

US EPA ARCHIVE DOCUMENT

1- CED-14A
2/11/2000

MRID No. 449515-01

DATA EVALUATION RECORD
§ 71-4 -- AVIAN REPRODUCTION TEST

1. **CHEMICAL:** Alachlor PC Code No.: 090501

2. **TEST MATERIAL:** Alachlor Purity: 93.8%

3. **CITATION:**

Authors: Sean P. Gallagher, Joann B. Beavers and Mark J. Jaber

Title: Alachlor: A Reproduction Study with the Mallard (*Anas platyrhynchos*)

Study Completion Date: September 17, 1999

Laboratory: Wildlife International Ltd., Easton, MD

Sponsor: Monsanto Company, St. Louis, MO

Laboratory Report ID: 139-436

MRID No.: 449515-01

DP Barcode: 261284

4. **REVIEWED BY:** Max Feken, M.S., Environmental Toxicologist, Golder Associates Inc.

Signature:



Date:

1/24/00

APPROVED BY:

Pim Kosalwat, Ph.D, Senior Scientist, Golder Associates Inc.

Signature:



Date:

1/27/2000

5. **APPROVED BY:** Joanne Edwards, EHB/EPA

Signature:

Date:

6. **STUDY PARAMETERS:**

Scientific Name of Test Organism: *Anas platyrhynchos*

Age of Test Organisms at Test Initiation: 16 weeks

Definitive Study Duration: 24 weeks

7. **CONCLUSIONS:** This study is scientifically sound but fails to meet the guideline requirements for an avian reproduction study using mallards. Based on significant treatment related reductions in hatchling weight at all test concentrations, the NOEL could not be determined.

Results Synopsis

Most sensitive endpoints: hatchling body weight

NOEC: Not determined

LOEC: 50 ppm ai

	LEVEL			
	CONTROL	TRT1	TRT2	TRT3
	MEAN	MEAN	MEAN	MEAN
EL	51.27	50.93	46.50	40.53
EC	0.80	0.86	0.38	0.93
ES	44.53	44.21	40.50	30.13
VE	38.20	39.29	34.25	12.80
LE	37.47	38.86	33.75	12.13
NH	28.87	30.14	23.13	6.53
HS	28.40	30.00	22.94	6.20
ES/EL (%)	85.20	85.79	87.03	74.66
(EL-EC)/EL (%)	97.83	98.30	99.22	97.45
VE/ES (%)	81.83	90.48	85.53	44.68
LE/VE (%)	97.87	99.02	98.75	94.32
NH/EL (%)	52.71	58.92	53.07	18.33
NH/ES (%)	60.96	69.30	60.69	23.72
NH/LE (%)	75.15	77.55	73.45	52.66
HS/ES (%)	60.14	69.05	60.35	22.74
HS/NH (%)	98.49	99.71	98.94	97.04
THICK	0.38	0.39	0.39	0.37
HATWT	35.67	33.71	32.67	28.73
SURVWT	295.33	281.71	288.87	220.00
FOOD	135.31	144.09	145.80	150.98
POSTM	1215.00	1277.14	1281.56	1221.93
POSTF	1217.53	1199.71	1157.56	1110.80

2

L	E	E	E	V	L	N	H	S	T	H	A	R	F	P	O	P
O	V	B	E	S	E	E	H	C	I	I	T	V	O	R	S	R
S	L	L	C	S	E	E	S	K	T	H	A	R	F	P	O	P
60	TRT3	0	0	43	0	0	0	0	0	361	0	142.8	1137	1321	1067	1206
61	TRT3	52	3	34	23	14	10	0	413	29	200	129.7	1109	1058	1108	1173
62	TRT3	49	1	40	0	0	0	0	0.378	215.1	1274	1200	901	1040		
63	TRT3	32	1	24	18	7	0	0.368	26	218	147.1	1114	1119	936	1004	
64	TRT3															

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
15:40 Wednesday, January 5, 2000

