# Package 'agricolaeplotr'

October 12, 2022

**Type** Package

**Title** Visualization of Design of Experiments from the 'agricolae' Package

**Version** 0.2.2

**Maintainer** Jens Harbers <jensharbers@gmail.com>

**Description**

Visualization of Design of Experiments from the 'agricolae' package with 'ggplot2' framework
The user provides an experiment design from the 'agricolae' package, calls the corresponding function and will receive a
visualization with 'ggplot2' based functions that are specific for each design. As there are many different designs, each design is tested on its type.
The output can be modified with standard 'ggplot2' commands or with other packages with 'ggplot2' function extensions.

**License** GPL (>= 3)

**Encoding** UTF-8

**Imports** ggplot2, agricolae, rmarkdown

**RoxygenNote** 7.1.1

**Language** en-US

**Suggests** testthat (>= 3.0.0), knitr

**Config/testthat/edition** 3

**BugReports** https://github.com/jensharbers/agricolaeplotr/issues

**URL** https://github.com/jensharbers/agricolaeplotr

**Depends** R (>= 3.6)

**VignetteBuilder** knitr

**Note** 'agricolae' is a package name 'ggplot2' is a package name

**NeedsCompilation** no

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**Repository** CRAN

**Date/Publication** 2021-07-20 18:30:02 UTC

# R topics documented:



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`plot_alpha` *Plot Alpha design Experiments*

---

## Description

Plot a design of an experiment with an alpha design from `agricolae` design.alpha

## Usage

```
plot_alpha(
  design,
  x = "cols",
  y = "block",
  factor_name = "trt",
```

```
  labels = "plots",
  width = 1,
  height = 1,
  space_width = 0.95,
  space_height = 0.85,
  reverse_y = FALSE,
  reverse_x = FALSE
)
```

## Arguments

| | |
|---|---|
| design | outdesign from agricolae package |
| x | Describes the x coordinates of a experiment design |
| y | Describes the y coordinates of a experiment design |
| factor_name | Which factor should be used for plotting, needs to be a column in outdesign$book |
| labels | Describes the column from that the plots are taken to display them |
| width | numeric value, describes the width of a plot in an experiment |
| height | numeric value, describes the height of a plot in an experiment |
| space_width | numeric value, describes the share of the space of the plots. 0=only space, 1=no space between plots in term of width |
| space_height | numeric value, describes the share of the space of the plots. 0=only space, 1=no space between plots in term of height |
| reverse_y | boolean, should the plots of the experiment be changed in reverse order in Row direction? use reverse_y=TRUE to have same sketch as in agricolae. default:reverse_y=FALSE |
| reverse_x | boolean, should the plots of the experiment be changed in reverse order in column direction? default:reverse_x=FALSE |

## Value

ggplot graphic that can be modified, if wished

## Examples

```
library(agricolaeplotr)
library(agricolae)
trt<-1:30
t <- length(trt)
# size block k
k<-3
# Blocks s
s<-t/k
# replications r
r <- 2
outdesign<- design.alpha(trt,k,r,serie=2)
plot_alpha(outdesign)
```

plot_bib *Plot Randomized Balanced Incomplete Block Designs*

## Description

Plot a design of an experiment with an Randomized Balanced Incomplete Block Designs (BIB) from design.bib

## Usage

```
plot_bib(
  design,
  y = "block",
  factor_name = "trt",
  labels = "plots",
  width = 1,
  height = 1,
  space_width = 0.95,
  space_height = 0.85,
  reverse_y = FALSE,
  reverse_x = FALSE
)
```

## Arguments

| | |
|---|---|
| design | outdesign from agricolae package |
| y | Describes the y coordinates of a experiment design |
| factor_name | Which factor should be used for plotting, needs to be a column in outdesign$book |
| labels | Describes the column from that the plots are taken to display them |
| width | numeric value, describes the width of a plot in an experiment |
| height | numeric value, describes the height of a plot in an experiment |
| space_width | numeric value, describes the share of the space of the plots. 0=only space, 1=no space between plots in term of width |
| space_height | numeric value, describes the share of the space of the plots. 0=only space, 1=no space between plots in term of height |
| reverse_y | boolean, should the plots of the experiment be changed in reverse order in Row direction? use reverse_y=TRUE to have same sketch as in agricolae. default:reverse_y=FALSE |
| reverse_x | boolean, should the plots of the experiment be changed in reverse order in column direction? default:reverse_x=FALSE |

## Value

ggplot graphic that can be modified, if wished

## Examples

```
library(agricolaeplotr)
library(agricolae)
trt<-c('A','B','C','D')
k<-3
outdesign<-design.bib(trt,k,serie=2,seed =41,kinds ='Super-Duper') # seed = 41
plot_bib(outdesign)
#now let us change position of the columns
plot_bib(outdesign,reverse_x = TRUE)
```

---

`plot_cyclic` *Plot Cyclic Design*

---

## Description

Plot a design of an experiment with an cyclic design from `agricolae` design.cyclic

