**Response microcol**

**Whole Model**

**Actual by Predicted Plot**



**Summary of Fit**

|  |  |
| --- | --- |
| RSquare | 0.383737 |
| RSquare Adj | 0.369321 |
| Root Mean Square Error | 0.802923 |
| Mean of Response | 0.670455 |
| Observations (or Sum Wgts) | 176 |

**Analysis of Variance**

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Ratio** |
| --- | --- | --- | --- | --- |
| Model | 4 | 68.64525 | 17.1613 | 26.6197 |
| Error | 171 | 110.24112 | 0.6447 | **Prob > F** |
| C. Total | 175 | 178.88636 |  | <.0001\* |

**Lack Of Fit**

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Ratio** |
| --- | --- | --- | --- | --- |
| Lack Of Fit | 27 | 32.35540 | 1.19835 | 2.2156 |
| Pure Error | 144 | 77.88571 | 0.54087 | **Prob > F** |
| Total Error | 171 | 110.24112 |  | 0.0014\* |
|  |  |  |  | **Max RSq** |

**Parameter Estimates**

| **Term** |  | **Estimate** | **Std Error** | **t Ratio** | **Prob>|t|** |
| --- | --- | --- | --- | --- | --- |
| Intercept |  | -0.727639 | 0.209035 | -3.48 | 0.0006\* |
| watered days |  | 0.2954545 | 0.054133 | 5.46 | <.0001\* |
| species[Sc] |  | -0.397727 | 0.060523 | -6.57 | <.0001\* |
| fert apps |  | 0.2288018 | 0.040423 | 5.66 | <.0001\* |
| (watered days-3.5)\*(fert apps-1.59091) |  | 0.0437788 | 0.036155 | 1.21 | 0.2276 |

**Residual by Predicted Plot**



**watered days**

**Leverage Plot**



**species**

**Leverage Plot**



**Least Squares Means Table**

| **Level** | **Least Sq Mean** |  | **Std Error** | **Mean** |
| --- | --- | --- | --- | --- |
| Sc | 0.2727273 |  | 0.08559185 | 0.27273 |
| Sr | 1.0681818 |  | 0.08559185 | 1.06818 |

**fert apps**

**Leverage Plot**



**watered days\*fert apps**

**Leverage Plot**



**Response nostoc**

**Whole Model**

**Actual by Predicted Plot**



**Summary of Fit**

|  |  |
| --- | --- |
| RSquare | 0.520222 |
| RSquare Adj | 0.508999 |
| Root Mean Square Error | 0.812314 |
| Mean of Response | 1.068182 |
| Observations (or Sum Wgts) | 176 |

**Analysis of Variance**

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Ratio** |
| --- | --- | --- | --- | --- |
| Model | 4 | 122.34679 | 30.5867 | 46.3537 |
| Error | 171 | 112.83503 | 0.6599 | **Prob > F** |
| C. Total | 175 | 235.18182 |  | <.0001\* |

**Lack Of Fit**

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Ratio** |
| --- | --- | --- | --- | --- |
| Lack Of Fit | 27 | 23.34931 | 0.864789 | 1.3916 |
| Pure Error | 144 | 89.48571 | 0.621429 | **Prob > F** |
| Total Error | 171 | 112.83503 |  | 0.1113 |
|  |  |  |  | **Max RSq** |

**Parameter Estimates**

| **Term** |  | **Estimate** | **Std Error** | **t Ratio** | **Prob>|t|** |
| --- | --- | --- | --- | --- | --- |
| Intercept |  | -0.166642 | 0.21148 | -0.79 | 0.4318 |
| watered days |  | 0.2227273 | 0.054766 | 4.07 | <.0001\* |
| species[Sc] |  | 0.6704545 | 0.06123 | 10.95 | <.0001\* |
| fert apps |  | 0.2861751 | 0.040895 | 7.00 | <.0001\* |
| (watered days-3.5)\*(fert apps-1.59091) |  | -0.003963 | 0.036578 | -0.11 | 0.9138 |

**Residual by Predicted Plot**



**watered days**

**Leverage Plot**



**species**

**Leverage Plot**



**Least Squares Means Table**

| **Level** | **Least Sq Mean** |  | **Std Error** | **Mean** |
| --- | --- | --- | --- | --- |
| Sc | 1.7386364 |  | 0.08659296 | 1.73864 |
| Sr | 0.3977273 |  | 0.08659296 | 0.39773 |

