

# The SAS System

Obs	crabcnt	site	crabcntplus	logcrabcnt
1	0	1	0.01	-0.77989
2	0	1	0.01	-0.77989
3	22	1	22.01	1.34569
4	3	1	3.01	0.50051
5	17	1	17.01	1.23467
6	0	1	0.01	-0.77989
7	0	1	0.01	-0.77989
8	7	1	7.01	0.85528
9	11	1	11.01	1.04790
10	11	1	11.01	1.04790
11	73	1	73.01	1.86431
12	33	1	33.01	1.52069
13	0	1	0.01	-0.77989
14	65	1	65.01	1.81402
15	13	1	13.01	1.11945
16	44	1	44.01	1.64509
17	20	1	20.01	1.30462
18	27	1	27.01	1.43403
19	48	1	48.01	1.68274
20	104	1	104.01	2.01773
21	233	1	233.01	2.36767
22	81	1	81.01	1.90937
23	22	1	22.01	1.34569
24	9	1	9.01	0.96218
25	2	1	2.01	0.33566
26	0	2	0.01	-0.77989
27	0	2	0.01	-0.77989
28	56	2	56.01	1.74947
29	0	2	0.01	-0.77989
30	8	2	8.01	0.91201
31	0	2	0.01	-0.77989
32	3	2	3.01	0.50051
33	1	2	1.01	0.06670
34	16	2	16.01	1.20860
35	55	2	55.01	1.74167
36	142	2	142.01	2.15280
37	10	2	10.01	1.00715
38	2	2	2.01	0.33566

## The SAS System

Obs	crabcnt	site	crabcntplus	logcrabcnt
39	145	2	145.01	2.16186
40	6	2	6.01	0.79000
41	4	2	4.01	0.61972
42	5	2	5.01	0.71315
43	124	2	124.01	2.09400
44	24	2	24.01	1.38320
45	204	2	204.01	2.30998
46	415	2	415.01	2.61822
47	466	2	466.01	2.66854
48	6	2	6.01	0.79000
49	14	2	14.01	1.15125
50	12	2	12.01	1.08515
51	0	3	0.01	-0.77989
52	0	3	0.01	-0.77989
53	4	3	4.01	0.61972
54	13	3	13.01	1.11945
55	5	3	5.01	0.71315
56	1	3	1.01	0.06670
57	1	3	1.01	0.06670
58	4	3	4.01	0.61972
59	4	3	4.01	0.61972
60	36	3	36.01	1.55830
61	407	3	407.01	2.60977
62	0	3	0.01	-0.77989
63	0	3	0.01	-0.77989
64	18	3	18.01	1.25926
65	4	3	4.01	0.61972
66	14	3	14.01	1.15125
67	0	3	0.01	-0.77989
68	24	3	24.01	1.38320
69	52	3	52.01	1.71739
70	314	3	314.01	2.49716
71	245	3	245.01	2.38946
72	107	3	107.01	2.03006
73	5	3	5.01	0.71315
74	6	3	6.01	0.79000
75	2	3	2.01	0.33566
76	0	4	0.01	-0.77989

Obs	crabcnt	site	crabcntplus	logcrabcnt
77	0	4	0.01	-0.77989
78	0	4	0.01	-0.77989
79	4	4	4.01	0.61972
80	2	4	2.01	0.33566
81	2	4	2.01	0.33566
82	5	4	5.01	0.71315
83	4	4	4.01	0.61972
84	2	4	2.01	0.33566
85	1	4	1.01	0.06670
86	0	4	0.01	-0.77989
87	12	4	12.01	1.08515
88	1	4	1.01	0.06670
89	30	4	30.01	1.47952
90	0	4	0.01	-0.77989
91	3	4	3.01	0.50051
92	28	4	28.01	1.44973
93	2	4	2.01	0.33566
94	21	4	21.01	1.32564
95	8	4	8.01	0.91201
96	82	4	82.01	1.91469
97	12	4	12.01	1.08515
98	10	4	10.01	1.00715
99	2	4	2.01	0.33566
100	0	4	0.01	-0.77989
101	0	5	0.01	-0.77989
102	1	5	1.01	0.06670
103	1	5	1.01	0.06670
104	2	5	2.01	0.33566
105	2	5	2.01	0.33566
106	1	5	1.01	0.06670
107	2	5	2.01	0.33566
108	29	5	29.01	1.46488
109	2	5	2.01	0.33566
110	2	5	2.01	0.33566
111	0	5	0.01	-0.77989
112	13	5	13.01	1.11945
113	0	5	0.01	-0.77989
114	19	5	19.01	1.28253

# The SAS System

Obs	crabcnt	site	crabcntplus	logcrabcnt
115	1	5	1.01	0.06670
116	3	5	3.01	0.50051
117	26	5	26.01	1.41774
118	30	5	30.01	1.47952
119	5	5	5.01	0.71315
120	4	5	4.01	0.61972
121	94	5	94.01	1.97389
122	1	5	1.01	0.06670
123	9	5	9.01	0.96218
124	3	5	3.01	0.50051
125	0	5	0.01	-0.77989
126	0	6	0.01	-0.77989
127	0	6	0.01	-0.77989
128	0	6	0.01	-0.77989
129	2	6	2.01	0.33566
130	3	6	3.01	0.50051
131	0	6	0.01	-0.77989
132	0	6	0.01	-0.77989
133	4	6	4.01	0.61972
134	0	6	0.01	-0.77989
135	5	6	5.01	0.71315
136	4	6	4.01	0.61972
137	22	6	22.01	1.34569
138	0	6	0.01	-0.77989
139	64	6	64.01	1.80730
140	4	6	4.01	0.61972
141	4	6	4.01	0.61972
142	43	6	43.01	1.63514
143	3	6	3.01	0.50051
144	16	6	16.01	1.20860
145	19	6	19.01	1.28253
146	95	6	95.01	1.97848
147	6	6	6.01	0.79000
148	22	6	22.01	1.34569
149	0	6	0.01	-0.77989
150	0	6	0.01	-0.77989

