*Yang, Kun 301178299*

# *Assignment 2 Part 3 - Nests*
## *part of the raw data*

| Obs | Nest | Species | Nest_content | Butts_weight | Number_of_mites |
|---|---|---|---|---|---|
| **1** | 1 | HOSP | empty | 6.13 | 4 |
| **2** | 2 | HOSP | empty | 3.73 | 30 |
| **3** | 3 | HOSP | eggs | 0.06 | 84 |
| **4** | 4 | HOSP | eggs | 8.3 | 2 |
| **5** | 5 | HOSP | eggs | 0 | 12 |
| **6** | 6 | HOSP | chicks | 1.23 | 7 |
| **7** | 7 | HOSP | chicks | 1.03 | 10 |
| **8** | 8 | HOSP | empty | 0 | 44 |
| **9** | 9 | HOSP | chicks | 2.4 | 16 |
| **10** | 10 | HOSP | chicks | 0.35 | 32 |

***Yang, Kun 301178299*** ***Assignment 2 Part 3 - Nests***

***Summary of number of nests by species and nest content***

| | Species | |
|---|---|---|
| | HOFI | HOSP |
| | N | N |
| **Nest content** | | |
| **chicks** | 7 | 7 |
| **eggs** | 10 | 9 |
| **empty** | 12 | 12 |

*Yang, Kun 301178299*

***Assignment 2 Part 3 - Nests***
***part of the nestinfo WITH buttspresent***

| Obs | Nest | Species | Nest_content | Butts_weight | Number_of_mites | ButtsPresent |
|---|---|---|---|---|---|---|
| **1** | 1 | HOSP | empty | 6.13 | 4 | yes |
| **2** | 2 | HOSP | empty | 3.73 | 30 | yes |
| **3** | 3 | HOSP | eggs | 0.06 | 84 | yes |
| **4** | 4 | HOSP | eggs | 8.3 | 2 | yes |
| **5** | 5 | HOSP | eggs | 0 | 12 | no |
| **6** | 6 | HOSP | chicks | 1.23 | 7 | yes |
| **7** | 7 | HOSP | chicks | 1.03 | 10 | yes |
| **8** | 8 | HOSP | empty | 0 | 44 | no |
| **9** | 9 | HOSP | chicks | 2.4 | 16 | yes |
| **10** | 10 | HOSP | chicks | 0.35 | 32 | yes |

***Yang, Kun 301178299*** ***Assignment 2 Part 3 - Nests***

***the number & the proportion of ButtsPresent FOR EACH individual species***

***The FREQ Procedure***

**Species=HOFI**

| ButtsPresent | Frequency | Percent | Cumulative Frequency | Cumulative Percent |
|---|---|---|---|---|
| no | 4 | 13.79 | 4 | 13.79 |
| yes | 25 | 86.21 | 29 | 100.00 |

| Binomial Proportion | |
|---|---|
| ButtsPresent = yes | |
| Proportion | 0.8621 |
| ASE | 0.0640 |
| 95% Lower Conf Limit | 0.7366 |
| 95% Upper Conf Limit | 0.9876 |
| | |
| Exact Conf Limits | |
| 95% Lower Conf Limit | 0.6834 |
| 95% Upper Conf Limit | 0.9611 |

| Test of H0: Proportion = 0.5 | |
|---|---|
| ASE under H0 | 0.0928 |
| Z | 3.8996 |
| One-sided Pr > Z | <.0001 |
| Two-sided Pr > \|Z\| | <.0001 |

***Sample Size = 29***

*Yang, Kun 301178299* *Assignment 2 Part 3 - Nests*

*the number & the proportion of ButtsPresent FOR EACH individual species*

*The FREQ Procedure*

**Species=HOSP**

| ButtsPresent | Frequency | Percent | Cumulative Frequency | Cumulative Percent |
|---|---|---|---|---|
| no | 3 | 10.71 | 3 | 10.71 |
| yes | 25 | 89.29 | 28 | 100.00 |

| Binomial Proportion | |
|---|---|
| ButtsPresent = yes | |
| Proportion | 0.8929 |
| ASE | 0.0585 |
| 95% Lower Conf Limit | 0.7783 |
| 95% Upper Conf Limit | 1.0000 |
| | |
| Exact Conf Limits | |
| 95% Lower Conf Limit | 0.7177 |
| 95% Upper Conf Limit | 0.9773 |

| Test of H0: Proportion = 0.5 | |
|---|---|
| ASE under H0 | 0.0945 |
| Z | 4.1576 |
| One-sided Pr > Z | <.0001 |
| Two-sided Pr > \|Z\| | <.0001 |

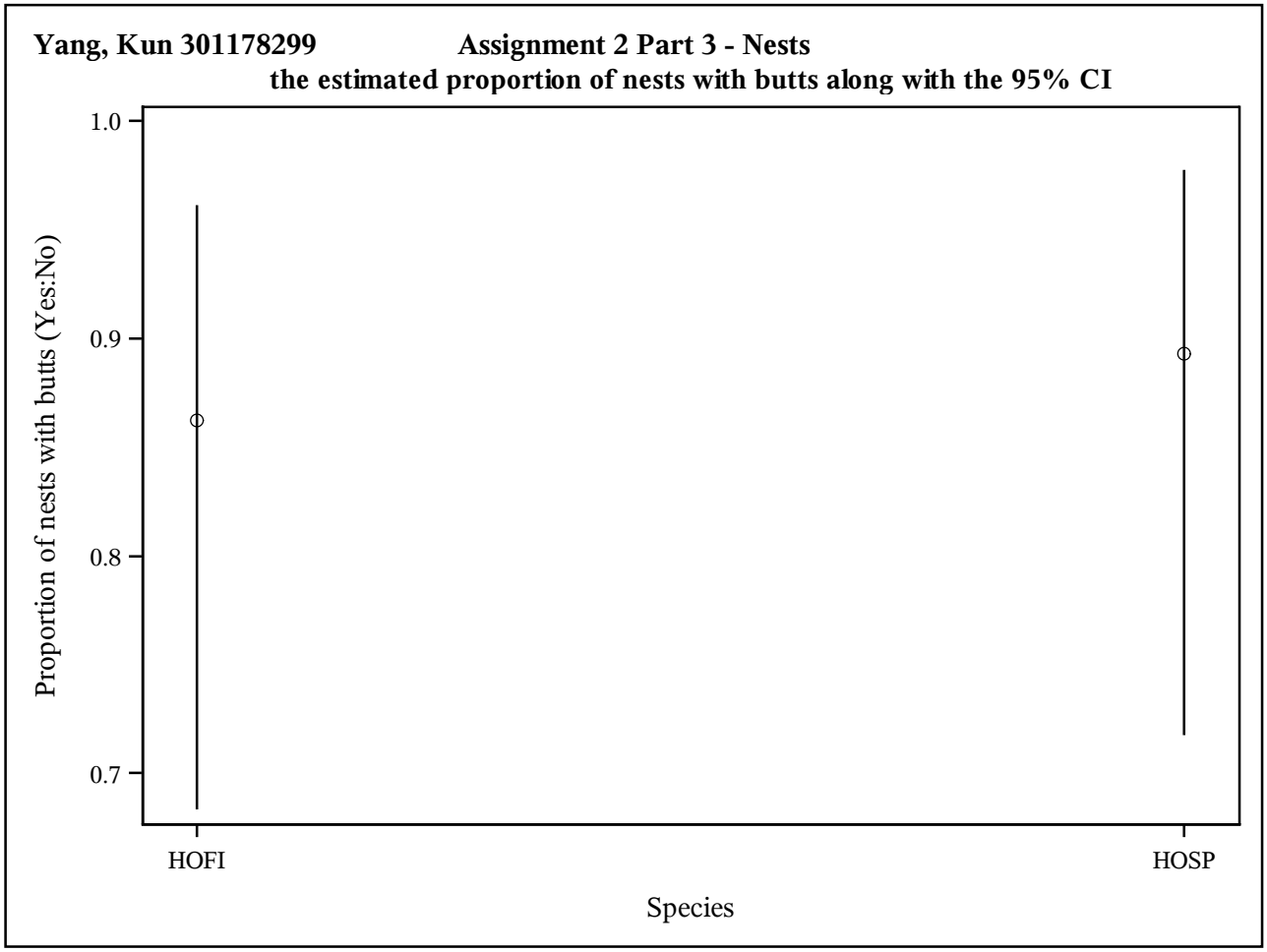
*Sample Size = 28*

***Yang, Kun 301178299*** ***Assignment 2 Part 3 - Nests***

***the number & the proportion of ButtsPresent FOR EACH individual species***

| Obs | Species | N | _BIN_ | E_BIN | L_BIN | U_BIN | XL_BIN | XU_BIN | E0_BIN |
|---|---|---|---|---|---|---|---|---|---|
| 1 | HOFI | 29 | 0.86207 | 0.064033 | 0.73657 | 0.98757 | 0.68336 | 0.96111 | 0.092848 |
| 2 | HOSP | 28 | 0.89286 | 0.058451 | 0.77829 | 1.00000 | 0.71774 | 0.97733 | 0.094491 |

| Obs | Z_BIN | PL_BIN | PR_BIN | P2_BIN |
|---|---|---|---|---|
| 1 | 3.89960 | . | .000048175 | .000096351 |
| 2 | 4.15761 | . | .000016080 | .000032160 |


