



Dr. Katie Murphy



How to Take a Good Photo



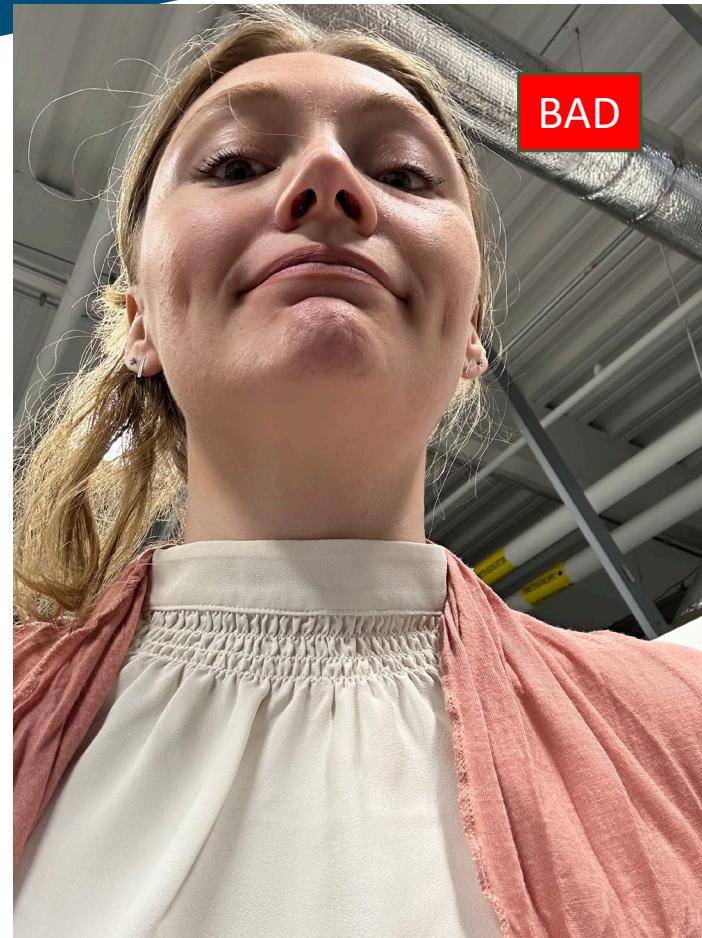
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Steps to take a great photo for analysis and publication

1. Camera setup:
 1. Stability
 2. Focus
 3. Exposure
2. Plant setup:
 1. Staging the shot
 2. Color card
 3. Saving images



Make sure your camera is straight on!