**fert apps**

**Leverage Plot**



**watered days\*fert apps**

**Leverage Plot**



**Response lichen**

**Whole Model**

**Actual by Predicted Plot**



**Summary of Fit**

|  |  |
| --- | --- |
| RSquare | 0.725685 |
| RSquare Adj | 0.719269 |
| Root Mean Square Error | 0.589936 |
| Mean of Response | 1.017045 |
| Observations (or Sum Wgts) | 176 |

**Analysis of Variance**

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Ratio** |
| --- | --- | --- | --- | --- |
| Model | 4 | 157.43659 | 39.3591 | 113.0929 |
| Error | 171 | 59.51227 | 0.3480 | **Prob > F** |
| C. Total | 175 | 216.94886 |  | <.0001\* |

**Lack Of Fit**

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Ratio** |
| --- | --- | --- | --- | --- |
| Lack Of Fit | 27 | 8.940841 | 0.331142 | 0.9429 |
| Pure Error | 144 | 50.571429 | 0.351190 | **Prob > F** |
| Total Error | 171 | 59.512270 |  | 0.5510 |
|  |  |  |  | **Max RSq** |

**Parameter Estimates**

| **Term** |  | **Estimate** | **Std Error** | **t Ratio** | **Prob>|t|** |
| --- | --- | --- | --- | --- | --- |
| Intercept |  | 0.6687317 | 0.153586 | 4.35 | <.0001\* |
| watered days |  | 0.0704545 | 0.039774 | 1.77 | 0.0783 |
| species[Sc] |  | 0.9375 | 0.044468 | 21.08 | <.0001\* |
| fert apps |  | 0.0639401 | 0.0297 | 2.15 | 0.0327\* |
| (watered days-3.5)\*(fert apps-1.59091) |  | -0.009447 | 0.026565 | -0.36 | 0.7226 |

**Residual by Predicted Plot**



**watered days**

**Leverage Plot**



**species**

**Leverage Plot**



**Least Squares Means Table**

| **Level** | **Least Sq Mean** |  | **Std Error** | **Mean** |
| --- | --- | --- | --- | --- |
| Sc | 1.9545455 |  | 0.06288743 | 1.95455 |
| Sr | 0.0795455 |  | 0.06288743 | 0.07955 |

**fert apps**

**Leverage Plot**



**watered days\*fert apps**

**Leverage Plot**



**Response moss**

**Whole Model**

**Actual by Predicted Plot**



**Summary of Fit**

|  |  |
| --- | --- |
| RSquare | 0.165249 |
| RSquare Adj | 0.145722 |
| Root Mean Square Error | 0.923311 |
| Mean of Response | 3.295455 |
| Observations (or Sum Wgts) | 176 |

**Analysis of Variance**

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Ratio** |
| --- | --- | --- | --- | --- |
| Model | 4 | 28.85842 | 7.21460 | 8.4629 |
| Error | 171 | 145.77795 | 0.85250 | **Prob > F** |
| C. Total | 175 | 174.63636 |  | <.0001\* |

**Lack Of Fit**

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Ratio** |
| --- | --- | --- | --- | --- |
| Lack Of Fit | 27 | 32.63509 | 1.20871 | 1.5384 |
| Pure Error | 144 | 113.14286 | 0.78571 | **Prob > F** |
| Total Error | 171 | 145.77795 |  | 0.0565 |
|  |  |  |  | **Max RSq** |

**Parameter Estimates**

| **Term** |  | **Estimate** | **Std Error** | **t Ratio** | **Prob>|t|** |
| --- | --- | --- | --- | --- | --- |
| Intercept |  | 2.371261 | 0.240378 | 9.86 | <.0001\* |
| watered days |  | 0.1727273 | 0.06225 | 2.77 | 0.0061\* |
| species[Sc] |  | 0.1818182 | 0.069597 | 2.61 | 0.0098\* |
| fert apps |  | 0.2009217 | 0.046484 | 4.32 | <.0001\* |
| (watered days-3.5)\*(fert apps-1.59091) |  | -0.033364 | 0.041576 | -0.80 | 0.4234 |

**Residual by Predicted Plot**



**watered days**

**Leverage Plot**



**species**

**Leverage Plot**



**Least Squares Means Table**

| **Level** | **Least Sq Mean** |  | **Std Error** | **Mean** |
| --- | --- | --- | --- | --- |
| Sc | 3.4772727 |  | 0.09842525 | 3.47727 |
| Sr | 3.1136364 |  | 0.09842525 | 3.11364 |

