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Standard Operating Procedure for Field Trial Labelling and Barcoding

Authors & Contributors

Salaudeen Nurudeen s.nurudeen@cgiar.org

Paterne Agre P.Agre@cgiar.org

Alex Edemodu A.edemodu@cgiar.org

Olatunji Adenike AA.olatunji@cgiar.org

Amele Asrat A.Amele@cgiar.org

1. Introduction

Barcode labels are used for trials plot, genotypes identification and tracking purposes. For the labelling of a trial, this includes stages of advancement, the location of the trial, the experimental design, the genotypes name and the plot ID. The barcode used at the yam breeding placed on tubes, DNA plates, SAH boxes. Materials used exhibit permanent adhesion and can withstand high and low temperatures.

2. Purpose

Barcoding labels provide information and identification of a trial, plot id, and clone name. Proper labelling ensures samples and plot identification and minimize mixtures as well as human errors.

3. Scope

The SOP covers field trials plot labelling, screen house and post-harvest samples barcoding.

4. Definition of terms

5. Roles and Responsibilities

Scientist: Cross-check the design type

Research Associate/Manager: Responsible for the implementation of the barcode labels

Supervisor/Technician: Design the barcode label and implementation in the field, screen house, glass house and SAH.

Laboratory Technician: Implement barcode labelling of samples in the lab.

6. Procedure/Protocols

6.1 Materials

- YamBase
- Pinter: Zebra/Laser
- Sticker barcode paper
- Media
- Barcode ribbon label (different size)
- Desktop computer

6.2 Generating Barcodes Labels from Yambase.org

Step 1: Ensure the trial field book is uploaded to yambase.

Step 2: Login into yambase.org

Step 3: Click on manage and click on label designer

Step 4: Select the trial you want to design from the data source and select either by plant base or plot base click next.

Step 5: Format the page by selecting US letter PDF format and label or custom size.

Step 6: Once the format and the page are set, select the nature of the barcode type to be used (1D, 2D). Additional information can be added, such as location, planting date, etc.

Step 7: Save and download your barcode labels in PDF

Step 8: Print the labels using Zebra or Laser printer depending on the label media available.

6.3 Printing Barcode Labels using Zebra Printer and Field book in Excel

Design barcode labels from Zebra printer software are generally used for large trials, especially early generation trials.

Step 1: Ensure the trial field book is uploaded to YamBase.

Step 2: Login into yambase.org

Step 3: To export the field layout, navigate to the trial detail page and scroll down to the “Experimental Design” section. Click on the first tab labelled “Download Layout” and follow the wizard to download your file.

Step 4: Save the field book download as a worksheet using excel format 97–2003

The exported file will contain, amongst other fields, the plot name, plot ID, accession name, plot number, block number, replication number, row number and column number. The Zebra Designer Pro 2 software will help you select which information to be included

in your label from the downloaded file per plot. The recommended labels for field labelling are Self-tie labels (polyps material, 150 microns, 4 across).

Step 5: Open Zebra APP on the desktop computer == right-click BC property, select QR from the 2D icon, and pick 128 as linear.

Step 6: Click the file and select new select standard mode (click next)

Step 7: Select stock (click next); page size selects automatically (click next)

Step 8: Label layout Landscape (click next), Label dimension (width 19, height 2.5, number of rows 4) (click finish)

Step 9: Click barcode design

Step 10: Click DROP -= (select barcode object) (click next)

Step 11: Click VARIABLE and DATABASE (click next)

Step 12: Click BROWSE and select the file to save as worksheet 97 – 2003 early.

Step 13: CHECK TABLE (click next) (click next)

Step 14: Click RECORD PRINT

Step 15: Ensure that field plots and lab samples are labelled according to the field book.

6.4 Disposal of used field labels

After field labels, screen house tags, lab tags, or other identifying labels are no longer used, they should be collected from the source and placed in a central collection unit to be disposed of later. The field and lab supervisors should ensure the proper disposal of these labels.

7. References

https://rfu.iita.org/

8. Appendix