## The GLM Procedure

Class Level Information		
Class	Levels	Values
site	6	1 2 3 4 5 6

Number of Observations Read	150
Number of Observations Used	150

The GLM Procedure

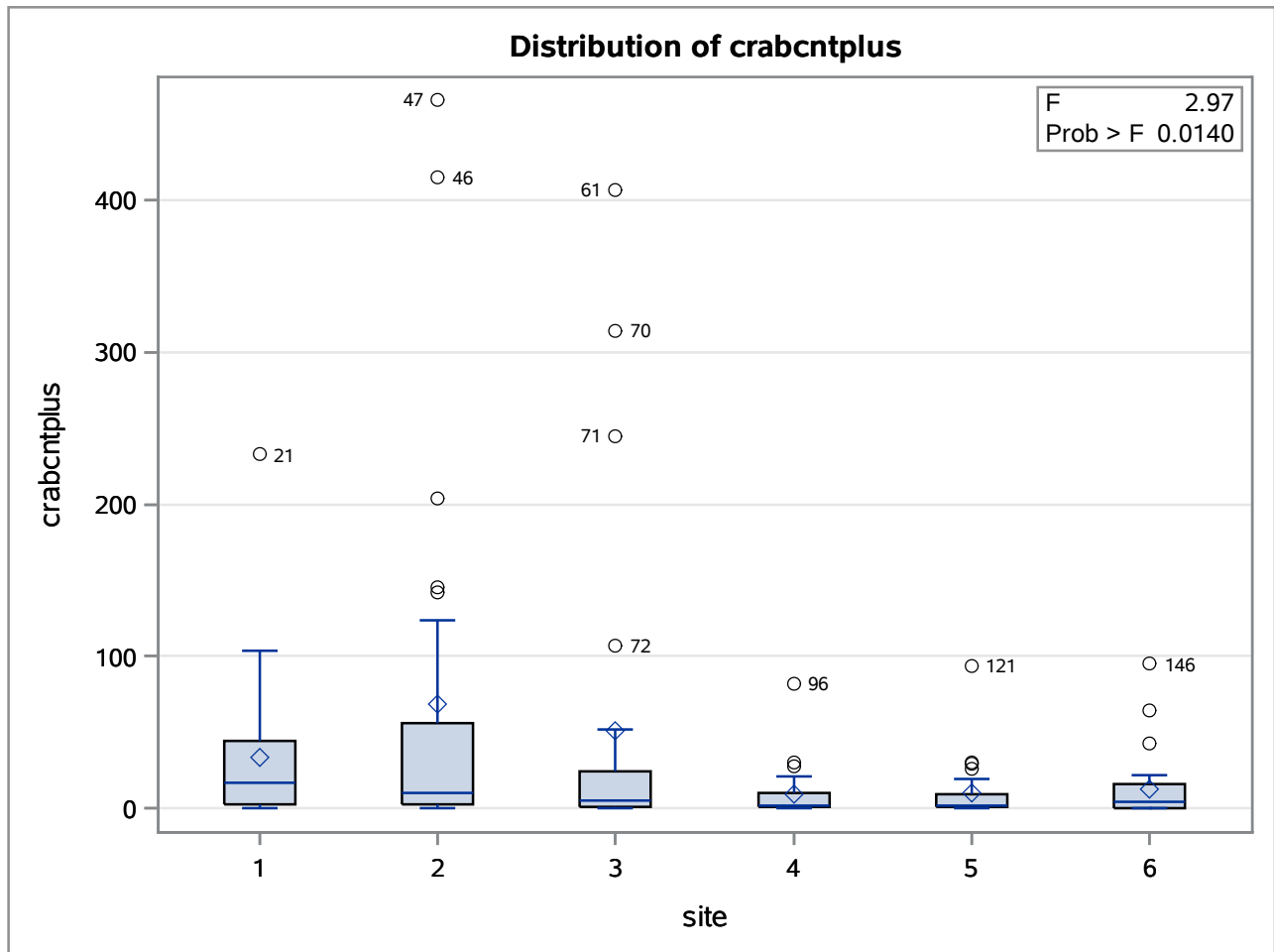
Dependent Variable: crabcntplus

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	5	76695.0400	15339.0080	2.97	0.0140
Error	144	744493.1200	5170.0911		
Corrected Total	149	821188.1600			

R-Square	Coeff Var	Root MSE	crabcntplus Mean
0.093395	233.0741	71.90335	30.85000

Source	DF	Type I SS	Mean Square	F Value	Pr > F
site	5	76695.04000	15339.00800	2.97	0.0140

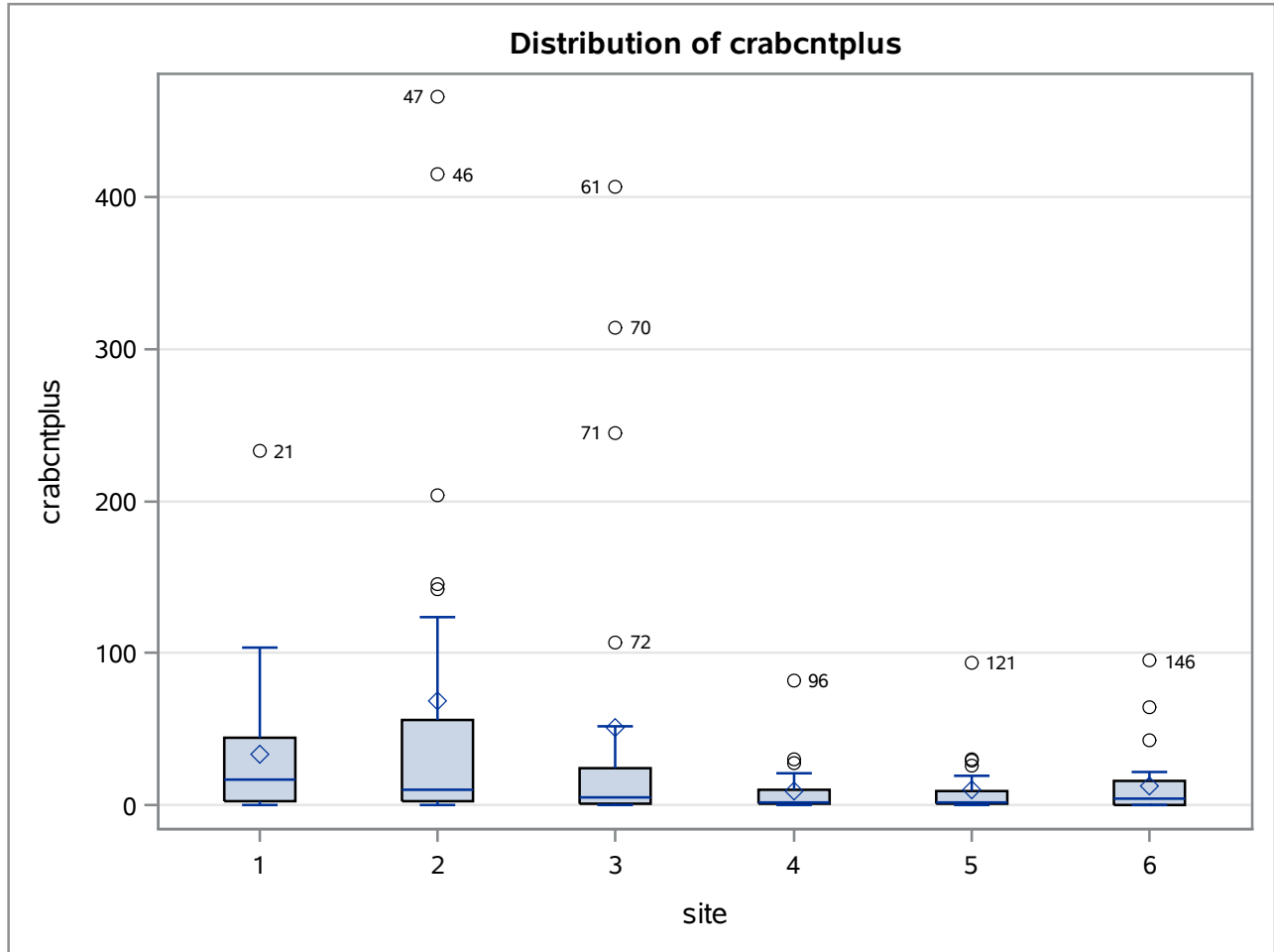
Source	DF	Type III SS	Mean Square	F Value	Pr > F
site	5	76695.04000	15339.00800	2.97	0.0140