## Usage

```
plot_cyclic(
  design,
  y = "block",
  factor_name = "trt",
  labels = "plots",
  width = 1,
  height = 1,
  space_width = 0.95,
  space_height = 0.85,
  reverse_y = FALSE,
  reverse_x = FALSE
)
```

## Arguments

| | |
|---|---|
| `design` | outdesign from `agricolae` package |
| `y` | Describes the y coordinates of a experiment design |
| `factor_name` | Which factor should be used for plotting, needs to be a column in outdesign$book |
| `labels` | Describes the column from that the plots are taken to display them |
| `width` | numeric value, describes the width of a plot in an experiment |
| `height` | numeric value, describes the height of a plot in an experiment |
| `space_width` | numeric value, describes the share of the space of the plots. 0=only space, 1=no space between plots in term of width |
| `space_height` | numeric value, describes the share of the space of the plots. 0=only space, 1=no space between plots in term of height |

| | |
|---|---|
| reverse_y | boolean, should the plots of the experiment be changed in reverse order in Row direction? use reverse_y=TRUE to have same sketch as in agricolae. default:reverse_y=FALSE |
| reverse_x | boolean, should the plots of the experiment be changed in reverse order in column direction? default:reverse_x=FALSE |

## Value

ggplot graphic that can be modified, if wished

## Examples

```
library(agricolaeplotr)
library(agricolae)
k <- 2
r <- 6
trt <-c('CIP-101','CIP-201','CIP-301','CIP-401','CIP-501',LETTERS[1:2])
outdesign<- design.cyclic(trt,k=k, r=r, serie=3, rowcol=TRUE)
plot_cyclic(outdesign, factor_name = 'trt')
```

---

# plot_dau *Plot Design of Augmented Blocks (dau)*

---

## Description

Plot a design of an experiment with an augmented block design from agricolae design.dau

## Usage

```
plot_dau(
  design,
  y = "block",
  factor_name = "trt",
  labels = "plots",
  width = 1,
  height = 1,
  space_width = 0.95,
  space_height = 0.85,
  reverse_y = FALSE,
  reverse_x = FALSE
)
```

## Arguments

| | |
|---|---|
| design | outdesign from agricolae package |
| y | Describes the y coordinates of a experiment design |
| factor_name | Which factor should be used for plotting, needs to be a column in outdesign$book |

| | |
|---|---|
| labels | Describes the column from that the plots are taken to display them |
| width | numeric value, describes the width of a plot in an experiment |
| height | numeric value, describes the height of a plot in an experiment |
| space_width | numeric value, describes the share of the space of the plots. 0=only space, 1=no space between plots in term of width |
| space_height | numeric value, describes the share of the space of the plots. 0=only space, 1=no space between plots in term of height |
| reverse_y | boolean, should the plots of the experiment be changed in reverse order in Row direction? use reverse_y=TRUE to have same sketch as in agricolae. default:reverse_y=FALSE |
| reverse_x | boolean, should the plots of the experiment be changed in reverse order in column direction? default:reverse_x=FALSE |

## Value

ggplot graphic that can be modified, if wished

## Examples

```
library(agricolaeplotr)
library(agricolae)
T1<-c('A','B','C','D','E','F')
T2<-letters[19:26]
outdesign <-design.dau(T1,T2, r=5,serie=2)
plot_dau(outdesign)
plot_dau(outdesign,reverse_y = TRUE)
```

---

# plot_design.factorial_crd

*Plot Factorial Complete Randomized Designs (crd)*

---

## Description

Plot a design of a factorial experiment with completely randomized design (crd) from design.ab

## Usage

```
plot_design.factorial_crd(
  design,
  ncols,
  nrows,
  y = "row",
  factor_name = "A",
  labels = "plots",
  width = 1,
  height = 1,
```

```
  space_width = 0.95,
  space_height = 0.85,
  reverse_y = FALSE,
  reverse_x = FALSE
)
```

## Arguments

| | |
|---|---|
| design | outdesign from agricolae package |
| ncols | integer value, choose the number of columns to which the experiment should be plotted |
| nrows | integer value, choose the number of rows to which the experiment should be plotted |
| y | Describes the y coordinates of a experiment design, default is row |
| factor_name | Which factor should be used for plotting, needs to be a column in outdesign$book |
| labels | string indicates the column of which the labels should be displayed |
| width | numeric value, describes the width of a plot in an experiment |
| height | numeric value, describes the height of a plot in an experiment |
| space_width | numeric value, describes the share of the space of the plots. 0=only space, 1=no space between plots in term of width |
| space_height | numeric value, describes the share of the space of the plots. 0=only space, 1=no space between plots in term of height |
| reverse_y | boolean, should the plots of the experiment be changed in reverse order in Row direction? use reverse_y=TRUE to have same sketch as in agricolae. default:reverse_y=FALSE |
| reverse_x | boolean, should the plots of the experiment be changed in reverse order in column direction? default:reverse_x=FALSE |