L	E	E	E	V	L	N	H	S	T	H	A	R	F	P	O	P
O	V	B	E	S	E	E	H	C	I	I	T	V	O	R	S	R
S	L	L	C	S	E	E	S	K	T	H	A	R	F	P	O	P
1	CONTROL	37	0	31	28	28	19	19	0.388	35	309	104.2	1078	1114	1058	1223
2	CONTROL	57	1	50	34	34	30	30	0.385	34	294	134.4	1017	1199	902	1116
3	CONTROL	72	1	64	62	61	56	54	0.371	1168	1224	1148	1396	874	1205	
4	CONTROL	50	2	42	60	39	34	34	0.398	35	320	117.2	1180	1318	1148	1396
5	CONTROL	68	0	62	60	60	25	24	0.380	34	287	123.3	1063	1183	946	1142
6	CONTROL	65	0	56	55	54	48	47	0.417	37	343	114.9	1257	1114	1157	1399
7	CONTROL	71	2	56	55	55	48	48	0.399	35	290	120.3	1165	1313	1006	1210
8	CONTROL	60	1	53	24	23	20	19	0.366	35	269	121.7	1180	1289	966	1120
9	CONTROL	34	2	24	10	10	7	7	0.385	30	223	175.7	1217	1134	813	911
10	CONTROL	9	1	6	3	3	1	1	0.378	42	309	145.2	1293	1378	988	1111
11	CONTROL	54	1	49	27	45	37	37	0.399	42	309	191.7	1208	1297	1143	1222
12	CONTROL	31	0	27	22	19	14	14	0.354	33	272	99.1	1110	1239	1106	1296
13	CONTROL	57	0	52	30	30	28	28	0.372	38	302	168.3	1177	1183	1142	1284
14	CONTROL	49	1	42	37	37	35	35	0.388	38	299	177.6	1122	1115	1089	1408
15	CONTROL	55	0	50	45	44	41	40	0.392	39	336	124.0	1125	1125	1019	1220
16	CONTROL	47	0	37	36	36	30	30	0.386	34	277	128.2	1156	1151	1014	1249
17	TRT1	52	0	51	46	46	29	29	0.399	32	261	140.4	1276	1324	1133	1248
18	TRT1	62	3	52	51	51	45	44	0.389	37	276	158.9	1150	1363	975	1178
19	TRT1	45	6	34	33	33	27	27	0.375	33	289	140.8	1182	1444	1127	1357
20	TRT1	47	1	40	39	39	20	20	0.375	32	301	144.4	1192	1279	842	1007
21	TRT1	53	0	47	46	46	27	27	0.386	33	246	136.7	1139	1174	948	1167
22	TRT1	53	0	52	48	45	31	31	0.383	34	270	124.0	1109	1250	949	1090
23	TRT1	70	0	64	61	61	31	31	0.419	34	291	136.3	1096	1168	1194	1310
24	TRT1	66	1	57	53	52	51	51	0.361	32	297	138.8	1268	1356	1128	1232
25	TRT1	73	0	67	58	58	55	54	0.392	37	302	178.8	1165	1366	1165	1354
26	TRT1	49	1	43	41	41	29	29	0.381	31	273	160.0	1032	1239	899	990
27	TRT1	37	0	32	29	28	18	18	0.395	34	299	148.0	1000	1268	994	1140
28	TRT1	28	0	18	16	16	10	10	0.368	35	271	134.1	1219	1240	1017	1089
29	TRT1	28	0	25	22	22	19	19	0.390	34	291	147.8	1084	1258	1053	1385
30	TRT1	56	0	49	49	49	35	35	0.375	31	276	109.8	1069	1160	1024	1024
31	TRT1	44	0	40	40	40	32	32	0.397	33	273	137.6	1188	1175	920	1077
32	TRT1	30	0	25	23	23	21	21	0.370	30	279	149.0	1024	1215	1016	1022
33	TRT1	72	1	63	54	54	49	49	0.421	34	306	146.5	1205	1247	1011	1195
34	TRT1	66	0	20	20	20	15	15	0.339	36	286	174.9	1091	1235	988	1199
35	TRT1	63	0	20	20	20	15	15	0.408	32	270	116.0	1093	1539	955	1062
36	TRT1	69	0	61	58	58	24	23	0.413	29	261	223.0	1298	1580	1139	1202
37	TRT1	34	0	31	29	29	25	25	0.391	33	312	129.0	1110	1341	1103	1272
38	TRT1	57	1	48	47	46	44	44	0.388	33	299	138.3	1129	1296	978	1210
39	TRT1	32	0	29	25	23	7	7	0.389	31	308	138.0	1145	1089	1137	1124
40	TRT1	39	0	36	36	36	34	34	0.368	35	307	119.5	1187	1404	961	1228
41	TRT1	65	0	59	57	53	17	15	0.375	37	277	134.9	1272	1173	1054	1214
42	TRT1	54	0	34	34	34	27	27	0.435	31	294	150.3	1214	1363	1047	1115
43	TRT1	67	1	61	60	59	21	21	0.380	34	319	163.5	1290	1043	1356	1152
44	TRT1	36	0	30	28	28	26	26	0.388	31	266	175.7	996	1165	979	1069
45	TRT1	61	0	56	12	9	7	7	0.362	31	240	130.4	1202	1333	1247	1038
46	TRT1	22	1	18	16	16	12	12	0.393	29	245	145.2	1120	1191	945	1038
47	TRT1	16	1	12	2	2	2	2	0.347	27	187	143.0	1107	1160	1017	1043
48	TRT1	13	0	10	3	3	1	1	0.341	28	251	130.8	1112	1269	922	1021
49	TRT1	53	0	39	20	19	0	0	0.405	28	251	176.4	1307	1390	1070	1128
50	TRT1	34	0	25	6	5	0	0	0.381	27	210	140.1	1078	1116	1001	1117
51	TRT1	35	0	34	30	30	25	24	0.371	27	210	185.8	1294	1269	997	964
52	TRT1	56	0	37	21	19	10	10	0.343	31	220	133.6	1122	1157	1015	1161
53	TRT1	57	0	33	17	14	9	9	0.360	28	216	115.7	1133	1326	1050	1012
54	TRT1	51	1	34	19	19	6	6	0.367	33	242	170.5	1169	1154	1139	1355
55	TRT1	39	0	23	5	5	3	3	0.372	27	191	158.5	1211	1346	973	1166