## The GLM Procedure

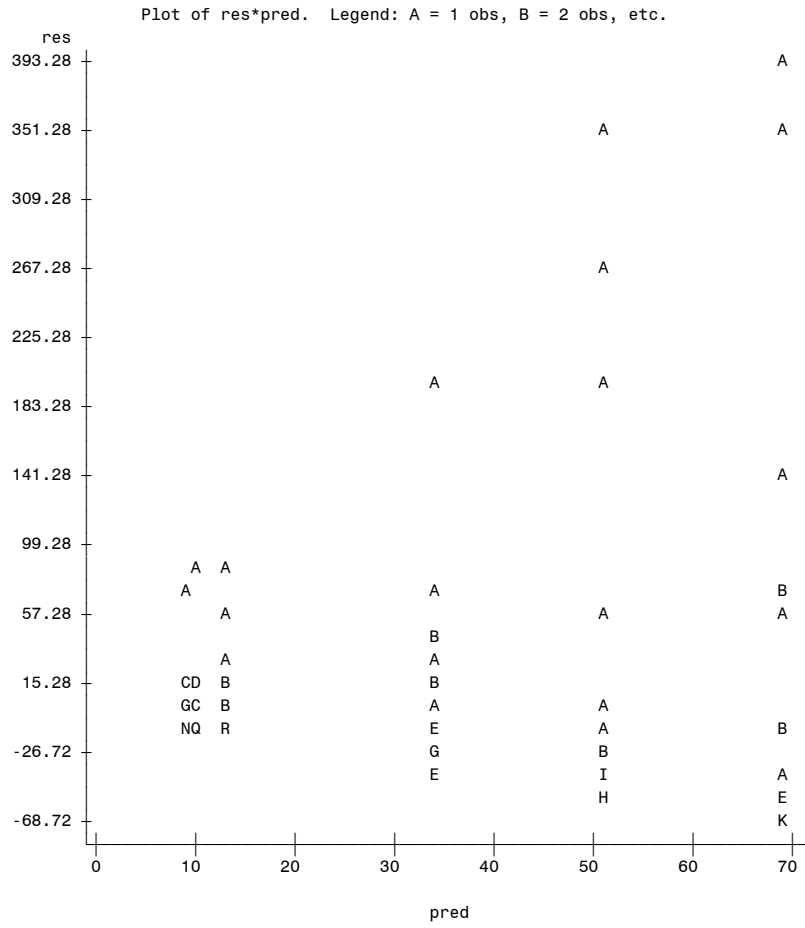
Brown and Forsythe's Test for Homogeneity of crabcntplus Variance ANOVA of Absolute Deviations from Group Medians					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
site	5	71145.7	14229.1	2.93	0.0151
Error	144	699845	4860.0		

The GLM Procedure

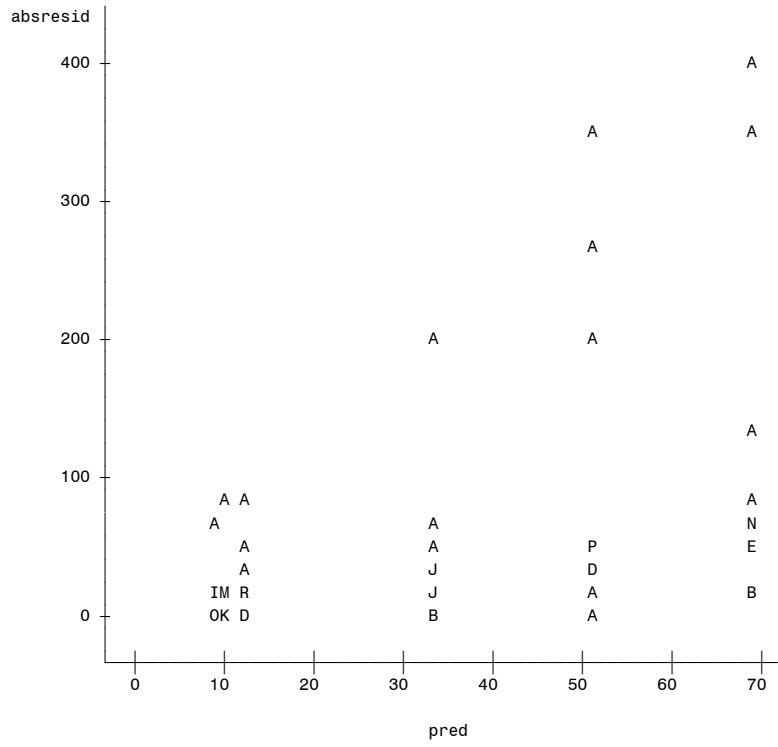


Level of site	N	crabcntplus	
		Mean	Std Dev
1	25	33.8100000	50.385183
2	25	68.7300000	125.353673
3	25	50.6500000	107.437920
4	25	9.2500000	17.386010
5	25	10.0100000	19.841035
6	25	12.6500000	23.010650