## Value

ggplot graphic that can be modified, if wished

## Examples

```
library(agricolaeplotr)
library(agricolae)
trt<-c(3,2) # factorial 3x2
outdesign <- design.ab(trt, r=3, serie=2,design = 'crd')
plot_design.factorial_crd(outdesign,ncols = 8,nrows = 6)
plot_design.factorial_crd(outdesign,reverse_y = TRUE,ncols = 8,nrows = 6)
plot_design.factorial_crd(outdesign,reverse_y = TRUE,reverse_x = TRUE,ncols = 8,nrows = 6)
```

plot_design.factorial_lsd

*Plot Factorial Latin Square Designs (lsd)*

## Description

Plot a design of a factorial experiment with latin square design (lsd) design from agricolae design.ab

## Usage

```
plot_design.factorial_lsd(
  design,
  x = "col",
  y = "row",
  factor_name = "A",
  labels = "plots",
  width = 1,
  height = 1,
  space_width = 0.95,
  space_height = 0.85,
  reverse_y = FALSE,
  reverse_x = FALSE
)
```

## Arguments

| | |
|---|---|
| design | outdesign from agricolae package |
| x | Describes the x coordinates of a experiment design |
| y | Describes the y coordinates of a experiment design |
| factor_name | Which factor should be used for plotting, needs to be a column in outdesign$book |
| labels | Describes the column from that the plots are taken to display them |
| width | numeric value, describes the width of a plot in an experiment |
| height | numeric value, describes the height of a plot in an experiment |
| space_width | numeric value, describes the share of the space of the plots. 0=only space, 1=no space between plots in term of width |
| space_height | numeric value, describes the share of the space of the plots. 0=only space, 1=no space between plots in term of height |
| reverse_y | boolean, should the plots of the experiment be changed in reverse order in Row direction? use reverse_y=TRUE to have same sketch as in agricolae. default:reverse_y=FALSE |
| reverse_x | boolean, should the plots of the experiment be changed in reverse order in column direction? default:reverse_x=FALSE |

## Value

ggplot graphic that can be modified, if wished

## Examples

```
library(agricolaeplotr)
library(agricolae)
trt<-c(3,2) # factorial 3x2
outdesign <-design.ab(trt, r=3, serie=2,design = 'lsd')
plot_design.factorial_lsd(outdesign,factor_name = 'B',reverse_x = TRUE)
```

---

# plot_design.factorial_rcbd

*Plot Factorial Designs with rcbd Design*

---

## Description

Plot a design of a factorial experiment with randomized complete block design (rcbd) from design.ab

## Usage

```
plot_design.factorial_rcbd(
  design,
  y = "row",
  factor_name = "A",
  width = 1,
  height = 1,
  space_width = 0.95,
  space_height = 0.85,
  reverse_x = FALSE,
  reverse_y = FALSE
)
```

## Arguments

| | |
|---|---|
| design | outdesign from agricolae package |
| y | Describes the y coordinates of a experiment design |
| factor_name | Which factor should be used for plotting, needs to be a column in outdesign$book |
| width | numeric value, describes the width of a plot in an experiment |
| height | numeric value, describes the height of a plot in an experiment |
| space_width | numeric value, describes the share of the space of the plots. 0=only space, 1=no space between plots in term of width |
| space_height | numeric value, describes the share of the space of the plots. 0=only space, 1=no space between plots in term of height |

| | |
|---|---|
| reverse_x | boolean, should the plots of the experiment be changed in reverse order in column direction? default:reverse_x=FALSE |
| reverse_y | boolean, should the plots of the experiment be changed in reverse order in Row direction? use reverse_y=TRUE to have same sketch as in agricolae. default:reverse_y=FALSE |

## Value

ggplot graphic that can be modified, if wished

## Examples

```
library(agricolaeplotr)
library(agricolae)
trt<-c(2,4)
k=6
outdesign<-design.ab(trt, r=k, serie=3,design='rcbd')
plot_design.factorial_rcbd(design=outdesign,factor_name = 'B')
plot_design.factorial_rcbd(outdesign,reverse_y = TRUE,reverse_x = TRUE)
```

---

# plot_design_crd *Plot Complete Randomized Design*

---

## Description

Plot a design of a factorial experiment with randomized complete block design from agricolae design.ab

## Usage

```
plot_design_crd(
  design,
  ncols,
  nrows,
  y = "row",
  factor_name = "trt",
  labels = "plots",
  width = 1,
  height = 1,
  space_width = 0.95,
  space_height = 0.85,
  reverse_y = FALSE,
  reverse_x = FALSE
)
```