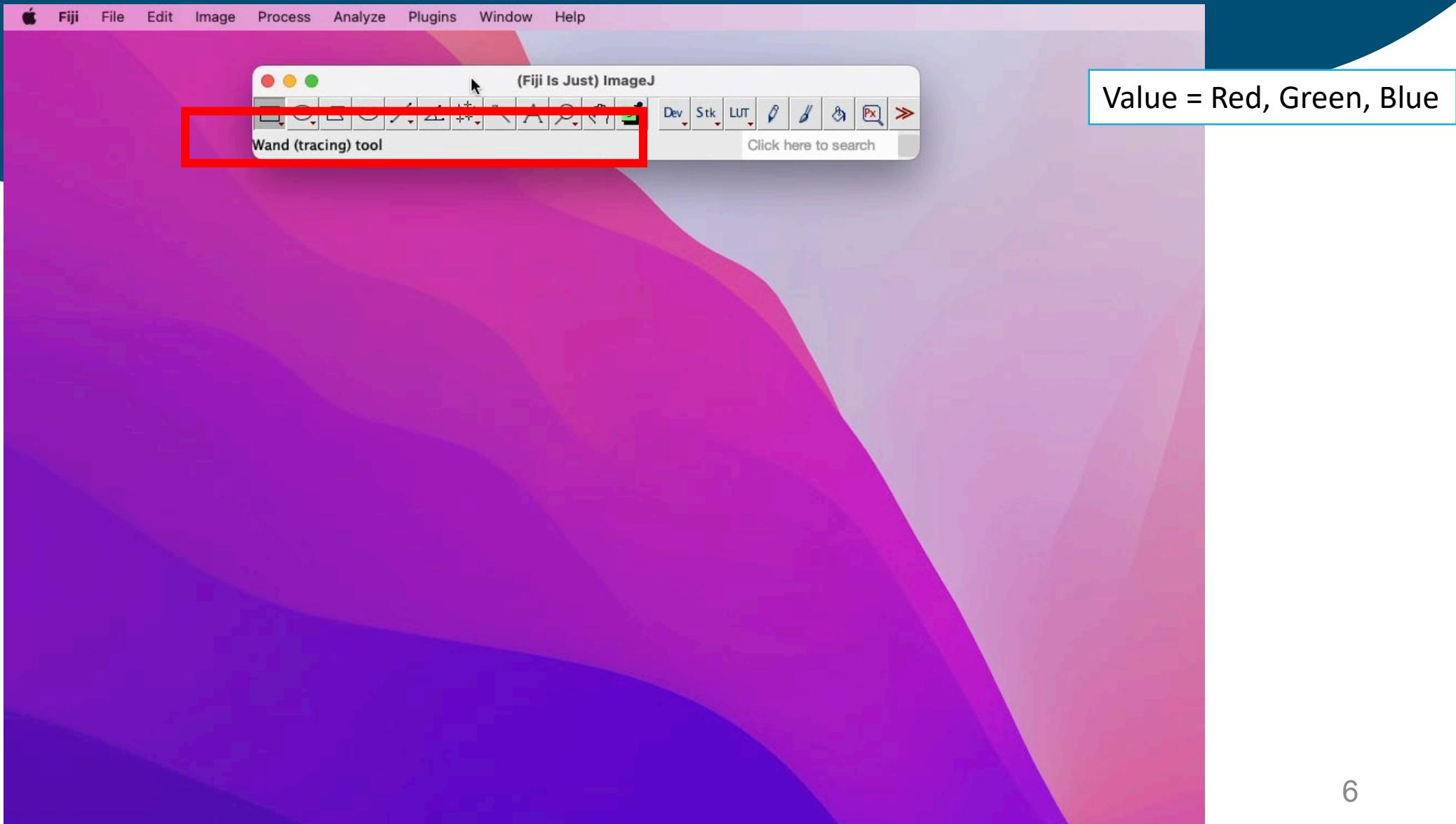


How color works in a picture, and why it matters to responsible research

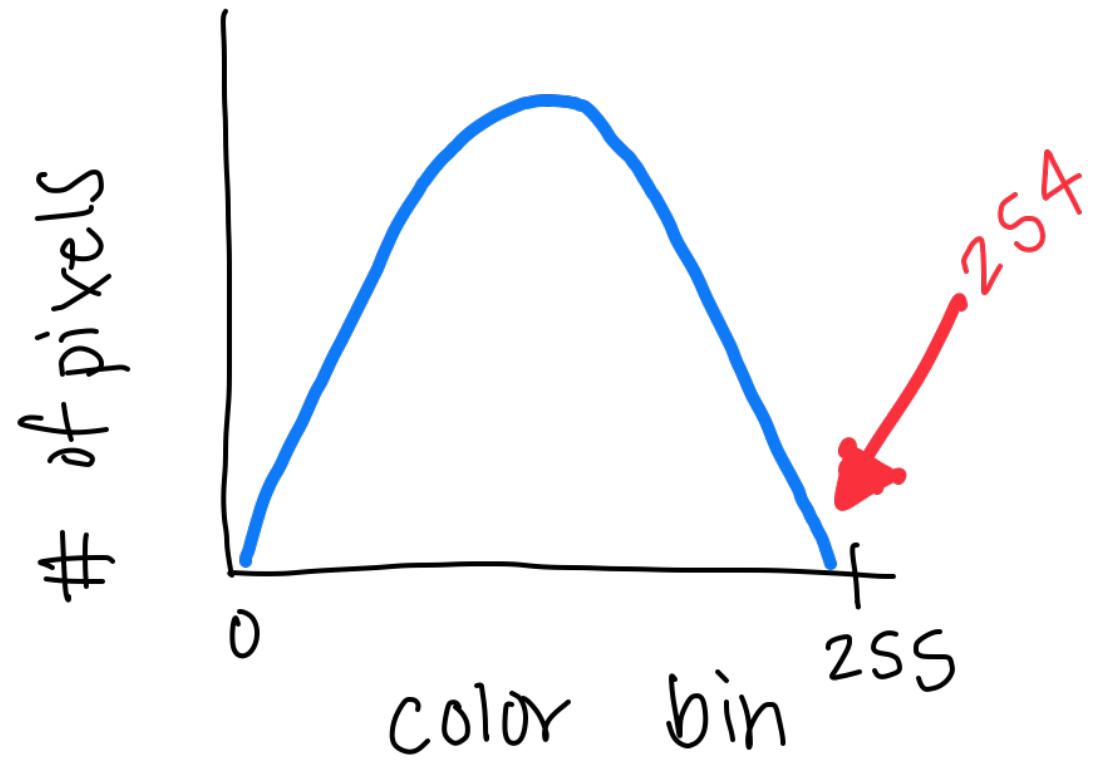
- Pixels have a value from 0 to 255 for that color
- Color is how we decide “plant or no plant” during analysis
- We can “normalize” color across images, which also makes them look good