Yang, Kun 301178299 Assignment 2 Part 3 - Nests
the estimated proportion of nests with butts along with the 95% CI
Proportion of nests with butts (Yes:No)
1.0
0.9
0.8
0.7
HOFI
HOSP
Species

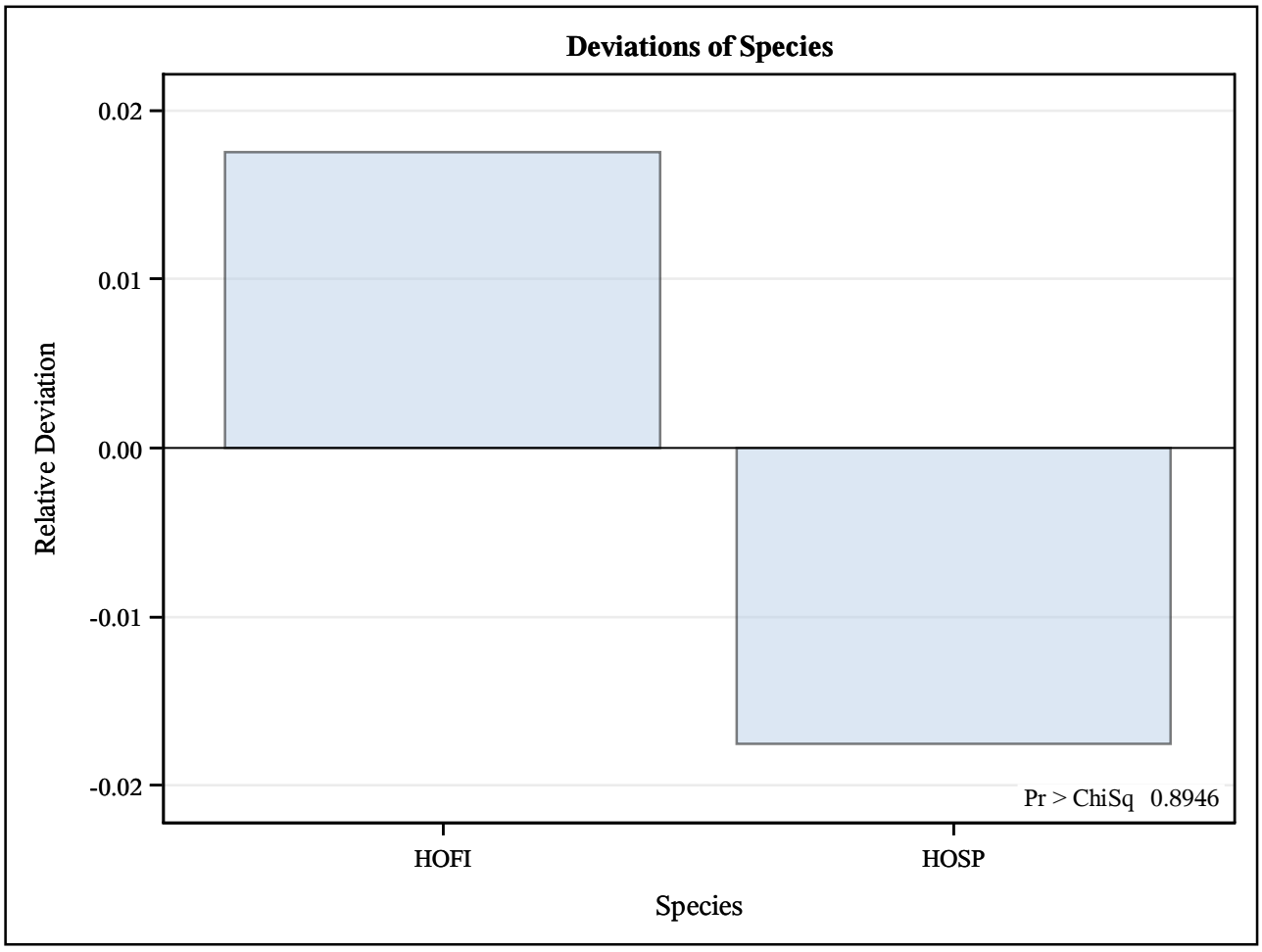
*Yang, Kun 301178299*

*Assignment 2 Part 3 - Nests*
*chi square test for equal proportions*

*The FREQ Procedure*

| Species | | |
|---|---|---|
| Species | Frequency | Cumulative Frequency |
| HOFI | 29 | 29 |
| HOSP | 28 | 57 |

| Chi-Square Test for Equal Proportions | |
|---|---|
| Chi-Square | 0.0175 |
| DF | 1 |
| Pr > ChiSq | 0.8946 |




*Sample Size = 57*

*Yang, Kun 301178299*

# *Assignment 2 Part 3 - Nests*
# *chi square test for equal proportions*

## *The FREQ Procedure*

| Frequency<br>Row Pct |
|---|

**Table of Species by ButtsPresent**

| Species(Species) | ButtsPresent | | |
|---|---|---|---|
| | no | yes | Total |
| HOFI | 4<br>13.79 | 25<br>86.21 | 29 |
| HOSP | 3<br>10.71 | 25<br>89.29 | 28 |
| Total | 7 | 50 | 57 |

## *Statistics for Table of Species by ButtsPresent*

| Statistic | DF | Value | Prob |
|---|---|---|---|
| Chi-Square | 1 | 0.1254 | 0.7233 |
| Likelihood Ratio Chi-Square | 1 | 0.1258 | 0.7228 |
| Continuity Adj. Chi-Square | 1 | 0.0000 | 1.0000 |
| Mantel-Haenszel Chi-Square | 1 | 0.1232 | 0.7256 |
| Phi Coefficient | | 0.0469 | |
| Contingency Coefficient | | 0.0468 | |
| Cramer's V | | 0.0469 | |

**WARNING: 50% of the cells have expected counts less than 5. Chi-Square may not be a valid test.**

| Fisher's Exact Test | |
|---|---|
| Cell (1,1) Frequency (F) | 4 |
| Left-sided Pr <= F | 0.7740 |
| Right-sided Pr >= F | 0.5203 |
| | |
| Table Probability (P) | 0.2943 |
| Two-sided Pr <= P | 1.0000 |

*Sample Size = 57*

*Yang, Kun 301178299*

***Assignment 2 Part 3 - Nests***
***the mean butt weight***

***The UNIVARIATE Procedure***
***Variable: Butts_weight (Butts weight)***

**Species=HOFI**

| Moments | | | |
|---|---|---|---|
| **N** | 29 | **Sum Weights** | 29 |
| **Mean** | 3.05551724 | **Sum Observations** | 88.61 |
| **Std Deviation** | 4.14809473 | **Variance** | 17.2066899 |
| **Skewness** | 1.7348265 | **Kurtosis** | 2.18757784 |
| **Uncorrected SS** | 752.5367 | **Corrected SS** | 481.787317 |
| **Coeff Variation** | 135.75753 | **Std Error Mean** | 0.77028185 |

| Basic Statistical Measures | | | |
|---|---|---|---|
| **Location** | | **Variability** | |
| **Mean** | 3.055517 | **Std Deviation** | 4.14809 |
| **Median** | 1.340000 | **Variance** | 17.20669 |
| **Mode** | 0.000000 | **Range** | 14.86000 |
| | | **Interquartile Range** | 3.66000 |

| Basic Confidence Limits Assuming Normality | | | |
|---|---|---|---|
| **Parameter** | **Estimate** | **95% Confidence Limits** | |
| **Mean** | 3.05552 | 1.47767 | 4.63337 |
| **Std Deviation** | 4.14809 | 3.29184 | 5.61010 |
| **Variance** | 17.20669 | 10.83623 | 31.47320 |

| Tests for Location: Mu0=0 | | | | |
|---|---|---|---|---|
| **Test** | **Statistic** | | **p Value** | |
| **Student's t** | **t** | 3.966752 | **Pr > \|t\|** | 0.0005 |
| **Sign** | **M** | 12.5 | **Pr >= \|M\|** | <.0001 |
| **Signed Rank** | **S** | 162.5 | **Pr >= \|S\|** | <.0001 |

*Yang, Kun 301178299*

***Assignment 2 Part 3 - Nests***
***the mean butt weight***

***The UNIVARIATE Procedure***
***Variable: Butts_weight (Butts weight)***

**Species=HOFI**

| Quantiles (Definition 5) | |
|---|---|
| **Level** | **Quantile** |
| **100% Max** | 14.86 |
| **99%** | 14.86 |
| **95%** | 13.23 |
| **90%** | 11.24 |
| **75% Q3** | 3.89 |
| **50% Median** | 1.34 |
| **25% Q1** | 0.23 |
| **10%** | 0.00 |
| **5%** | 0.00 |
| **1%** | 0.00 |
| **0% Min** | 0.00 |

| Extreme Observations | | | |
|---|---|---|---|
| **Lowest** | | **Highest** | |
| **Value** | **Obs** | **Value** | **Obs** |
| 0.0 | 14 | 6.77 | 7 |
| 0.0 | 11 | 9.12 | 9 |
| 0.0 | 6 | 11.24 | 25 |
| 0.0 | 5 | 13.23 | 20 |
| 0.1 | 13 | 14.86 | 23 |

