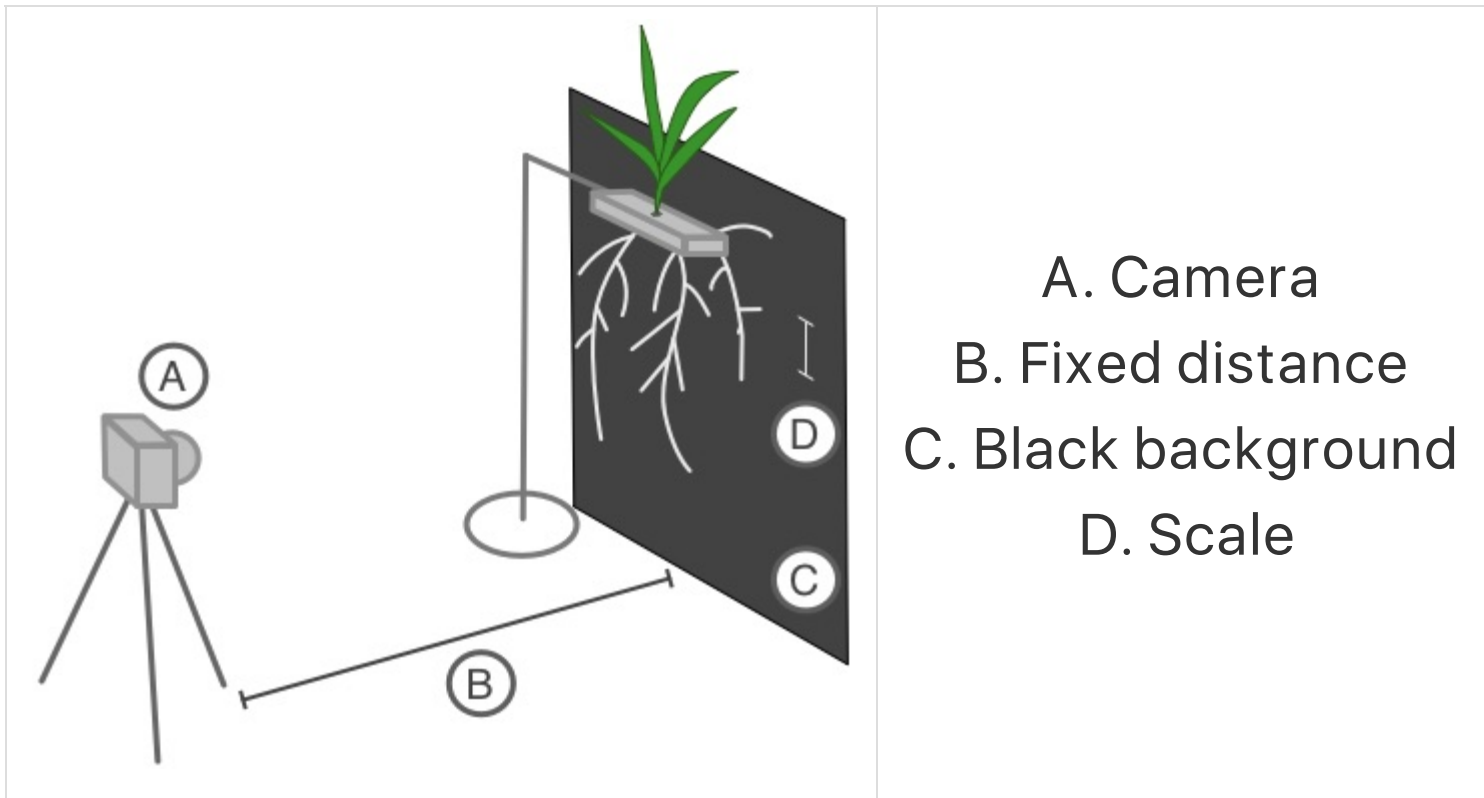
1. Image acquisition

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 disctance between camera and object