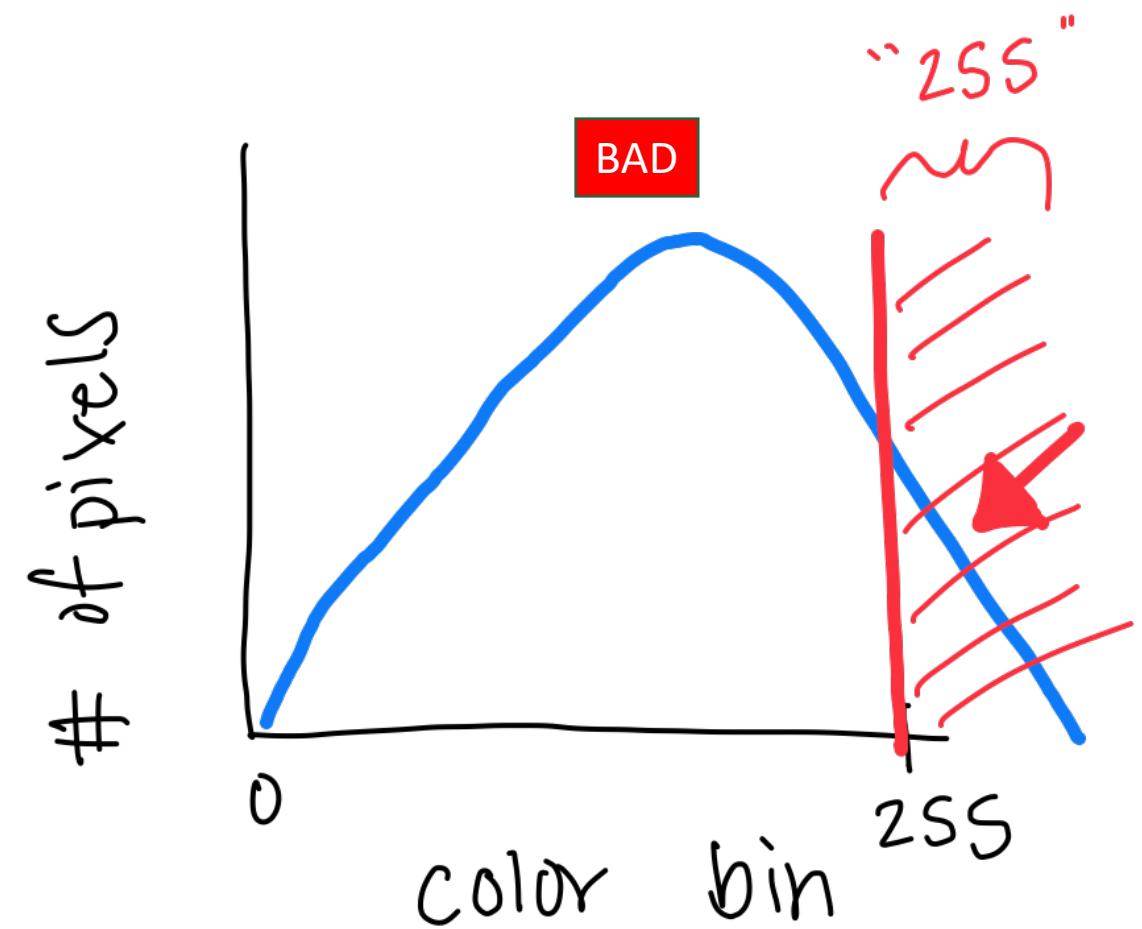
How to check your color values in Fiji



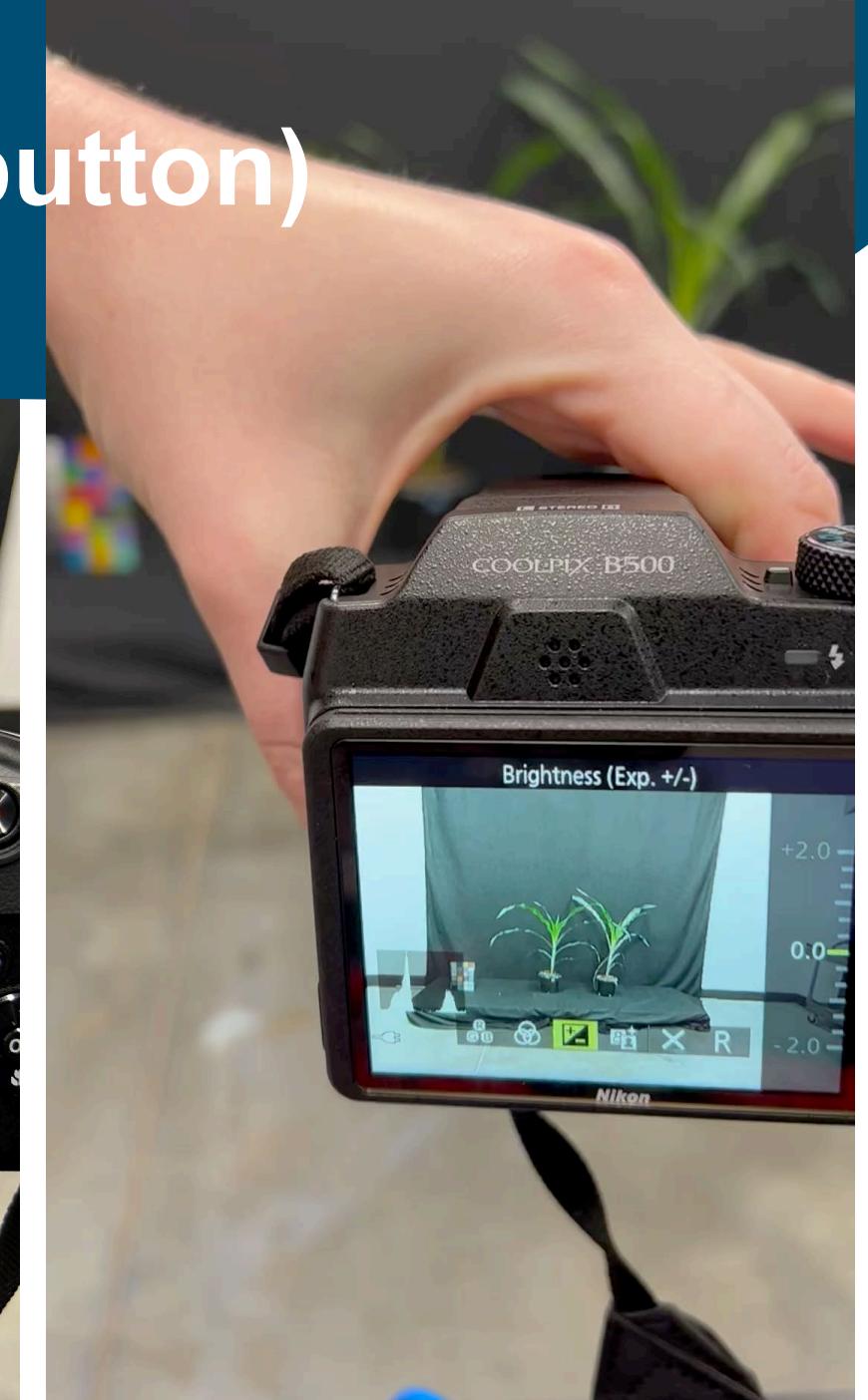
Every pixel in an image falls on a histogram



These histograms have a maximum, so over the max is “false” data points!