*Yang, Kun 301178299*

*Assignment 2 Part 3 - Nests*
*the mean butt weight*

*The UNIVARIATE Procedure*
*Variable: Butts_weight (Butts weight)*

**Species=HOSP**

| Moments | | | |
|---|---|---|---|
| N | 28 | Sum Weights | 28 |
| Mean | 2.45107143 | Sum Observations | 68.63 |
| Std Deviation | 3.33878814 | Variance | 11.1475062 |
| Skewness | 1.57017433 | Kurtosis | 1.43865601 |
| Uncorrected SS | 469.1997 | Corrected SS | 300.982668 |
| Coeff Variation | 136.217496 | Std Error Mean | 0.63097165 |

| Basic Statistical Measures | | | |
|---|---|---|---|
| Location | | Variability | |
| Mean | 2.451071 | Std Deviation | 3.33879 |
| Median | 0.795000 | Variance | 11.14751 |
| Mode | 0.000000 | Range | 11.75000 |
| | | Interquartile Range | 3.28500 |

| Basic Confidence Limits Assuming Normality | | | |
|---|---|---|---|
| Parameter | Estimate | 95% Confidence Limits | |
| Mean | 2.45107 | 1.15642 | 3.74572 |
| Std Deviation | 3.33879 | 2.63971 | 4.54455 |
| Variance | 11.14751 | 6.96808 | 20.65290 |

| Tests for Location: Mu0=0 | | | | |
|---|---|---|---|---|
| Test | Statistic | | p Value | |
| Student's t | t | 3.884598 | Pr > \|t\| | 0.0006 |
| Sign | M | 12.5 | Pr >= \|M\| | <.0001 |
| Signed Rank | S | 162.5 | Pr >= \|S\| | <.0001 |

*Yang, Kun 301178299*

***Assignment 2 Part 3 - Nests the mean butt weight***

***The UNIVARIATE Procedure***
***Variable: Butts_weight (Butts weight)***

**Species=HOSP**

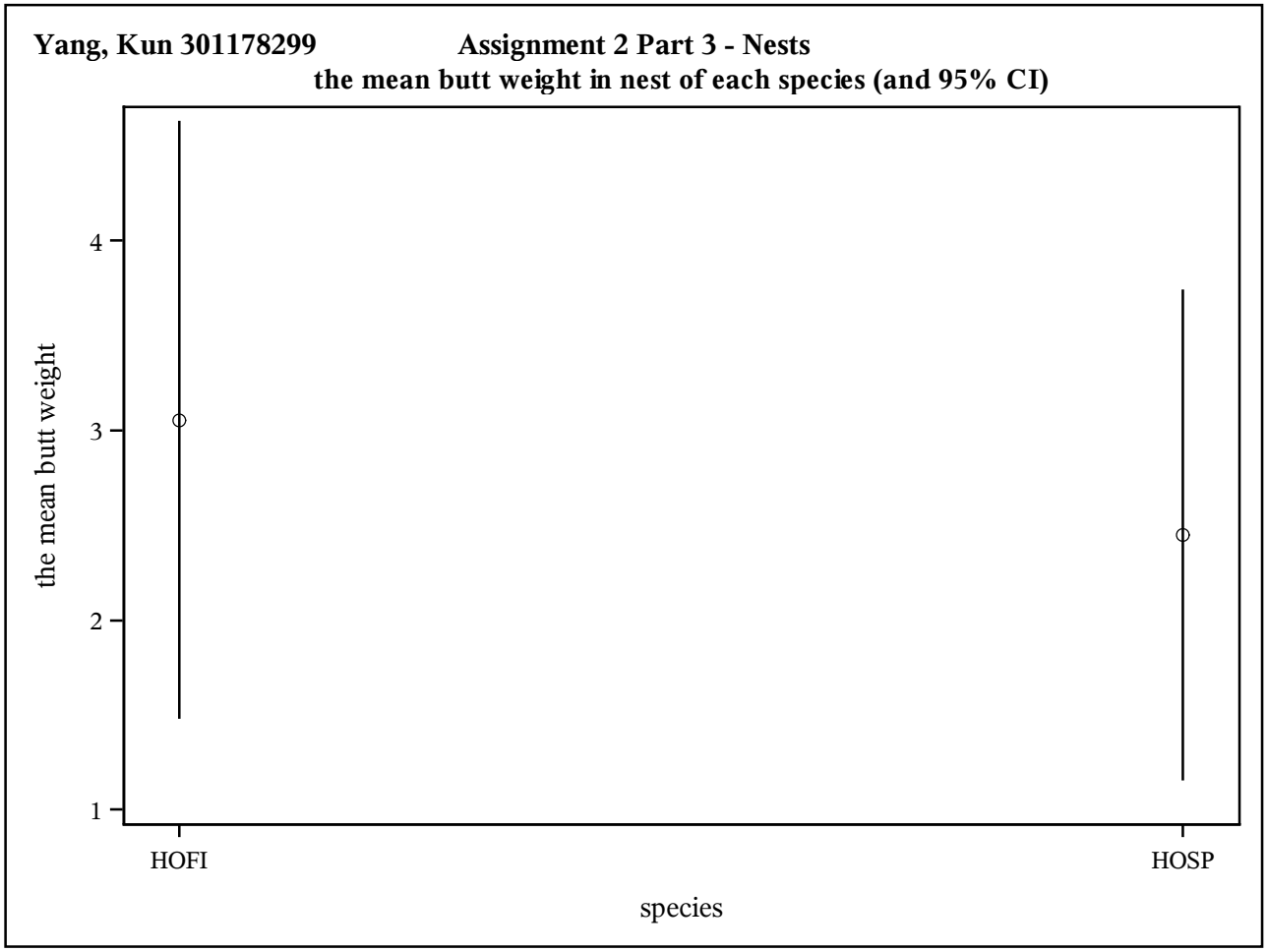
| Quantiles (Definition 5) | |
|---|---|
| **Level** | **Quantile** |
| **100% Max** | 11.750 |
| **99%** | 11.750 |
| **95%** | 9.570 |
| **90%** | 8.300 |
| **75% Q3** | 3.590 |
| **50% Median** | 0.795 |
| **25% Q1** | 0.305 |
| **10%** | 0.000 |
| **5%** | 0.000 |
| **1%** | 0.000 |
| **0% Min** | 0.000 |

| Extreme Observations | | | |
|---|---|---|---|
| **Lowest** | | **Highest** | |
| **Value** | **Obs** | **Value** | **Obs** |
| 0.00 | 55 | 6.13 | 30 |
| 0.00 | 37 | 8.24 | 53 |
| 0.00 | 34 | 8.30 | 33 |
| 0.06 | 32 | 9.57 | 51 |
| 0.07 | 42 | 11.75 | 43 |

***Yang, Kun 301178299*** ***Assignment 2 Part 3 - Nests***

***the mean butt weight***

| Obs | Species | VarName | Parameter | Estimate | LowerCL | UpperCL |
|---|---|---|---|---|---|---|
| **1** | HOFI | Butts_weight | Mean | 3.05552 | 1.47767 | 4.63337 |
| **2** | HOFI | Butts_weight | Std Deviation | 4.14809 | 3.29184 | 5.61010 |
| **3** | HOFI | Butts_weight | Variance | 17.20669 | 10.83623 | 31.47320 |
| **4** | HOSP | Butts_weight | Mean | 2.45107 | 1.15642 | 3.74572 |
| **5** | HOSP | Butts_weight | Std Deviation | 3.33879 | 2.63971 | 4.54455 |
| **6** | HOSP | Butts_weight | Variance | 11.14751 | 6.96808 | 20.65290 |


Yang, Kun 301178299 Assignment 2 Part 3 - Nests
the mean butt weight in nest of each species (and 95% CI)
the mean butt weight
4
3
2
1
HOFI
HOSP
species

*Yang, Kun 301178299*

# *Assignment 2 Part 3 - Nests comparison of mean butt weights*

## *The TTEST Procedure*

### *Variable: Butts_weight (Butts weight)*

| Species | N | Mean | Std Dev | Std Err | Minimum | Maximum |
|---|---|---|---|---|---|---|
| HOFI | 29 | 3.0555 | 4.1481 | 0.7703 | 0 | 14.8600 |
| HOSP | 28 | 2.4511 | 3.3388 | 0.6310 | 0 | 11.7500 |
| Diff (1-2) | | 0.6044 | 3.7726 | 0.9995 | | |

| Species | Method | Mean | 95% CL Mean | | Std Dev | 95% CL Std Dev | |
|---|---|---|---|---|---|---|---|
| HOFI | | 3.0555 | 1.4777 | 4.6334 | 4.1481 | 3.2918 | 5.6101 |
| HOSP | | 2.4511 | 1.1564 | 3.7457 | 3.3388 | 2.6397 | 4.5445 |
| Diff (1-2) | Pooled | 0.6044 | -1.3987 | 2.6075 | 3.7726 | 3.1805 | 4.6374 |
| Diff (1-2) | Satterthwaite | 0.6044 | -1.3925 | 2.6013 | | | |

| Method | Variances | DF | t Value | Pr > \|t\| |
|---|---|---|---|---|
| Pooled | Equal | 55 | 0.60 | 0.5478 |
| Satterthwaite | Unequal | 53.297 | 0.61 | 0.5464 |

