2015 Scott Valley Alfalfa Summary

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AOV - Cutting 1

```
## $C
##
##  Shapiro-Wilk normality test
##
## data:  X[[i]]
## W = 0.92934, p-value = 0.5101
##
##
## $H
##
##  Shapiro-Wilk normality test
##
## data:  X[[i]]
## W = 0.80763, p-value = 0.03453
##
##
## $L
##
##  Shapiro-Wilk normality test
##
## data:  X[[i]]
## W = 0.96315, p-value = 0.8395
##
##
## $M
##
##  Shapiro-Wilk normality test
##
## data:  X[[i]]
## W = 0.91039, p-value = 0.3568

##
##  Shapiro-Wilk normality test
##
## data:  sqrt(sv_bio1$bio)
## W = 0.94488, p-value = 0.1031

##
##  Bartlett test of homogeneity of variances
##
## data:  sv_bio1$bio by sv_bio1$treat
## Bartlett's K-squared = 5.4911, df = 3, p-value = 0.1392

##               Df Sum Sq Mean Sq F value Pr(>F)
```

```
## sv_bio1$treat  3   25.1   8.378   0.709  0.555
## Residuals     28  330.8  11.816
```

```
##   Tukey multiple comparisons of means
##     95% family-wise confidence level
##
## Fit: aov(formula = sqrt(sv_bio1$bio) ~ sv_bio1$treat)
##
## $`sv_bio1$treat`
##           diff       lwr      upr     p adj
## H-C  1.9989272 -2.693642 6.691496 0.6544697
## L-C  0.6907587 -4.001810 5.383328 0.9776019
## M-C -0.3035842 -4.996153 4.388985 0.9979942
## L-H -1.3081684 -6.000737 3.384400 0.8711174
## M-H -2.3025114 -6.995080 2.390057 0.5463149
## M-L -0.9943430 -5.686912 3.698226 0.9376925
```

AOV - Cutting 2

```
## $C
##
##  Shapiro-Wilk normality test
##
## data:  X[[i]]
## W = 0.92461, p-value = 0.4684
##
##
## $H
##
##  Shapiro-Wilk normality test
##
## data:  X[[i]]
## W = 0.80055, p-value = 0.02902
##
##
## $L
##
##  Shapiro-Wilk normality test
##
## data:  X[[i]]
## W = 0.85647, p-value = 0.1107
##
##
## $M
##
##  Shapiro-Wilk normality test
##
## data:  X[[i]]
## W = 0.97433, p-value = 0.9296
```

```
##
##  Bartlett test of homogeneity of variances
```

```
##
## data:  sv_bio2$bio by sv_bio2$treat
## Bartlett's K-squared = 6.0633, df = 3, p-value = 0.1086
```

```
##               Df Sum Sq Mean Sq F value  Pr(>F)
## sv_bio2$treat  3 145544   48515    6.92 0.00125 **
## Residuals     28 196299    7011
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```
##   Tukey multiple comparisons of means
##     95% family-wise confidence level
##
## Fit: aov(formula = sv_bio2$bio ~ sv_bio2$treat)
##
## $`sv_bio2$treat`
##          diff        lwr        upr     p adj
## H-C -165.7025 -280.00662 -51.398381 0.0025061
## L-C  -23.3300 -137.63412  90.974119 0.9437772
## M-C -115.9575 -230.26162  -1.653381 0.0458218
## L-H  142.3725   28.06838 256.676619 0.0103597
## M-H   49.7450  -64.55912 164.049119 0.6391258
## M-L  -92.6275 -206.93162  21.676619 0.1445129
```

```
melt1=melt(sv_bio1, id.vars=c("treat"))
melt2=melt(sv_bio2, id.vars=c("treat"))
means1.sem <- ddply(melt1, c("treat","variable"), summarise, mean=mean(value),
                    sdv=sd(value), sem=sd(value)/sqrt(length(value)))
means2.sem <- ddply(melt2, c("treat","variable"), summarise, mean=mean(value),
                    sdv=sd(value), sem=sd(value)/sqrt(length(value)))
means1.sem <- transform(means1.sem, lower=mean-sem, upper=mean+sem,
                        tacre=mean*0.00404685642,coefvar=sdv/mean*100)
means2.sem <- transform(means2.sem, lower=mean-sem, upper=mean+sem,
                        tacre=mean*0.00404685642, coefvar=sdv/mean*100)
```

Stats - Cutting 1

```
##   treat     mean       sdv      sem    lower    upper    tacre  coefvar
## 1     C 280.8275 121.85229 43.08129 237.7462 323.9088 1.136469 43.39044
## 2     H 349.0675 170.25747 60.19510 288.8724 409.2626 1.412626 48.77494
## 3     L 294.6800  92.61241 32.74343 261.9366 327.4234 1.192528 31.42813
## 4     M 259.4575  70.79111 25.02844 234.4291 284.4859 1.049987 27.28428
```

Stats - Cutting 2

```
##   treat     mean       sdv      sem    lower    upper    tacre  coefvar
## 1     C 474.8550  88.64468 31.34063 443.5144 506.1956 1.921670 18.66774
## 2     H 309.1525 119.37009 42.20370 266.9488 351.3562 1.251096 38.61204
## 3     L 451.5250  50.31276 17.78825 433.7368 469.3132 1.827257 11.14285
## 4     M 358.8975  58.34551 20.62825 338.2692 379.5258 1.452407 16.25687
```