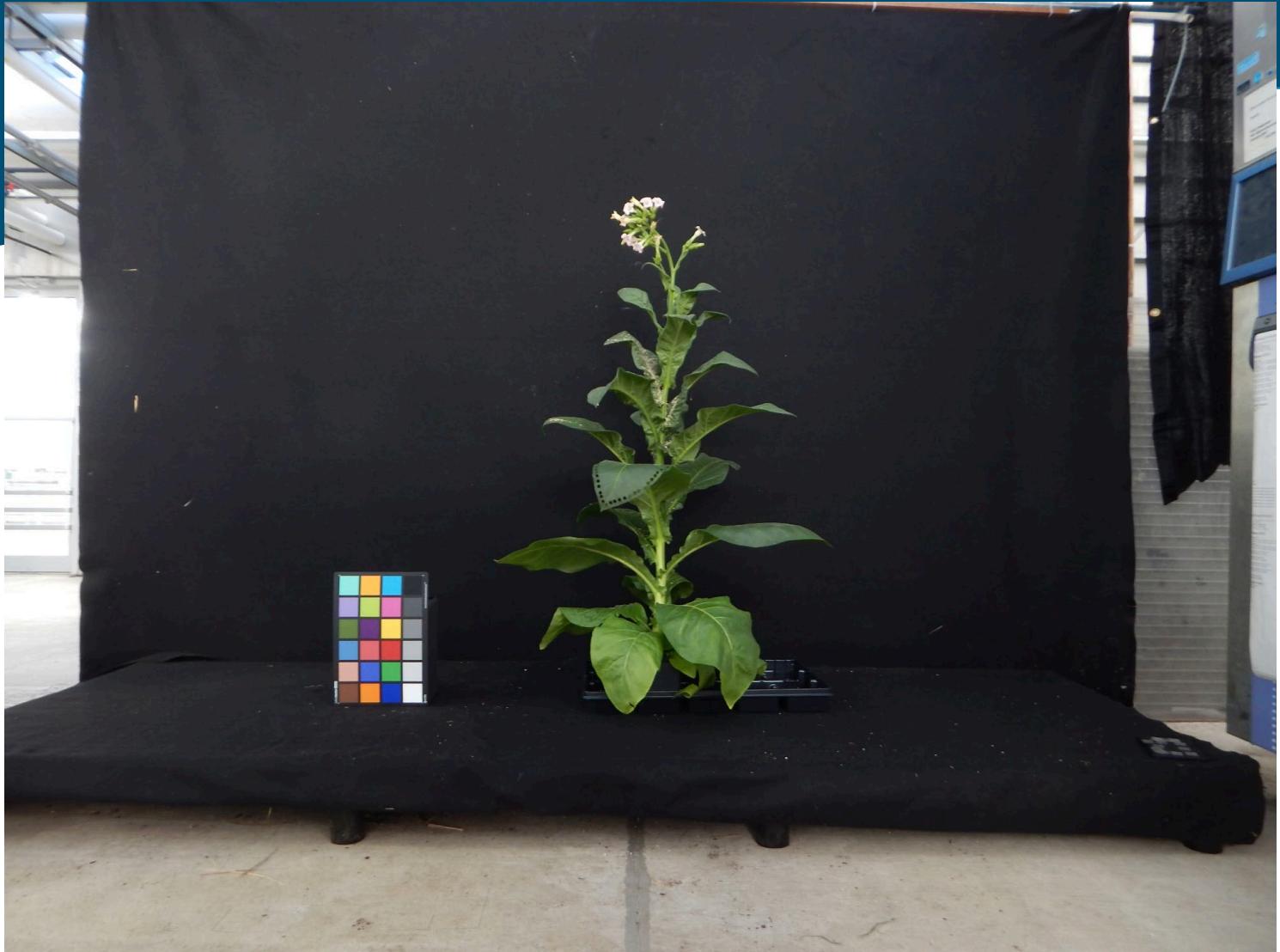


How to adjust exposure (+/- button)