### Arguments

| | |
|---|---|
| design | outdesign from agricolae package |
| ncols | integer value, choose the number of columns to which the experiment should be plotted |
| nrows | integer value, choose the number of rows to which the experiment should be plotted |
| y | Describes the y coordinates of a experiment design, default is row |
| factor_name | Which factor should be used for plotting, needs to be a column in outdesign$book |
| labels | Describes the column from that the plots are taken to display them |
| width | numeric value, describes the width of a plot in an experiment |
| height | numeric value, describes the height of a plot in an experiment |
| space_width | numeric value, describes the share of the space of the plots. 0=only space, 1=no space between plots in term of width |
| space_height | numeric value, describes the share of the space of the plots. 0=only space, 1=no space between plots in term of height |
| reverse_y | boolean, should the plots of the experiment be changed in reverse order in Row direction? use reverse_y=TRUE to have same sketch as in agricolae. default:reverse_y=FALSE |
| reverse_x | boolean, should the plots of the experiment be changed in reverse order in column direction? default:reverse_x=FALSE |

### Value

ggplot graphic that can be modified, if wished

### Examples

```
library(agricolaeplotr)
library(agricolae)
trt = c(2,3,4,5,6)
outdesign1 <-design.crd(trt,r=5,serie=2,2543,'Mersenne-Twister')
plot_design_crd(outdesign1,ncols = 13,nrows = 3)
```

---

## plot_graeco *Plot Graeco Latin Square Design*

---

### Description

Plot a design of an experiment with an Graeco - latin square design from agricolae design.graeco

## Usage

```
plot_graeco(
  design,
  x = "col",
  y = "row",
  factor_name = "T1",
  labels = "plots",
  width = 1,
  height = 1,
  space_width = 0.95,
  space_height = 0.85,
  reverse_y = FALSE,
  reverse_x = FALSE
)
```

## Arguments

| | |
|---|---|
| design | outdesign from agricolae package |
| x | Describes the x coordinates of a experiment design |
| y | Describes the y coordinates of a experiment design |
| factor_name | Which factor should be used for plotting, needs to be a column in outdesign$book |
| labels | Describes the column from that the plots are taken to display them |
| width | numeric value, describes the width of a plot in an experiment |
| height | numeric value, describes the height of a plot in an experiment |
| space_width | numeric value, describes the share of the space of the plots. 0=only space, 1=no space between plots in term of width |
| space_height | numeric value, describes the share of the space of the plots. 0=only space, 1=no space between plots in term of height |
| reverse_y | boolean, should the plots of the experiment be changed in reverse order in Row direction? use reverse_y=TRUE to have same sketch as in agricolae. default:reverse_y=FALSE |
| reverse_x | boolean, should the plots of the experiment be changed in reverse order in column direction? default:reverse_x=FALSE |

## Value

ggplot graphic that can be modified, if wished

## Examples

```
library(agricolaeplotr)
library(agricolae)
T1<-c('a','b','c','d')
T2<-c('v','w','x','y','z','zz')
outdesign <- design.graeco(trt1=T1, trt2=T2, serie = 2,
 seed = 0, kinds = 'Super-Duper',randomization=TRUE)
```

```
plot_graeco(outdesign, factor_name = 'T2',reverse_y = TRUE)
plot_graeco(outdesign, factor_name = 'T2',reverse_x = TRUE)
```

---

plot_latin_square *Plot Latin Square Design*

---

## Description

Plot a design of a factorial experiment with a latin square design from agricolae design.lsd

## Usage

```
plot_latin_square(
  design,
  x = "col",
  y = "row",
  factor_name = "trt",
  labels = "plots",
  width = 1,
  height = 1,
  space_width = 0.95,
  space_height = 0.85,
  reverse_y = FALSE,
  reverse_x = FALSE
)
```

## Arguments

| | |
|---|---|
| design | outdesign from agricolae package |
| x | Describes the x coordinates of a experiment design |
| y | Describes the y coordinates of a experiment design |
| factor_name | Which factor should be used for plotting, needs to be a column in outdesign$book |
| labels | Describes the column from that the plots are taken to display them |
| width | numeric value, describes the width of a plot in an experiment |
| height | numeric value, describes the height of a plot in an experiment |
| space_width | numeric value, describes the share of the space of the plots. 0=only space, 1=no space between plots in term of width |
| space_height | numeric value, describes the share of the space of the plots. 0=only space, 1=no space between plots in term of height |
| reverse_y | boolean, should the plots of the experiment be changed in reverse order in Row direction? use reverse_y=TRUE to have same sketch as in agricolae. default:reverse_y=FALSE |
| reverse_x | boolean, should the plots of the experiment be changed in reverse order in column direction? default:reverse_x=FALSE |

## Value

ggplot graphic that can be modified, if wished

## Examples

```
library(agricolaeplotr)
library(agricolae)
trt<-LETTERS[1:9]
outdesign<- design.lsd(trt,serie=2)
plot_latin_square(outdesign, reverse_y = TRUE)
```

---

# plot_lattice_simple *Plot Simple Lattice Design*

---

## Description

Plot a design of a factorial experiment with a lattice design from agricolae design.lattice with r=2