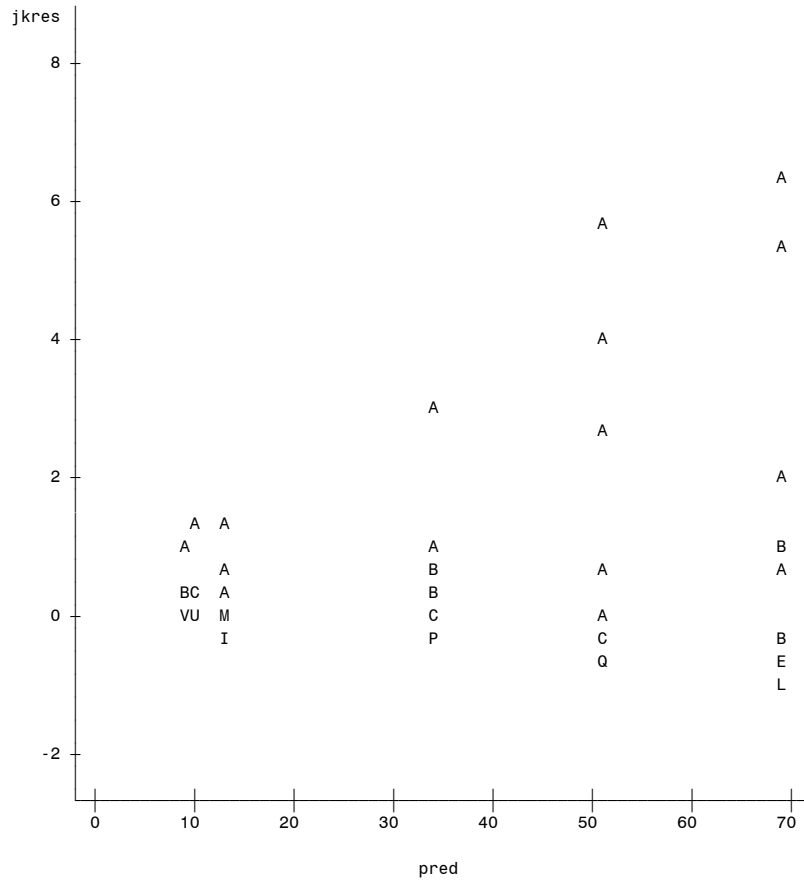


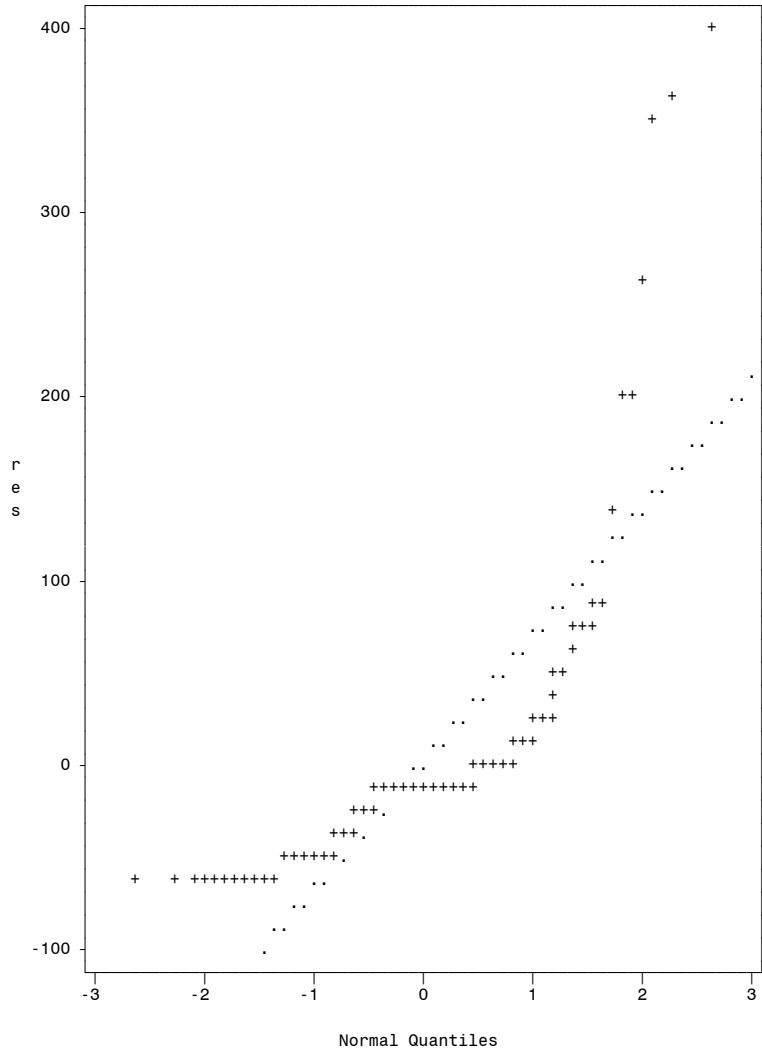


Plot of absresid\*pred. Legend: A = 1 obs, B = 2 obs, etc.



Plot of jkres\*pred. Legend: A = 1 obs, B = 2 obs, etc.



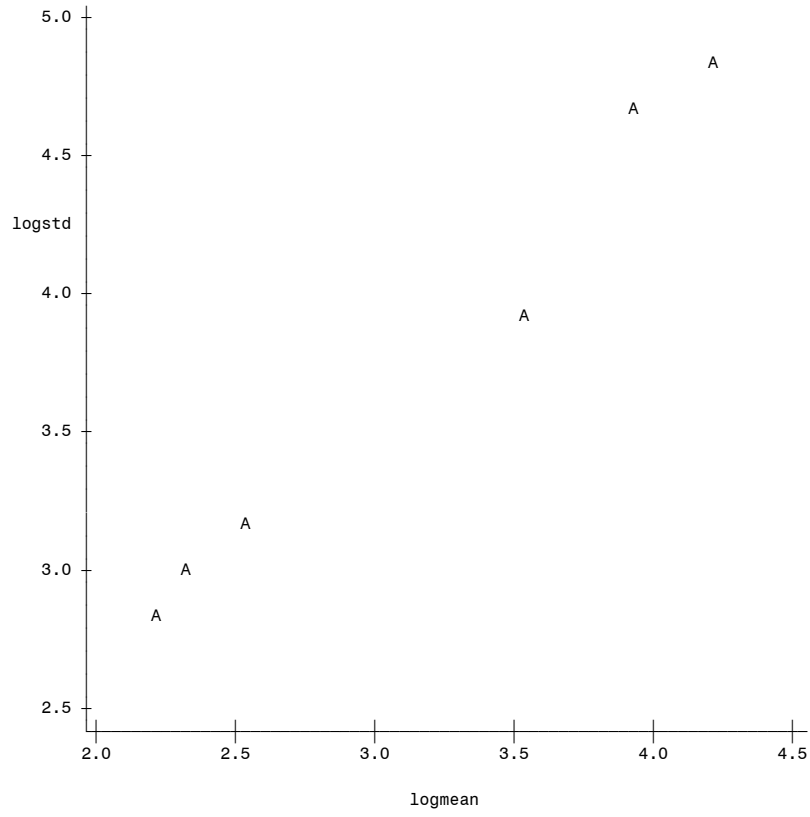


The MEANS Procedure

Analysis Variable : crabcntplus			
site	N Obs	Mean	Std Dev
1	25	33.8100000	50.3851830
2	25	68.7300000	125.3536730
3	25	50.6500000	107.4379201
4	25	9.2500000	17.3860097
5	25	10.0100000	19.8410349
6	25	12.6500000	23.0106497

Obs	site	mean	std	logmean	logstd
1	1	33.81	50.385	3.52076	3.91970
2	2	68.73	125.354	4.23019	4.83114
3	3	50.65	107.438	3.92494	4.67691
4	4	9.25	17.386	2.22462	2.85567
5	5	10.01	19.841	2.30358	2.98775
6	6	12.65	23.011	2.53766	3.13596

Plot of logstd\*logmean. Legend: A = 1 obs, B = 2 obs, etc.



The REG Procedure  
 Model: MODEL1  
 Dependent Variable: logstd

Number of Observations Read	6
Number of Observations Used	6

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	3.74316	3.74316	213.49	0.0001
Error	4	0.07013	0.01753		
Corrected Total	5	3.81329			