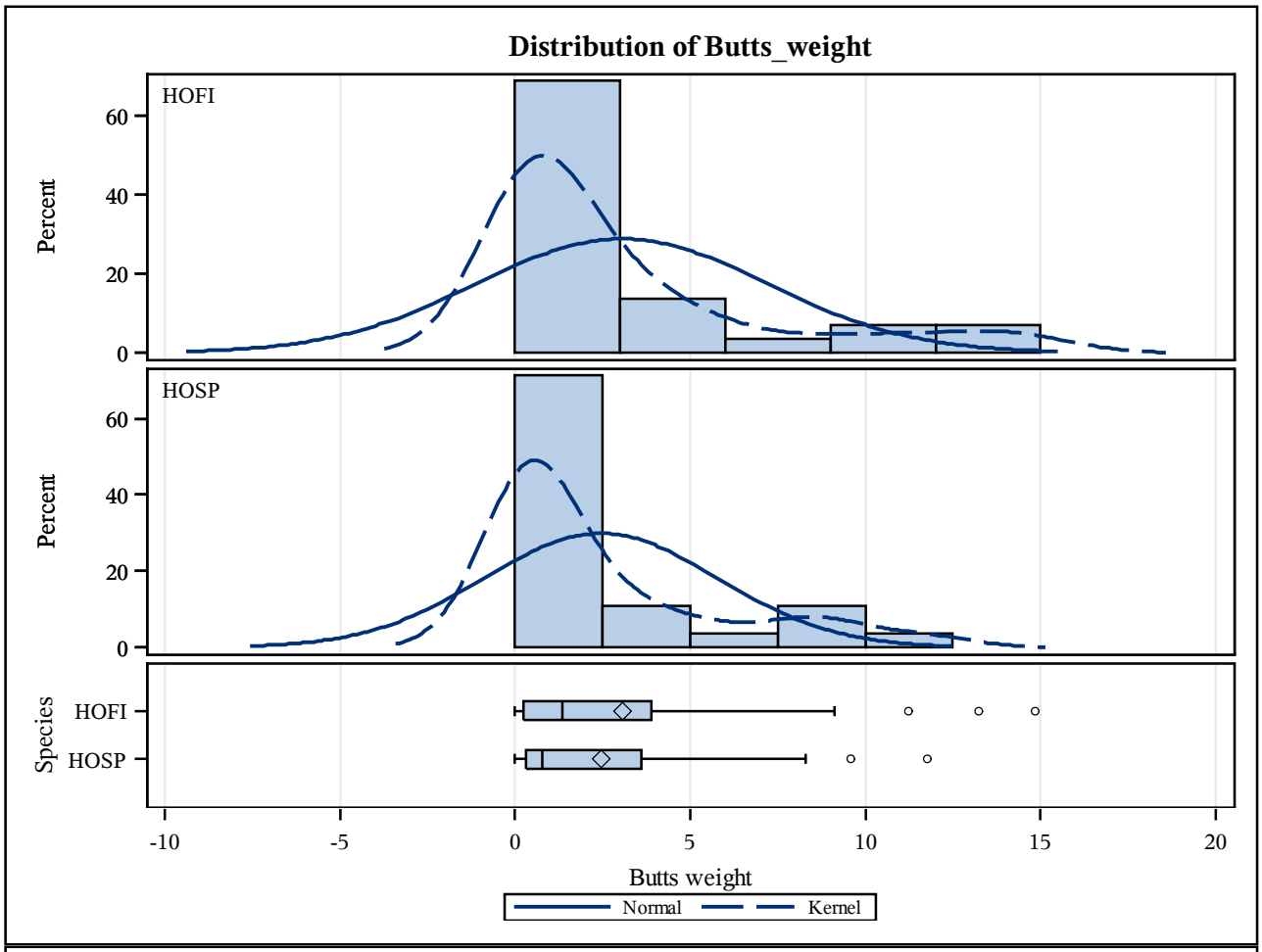
| Equality of Variances | | | | |
|---|---|---|---|---|
| Method | Num DF | Den DF | F Value | Pr > F |
| Folded F | 28 | 27 | 1.54 | 0.2629 |

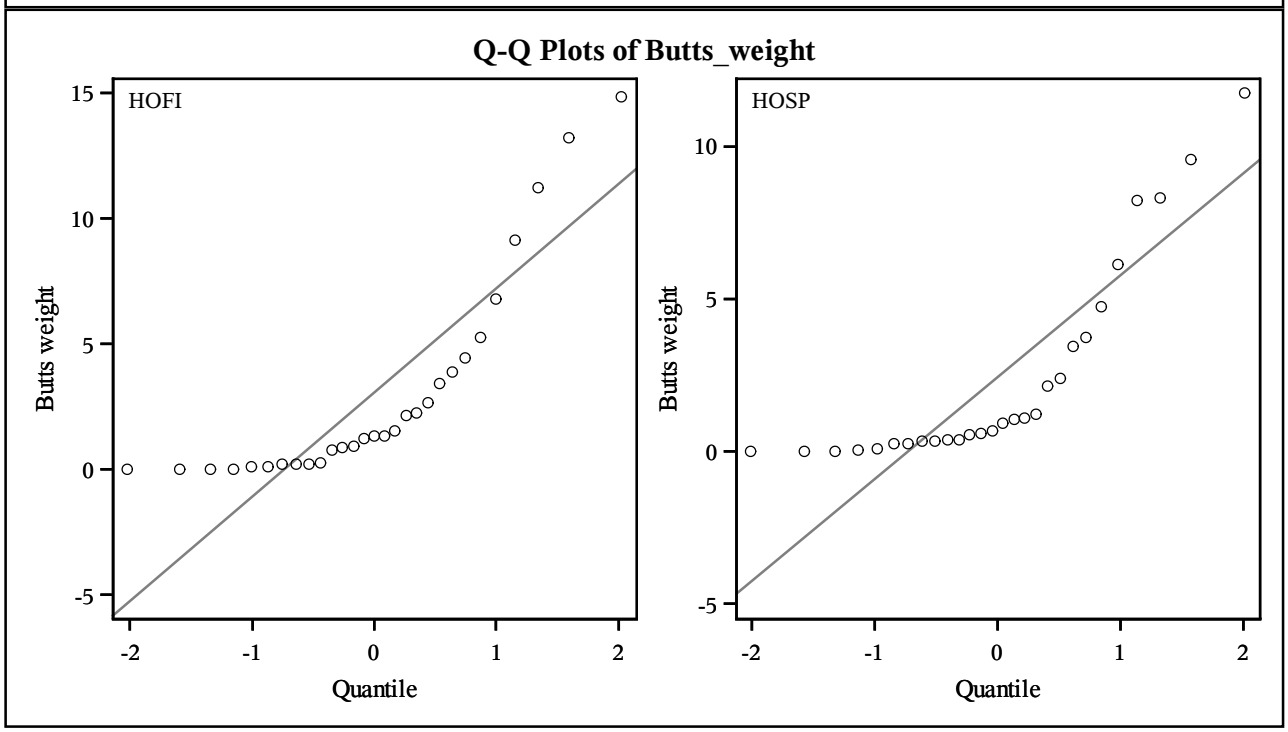
*Yang, Kun 301178299*

# *Assignment 2 Part 3 - Nests comparison of mean butt weights*

## *The TTEST Procedure*

### *Variable: Butts_weight (Butts weight)*



*Yang, Kun 301178299*

***Assignment 2 Part 3 - Nests***
***the mean of No. of mites***

***The UNIVARIATE Procedure***
***Variable: Number_of_mites (Number of mites)***

**Species=HOFI**

| Moments | | | |
|---|---|---|---|
| **N** | 29 | **Sum Weights** | 29 |
| **Mean** | 30.1034483 | **Sum Observations** | 873 |
| **Std Deviation** | 26.7693119 | **Variance** | 716.596059 |
| **Skewness** | 1.09997829 | **Kurtosis** | -0.0162176 |
| **Uncorrected SS** | 46345 | **Corrected SS** | 20064.6897 |
| **Coeff Variation** | 88.9244038 | **Std Error Mean** | 4.97093642 |

| Basic Statistical Measures | | | |
|---|---|---|---|
| **Location** | | **Variability** | |
| **Mean** | 30.10345 | **Std Deviation** | 26.76931 |
| **Median** | 22.00000 | **Variance** | 716.59606 |
| **Mode** | 3.00000 | **Range** | 86.00000 |
| | | **Interquartile Range** | 28.00000 |

| Basic Confidence Limits Assuming Normality | | | |
|---|---|---|---|
| **Parameter** | **Estimate** | **95% Confidence Limits** | |
| **Mean** | 30.10345 | 19.92095 | 40.28595 |
| **Std Deviation** | 26.76931 | 21.24358 | 36.20420 |
| **Variance** | 716.59606 | 451.28953 | 1311 |

| Tests for Location: Mu0=0 | | | | |
|---|---|---|---|---|
| **Test** | **Statistic** | | **p Value** | |
| **Student's t** | **t** | 6.055891 | **Pr > \|t\|** | <.0001 |
| **Sign** | **M** | 14.5 | **Pr >= \|M\|** | <.0001 |
| **Signed Rank** | **S** | 217.5 | **Pr >= \|S\|** | <.0001 |