- Increase contrast between background and object

- Reduce the number of artefact in the object

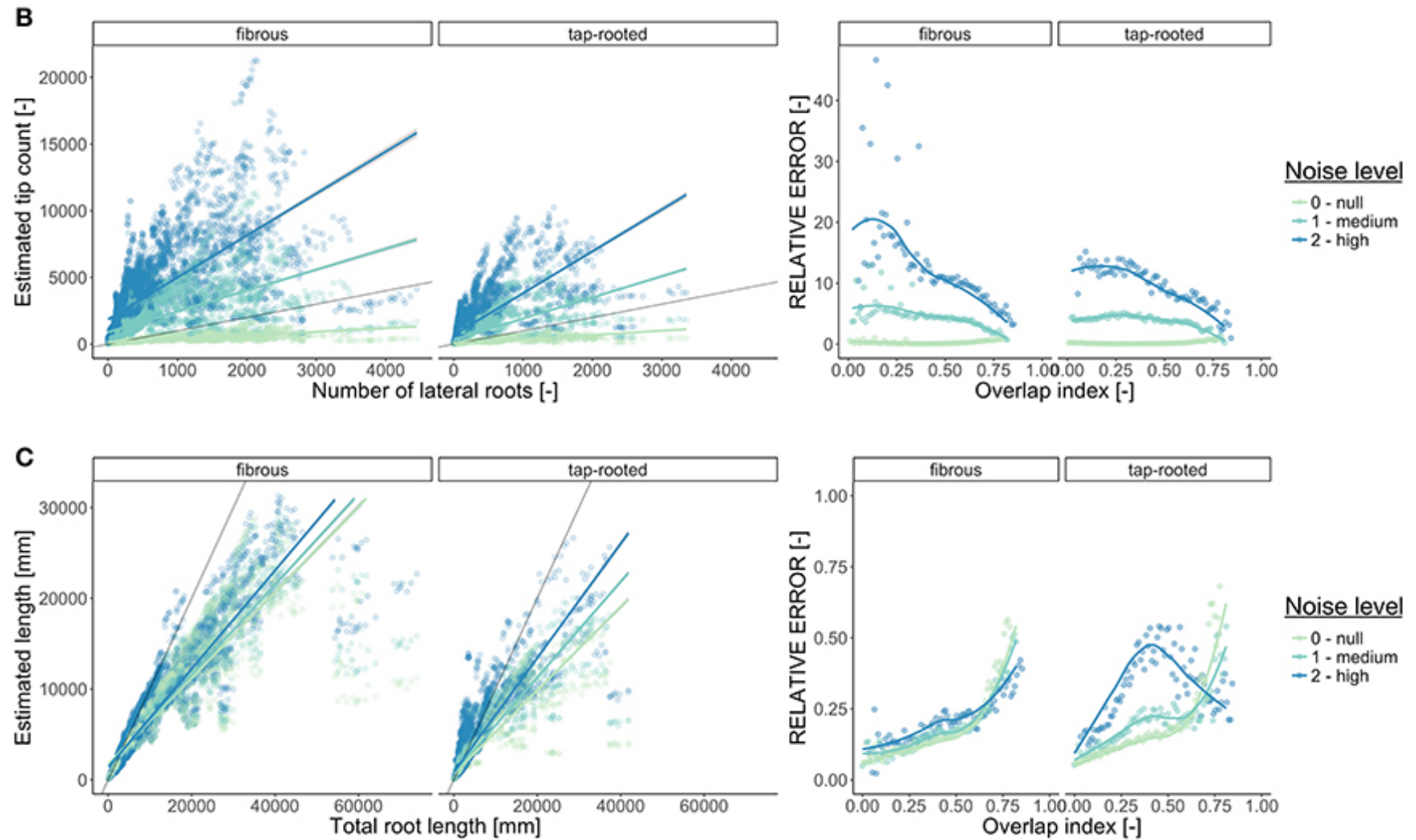- Try different sensors (visible, infrared, multispectral)

Improve the image acquisition

A. Camera
B. Fixed distance
C. Black background
D. Scale

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 outlyers