

# Pinkeye

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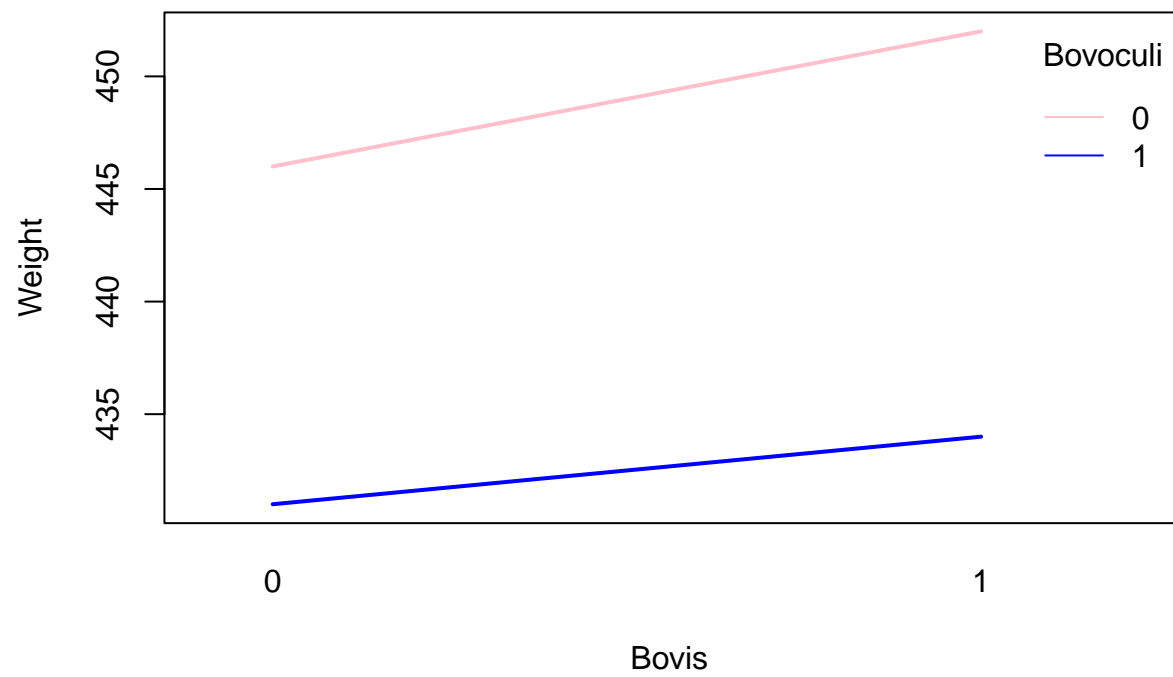
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## R Markdown