*Yang, Kun 301178299*

*Assignment 2 Part 3 - Nests*
*the mean of No. of mites*

*The UNIVARIATE Procedure*
*Variable: Number_of_mites (Number of mites)*

**Species=HOFI**

| Quantiles (Definition 5) | |
|---|---|
| **Level** | **Quantile** |
| **100% Max** | 87 |
| **99%** | 87 |
| **95%** | 85 |
| **90%** | 81 |
| **75% Q3** | 39 |
| **50% Median** | 22 |
| **25% Q1** | 11 |
| **10%** | 3 |
| **5%** | 3 |
| **1%** | 1 |
| **0% Min** | 1 |

| Extreme Observations | | | |
|---|---|---|---|
| **Lowest** | | **Highest** | |
| **Value** | **Obs** | **Value** | **Obs** |
| 1 | 28 | 75 | 18 |
| 3 | 23 | 77 | 13 |
| 3 | 20 | 81 | 19 |
| 6 | 25 | 85 | 8 |
| 7 | 15 | 87 | 3 |

*Yang, Kun 301178299*

***Assignment 2 Part 3 - Nests***
***the mean of No. of mites***

***The UNIVARIATE Procedure***
***Variable: Number_of_mites (Number of mites)***

**Species=HOSP**

| Moments | | | |
|---|---|---|---|
| **N** | 28 | **Sum Weights** | 28 |
| **Mean** | 29.2857143 | **Sum Observations** | 820 |
| **Std Deviation** | 25.3053312 | **Variance** | 640.359788 |
| **Skewness** | 1.04850763 | **Kurtosis** | 0.15697258 |
| **Uncorrected SS** | 41304 | **Corrected SS** | 17289.7143 |
| **Coeff Variation** | 86.4084481 | **Std Error Mean** | 4.78225809 |

| Basic Statistical Measures | | | |
|---|---|---|---|
| **Location** | | **Variability** | |
| **Mean** | 29.28571 | **Std Deviation** | 25.30533 |
| **Median** | 25.00000 | **Variance** | 640.35979 |
| **Mode** | 2.00000 | **Range** | 84.00000 |
| | | **Interquartile Range** | 29.50000 |

***Note: The mode displayed is the smallest of 5 modes with a count of 2.***

| Basic Confidence Limits Assuming Normality | | | |
|---|---|---|---|
| **Parameter** | **Estimate** | **95% Confidence Limits** | |
| **Mean** | 29.28571 | 19.47333 | 39.09810 |
| **Std Deviation** | 25.30533 | 20.00689 | 34.44401 |
| **Variance** | 640.35979 | 400.27573 | 1186 |

| Tests for Location: Mu0=0 | | | | |
|---|---|---|---|---|
| **Test** | **Statistic** | | **p Value** | |
| **Student's t** | **t** | 6.123826 | **Pr > \|t\|** | <.0001 |
| **Sign** | **M** | 14 | **Pr >= \|M\|** | <.0001 |
| **Signed Rank** | **S** | 203 | **Pr >= \|S\|** | <.0001 |

*Yang, Kun 301178299*

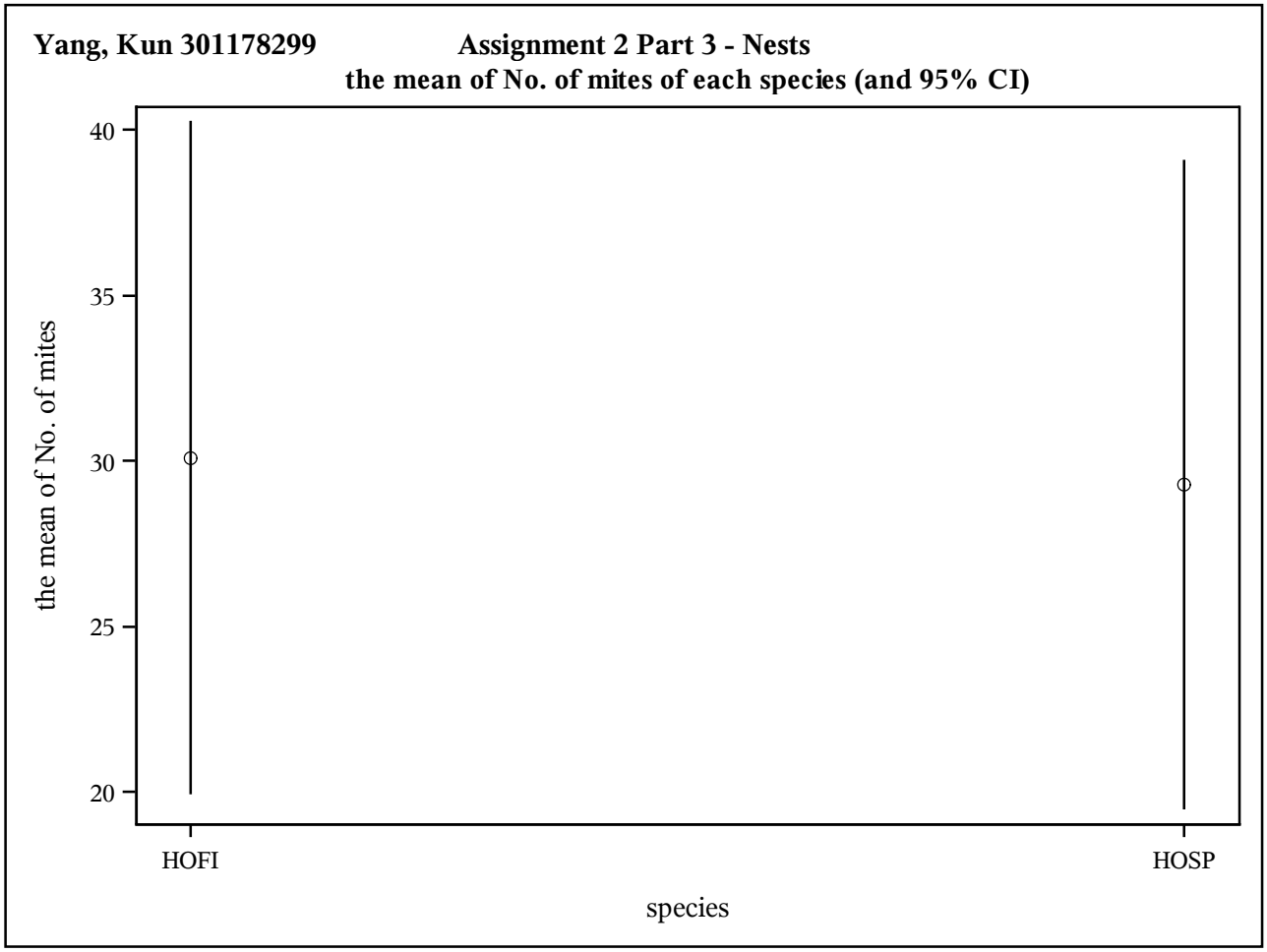
*Assignment 2 Part 3 - Nests*
*the mean of No. of mites*