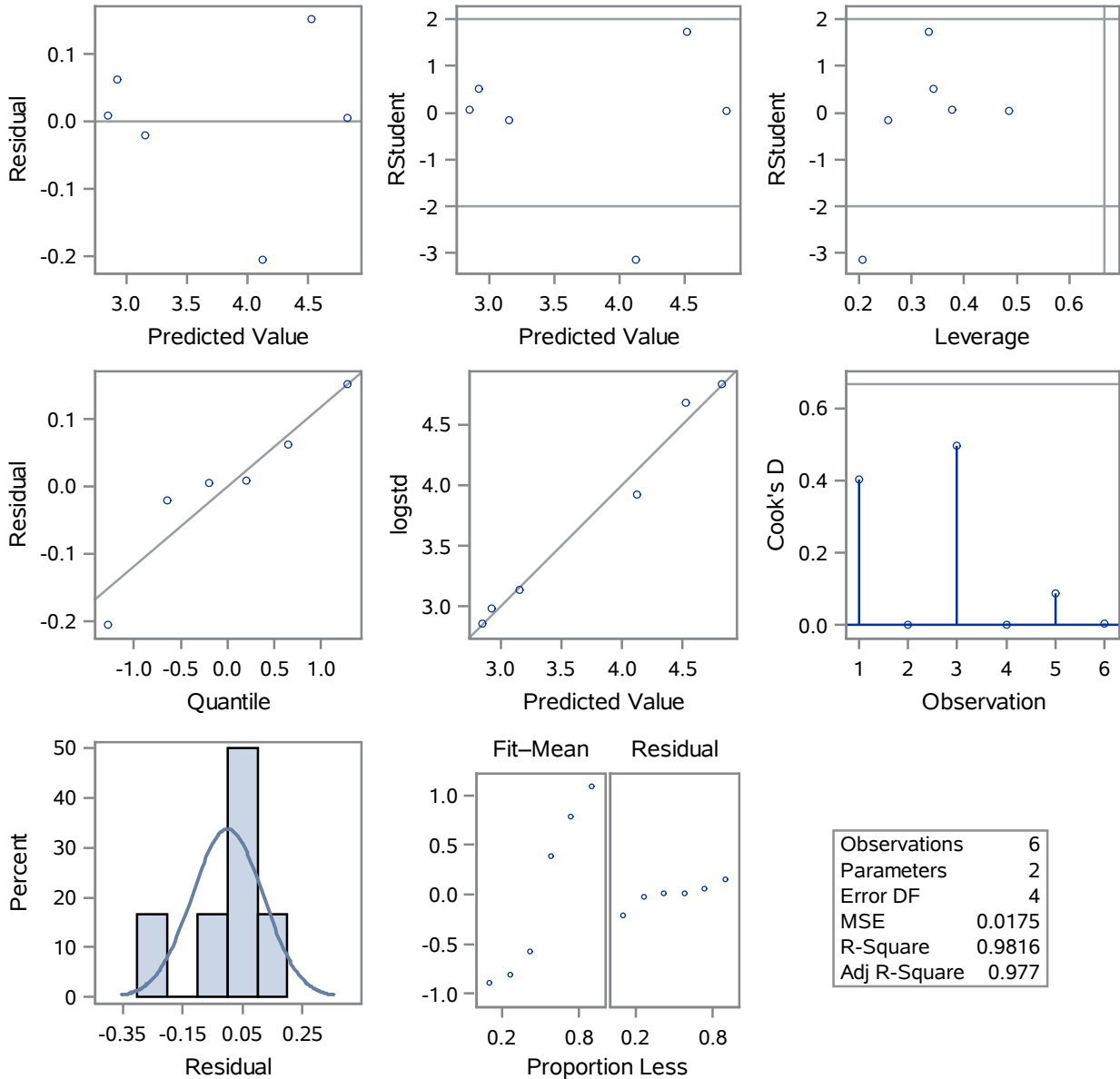
Root MSE	0.13241	R-Square	0.9816
Dependent Mean	3.73452	Adj R-Sq	0.9770
Coeff Var	3.54562		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
Intercept	1	0.65387	0.21766	3.00	0.0398
logmean	1	0.98624	0.06750	14.61	0.0001