**fert apps**

**Leverage Plot**



**watered days\*fert apps**

**Leverage Plot**



**Bivariate Fit of moss By nostoc species=Sc**





**Linear Fit**

moss = 2.8235846 + 0.3759775\*nostoc

**Summary of Fit**

|  |  |
| --- | --- |
| RSquare | 0.220236 |
| RSquare Adj | 0.211169 |
| Root Mean Square Error | 0.796416 |
| Mean of Response | 3.477273 |
| Observations (or Sum Wgts) | 88 |

**Analysis of Variance**

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Ratio** |
| --- | --- | --- | --- | --- |
| Model | 1 | 15.406532 | 15.4065 | 24.2898 |
| Error | 86 | 54.548014 | 0.6343 | **Prob > F** |
| C. Total | 87 | 69.954545 |  | <.0001\* |

**Parameter Estimates**

| **Term** |  | **Estimate** | **Std Error** | **t Ratio** | **Prob>|t|** |
| --- | --- | --- | --- | --- | --- |
| Intercept |  | 2.8235846 | 0.157479 | 17.93 | <.0001\* |
| nostoc |  | 0.3759775 | 0.076287 | 4.93 | <.0001\* |

**Bivariate Fit of moss By nostoc species=Sr**





**Linear Fit**

moss = 2.9275887 + 0.467777\*nostoc

**Summary of Fit**

|  |  |
| --- | --- |
| RSquare | 0.104201 |
| RSquare Adj | 0.093785 |
| Root Mean Square Error | 1.014786 |
| Mean of Response | 3.113636 |
| Observations (or Sum Wgts) | 88 |

**Analysis of Variance**

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Ratio** |
| --- | --- | --- | --- | --- |
| Model | 1 | 10.301725 | 10.3017 | 10.0037 |
| Error | 86 | 88.561912 | 1.0298 | **Prob > F** |
| C. Total | 87 | 98.863636 |  | 0.0022\* |

**Parameter Estimates**

| **Term** |  | **Estimate** | **Std Error** | **t Ratio** | **Prob>|t|** |
| --- | --- | --- | --- | --- | --- |
| Intercept |  | 2.9275887 | 0.123135 | 23.78 | <.0001\* |
| nostoc |  | 0.467777 | 0.147897 | 3.16 | 0.0022\* |

**Bivariate Fit of moss By microcol species=Sc**





**Linear Fit**

moss = 3.4891304 - 0.0434783\*microcol

**Summary of Fit**

|  |  |
| --- | --- |
| RSquare | 0.000904 |
| RSquare Adj | -0.01071 |
| Root Mean Square Error | 0.901493 |
| Mean of Response | 3.477273 |
| Observations (or Sum Wgts) | 88 |

**Analysis of Variance**

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Ratio** |
| --- | --- | --- | --- | --- |
| Model | 1 | 0.063241 | 0.063241 | 0.0778 |
| Error | 86 | 69.891304 | 0.812690 | **Prob > F** |
| C. Total | 87 | 69.954545 |  | 0.7809 |

**Parameter Estimates**

| **Term** |  | **Estimate** | **Std Error** | **t Ratio** | **Prob>|t|** |
| --- | --- | --- | --- | --- | --- |
| Intercept |  | 3.4891304 | 0.105081 | 33.20 | <.0001\* |
| microcol |  | -0.043478 | 0.15586 | -0.28 | 0.7809 |

**Bivariate Fit of moss By microcol species=Sr**





**Linear Fit**

moss = 2.7473908 + 0.3428682\*microcol

**Summary of Fit**

|  |  |
| --- | --- |
| RSquare | 0.139827 |
| RSquare Adj | 0.129825 |
| Root Mean Square Error | 0.994402 |
| Mean of Response | 3.113636 |
| Observations (or Sum Wgts) | 88 |

**Analysis of Variance**

| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Ratio** |
| --- | --- | --- | --- | --- |
| Model | 1 | 13.823822 | 13.8238 | 13.9799 |
| Error | 86 | 85.039814 | 0.9888 | **Prob > F** |
| C. Total | 87 | 98.863636 |  | 0.0003\* |

**Parameter Estimates**

| **Term** |  | **Estimate** | **Std Error** | **t Ratio** | **Prob>|t|** |
| --- | --- | --- | --- | --- | --- |
| Intercept |  | 2.7473908 | 0.144332 | 19.04 | <.0001\* |
| microcol |  | 0.3428682 | 0.091701 | 3.74 | 0.0003\* |