## Usage

```
plot_lattice_simple(
  design,
  y = "block",
  factor_name = "trt",
  labels = "plots",
  width = 1,
  height = 1,
  space_width = 0.95,
  space_height = 0.85,
  reverse_y = FALSE,
  reverse_x = FALSE
)
```

## Arguments

| | |
|---|---|
| design | outdesign from agricolae package |
| y | Describes the y coordinates of a experiment design |
| factor_name | Which factor should be used for plotting, needs to be a column in outdesign$book |
| labels | Describes the column from that the plots are taken to display them |
| width | numeric value, describes the width of a plot in an experiment |
| height | numeric value, describes the height of a plot in an experiment |
| space_width | numeric value, describes the share of the space of the plots. 0=only space, 1=no space between plots in term of width |
| space_height | numeric value, describes the share of the space of the plots. 0=only space, 1=no space between plots in term of height |

| | |
|---|---|
| reverse_y | boolean, should the plots of the experiment be changed in reverse order in Row direction? use reverse_y=TRUE to have same sketch as in agricolae. default:reverse_y=FALSE |
| reverse_x | boolean, should the plots of the experiment be changed in reverse order in column direction? default:reverse_x=FALSE |

## Value

ggplot graphic that can be modified, if wished

## Examples

```
library(agricolaeplotr)
library(agricolae)
trt<-1:100
outdesign<-design.lattice(trt,r=2,serie=3) # simple lattice design, 10x10
plot_lattice_simple(outdesign,width = 2, height = 1)
```

---

# plot_lattice_triple *Plot Triple Lattice Design*

---

## Description

Plot a design of a factorial experiment with a latin square design from agricolae design.lattice with r=3

## Usage

```
plot_lattice_triple(
  design,
  y = "block",
  factor_name = "trt",
  labels = "plots",
  width = 1,
  height = 1,
  space_width = 0.95,
  space_height = 0.85,
  reverse_y = FALSE,
  reverse_x = FALSE
)
```

## Arguments

| | |
|---|---|
| design | outdesign from agricolae package |
| y | Describes the y coordinates of a experiment design |
| factor_name | Which factor should be used for plotting, needs to be a column in outdesign$book |
| labels | Describes the column from that the plots are taken to display them |

| | |
|---|---|
| width | numeric value, describes the width of a plot in an experiment |
| height | numeric value, describes the height of a plot in an experiment |
| space_width | numeric value, describes the share of the space of the plots. 0=only space, 1=no space between plots in term of width |
| space_height | numeric value, describes the share of the space of the plots. 0=only space, 1=no space between plots in term of height |
| reverse_y | boolean, should the plots of the experiment be changed in reverse order in Row direction? use reverse_y=TRUE to have same sketch as in agricolae. default:reverse_y=FALSE |
| reverse_x | boolean, should the plots of the experiment be changed in reverse order in column direction? default:reverse_x=FALSE |

## Value

ggplot graphic that can be modified, if wished

## Examples

```
library(agricolaeplotr)
library(agricolae)
trt<-LETTERS[1:9]
outdesign<-design.lattice(trt,r=3,serie=2)
plot_lattice_triple(design=outdesign,reverse_x=TRUE)
```

---

# plot_rcdb *Plot randomized complete block designs*

---

## Description

Plot a design of an experiment with randomized complete block design (rcbd) design from agricolae design.rcbd

## Usage

```
plot_rcdb(
  design,
  y = "block",
  factor_name = "trt",
  labels = "plots",
  width = 1,
  height = 1,
  space_width = 0.95,
  space_height = 0.85,
  reverse_y = FALSE,
  reverse_x = FALSE
)
```

### Arguments

| | |
|---|---|
| design | outdesign from agricolae package |
| y | Describes the y coordinates of a experiment design |
| factor_name | Which factor should be used for plotting, needs to be a column in outdesign$book |
| labels | Describes the column from that the plots are taken to display them |
| width | numeric value, describes the width of a plot in an experiment |
| height | numeric value, describes the height of a plot in an experiment |
| space_width | numeric value, describes the share of the space of the plots. 0=only space, 1=no space between plots in term of width |
| space_height | numeric value, describes the share of the space of the plots. 0=only space, 1=no space between plots in term of height |
| reverse_y | boolean, should the plots of the experiment be changed in reverse order in Row direction? use reverse_y=TRUE to have same sketch as in agricolae. default:reverse_y=FALSE |
| reverse_x | boolean, should the plots of the experiment be changed in reverse order in column direction? default:reverse_x=FALSE |

### Value

ggplot graphic that can be modified, if wished

### Examples

```
library(agricolaeplotr)
library(agricolae)
# 5 treatments and 6 blocks
trt<-c('A','B','C','D','E')
outdesign <-design.rcbd(trt,6,serie=2,986,'Wichmann-Hill') # seed = 986
plot_rcdb(outdesign)
plot_rcdb(outdesign,reverse_y = TRUE,reverse_x = TRUE)
```

---

## plot_split_crd *Plot Split Plot Designs (crd)*

---

### Description

Plot a design of a split plot experiment with a complete randomized design (crd) from design.split