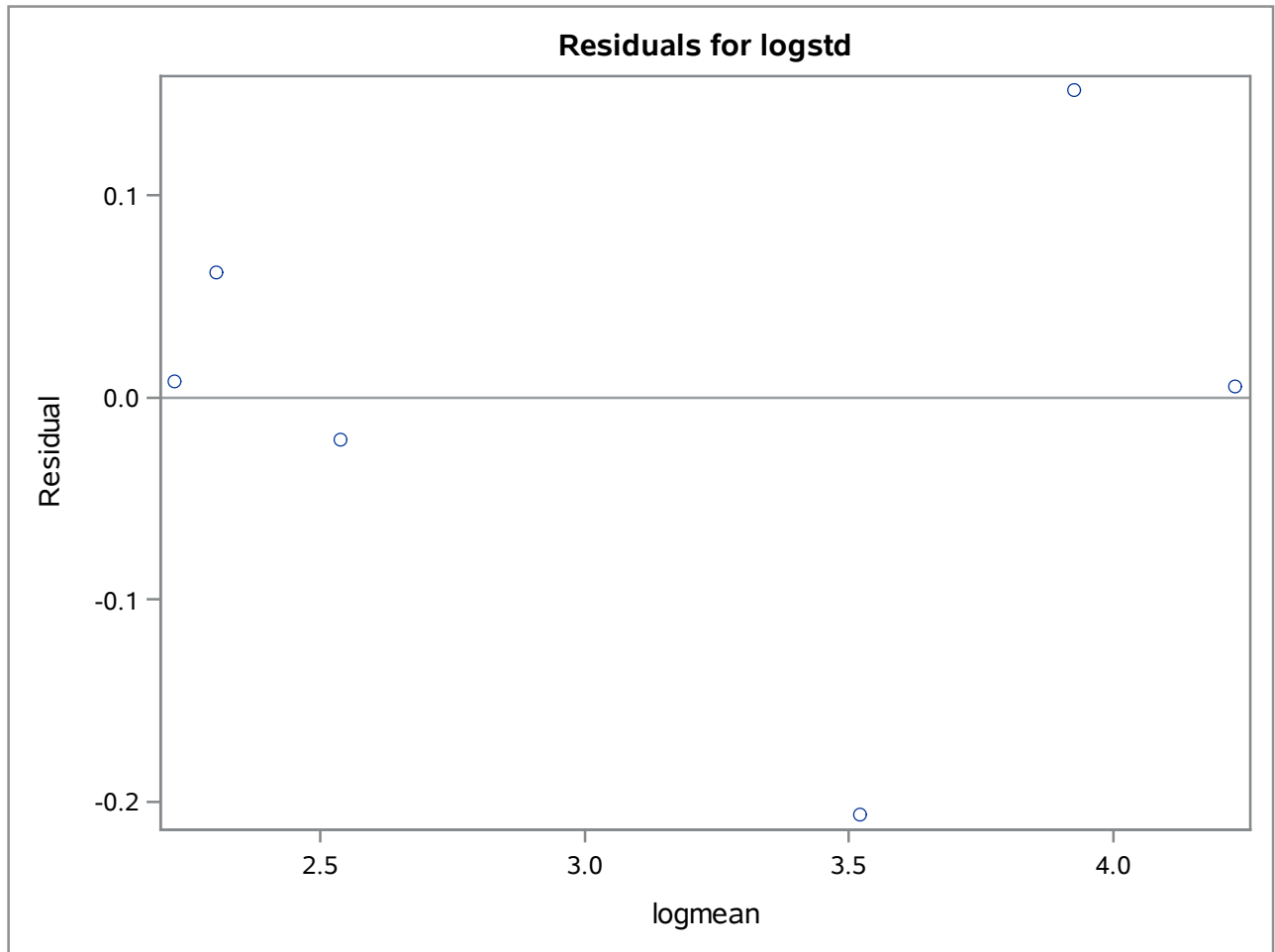


The REG Procedure  
 Model: MODEL1  
 Dependent Variable: logstd

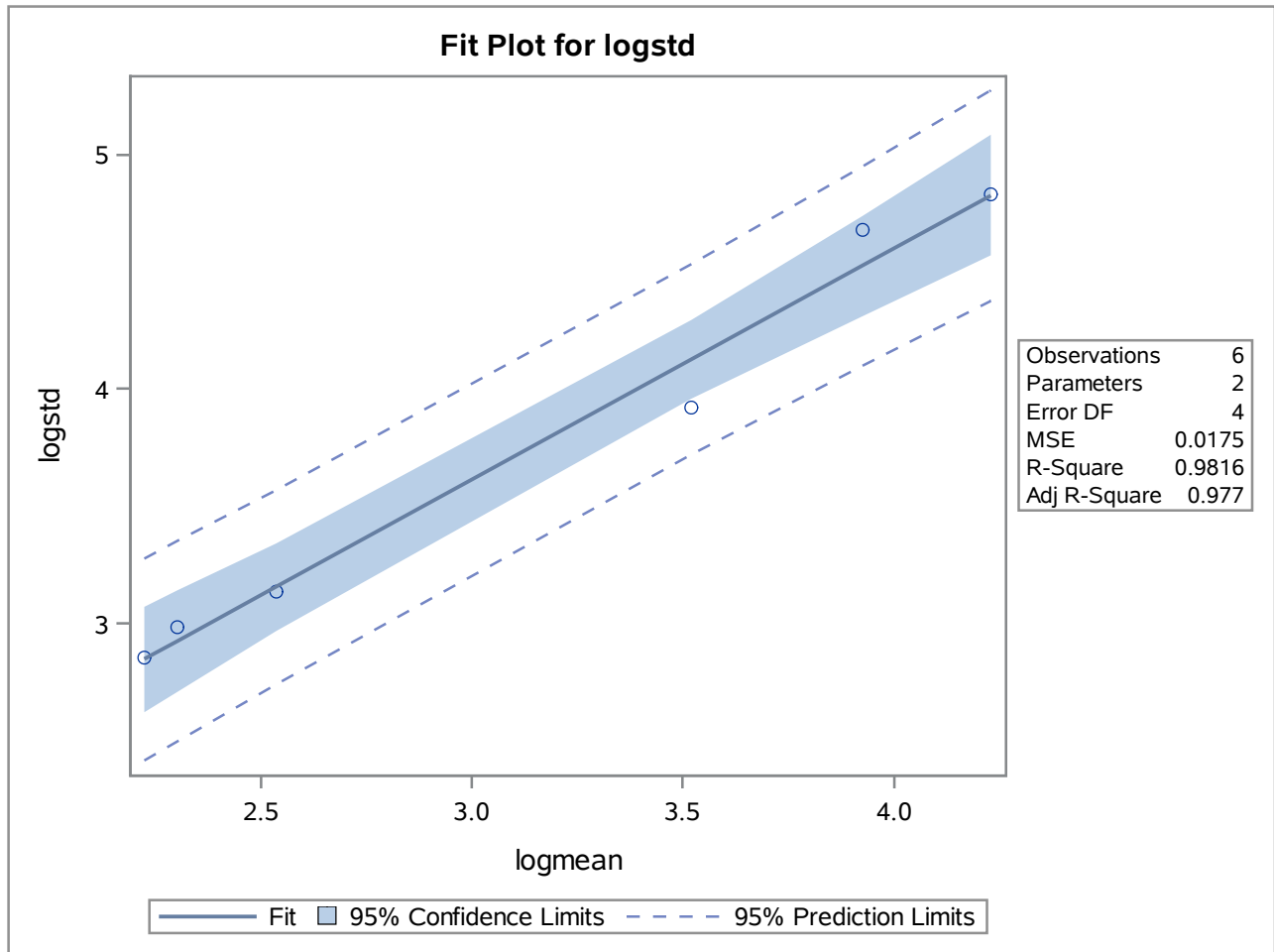
Fit Diagnostics for logstd



The REG Procedure  
Model: MODEL1  
Dependent Variable: logstd



The REG Procedure  
Model: MODEL1  
Dependent Variable: logstd



## The TRANSREG Procedure

Box-Cox Transformation Information for crabcntplus				
Lambda		R-Square	Log Like	
-2.00		0.03	-1526.56	
-1.95		0.03	-1489.48	
-1.90		0.03	-1452.50	
-1.85		0.03	-1415.63	
-1.80		0.03	-1378.86	
-1.75		0.03	-1342.21	
-1.70		0.03	-1305.68	
-1.65		0.03	-1269.28	
-1.60		0.03	-1233.02	
-1.55		0.03	-1196.90	
-1.50		0.03	-1160.94	
-1.45		0.03	-1125.14	
-1.40		0.03	-1089.52	
-1.35		0.03	-1054.09	
-1.30		0.03	-1018.86	
-1.25		0.03	-983.85	
-1.20		0.03	-949.07	
-1.15		0.03	-914.55	
-1.10		0.03	-880.29	
-1.05		0.03	-846.34	
-1.00		0.03	-812.70	
-0.95		0.03	-779.41	
-0.90		0.03	-746.51	
-0.85		0.03	-714.02	
-0.80		0.03	-681.99	
-0.75		0.03	-650.46	
-0.70		0.03	-619.49	
-0.65		0.03	-589.13	
-0.60		0.03	-559.45	
-0.55		0.03	-530.52	
-0.50		0.03	-502.44	
-0.45		0.03	-475.29	
-0.40		0.03	-449.20	
<b>&lt; - Best Lambda</b> <b>* - 95% Confidence Interval</b> <b>+ - Convenient Lambda</b>				