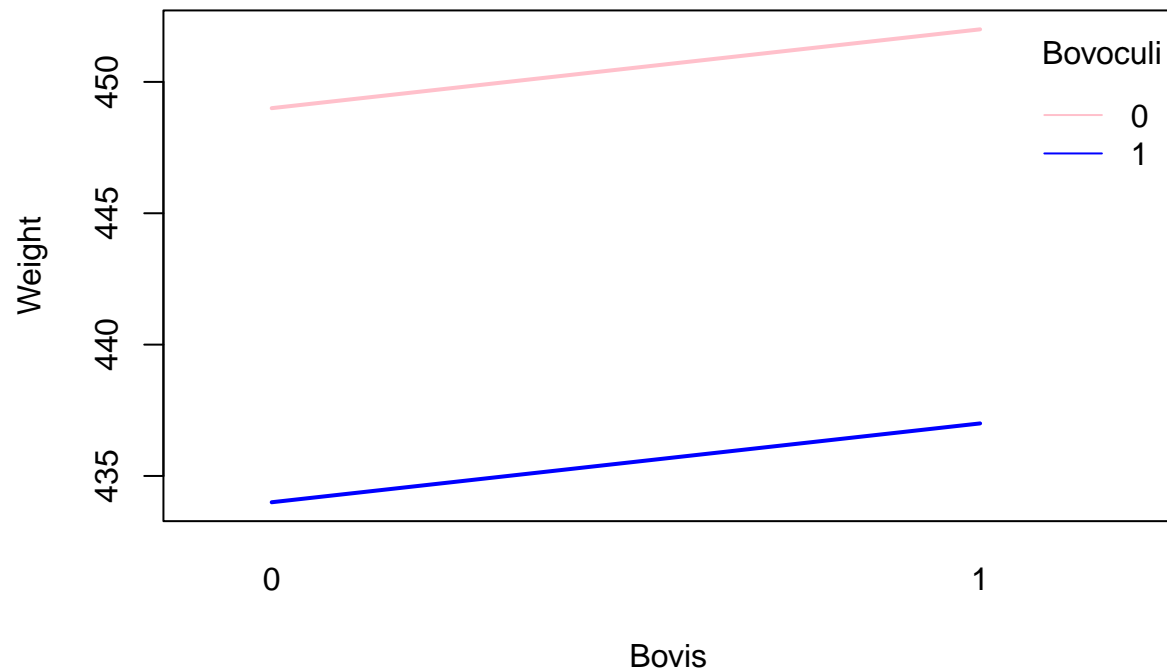
Importing the data sets and creating a new one for analyses.

```
##  
## Attaching package: 'dplyr'  
  
## The following objects are masked from 'package:stats':  
##  
##   filter, lag  
  
## The following objects are masked from 'package:base':  
##  
##   intersect, setdiff, setequal, union  
  
## New names:  
## * '' -> ...5
```

Interaction plot between Bovis and Bovoculi



Interaction plot between Bovis and Bovoculi excluding animales with notes



Summary table depicts number of animals enrolled, initial and final weight

```
## Warning: package 'kableExtra' was built under R version 4.1.3
```

```
##
## Attaching package: 'kableExtra'
```

```
## The following object is masked from 'package:dplyr':
##
##   group_rows
```

```
## Warning: package 'AER' was built under R version 4.1.3
```

```
## Loading required package: car
```

```
## Loading required package: carData
```

```
##
## Attaching package: 'car'
```

```
## The following object is masked from 'package:dplyr':
##
##   recode
```

```
## Loading required package: lmtest

## Warning: package 'lmtest' was built under R version 4.1.3

## Loading required package: zoo

##
## Attaching package: 'zoo'

## The following objects are masked from 'package:base':
##
##      as.Date, as.Date.numeric

## Loading required package: sandwich

## Loading required package: survival
```

VACCINE	BOTH	BOVIS ONLY	BOVOCULI ONLY	NOTHING
Animals allocated	131	41	34	35
Mean enrollment weight	224.2519	222.7561	231.6176	241.2286
Mean weaning weight	438.5038	452.7561	436.5294	464.6857

```
##           [,1]      [,2]      [,3]      [,4]
## VACCINE      "BOTH"      "BOVIS ONLY" "BOVOCULI ONLY" "NOTHING"
## Animals allocated      "131"      " 41"      " 34"      " 35"
## Mean enrollment weight "224.2519" "222.7561"  "231.6176"  "241.2286"
## Mean weaning weight   "438.5038" "452.7561"  "436.5294"  "464.6857"
```

Summary table depicts number of animals enrolled, initial and final weight excluding animals with notes and (??) animal

VACCINE	BOTH	BOVIS ONLY	BOVOCULI ONLY	NOTHING
Animals allocated	100	29	28	31
Mean enrollment weight	228.0700	232.6552	233.7500	246.8065
Mean weaning weight	441.0900	453.4828	436.0357	465.7742

```
##           [,1]      [,2]      [,3]      [,4]
## VACCINE      "BOTH"      "BOVIS ONLY" "BOVOCULI ONLY" "NOTHING"
## Animals allocated      "100"      " 29"      " 28"      " 31"
## Mean enrollment weight "228.0700" "232.6552"  "233.7500"  "246.8065"
## Mean weaning weight   "441.0900" "453.4828"  "436.0357"  "465.7742"
```

