ANOVA for a RCBD trial: SPYLPT2013\_GH-Tono

reinhardsimon using HIDAP

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# 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 randomize complete block design with 1, 2 blocks. The statistical model is

where

* is the observed response with treatment and block .
* is the mean response over all treatments and blocks.
* is the effect for treatment .
* is the effect for block .
* is the error term.

In this model we assume that the errors are independent and have a normal distribution with common variance, that is, .

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 estimatimg 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 (>= 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 estimatimg 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