Automatic report for a split-split-plot design

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# 1. Model specification and data description

There are data for a split-split-plot design with 6 levels for the main plot factor, 12 levels for the sub-plot factor, 36 levels for the sub-sub-plot factor, and 2 replications for the main plot factor. The statistical model is

$$
y\_{ijk} = \mu + \alpha\_i + \beta\_j + \gamma\_k + \delta\_l + (\alpha\beta)\_{ij} + (\alpha\gamma)\_{ik} + (\alpha\delta)\_{il} + (\beta\gamma)\_{jk} + (\beta\delta)\_{jl} + (\gamma\delta)\_{kl} \\
+ (\alpha\beta\gamma)\_{ijk} + (\alpha\beta\delta)\_{ijl} + (\alpha\gamma\delta)\_{ikl} + (\beta\gamma\delta)\_{jkl} + (\alpha\beta\gamma\delta)\_{ijkl}
$$

where

* is the observed response with level of the main plot factor, level of the sub-plot factor, level of the sub-sub-plot factor, and replication .
* is the mean response over all levels of factors and replications.
* is the effect for level of the main plot factor.
* is the effect for level of the sub-plot factor.
* is the effect for level of the sub-sub-plot factor.
* is the effect of replication .
* , , , , , , , , , , and the corresponding interactions.

In this model is the error term for the main plot factor, and are pooled to form the error term for the split-plot factor, and , , , and are pooled to form the error term for the sub-sub-plot factor.

# 2. Analysis for trait chickpea\_grain\_fresh\_weight\_100\_grain\_g

## 2.1. ANOVA

## Analysis of Variance Table  
##   
## Response: y  
## Df Sum Sq Mean Sq F value Pr(>F)  
## rep 1 0.4 0.4   
## mpf 4 18897.7 4724.4   
## Ea 0 0.0   
## spf 6 0.0 0.0   
## mpf:spf   
## Eb   
## sspf 24 0.0 0.0   
## sspf:mpf   
## sspf:spf   
## sspf:mpf:spf   
## Ec

# 3. Analysis for trait chickpea\_grain\_moisture\_content\_100\_grain\_percent

## 3.1. ANOVA

## Analysis of Variance Table  
##   
## Response: y  
## Df Sum Sq Mean Sq F value Pr(>F)  
## rep 1 292 291.7   
## mpf 4 36736 9184.0   
## Ea 0 0   
## spf 6 0 0.0   
## mpf:spf   
## Eb   
## sspf 24 0 0.0   
## sspf:mpf   
## sspf:spf   
## sspf:mpf:spf   
## Ec