

EXAMEN-FINAL-II.R

USUARIO

2024-05-30

```
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# 30/05/2024
```

```
# data (InsectSprays)  
# head (InsectSprays)
```

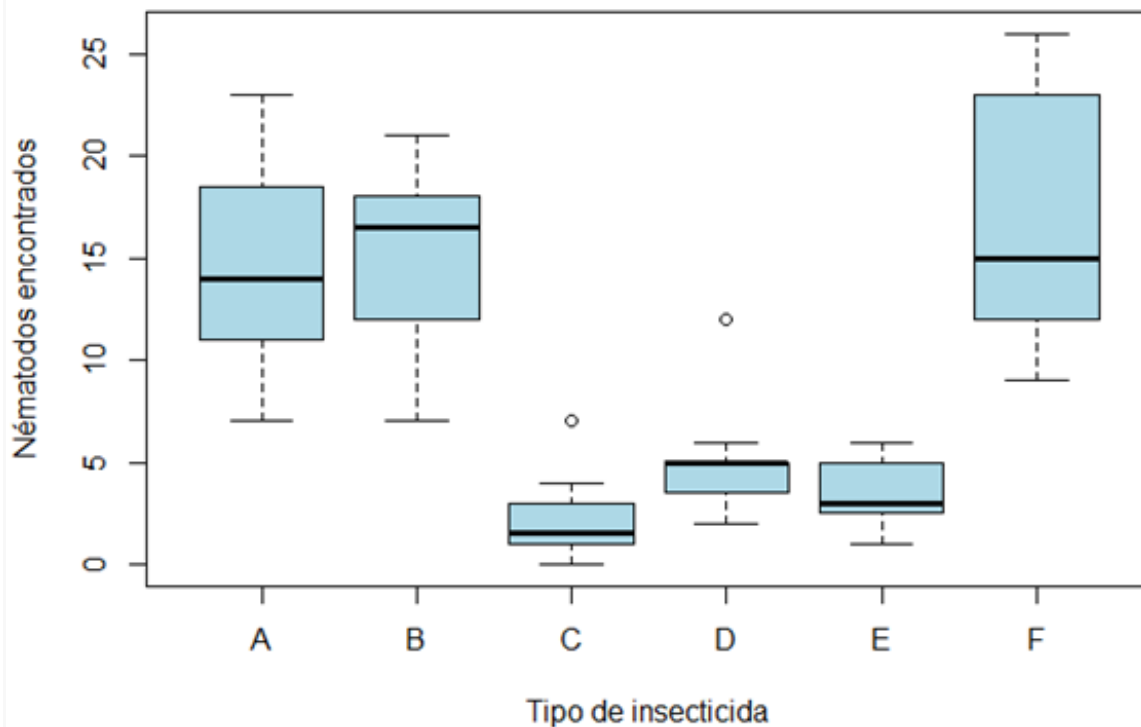
```
##      count spray  
## 1      10      A  
## 2       7      A  
## 3      20      A  
## 4      14      A  
## 5      14      A  
## 6      12      A
```

```
# Ejercicio 1 -----
```

```
## summary(InsectSprays)  
##      count      spray  
## Min.   : 0.00    A:12  
## 1st Qu.: 3.00    B:12  
## Median : 7.00    C:12  
## Mean    : 9.50    D:12  
## 3rd Qu.:14.25    E:12  
## Max.    :26.00    F:12
```

```
# Ejercicio 2 -----
```

```
## boxplot(InsectSprays$count ~ InsectSprays$spray, col="lightblue",  
##         ylab = "Nématodos encontrados",  
##         xlab = "Tipo de insecticida")
```



Ejercicio 3 -----

```
## tapply(InsectSprays$count, InsectSprays$spray, sd)
##      A      B      C      D      E      F
## 4.719399 4.271115 1.975225 2.503028 1.732051 6.213378
```

Ejercicio 4 -----

```
## Hipótesis Alternativa:
## Si hay diferencias significativas en el efecto de los diferentes
## insecticidas en el número de insectos
```

Ejercicio 5 -----

```
## ins.aov <- aov(InsectSprays$count~InsectSprays$spray)
## summary(ins.aov)
##              Df Sum Sq Mean Sq F value Pr(>F)
## InsectSprays$spray  5   2669    533.8    34.7 <2e-16 ***
## Residuals        66   1015     15.4
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```
# Ejercicio 6 -----

## TukeyHSD(ins.aov)
##   Tukey multiple comparisons of means
##     95% family-wise confidence level
##
## Fit: aov(formula = InsectSprays$count ~ InsectSprays$spray)
##
## $`InsectSprays$spray`
##           diff          Lwr          upr          p adj
## B-A    0.8333333   -3.866075    5.532742   0.9951810
## C-A  -12.4166667  -17.116075   -7.717258   0.0000000
## D-A   -9.5833333  -14.282742   -4.883925   0.0000014
## E-A  -11.0000000  -15.699409   -6.300591   0.0000000
## F-A    2.1666667   -2.532742    6.866075   0.7542147
## C-B  -13.2500000  -17.949409   -8.550591   0.0000000
## D-B  -10.4166667  -15.116075   -5.717258   0.0000002
## E-B  -11.8333333  -16.532742   -7.133925   0.0000000
## F-B    1.3333333   -3.366075    6.032742   0.9603075
## D-C    2.8333333   -1.866075    7.532742   0.4920707
## E-C    1.4166667   -3.282742    6.116075   0.9488669
## F-C   14.5833333    9.883925   19.282742   0.0000000
## E-D   -1.4166667   -6.116075    3.282742   0.9488669
## F-D   11.7500000    7.050591   16.449409   0.0000000
## F-E   13.1666667    8.467258   17.866075   0.0000000
```