*The UNIVARIATE Procedure*
*Variable: Number_of_mites (Number of mites)*

**Species=HOSP**

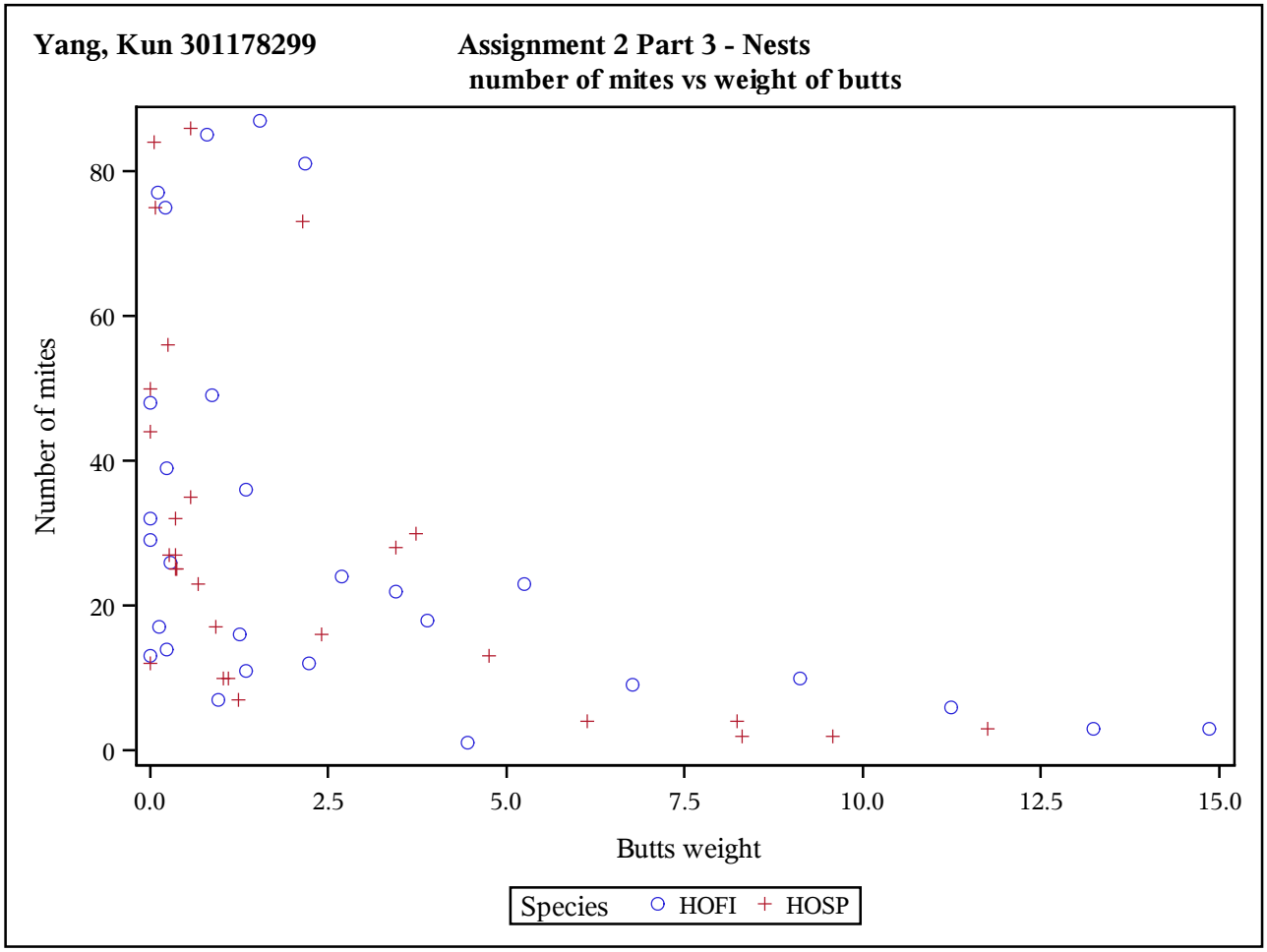
| Quantiles (Definition 5) | |
|---|---|
| **Level** | **Quantile** |
| **100% Max** | 86.0 |
| **99%** | 86.0 |
| **95%** | 84.0 |
| **90%** | 75.0 |
| **75% Q3** | 39.5 |
| **50% Median** | 25.0 |
| **25% Q1** | 10.0 |
| **10%** | 3.0 |
| **5%** | 2.0 |
| **1%** | 2.0 |
| **0% Min** | 2.0 |

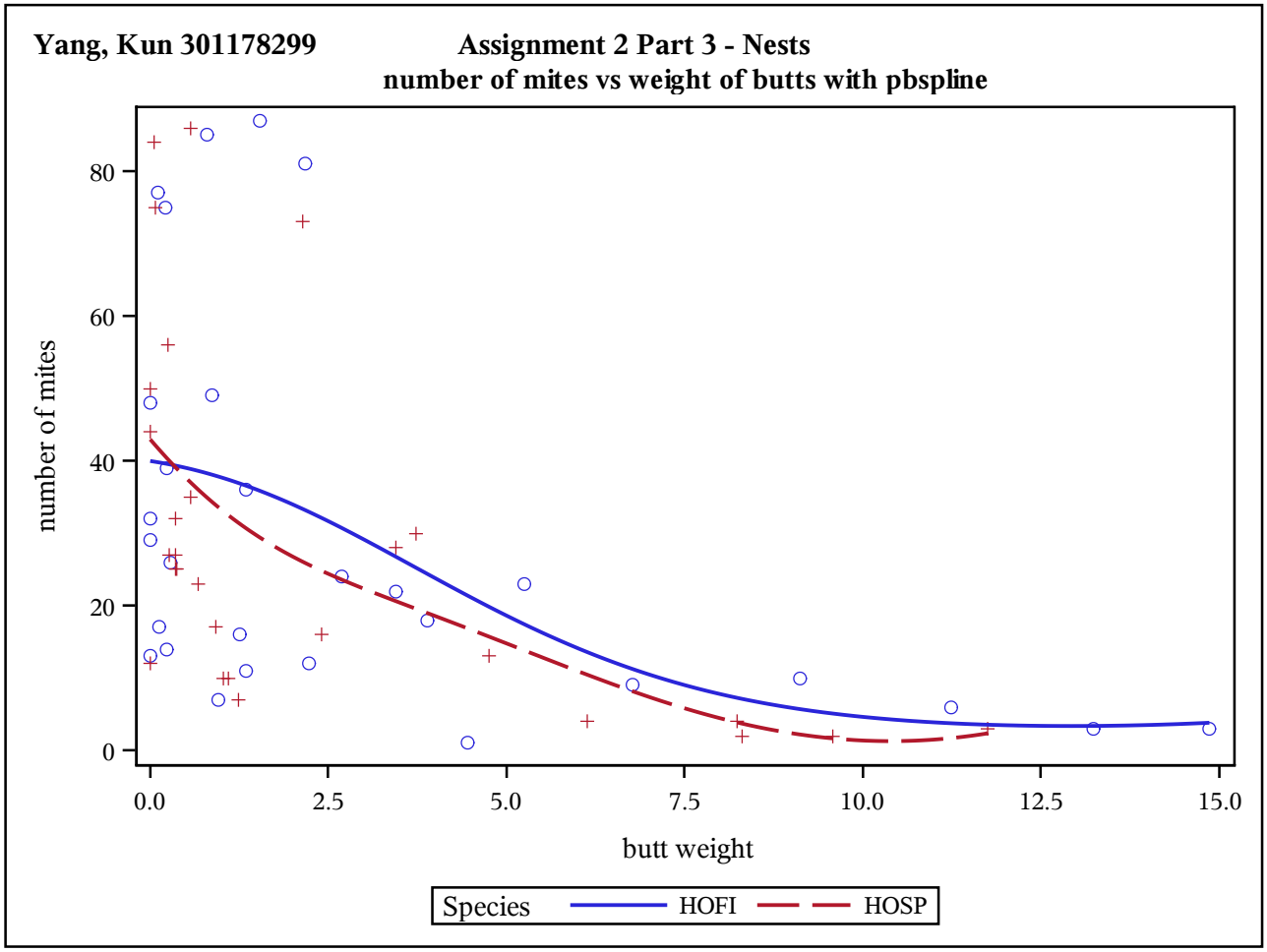
| Extreme Observations | | | |
|---|---|---|---|
| **Lowest** | | **Highest** | |
| **Value** | **Obs** | **Value** | **Obs** |
| 2 | 51 | 56 | 52 |
| 2 | 33 | 73 | 41 |
| 3 | 43 | 75 | 42 |
| 4 | 53 | 84 | 32 |
| 4 | 30 | 86 | 44 |


Yang, Kun 301178299
Assignment 2 Part 3 - Nests
the mean of No. of mites of each species (and 95% CI)
40
35
30
25
20
the mean of No. of mites
HOFI
HOSP
species

**Yang, Kun 301178299** **Assignment 2 Part 3 - Nests**

**number of mites vs weight of butts**




Yang, Kun 301178299
Assignment 2 Part 3 - Nests
number of mites vs weight of butts with pbspline
number of mites
0
20
40
60
80
0.0
2.5
5.0
7.5
10.0
12.5
15.0
butt weight
Species
HOFI
HOSP

*Yang, Kun 301178299*

# *Assignment 2 Part 3 - Nests*
## *regression of log(number of mites) vs butt weight*

*The REG Procedure*
*Model: MODEL1*
*Dependent Variable: logmites*

| | |
|---|---|
| **Number of Observations Read** | 57 |
| **Number of Observations Used** | 57 |

**Analysis of Variance**

| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|---|---|---|---|---|---|
| **Model** | 1 | 32.39365 | 32.39365 | 52.30 | <.0001 |
| **Error** | 55 | 34.06890 | 0.61943 | | |
| **Corrected Total** | 56 | 66.46255 | | | |

| | | | |
|---|---|---|---|
| **Root MSE** | 0.78704 | **R-Square** | 0.4874 |
| **Dependent Mean** | 2.93134 | **Adj R-Sq** | 0.4781 |
| **Coeff Var** | 26.84925 | | |

**Parameter Estimates**

| Variable | Label | DF | Parameter Estimate | Standard Error | t Value | Pr > \|t\| |
|---|---|---|---|---|---|---|
| **Intercept** | Intercept | 1 | 3.49066 | 0.12981 | 26.89 | <.0001 |
| **Butts_weight** | Butts weight | 1 | -0.20276 | 0.02804 | -7.23 | <.0001 |