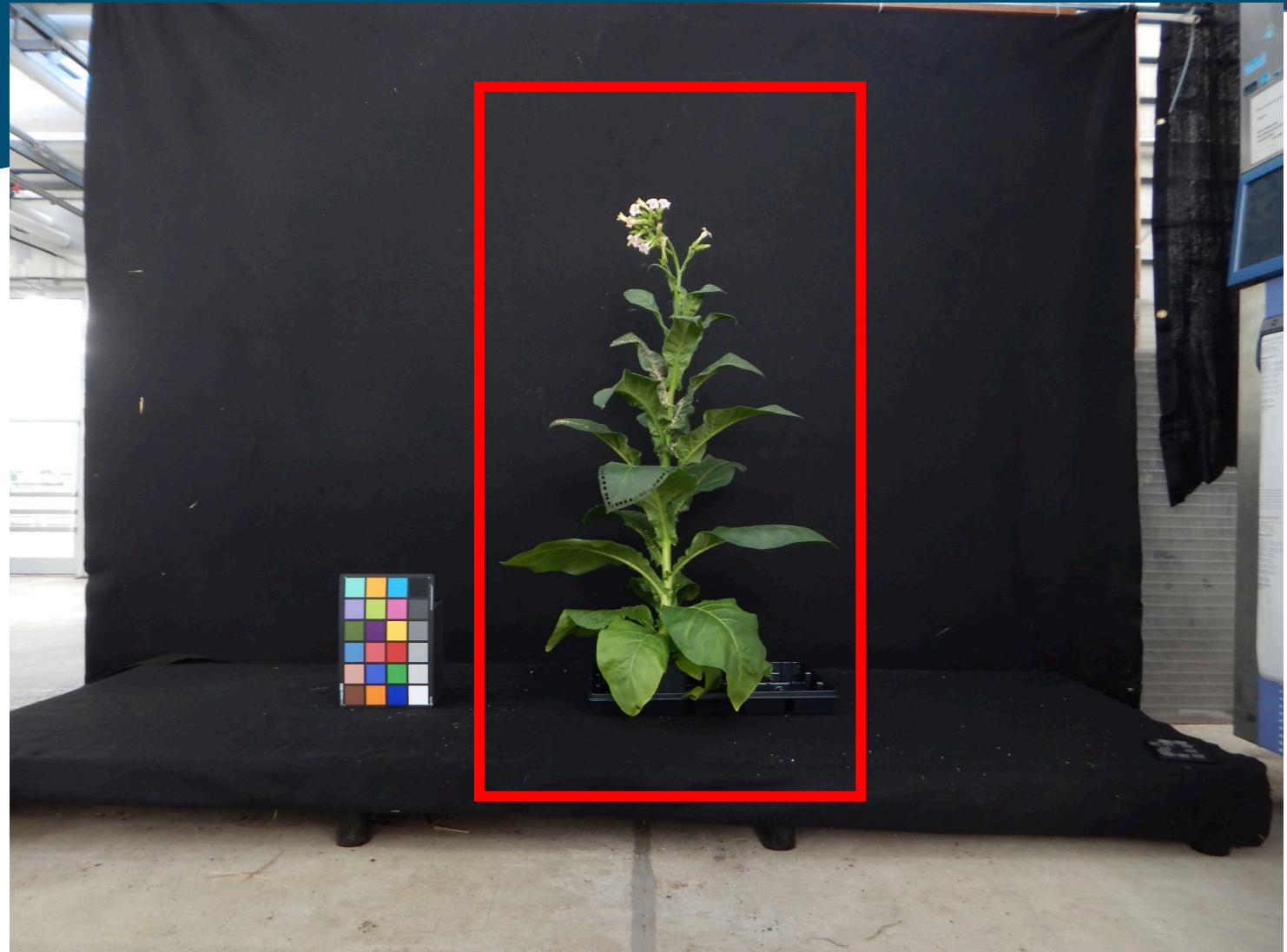
Plant setup

- Color card (which is a size marker)
- Plants don't touch each other
- Clean background
- Same location for each plant



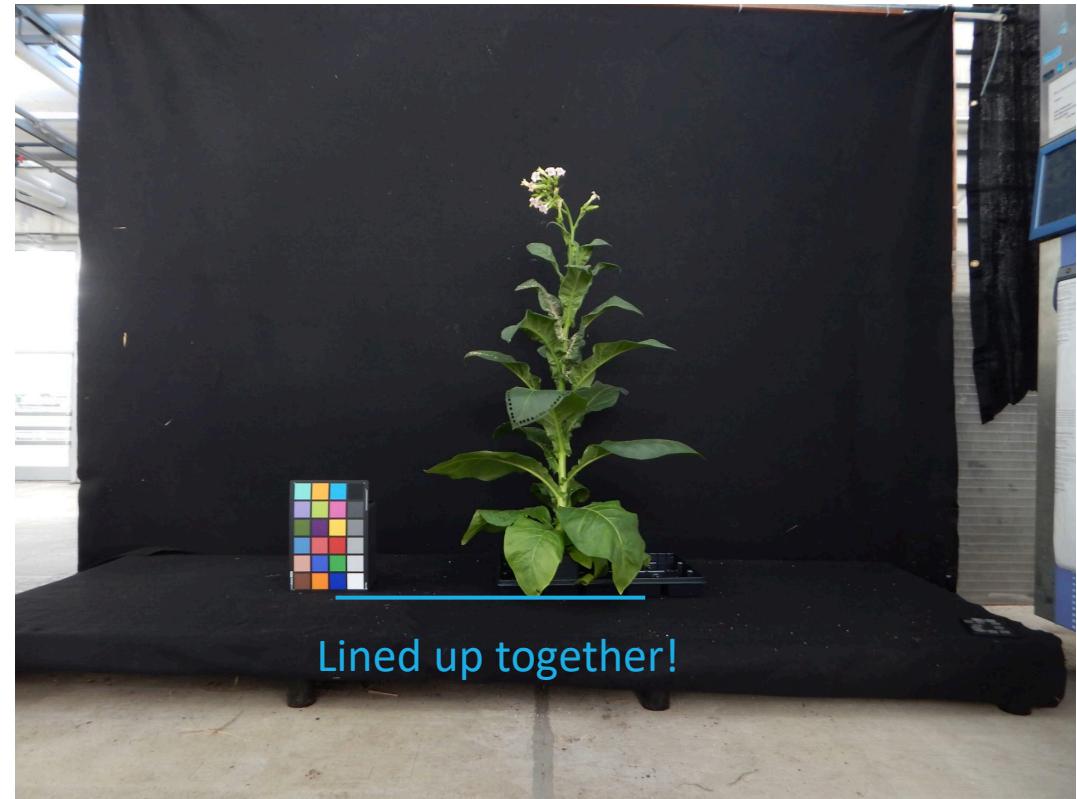
Color card setup

- You should be able to draw a box around your plant and not touch the color card
- Imagine: Can I crop this out easily?