The TRANSREG Procedure

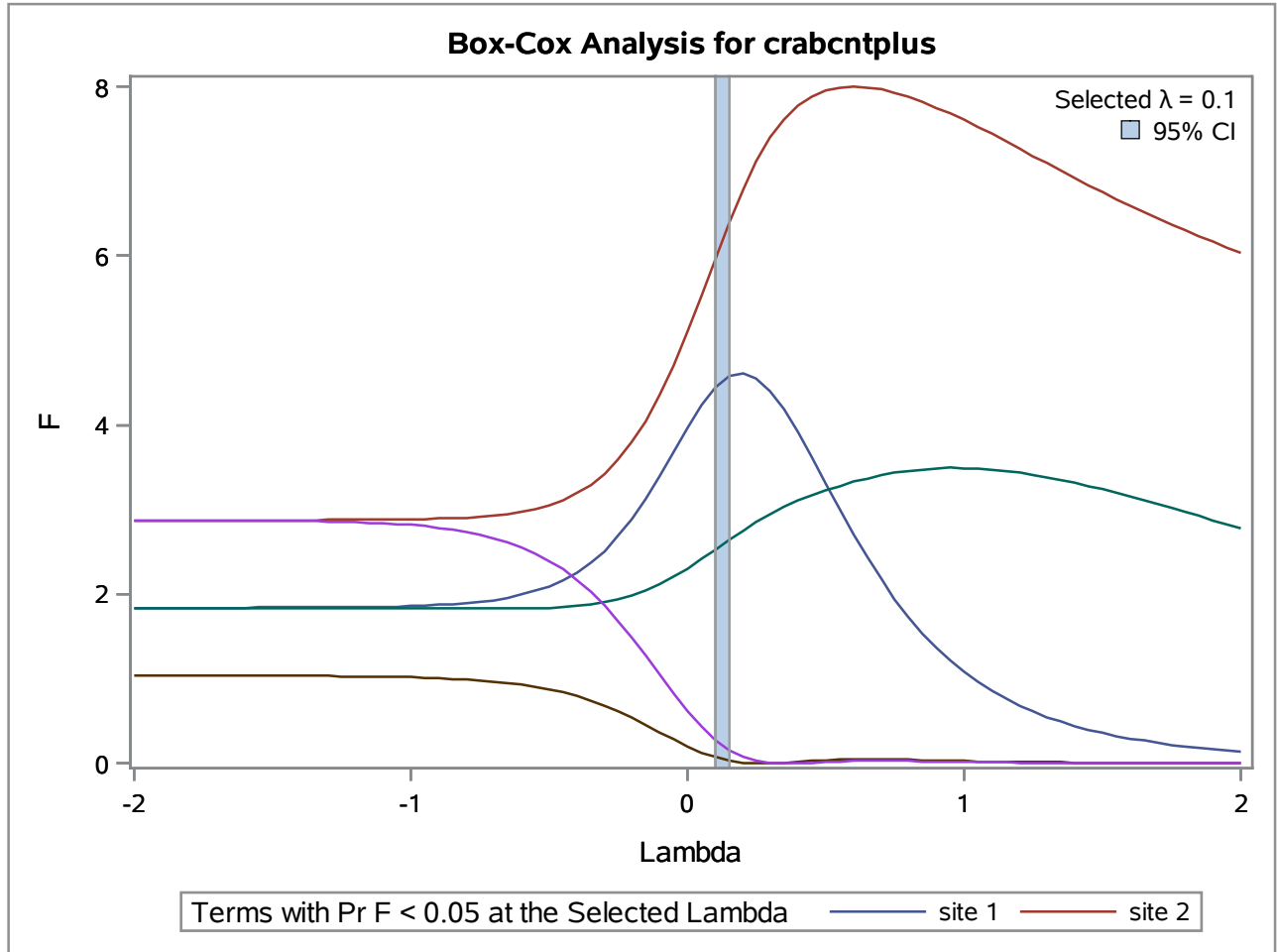
Box-Cox Transformation Information for crabcntplus				
Lambda		R-Square	Log Like	
-0.35		0.03	-424.30	
-0.30		0.03	-400.75	
-0.25		0.03	-378.74	
-0.20		0.03	-358.49	
-0.15		0.04	-340.25	
-0.10		0.04	-324.32	
-0.05		0.05	-311.03	
0.00		0.05	-300.69	
0.05		0.06	-293.62	
0.10		0.07	-290.06	<
0.15		0.08	-290.13	*
0.20		0.08	-293.83	
0.25		0.09	-301.00	
0.30		0.09	-311.40	
0.35		0.10	-324.69	
0.40		0.10	-340.53	
0.45		0.10	-358.57	
0.50		0.10	-378.53	
0.55		0.10	-400.12	
0.60		0.10	-423.13	
0.65		0.10	-447.37	
0.70		0.10	-472.69	
0.75		0.10	-498.95	
0.80		0.10	-526.06	
0.85		0.10	-553.92	
0.90		0.10	-582.46	
0.95		0.09	-611.60	
1.00		0.09	-641.30	
1.05		0.09	-671.50	
1.10		0.09	-702.15	
1.15		0.09	-733.23	
1.20		0.09	-764.69	
1.25		0.09	-796.51	
< - Best Lambda * - 95% Confidence Interval + - Convenient Lambda				

## The TRANSREG Procedure

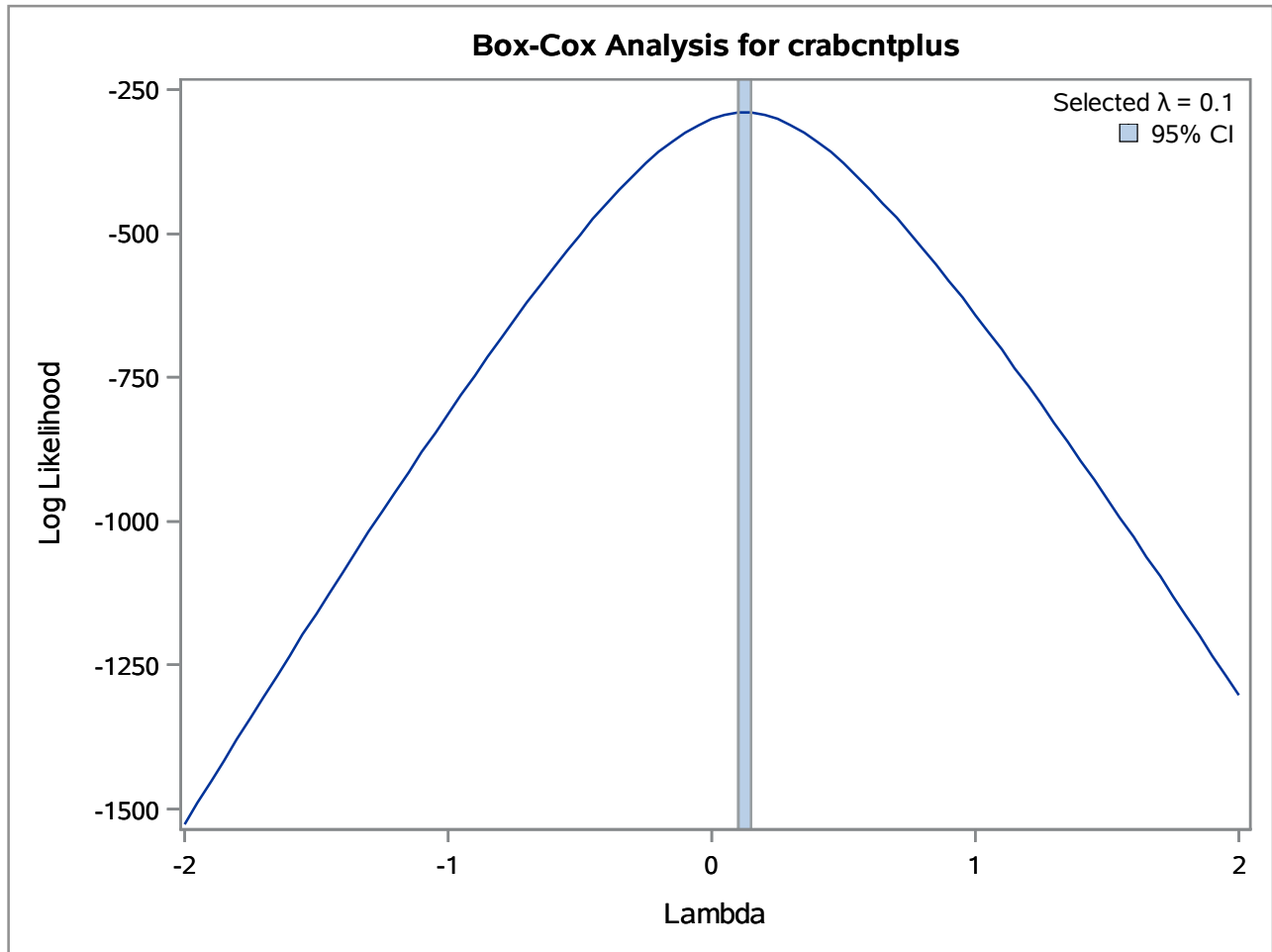
Box-Cox Transformation Information for crabcntplus				
Lambda		R-Square	Log Like	
1.30		0.09	-828.65	
1.35		0.09	-861.10	
1.40		0.08	-893.83	
1.45		0.08	-926.82	
1.50		0.08	-960.05	
1.55		0.08	-993.51	
1.60		0.08	-1027.18	
1.65		0.08	-1061.05	
1.70		0.08	-1095.11	
1.75		0.08	-1129.34	
1.80		0.08	-1163.73	
1.85		0.08	-1198.28	
1.90		0.07	-1232.97	
1.95		0.07	-1267.81	
2.00		0.07	-1302.77	