## Usage

```
plot_split_crd(
  design,
  nrows,
  ncols,
  factor_name_1 = "T1",
  factor_name_2 = "T2",
  labels = "plots",
  subplots = TRUE,
  width = 1,
  height = 1,
  space_width = 0.95,
  space_height = 0.85,
  reverse_y = FALSE,
  reverse_x = FALSE
)
```

## Arguments

| | |
|---|---|
| design | outdesign from agricolae package |
| nrows | Number of rows for the design |
| ncols | Number of columns for the design |
| factor_name_1 | string Which factor should be used for plotting, needs to be a column in outdesign$book |
| factor_name_2 | string Which factor should be used for plotting, needs to be a column in outdesign$book |
| labels | string Describes the column from that the plots are taken to display them |
| subplots | should the plot function return the subplots (default) or main plots? |
| width | numeric value, describes the width of a plot in an experiment |
| height | numeric value, describes the height of a plot in an experiment |
| space_width | numeric value, describes the share of the space of the plots. 0=only space, 1=no space between plots in term of width |
| space_height | numeric value, describes the share of the space of the plots. 0=only space, 1=no space between plots in term of height |
| reverse_y | boolean, should the plots of the experiment be changed in reverse order in Row direction? use reverse_y=TRUE to have same sketch as in agricolae. default:reverse_y=FALSE |
| reverse_x | boolean, should the plots of the experiment be changed in reverse order in column direction? default:reverse_x=FALSE |

## Value

ggplot graphic that can be modified, if wished

## Examples

```
library(agricolaeplotr)
library(agricolae)
T1<-c('a','b','c','d','e','f','g')
T2<-c('v','w','x','y','zzz')
r <- 4
outdesign2 <- design.split(trt1=T1, trt2=T2, r=r,
serie = 2, seed = 0, kinds = 'Super-Duper',
randomization=TRUE,first=TRUE,design = 'crd')
plot_split_crd(outdesign2,ncols = 6,nrows=5)

outdesign2 <- design.split(trt1=T1, trt2=T2, r=r,
serie = 2, seed = 0, kinds = 'Super-Duper',
randomization=FALSE,first=TRUE,design = 'crd')
plot_split_crd(outdesign2,ncols = 6,nrows=5)
```

---

`plot_split_lsd` *Plot Split Plot Design lsd*

---

## Description

Plot a design of a split plot experiment with latin squared design (lsd) from design.split

## Usage

```
plot_split_lsd(
  design,
  factor_name_1 = "T1",
  factor_name_2 = "T2",
  labels = "plots",
  subplots = TRUE,
  width = 1,
  height = 1,
  space_width = 0.95,
  space_height = 0.85,
  reverse_y = FALSE,
  reverse_x = FALSE
)
```

## Arguments

| | |
|---|---|
| `design` | outdesign from `agricolae` package |
| `factor_name_1` | string Which factor should be used for plotting, needs to be a column in outdesign$book |
| `factor_name_2` | string Which factor should be used for plotting, needs to be a column in outdesign$book |
| `labels` | string Describes the column from that the plots are taken to display them |

| | |
|---|---|
| subplots | should the plot function return the subplots (default) or main plots? |
| width | numeric value, describes the width of a plot in an experiment |
| height | numeric value, describes the height of a plot in an experiment |
| space_width | numeric value, describes the share of the space of the plots. 0=only space, 1=no space between plots in term of width |
| space_height | numeric value, describes the share of the space of the plots. 0=only space, 1=no space between plots in term of height |
| reverse_y | boolean, should the plots of the experiment be changed in reverse order in Row direction? use reverse_y=TRUE to have same sketch as in agricolae. default:reverse_y=FALSE |
| reverse_x | boolean, should the plots of the experiment be changed in reverse order in column direction? default:reverse_x=FALSE |

## Value

ggplot graphic that can be modified, if wished

## Examples

```
library(agricolaeplotr)
library(agricolae)
T1<-c('a','b','c','d','e')
T2<-c('v','w','x','y')
outdesign2 <- design.split(trt1=T1, trt2=T2, r=r,serie = 2,
                           seed = 0, kinds = 'Super-Duper',
                           randomization=TRUE,first=TRUE,design = 'lsd')
plot_split_lsd(outdesign2,width = 4,height = 4)
```

---

# plot_split_rcbd *Plot Split Plot Designs with rcbd*

---

## Description

Plot a design of a split plot experiment with randomized complete blocks design (rcbd) from design.split

## Usage

```
plot_split_rcbd(
  design,
  y = "block",
  factor_name_1 = "T1",
  factor_name_2 = "T2",
  subplots = TRUE,
  labels = "plots",
  width = 1,
```

```
  height = 1,
  space_width = 0.95,
  space_height = 0.85,
  reverse_y = FALSE,
  reverse_x = FALSE
)
```