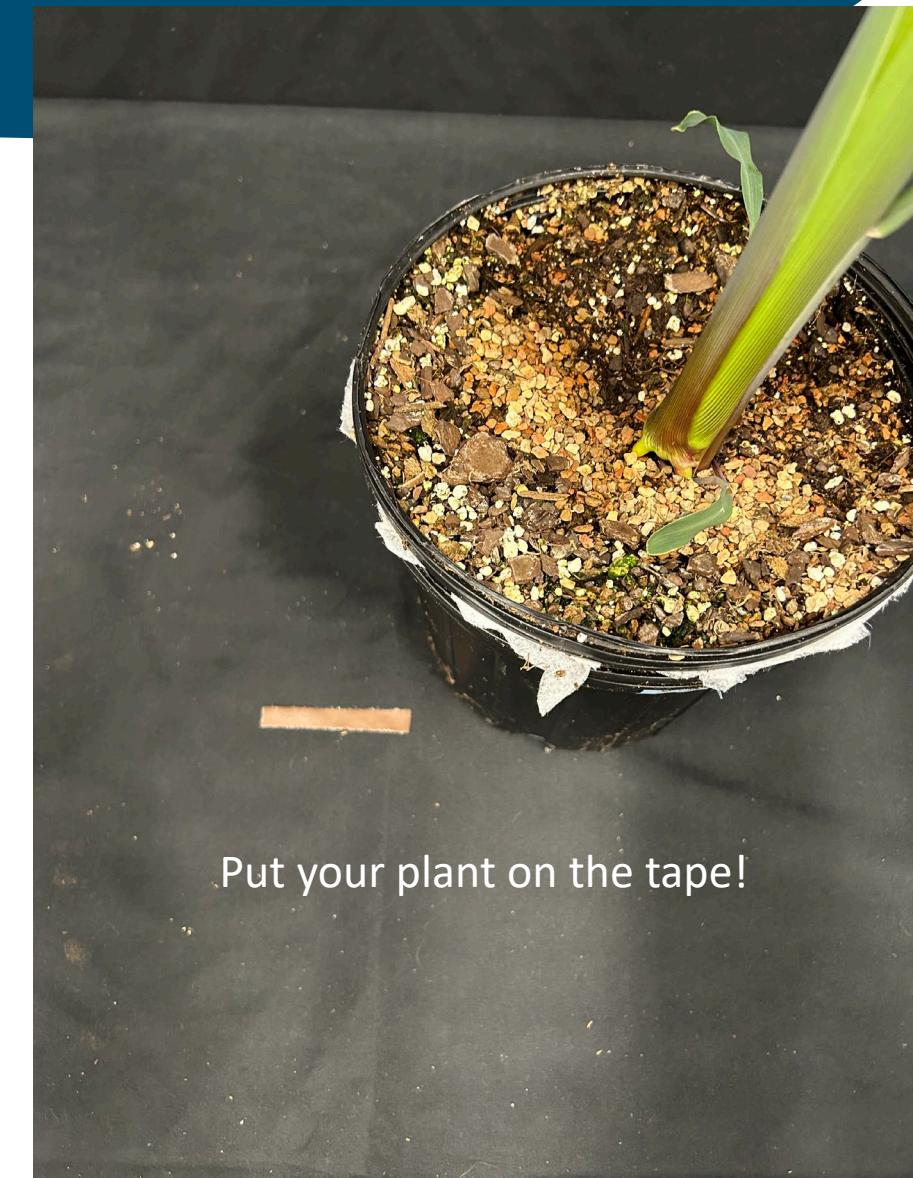
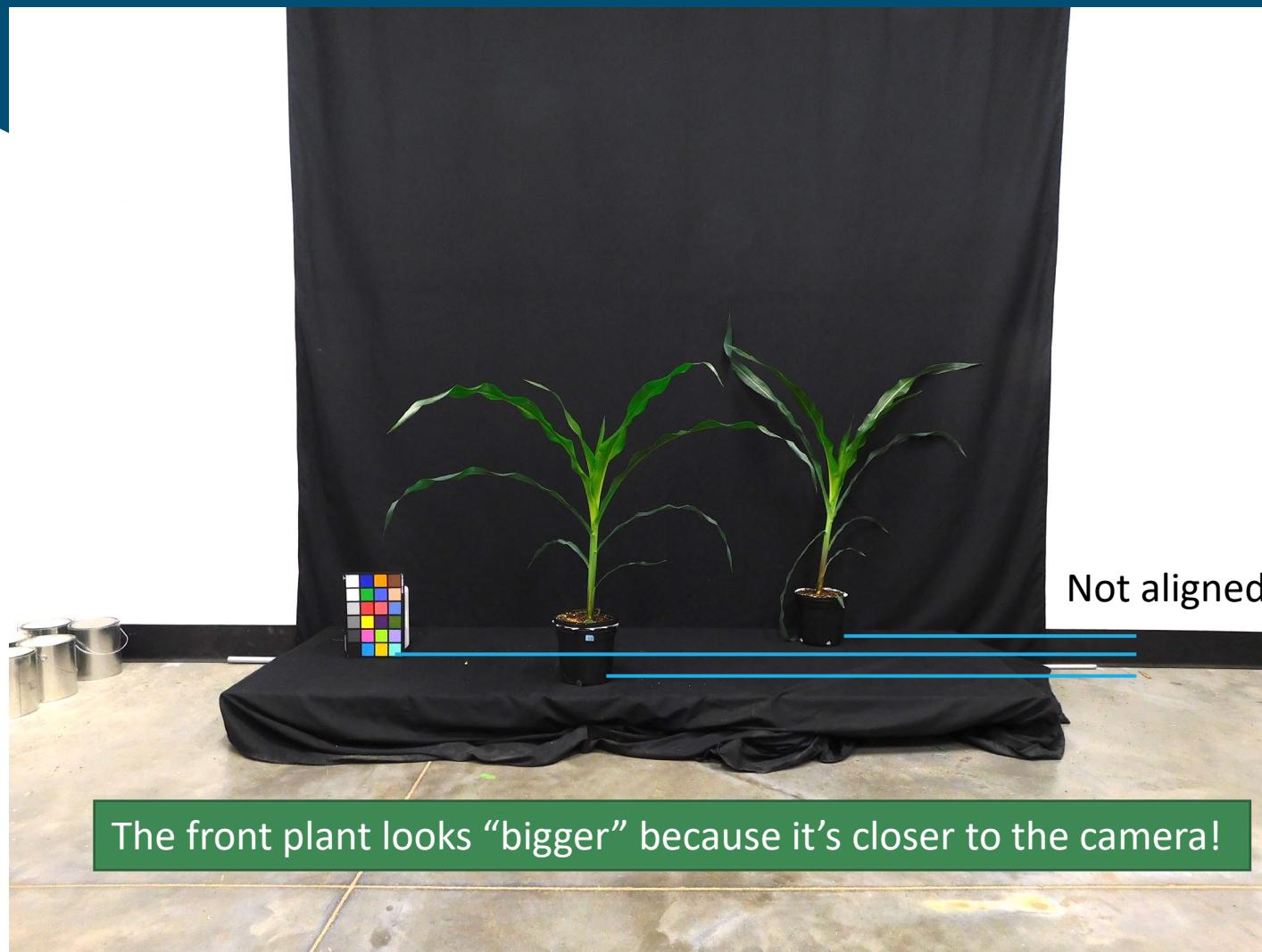


Getting relative size correctly

- Distance to the camera affects how “big” your plant looks
- If you have a size marker, you can be closer or farther from the plants for each picture
 - BUT: your size marker and plants need to be in the same line!