< - Best Lambda  
\* - 95% Confidence Interval  
+ - Convenient Lambda

The TRANSREG Procedure



The TRANSREG Procedure



Dependent Variable BoxCox(crabcntplus)

Class Level Information		
Class	Levels	Values
site	6	1 2 3 4 5 6

Number of Observations Read	150
Number of Observations Used	150



The TRANSREG Procedure

The TRANSREG Procedure Hypothesis Tests for BoxCox(crabcntplus)

Univariate ANOVA Table Based on the Usual Degrees of Freedom					
Source	DF	Sum of Squares	Mean Square	F Value	Liberal p
Model	5	110.046	22.00926	2.11	>= 0.0680
Error	144	1504.960	10.45111		
Corrected Total	149	1615.006			

The above statistics are not adjusted for the fact that the dependent variable was transformed and so are generally liberal.

Root MSE	3.23282	R-Square	0.0681
Dependent Mean	1.41202	Adj R-Sq	0.0358
Coeff Var	228.95027	Lambda	0.1000

Univariate Regression Table Based on the Usual Degrees of Freedom							
Variable	DF	Coefficient	Type II Sum of Squares	Mean Square	F Value	Liberal p	Label
Intercept	1	0.35476355	3.1464	3.1464	0.30	>= 0.5841	Intercept
Class.site1	1	1.92689758	46.4117	46.4117	4.44	>= 0.0368	site 1
Class.site2	1	2.23361161	62.3628	62.3628	5.97	>= 0.0158	site 2
Class.site3	1	1.45349496	26.4081	26.4081	2.53	>= 0.1141	site 3
Class.site4	1	0.24672414	0.7609	0.7609	0.07	>= 0.7877	site 4
Class.site5	1	0.48279523	2.9136	2.9136	0.28	>= 0.5983	site 5

The above statistics are not adjusted for the fact that the dependent variable was transformed and so are generally liberal.

The GLM Procedure

Class Level Information		
Class	Levels	Values
site	6	1 2 3 4 5 6

Number of Observations Read	150
Number of Observations Used	150

## The GLM Procedure

Dependent Variable: logcrabcnt

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	5	10.3283569	2.0656714	2.32	0.0462
Error	144	128.1518620	0.8899435		
Corrected Total	149	138.4802189			

R-Square	Coeff Var	Root MSE	logcrabcnt Mean
0.074584	145.8068	0.943368	0.646999

Source	DF	Type I SS	Mean Square	F Value	Pr > F
site	5	10.32835692	2.06567138	2.32	0.0462

Source	DF	Type III SS	Mean Square	F Value	Pr > F
site	5	10.32835692	2.06567138	2.32	0.0462

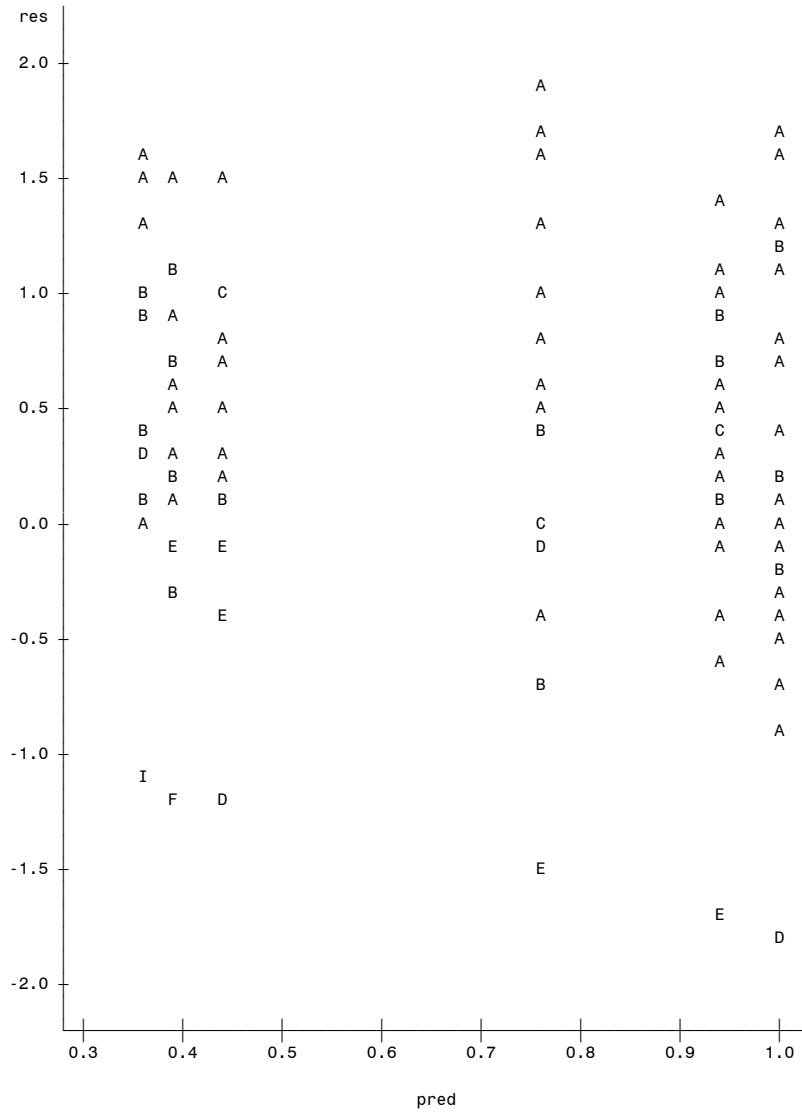
## The GLM Procedure

Brown and Forsythe's Test for Homogeneity of logcrabcnt Variance ANOVA of Absolute Deviations from Group Medians					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
site	5	1.3573	0.2715	0.75	0.5871
Error	144	52.0913	0.3617		

## The GLM Procedure

Level of site	N	logcrabcnt	
		Mean	Std Dev
1	25	0.93822889	0.98632922
2	25	0.99760388	1.05836750
3	25	0.75920346	1.04608567
4	25	0.39377883	0.81105700
5	25	0.43705216	0.75558280
6	25	0.35612501	0.96107220

Plot of res\*pred. Legend: A = 1 obs, B = 2 obs, etc.



Plot of absresid\*pred. Legend: A = 1 obs, B = 2 obs, etc.