Chi-square test with complete dataset

```
## Warning: package 'summarytools' was built under R version 4.1.3
```

Chi-square test excluding animals with notes

This chunk contains linear analyses taking as outcome final weight and adjusting for initial weight. Given that interaction was not significant, it means that the effect of vaccinate with Bovis on weaning weight is independent on vaccinate with Bovoculi. Regarding the main effects i.e. the effect of vaccinate with Bovis or Bovoculi on weaning weight, these were not significant.

```
##
## Call:
## lm(formula = Weaning.Weight ~ Bovis * Bovoculi + Weight, data = dataPD)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -188.448  -27.556   -1.204   25.055  132.137
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)    234.59153    13.82093   16.974  <2e-16 ***
## Bovis1         5.69022     10.29006    0.553   0.5808
## Bovoculi1     -18.98899     10.73665   -1.769   0.0782 .
## Weight         0.95384      0.04804   19.853  <2e-16 ***
## Bovis1:Bovoculi1  3.30994     13.37518    0.247   0.8048
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 44.55 on 236 degrees of freedom
## Multiple R-squared:  0.6325, Adjusted R-squared:  0.6263
## F-statistic: 101.6 on 4 and 236 DF,  p-value: < 2.2e-16
```

This chunk contains linear analyses taking as outcome final weight. Given that interaction was not significant, it means that the effect of vaccinate with Bovis on weaning weight is independent on vaccinate with Bovoculi. Regarding the main effects i.e. the effect of vaccinate with Bovis or Bovoculi on weaning weight, these were not significant.

```
##
## Call:
## lm(formula = Weaning.Weight ~ Bovis * Bovoculi, data = dataPD)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -221.529  -46.756   -5.529   43.244  204.314
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)    464.69     12.28   37.847  <2e-16 ***
## Bovis1        -11.93     16.72   -0.714   0.476
## Bovoculi1     -28.16     17.49   -1.610   0.109
## Bovis1:Bovoculi1  13.90     21.79    0.638   0.524
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 72.64 on 237 degrees of freedom
## Multiple R-squared:  0.01877, Adjusted R-squared:  0.006353
## F-statistic: 1.511 on 3 and 237 DF,  p-value: 0.2122
```

This chunk contains linear analyses taking as outcome final weight and excluding animals with notes and (??) animal. Model adjusted for initial weight

```
##
## Call:
```

```
## lm(formula = Weaning.Weight ~ Bovis * Bovoculi + Weight, data = dataPD_WO_NOTES)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -187.564  -29.623    0.044   23.617  133.048
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)    229.61557    17.03229   13.481  <2e-16 ***
## Bovis1          1.24932     12.03217    0.104    0.917
## Bovoculi1     -17.24531     12.13768   -1.421    0.157
## Weight          0.95686      0.06016   15.905  <2e-16 ***
## Bovis1:Bovoculi1  9.23991     15.58763    0.593    0.554
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 46.46 on 183 degrees of freedom
## Multiple R-squared:  0.5885, Adjusted R-squared:  0.5795
## F-statistic: 65.43 on 4 and 183 DF,  p-value: < 2.2e-16
```

This chunk contains linear analyses taking as outcome final weight and excluding animals with notes and (??) animal.

```
##
## Call:
## lm(formula = Weaning.Weight ~ Bovis * Bovoculi, data = dataPD_WO_NOTES)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -221.036  -46.049   -4.759   48.239  203.226
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)    465.77      12.84   36.265  <2e-16 ***
## Bovis1         -12.29      18.47   -0.665    0.507
## Bovoculi1     -29.74      18.64   -1.595    0.112
## Bovis1:Bovoculi1  17.35      23.98    0.723    0.470
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 71.51 on 184 degrees of freedom
## Multiple R-squared:  0.01971, Adjusted R-squared:  0.003725
## F-statistic: 1.233 on 3 and 184 DF,  p-value: 0.2991
```