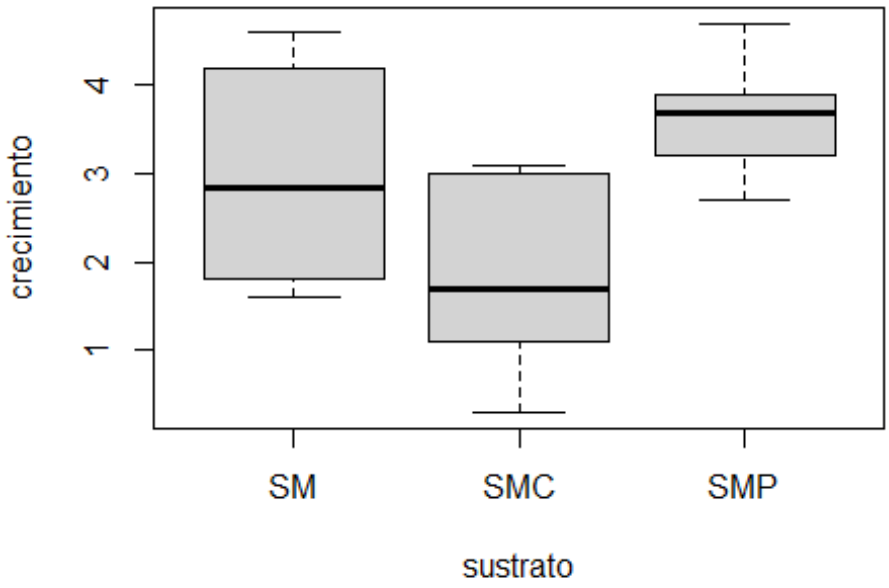
EXxperimento_sofi.R

Erik Manuel Aldape Becerra

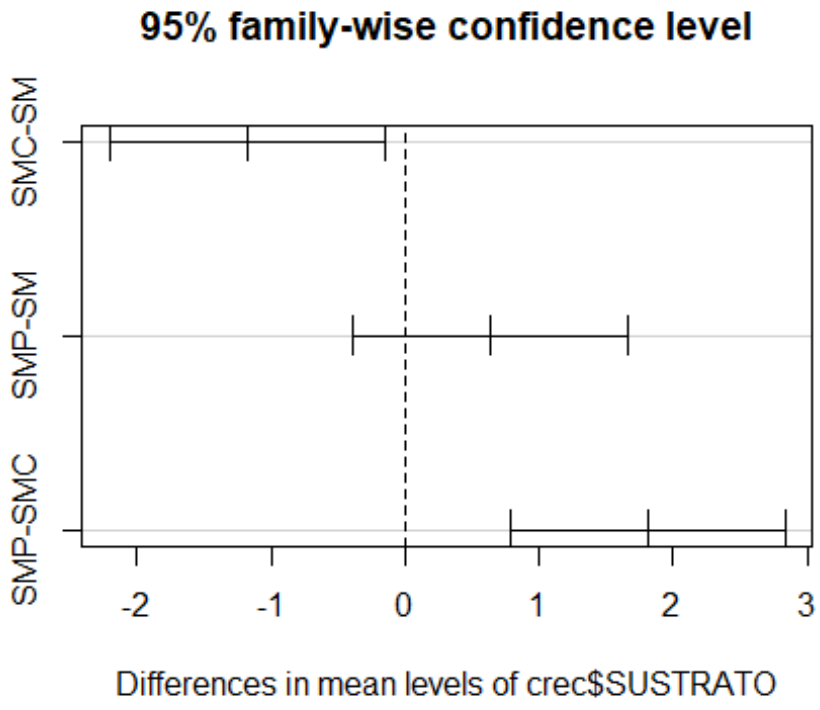
2025-05-12

```
crec <- read.csv("Data/datos.lentejas.csv", header = T)
crec$SUSTRATO <- as.factor (crec$SUSTRATO)
boxplot(crec$CRECIMIENTO~crec$SUSTRATO,
        xlab = "sustrato",
        ylab = "crecimiento")
```




```
tapply (crec$CRECIMIENTO, crec$SUSTRATO, mean)

##   SM  SMC  SMP
## 3.00 1.82 3.63

tapply (crec$CRECIMIENTO, crec$SUSTRATO,var)

##        SM       SMC       SMP
## 1.2933333 0.9662222 0.3067778

shapiro.test (crec$CRECIMIENTO)

##
##  Shapiro-Wilk normality test
```

```
##
## data:  crec$CRECIMIENTO
## W = 0.96464, p-value = 0.4046

bartlett.test(crec$CRECIMIENTO~crec$SUSTRATO)

##
##  Bartlett test of homogeneity of variances
##
## data:  crec$CRECIMIENTO by crec$SUSTRATO
## Bartlett's K-squared = 4.2056, df = 2, p-value = 0.1221

crec.aov <- aov(crec$CRECIMIENTO~crec$SUSTRATO)
summary(crec.aov)

##               Df Sum Sq Mean Sq F value   Pr(>F)
## crec$SUSTRATO  2  16.89   8.442   9.869 0.000607 ***
## Residuals     27  23.10   0.855
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

TukeyHSD(crec.aov)

##   Tukey multiple comparisons of means
##     95% family-wise confidence level
##
## Fit: aov(formula = crec$CRECIMIENTO ~ crec$SUSTRATO)
##
## $`crec$SUSTRATO`
##          diff        lwr        upr     p adj
## SMC-SM  -1.18 -2.2055589 -0.1544411 0.0216835
## SMP-SM   0.63 -0.3955589  1.6555589 0.2962551
## SMP-SMC  1.81  0.7844411  2.8355589 0.0004638

plot(TukeyHSD(crec.aov))
```




```
tapply(crec$CRECIMIENTO, crec$SUSTRATO, length)

##  SM SMC SMP
##  10  10  10
```