## Arguments

| | |
|---|---|
| design | outdesign from agricolae package |
| y | string defines the block |
| factor_name_1 | string Which factor should be used for plotting, needs to be a column in outdesign$book |
| factor_name_2 | string Which factor should be used for plotting, needs to be a column in outdesign$book |
| subplots | should the plot function return the subplots (default) or main plots? |
| labels | string Describes the column from that the plots are taken to display them |
| width | numeric value, describes the width of a plot in an experiment |
| height | numeric value, describes the height of a plot in an experiment |
| space_width | numeric value, describes the share of the space of the plots. 0=only space, 1=no space between plots in term of width |
| space_height | numeric value, describes the share of the space of the plots. 0=only space, 1=no space between plots in term of height |
| reverse_y | boolean, should the plots of the experiment be changed in reverse order in Row direction? use reverse_y=TRUE to have same sketch as in agricolae. default:reverse_y=FALSE |
| reverse_x | boolean, should the plots of the experiment be changed in reverse order in column direction? default:reverse_x=FALSE |

## Value

ggplot graphic that can be modified, if wished

## Examples

```
library(agricolaeplotr)
library(agricolae)
T1<-c('a','b','c','d','e')
T2<-c('v','w','x','y','z','zz')
r = 3
outdesign2 <- design.split(trt1=T1, trt2=T2, r=r,serie = 2,
 seed = 0, kinds = 'Super-Duper',randomization=TRUE,
 first=TRUE,design = 'rcbd')
plot_split_rcbd(outdesign2,width = 1,height = 1)
plot_split_rcbd(outdesign2,width = 1,height = 1,reverse_y = TRUE)
plot_split_rcbd(outdesign2,width = 1,height = 1,reverse_x = TRUE,reverse_y = TRUE)
```

plot_strip *Plot Strip Design*

## Description

Plot a design of an experiment with an Strip Plot design from agricolae design.strip

## Usage

```
plot_strip(
  design,
  x = "col",
  y = "row",
  factor_name_1 = "T1",
  factor_name_2 = "T2",
  labels = "plots",
  width = 1,
  height = 1,
  space_width = 0.95,
  space_height = 0.85,
  reverse_y = FALSE,
  reverse_x = FALSE
)
```

## Arguments

| | |
|---|---|
| design | outdesign from agricolae package |
| x | Describes the x coordinates of a experiment design |
| y | Describes the y coordinates of a experiment design |
| factor_name_1 | Which factor should be used for plotting, needs to be a column in outdesign$book |
| factor_name_2 | Which factor should be used for plotting, needs to be a column in outdesign$book |
| labels | Describes the column from that the plots are taken to display them |
| width | numeric value, describes the width of a plot in an experiment |
| height | numeric value, describes the height of a plot in an experiment |
| space_width | numeric value, describes the share of the space of the plots. 0=only space, 1=no space between plots in term of width |
| space_height | numeric value, describes the share of the space of the plots. 0=only space, 1=no space between plots in term of height |
| reverse_y | boolean, should the plots of the experiment be changed in reverse order in Row direction? use reverse_y=TRUE to have same sketch as in agricolae. default:reverse_y=FALSE |
| reverse_x | boolean, should the plots of the experiment be changed in reverse order in column direction? default:reverse_x=FALSE |

## Value

ggplot graphic that can be modified, if wished

## Examples

```
library(agricolaeplotr)
library(agricolae)
T1<-c('a','b','c','d')
T2<-c('v','w','x','y','z')
r = 3
outdesign <- design.strip(trt1=T1, trt2=T2, r=r,serie = 2,
 seed = 0, kinds = 'Super-Duper',randomization=TRUE)
plot_strip(outdesign,factor_name_1 = "T1",factor_name_2="T2")
plot_strip(outdesign,factor_name_1 = "T1",factor_name_2="T2",reverse_x = TRUE)
```

---

# plot_youden *Plot Youden Design*

---

## Description

Plot a Youden experiment design from agricolae design.youden

## Usage

```
plot_youden(
  design,
  x = "col",
  y = "row",
  factor_name = "varieties",
  labels = "plots",
  width = 1,
  height = 1,
  space_width = 0.95,
  space_height = 0.85,
  reverse_y = FALSE,
  reverse_x = FALSE
)
```

## Arguments

| | |
|---|---|
| design | outdesign from agricolae package |
| x | Describes the x coordinates of a experiment design |
| y | Describes the y coordinates of a experiment design |
| factor_name | string Which factor should be used for plotting, needs to be a column in outdesign$book |
| labels | string Describes the column from that the plots are taken to display them |

| | |
|---|---|
| width | numeric value, describes the width of a plot in an experiment |
| height | numeric value, describes the height of a plot in an experiment |
| space_width | numeric value, describes the share of the space of the plots. 0=only space, 1=no space between plots in term of width |
| space_height | numeric value, describes the share of the space of the plots. 0=only space, 1=no space between plots in term of height |
| reverse_y | boolean, should the plots of the experiment be changed in reverse order in Row direction? use reverse_y=TRUE to have same sketch as in agricolae. default:reverse_y=FALSE |
| reverse_x | boolean, should the plots of the experiment be changed in reverse order in column direction? default:reverse_x=FALSE |

