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| **International Institute of Tropical Agriculture**  Standard Operating Procedure  (NextGen Cassava) | |
| **Title:**  Spectral Data Capturing | **Version:** 1 |
| **Author:** | **Date reviewed:** |
| **Date Implemented:** 7-June-2021 | **Reviewed by:** |

1. All the storage roots of the selected plots are harvested in the field
2. The harvested storage roots from each plot are kept in a sampling bag and label properly
3. The bags are transported to the laboratory
4. Six healthy roots of different size (small, middle, big) are selected for each plot to ensure roots homogeneity. Rooted, diseased or bruised roots should not be selected
5. The selected storage roots for each plot are processed (peeled, wash with clean water and dry with paper towel)
6. The proximal and distal part of the roots are removed
7. Use a hand grater to grate the top, middle, and bottom sides of each of the 6 selected roots per plot. Ensure that rotted, stalks, and fibrous roots are not used

*Data capturing using ASD QualitySpec Trek*

Step 1. The grind cassava roots are thoroughly mixed.

Step 2. Fill the grinds cassava roots into three quartz glass

Step 3. Place each quartz glass against the instrument window and hold both the sample and instrument steady

Step 4. Pull the instrument trigger once and release. Keep the sample pressed against the window and hold both the sample and instrument steady until the instrument chime again. Each quartz glass containing sample would be scanned twice.

Step 5. Each quartz glass should be washed and wiped dry before use for another sample.

*Data capturing using SCiO*

Step 1. The grind cassava roots are thoroughly mixed

Step 2. Fill the grinds sample into three (3) quartz glass

Step 3. The samples are scanned with the SCiO device (ensuring full contact with the glass).

a). 3 scans are taken for each quartz fill with the sample

b). ensure that Scio device is placed at random surface of the quartz glass while scanning

Step 4. Each quartz glass should be washed and wiped dry before it is use for another sample.

The data collected are directly transferred to the SCiO server for data storage