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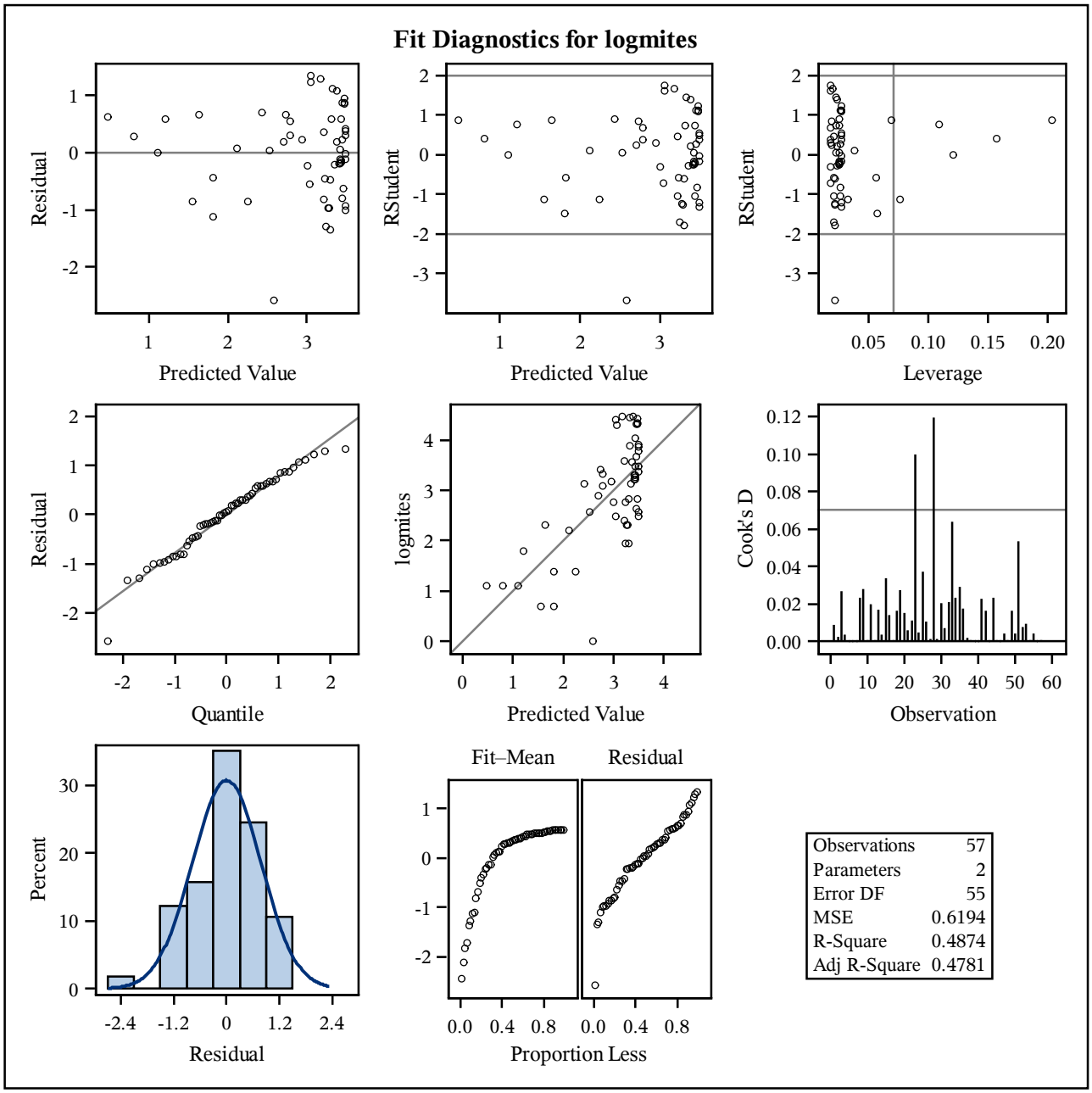

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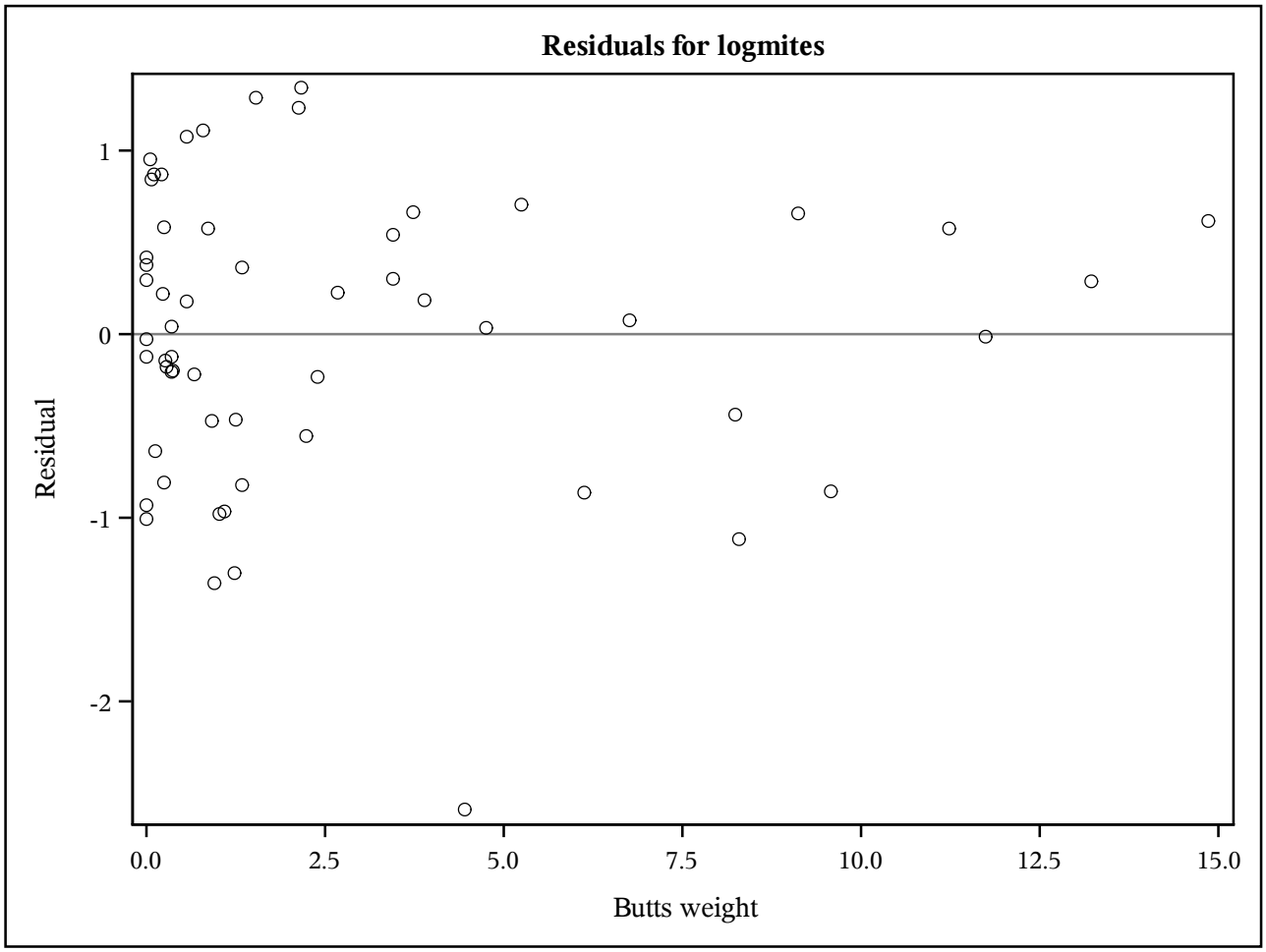