## Value

ggplot graphic that can be modified, if wished

## Examples

```
library(agricolaeplotr)
library(agricolae)
varieties<-c('perricholi','yungay','maria bonita','tomasa')
outdesign <-design.youden(varieties,r=2,serie=2,seed=23)
plot_youden(outdesign, labels = 'varieties')
```

---

# test_input_height *Test if input for height is numeric*

---

## Description

Test if input is numeric for field height

## Usage

```
test_input_height(x)
```

## Arguments

| | |
|---|---|
| x | input to be tested |

## Value

error

## Examples

```
library(agricolaeplotr)
test_input_height(5)
```

## test_input_ncols *checks matrix column input*

### Description

checks if input is suitable for matrix column indication

### Usage

```
test_input_ncols(x)
```

### Arguments

| | |
|---|---|
| x | input to be tested |

### Value

error

### Examples

```
library(agricolaeplotr)
test_input_ncols(9)
```

## test_input_nrows *checks matrix rows input*

### Description

checks if input is suitable for matrix row indication

### Usage

```
test_input_nrows(x)
```

### Arguments

| | |
|---|---|
| x | input to be tested |

### Value

error

### Examples

```
library(agricolaeplotr)
test_input_nrows(10)
```

## test_input_reverse_x *Test if input is a logical*

### Description

Test if input is a logical

### Usage

```
test_input_reverse_x(x)
```

### Arguments

| | |
|---|---|
| x | input to be tested |

### Value

error

### Examples

```
library(agricolaeplotr)
test_input_reverse_x(TRUE)
```

## test_input_reverse_y *Test if input is a logical*

### Description

Test if input is a logical

### Usage

```
test_input_reverse_y(x)
```

### Arguments

| | |
|---|---|
| x | input to be tested |

### Value

error

### Examples

```
library(agricolaeplotr)
test_input_reverse_y(TRUE)
```

## test_input_width *Test if input for width is numeric*

### Description

Test if input is numeric for field width

### Usage

```
test_input_width(x)
```

### Arguments

| | |
|---|---|
| x | input to be tested |

### Value

error

### Examples

```
library(agricolaeplotr)
test_input_width(3)
```

## test_names_design *Test of experimental design*

### Description

Test if the outdesign file contains book and parameter list

### Usage

```
test_names_design(design)
```

### Arguments

| | |
|---|---|
| design | design from agricolae package |

### Value

error

## Examples

```
library(agricolaeplotr)
library(agricolae)
trt<-c(2,4)
k=6
outdesign<-design.ab(trt, r=k, serie=3,design='rcbd')
test_names_design(outdesign)
```

---

`test_name_in_column` *Test if input column names*

---

## Description

Test if input is in column names of a table

## Usage

```
test_name_in_column(x, design)
```

## Arguments

| | |
|---|---|
| `x` | string input |
| `design` | design from `agricolae` package |

## Value

error

## Examples

```
library(agricolaeplotr)
library(agricolae)
trt<-c(2,4)
k=6
outdesign<-design.ab(trt, r=k, serie=3,design='rcbd')
test_name_in_column('B',outdesign)
```

## test_string *Test if input is a string*

### Description

Test if input is a string

### Usage

```
test_string(x)
```

### Arguments

| | |
|---|---|
| x | input to be tested |

### Value

error

### Examples

```
library(agricolaeplotr)
test_string('smallstring')
```

## theme_poster *ggplot2 theme for poster presentation*

### Description

This theme is designed to increase font size to ensure readability on poster presentations

### Usage

```
theme_poster()
```

### Value

ggplot2 theme

## Examples

```
library(agricolaeplotr)
library(agricolae)
T1<-c('a','b','c','d','e','f','g')
T2<-c('v','w','x','y','z')
r <- 4
outdesign2 <- design.split(trt1=T1, trt2=T2, r=r,
serie = 2, seed = 0, kinds = 'Super-Duper',
randomization=FALSE,first=TRUE,design = 'crd')
plot_split_crd(outdesign2,ncols = 6,nrows=5)+
theme_poster()
```

---

# theme_pres *ggplot2 theme for outdoor presentation*

---

## Description

This theme is designed to increase font size to ensure readability on outdoor used devices

## Usage

```
theme_pres()
```

## Value

ggplot2 theme

## Examples

```
library(agricolaeplotr)
library(agricolae)
T1<-c('a','b','c','d','e','f','g')
T2<-c('v','w','x','y','z')
r <- 4
outdesign2 <- design.split(trt1=T1, trt2=T2, r=r,
serie = 2, seed = 0, kinds = 'Super-Duper',
randomization=FALSE,first=TRUE,design = 'crd')
plot_split_crd(outdesign2,ncols = 6,nrows=5)+
theme_pres()
```

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