

## Exercise F2: Scanning seed or other objects

Tues., 13:05 – 16:50 (Time for two to three exercises)

**Instructors:** Hussein Abdel-Haleem and Jeff White

### Logistics for Participants

- Teams of 1 to 3 people.
- This activity will be conducted inside the main MAC Building.
- This exercise is in parallel with Exercises D (sensor position), E (data logging) and F1.

### Objectives

- I. Introduce how scanners can be used to acquire useful images.
  - A. Fujitsu SV600 SnapScan<sup>1</sup>
    1. Seed
    2. Distortion target
    3. Three color sample
  - B. Epson flatbed scanner
    1. Seed with box to avoid shadows

### Activity 1: SnapScan

- I. Seed sample
  - A. Place a sample on the cloth.
  - B. Push the Scan button on the scanner. The scanner is activated and saves a file to the previously assigned directory.
  - C. View the image with Image J.
    1. Zoom in and pan to view individual seed
    2. Use the measure tool to measure a seed. On Wednesday, we will use similar images to show how ImageJ can count and measure large numbers of seed.
- II. Distortion target (paper with grid lines)
  - A. Place the target on the cloth and scan as before.
  - B. View the scan with Image J.
  - C. Use the measure tool to measure various cells. Verify that the distance is correct.
- III. Three color sample

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<sup>1</sup> Mention of trade names or other proprietary information is made for the convenience of the reader and does not imply endorsement by the USDA, the University of Arizona or K-State.

- A. Place the target on the cloth and scan as before.
- B. View the scan with Image J.
- C. Use the measure tool to measure various cells. Verify that the distance is correct.

**Activity 2: Flatbed scanner**

- I. Seed sample
  - A. Place a sample on the glass mounted over the scanner.
  - B. Push the Scan button on the scanner. The scanner is activated and saves a file to the previously assigned directory.
  - C. View the image with Image J.
    - 1. Zoom in and pan to view individual seed
    - 2. Use the measure tool to measure a seed.

### **Logistics for lecturers**

1. Soldering stations
2. Solder
3. Wire
4. Multi-meter ...