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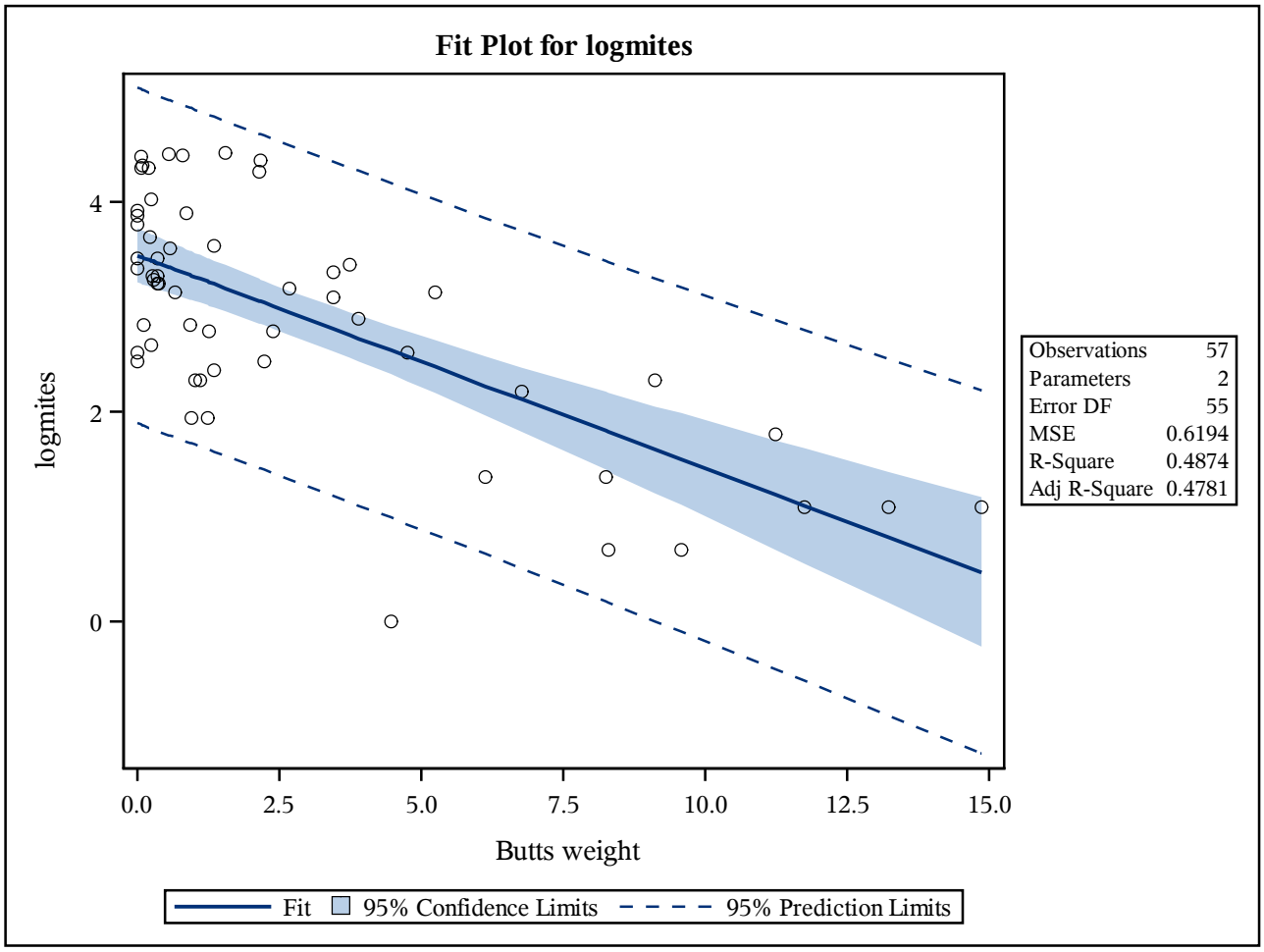

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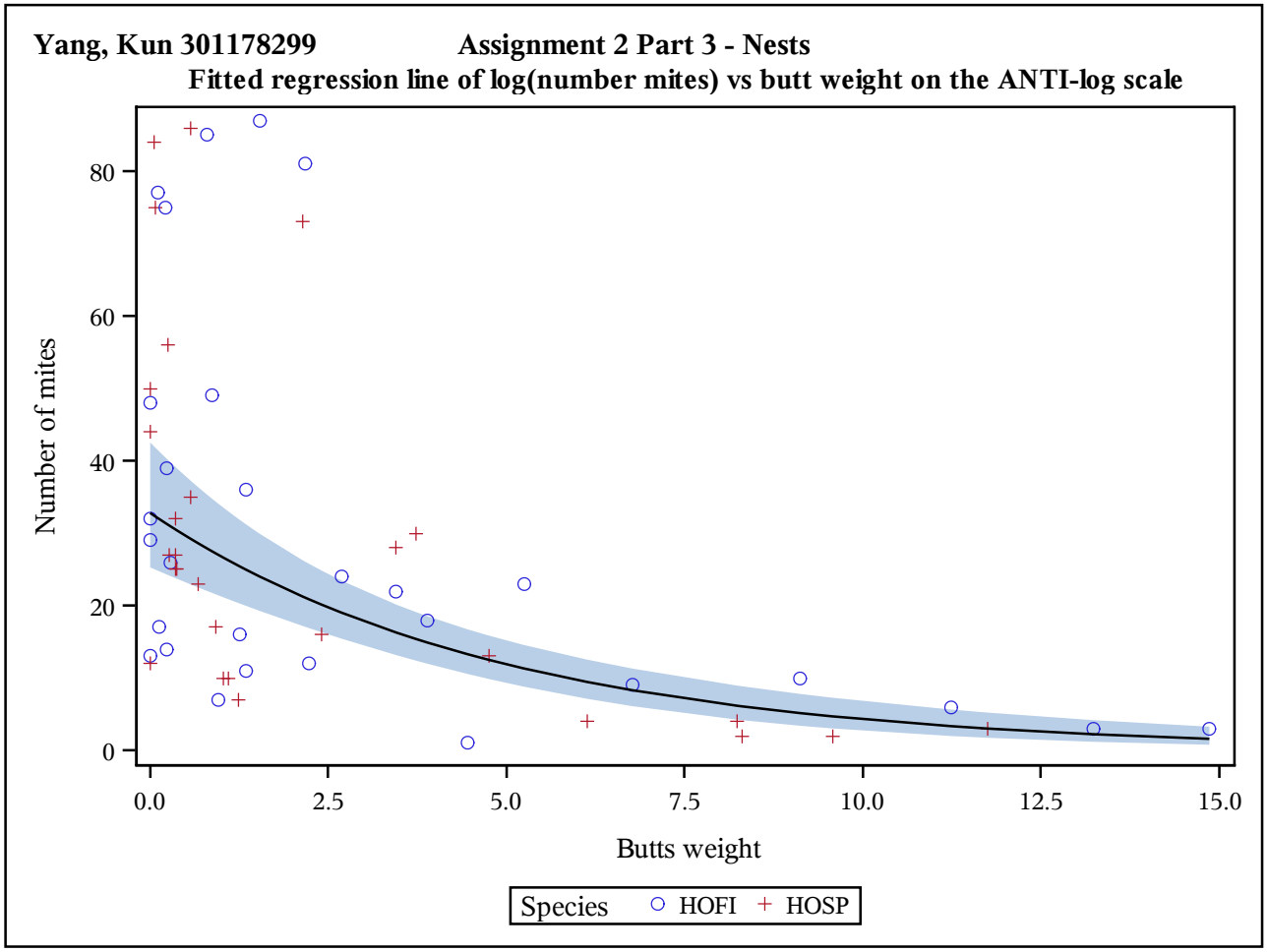
*Assignment 2 Part 3 - Nests*

*modelfit*

| Obs | Nest | Species | Nest_content | Butts_weight | Number_of_mites | ButtsPresent | logmites |
|---|---|---|---|---|---|---|---|
| 1 | 21 | HOFI | eggs | 0.12 | 17 | yes | 2.83321 |
| 2 | 22 | HOFI | empty | 1.34 | 36 | yes | 3.58352 |
| 3 | 23 | HOFI | chicks | 1.54 | 87 | yes | 4.46591 |
| 4 | 24 | HOFI | eggs | 1.26 | 16 | yes | 2.77259 |
| 5 | 25 | HOFI | empty | 0 | 32 | no | 3.46574 |
| 6 | 26 | HOFI | eggs | 0 | 29 | no | 3.36730 |
| 7 | 27 | HOFI | empty | 6.77 | 9 | yes | 2.19722 |
| 8 | 28 | HOFI | eggs | 0.79 | 85 | yes | 4.44265 |
| 9 | 29 | HOFI | empty | 9.12 | 10 | yes | 2.30259 |
| 10 | 30 | HOFI | empty | 2.68 | 24 | yes | 3.17805 |

| Obs | estmean_log | lclm_log | uclm_log | estmean | estmean_lcl | estmean_ucl |
|---|---|---|---|---|---|---|
| 1 | 3.46633 | 3.21015 | 3.72250 | 32.0189 | 24.7828 | 41.3678 |
| 2 | 3.21896 | 2.99536 | 3.44257 | 25.0022 | 19.9926 | 31.2672 |
| 3 | 3.17841 | 2.95856 | 3.39826 | 24.0086 | 19.2703 | 29.9121 |
| 4 | 3.23519 | 3.00994 | 3.46043 | 25.4111 | 20.2862 | 31.8307 |
| 5 | 3.49066 | 3.23052 | 3.75079 | 32.8075 | 25.2928 | 42.5548 |
| 6 | 3.49066 | 3.23052 | 3.75079 | 32.8075 | 25.2928 | 42.5548 |
| 7 | 2.11800 | 1.81067 | 2.42532 | 8.3145 | 6.1146 | 11.3059 |
| 8 | 3.33048 | 3.09409 | 3.56687 | 27.9518 | 22.0672 | 35.4056 |
| 9 | 1.64152 | 1.22751 | 2.05554 | 5.1630 | 3.4127 | 7.8110 |
| 10 | 2.94727 | 2.73831 | 3.15623 | 19.0539 | 15.4608 | 23.4820 |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Fitted regression line of log(number mites) vs butt weight on the ANTI-log scale
Number of mites
0
20
40
60
80
0.0
2.5
5.0
7.5
10.0
12.5
15.0
Butts weight
Species HOFI HOSP