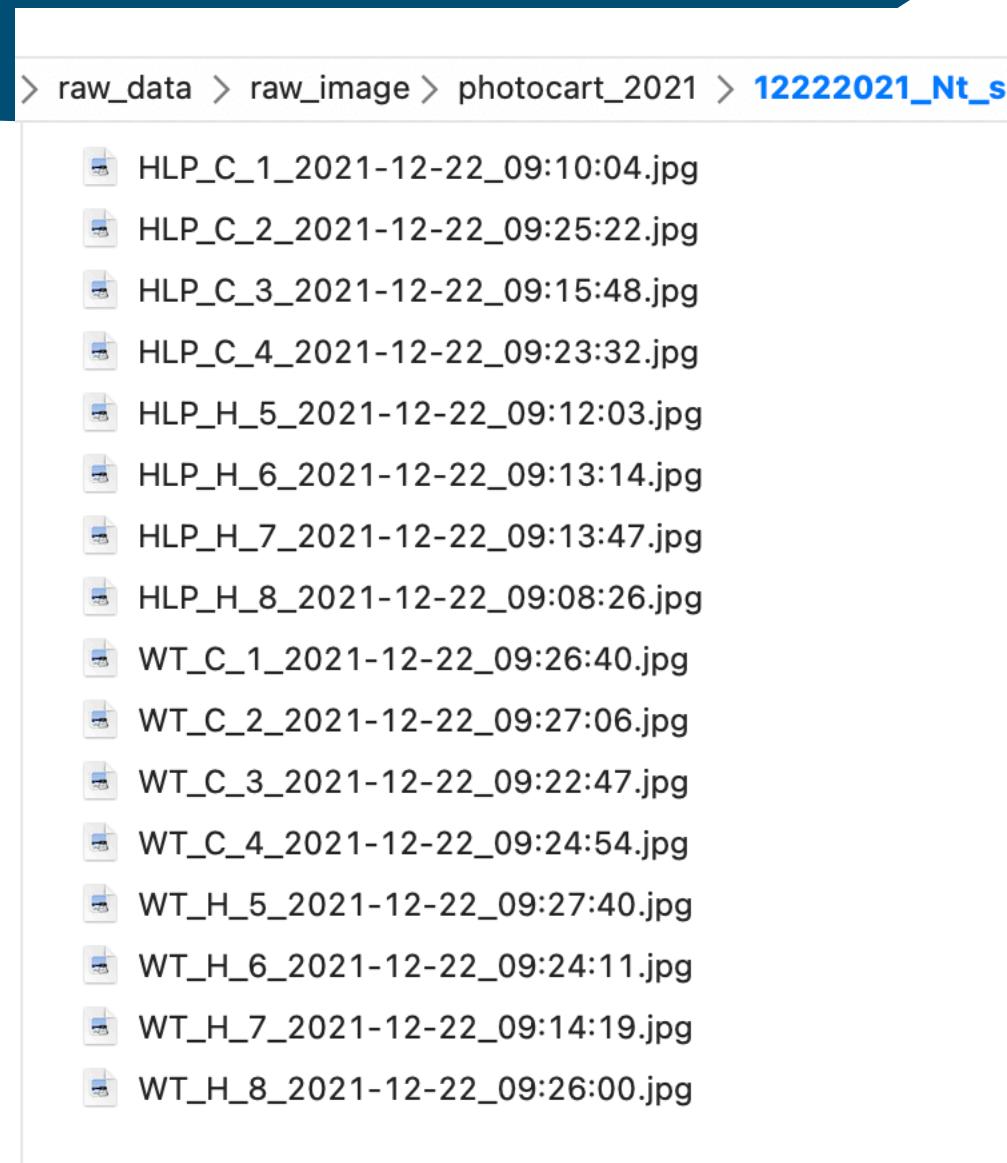


Line up your plants to scale properly



Saving images: important record keeping!

- Genotype, treatment, date, replicate
- Keep raw images separate from processed images!
- Raw images should be kept in an archive
- Use a barcode or QR code scanner



What NOT to do when taking photos

- No green tape or tags!!
- Don't crowd your plants
- Don't think you need to be a professional to get good photos

