

ANOVA for a RCBD trial: SPYLPT2013_GH-Tono

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This is an automatedly created report.

See more details in section on materials.

Alternate formats:

PDF DOCX

Abstract

This trial has the identifier SPYLPT2013_GH-Tono. It was conducted under the supervision of x y as a Advanced Trial as part of a Yield Breeding Program in Tono, Ghana, Z in 2016. A total of 163 clones (including reference clones) were evaluated for 26 traits.

Materials and Methods

Location characterization

Installation

Geographic and climate characterization

Weather during planting season

Soil

Field management

Observations on special events

Materials

Trait descriptions (from ontology)

Model specification and data description

There is data from 163 treatments, evaluated using a randomized complete block design with 1, 2 blocks. The statistical model is

$$y_{ij} = \mu + \tau_i + \beta_j + \epsilon_{ij}$$

where

- y_{ij} is the observed response with treatment i and block j .
- μ is the mean response over all treatments and blocks.
- τ_i is the effect for treatment i .
- β_j is the effect for block j .
- ϵ_{ij} is the error term.

In this model we assume that the errors are independent and have a normal distribution with common variance, that is, $\epsilon_{ij} \sim N(0, \sigma_\epsilon^2)$.

The following traits are analyzed: Beta carotene content measuring mg per 100g, Content of iron on dry weight basis measuring mg per 100g, Content of zinc on dry weight basis measuring mg per 100g, Dry weight of storage root samples measuring g of sample, Fresh weight of storage root samples measuring g of sample, Fructose content measuring percent, Glucose content measuring percent, Harvest index computing percent, Number of commercial storage roots counting number per plot, Number of non-commercial storage roots counting number per plot, Plants harvested counting number per plot, Plants planted counting number per plot, Plants with storage roots counting number per plot, Protein content measuring percent, Storage root damages estimating 1-9, Storage root dry matter content computing percent, Storage root size estimating 1-9, Storage root starch content measuring percent, Sucrose content measuring percent, Survival index computing percent, Sweet potato weevil symptoms 1 estimating 1-9, Vine vigor 1 estimating 1-9, Virus symptoms 2 estimating 1-9, Weight of commercial storage roots measuring kg per plot, Weight of non-commercial storage roots measuring kg per plot, Weight of vines measuring kg per plot.

The following germplasm was analyzed: PG12012-1, PG12012-2, PG12151-19, PG12151-73, PG12088-10, PG12085-16, PG12149-5, PG12166-4, PG12151-75, PG12149-18, PG12155-30, PG12155-50, PG12005-88,

PG12005-52, PG12165-42, PG12078-4, PG12149-9, PG12165-36, PG12165-20, PG12086-5, Ogyefo, PG12005-1, PG12155-110, PG12167-5, PG12078-3, PG12165-31, PG12005-24, PG12155-32, PG12083-11, PG12005-82, PG12086-11, PG12165-3, PG12165-43, PG12086-17, PG12165-30, PG12151-4, PG12005-35, PG12084-10, PG12149-20, PG12149-49, PG12150-7, PG12146-13, PG12146-27, PG12089-5, PG12012-4, PG12011-7, PG12089-14, PG12160-51, PG12080-15, PG12160-104, PG12163-151, PG12162-10, PG12162-39, PG12162-9, PG12162-43, PG12162-3, PG12162-5, PG12160-72, PG12071-6, PG12146-23, PG12162-19, PG12118-5, PGB12162-4, PG12162-56, Sauti, PG12047-3, PG12163-163, PG12163-117, PG12164-21, PG12081-3, PG12076-5, PG12089-13, PG12163-173, PG12070-14, PG12162-16, PG12163-167, PG12162-54, PG12162-31, PG12160-47, PG12058-15, PG12153-2, PG12163-133, PG12153-21, PG12010-15, PG12149-40, PG12136-2, PG12153-14, PG12151-32, PG12021-10, PG12149-8, PG12079-29, PG12168-2, PG12164-26, PG12086-18, PG12153-35, PG12166-30, PG12059-14, PG12005-55, PG12153-29, PG12061-13, PG12155-22, PG12151-88, PG12151-61, PG12170-4, PG12082-18, PG12108-3, PG12059-8, PG12153-24, PG12147-5, PG12135-2, PG12076-13, PG12005-79, PG12166-11, PG12151-65, PG12149-28, PG12078-17, PG12145-2, PG12164-43, PG12005-105, PG12147-1, PG12028-4, PG12014-2, PG12088-29, PG12088-2, PG12088-4, PG12146-19, PG12021-7, PG12148-6, PG12153-16, PG12108-4, PG12154-1, PG12055-14, PG12088-27, PG12088-8, PG12057-14, PG12150-53, PG12101-3, PG12151-36, PG12064-5, PG12169-5, PG12089-3, PG12175-3, PG12149-19, PG12088-19, PG12148-26, PG12090-31, PG12148-39, PG12155-8, PG12073-12, PG12155-17, PG12155-20, PG12155-12, PG12083-20, PG12155-106, PG12151-53, PG12151-24, PG12166-26, PG12152-29, PG12152-33, PG12151-26, PG12069-11, PG12146-21, Apomuden.

Computational tools

This report was created using x86_64-apple-darwin13.4.0, x86_64, darwin13.4.0, x86_64, darwin13.4.0, , 3, 2.3, 2015, 12, 10, 69752, R, R version 3.2.3 (2015-12-10), Wooden Christmas-Tree on a x86_64-apple-darwin13.4.0 (64-bit) running OS X 10.11.3 (El Capitan) in . The following base packages were loaded: **stats**, **graphics**, **grDevices**, **utils**, **datasets**, **methods**, **base** and the following additional packages: **dplyr**, **shinyURL**, **shinydashboard**, **leaflet**, **rmdformats**, **knitr**, **agricolae**, **qtlcharts**, **d3heatmap**, **ggplot2**, **rhandsontable**, **shiny**, **miniUI**, **brapi**.

Results

Raw data

Trait summaries

Trait analyses

The following traits were not analyzed since they had too many missing values ($\geq 10\%$): Beta carotene content measuring mg per 100g, Content of iron on dry weight basis measuring mg per 100g, Content of zinc on dry weight basis measuring mg per 100g, Dry weight of storage root samples measuring g of sample, Fresh weight of storage root samples measuring g of sample, Fructose content measuring percent, Glucose content measuring percent, Harvest index computing percent, Number of commercial storage roots counting number per plot, Number of non-commercial storage roots counting number per plot, Plants with storage roots counting number per plot, Protein content measuring percent, Storage root dry matter content computing percent, Storage root starch content measuring percent, Sucrose content measuring percent, Weight of commercial storage roots measuring kg per plot, Weight of non-commercial storage roots measuring kg per plot. For the remaining traits missing values were imputed using all available information.

Valid traits: **Plants harvested counting number per plot**, **Plants planted counting number per plot**, **Storage root damages estimating 1-9**, **Storage root size estimating 1-9**, **Survival index computing percent**, **Sweet potato weevil symptoms 1 estimating 1-9**, **Vine vigor 1 estimating 1-9**, **Virus symptoms 2 estimating 1-9**, **Weight of vines measuring kg per plot**.

Trait correlations

Variety candidate selection

Summary

References

Data sources

Literature