

Examen-II.R

USUARIO

2024-05-30

```
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# 2026333  
# 30/05/2024
```

```
# Datos insecticidas -----  
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```

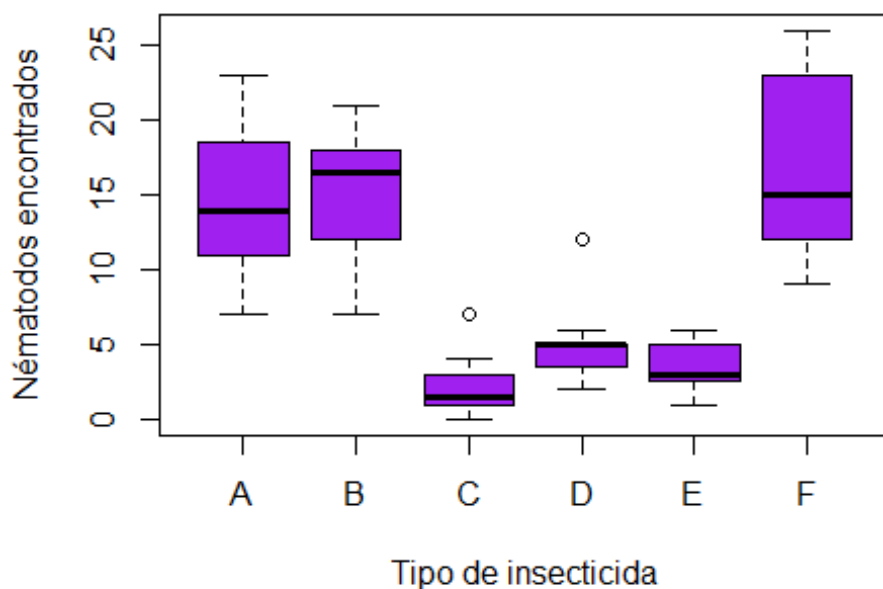
```
data("InsectSprays")  
head(InsectSprays)
```

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

```
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
```

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



```
# Desviación estandar -----
--

tapply(InsectSprays$count, InsectSprays$spray, sd )

##           A           B           C           D           E           F
## 4.719399 4.271115 1.975225 2.503028 1.732051 6.213378

bartlett.test(InsectSprays$count, InsectSprays$spray, sd)

##
## Bartlett test of homogeneity of variances
##
## data: InsectSprays$count and InsectSprays$spray
## Bartlett's K-squared = 25.96, df = 5, p-value = 9.085e-05

# ANOVA -----
--

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
```

```
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
```