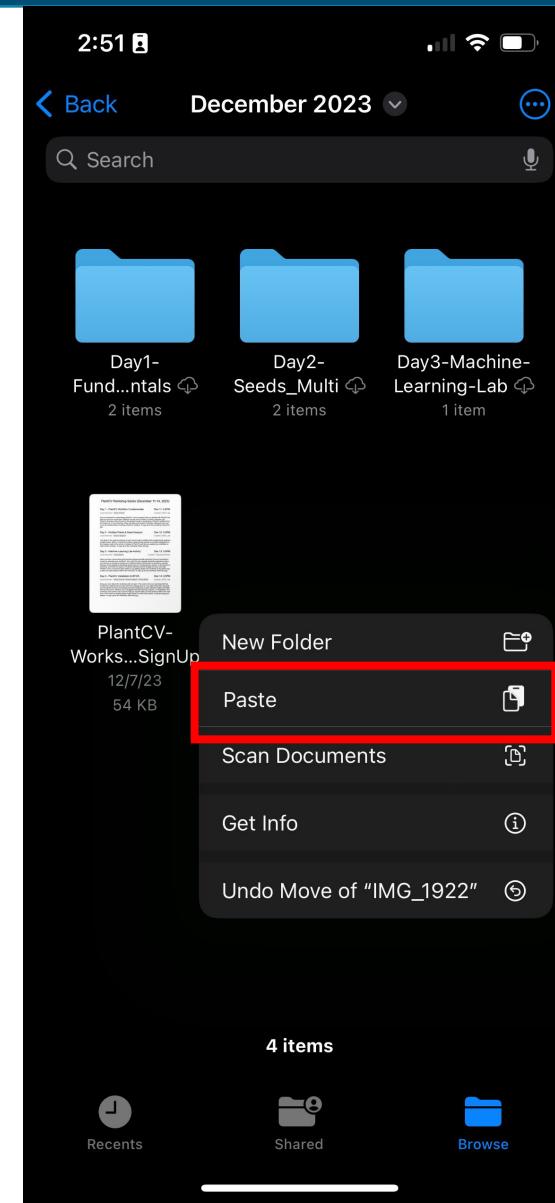
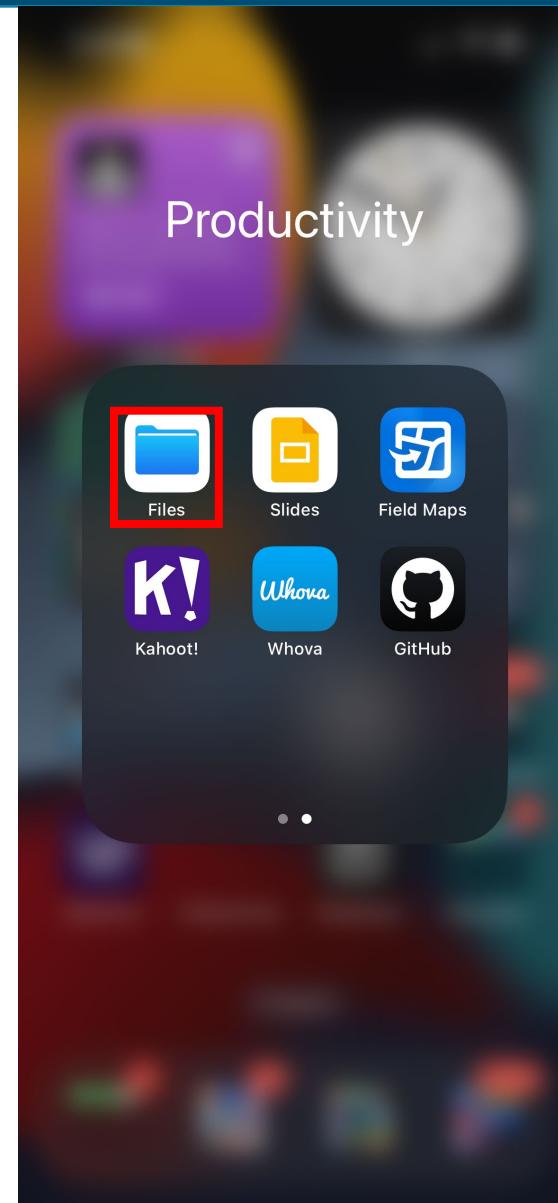
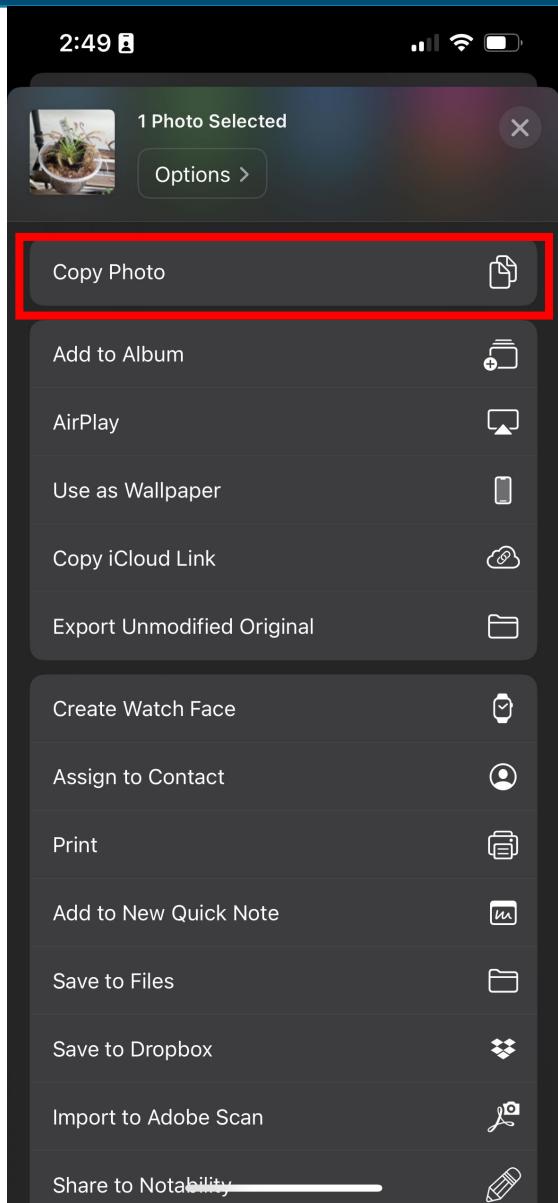


Your checklist for a great photo

- Spread your plants out
- Solid color background
- Include a color card, but not too close
- Stabilize your camera
- Turn the exposure down
- Label your images



How to convert HEIC to PNG on iPhones



Always remember, a photographer's best tool!





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