LEVEL																
CONTROL																
TRT1																
TRT2																
TRT3																
MEAN																
MEAN																
MEAN																

LEVEL=CONTROL

Variable Label	N	Mean	Std Dev	CV
EL	15	51.267	17.231	33.611
EC	15	0.800	0.775	96.825
ES	15	44.533	16.195	36.365
VE	15	38.200	17.985	47.081
LE	15	37.467	17.920	47.829
NH	15	28.867	15.883	55.022
HS	15	28.400	15.615	54.982
THICK	15	0.385	0.016	4.057
HATWT	15	35.667	2.920	8.186
SURVWT	15	295.333	29.043	9.834
FOOD	15	135.313	29.315	21.665
PREM	15	1154.813	71.647	6.204
POSTM	15	1215.000	87.426	7.196
PREF	15	1027.563	105.214	10.239
POSTF	15	1217.533	131.676	10.815
ES/EL (%)	15	85.202	7.653	8.982
NH/EL (%)	15	52.715	22.725	43.110
(EL-EC)/EL (%)	15	97.832	3.011	3.077
VE/ES (%)	15	81.832	20.339	24.855
NH/ES (%)	15	60.957	25.121	41.211
HS/ES (%)	15	60.142	24.983	41.540
LE/VE (%)	15	97.867	3.520	3.597
NH/LE (%)	15	75.155	21.987	29.255
HS/NH (%)	15	98.490	2.082	2.114

LEVEL=TRT1

Variable Label	N	Mean	Std Dev	CV
EL	14	50.929	14.269	28.018
EC	14	0.857	1.703	198.714
ES	14	44.214	16.224	32.172
VE	14	39.286	11.977	30.487
LE	14	38.857	11.773	30.297
NH	14	30.143	12.082	40.083
HS	14	30.000	11.832	39.441
THICK	14	0.386	0.014	3.683
HATWT	14	33.714	1.773	5.258
SURVWT	14	281.714	16.708	5.931
FOOD	14	144.086	14.224	9.872
PREM	14	1159.938	80.444	6.935
POSTM	14	1277.143	85.038	6.658
PREF	14	1027.625	101.796	9.906
POSTF	14	1199.714	127.509	10.628
ES/EL (%)	14	85.787	7.509	8.753
NH/EL (%)	14	58.922	12.670	21.503
(EL-EC)/EL (%)	14	98.296	3.632	3.695
VE/ES (%)	14	90.480	12.678	14.012
NH/ES (%)	14	69.297	16.141	23.292
HS/ES (%)	14	69.053	15.902	23.029
LE/VE (%)	14	99.017	1.875	1.894
NH/LE (%)	14	77.546	14.553	18.767
HS/NH (%)	14	99.711	0.758	0.740

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD

LEVEL=TRT2

LEVEL=CONTROL

Variable Label	N	Mean	Std Dev	CV
EL	16	46.500	20.136	43.504
EC	16	0.375	0.619	165.104
ES	16	40.500	18.133	44.772
VE	16	34.250	18.788	54.856
LE	16	33.750	18.423	54.586
NH	16	23.125	13.441	58.122
HS	16	22.938	13.508	58.890
THICK	16	0.389	0.024	6.113
HATWT	16	32.667	2.257	6.910
SURVWT	16	288.867	18.670	6.463
FOOD	16	145.800	28.504	19.550
PREM	16	1159.938	92.842	8.004
POSTM	16	1281.563	137.720	10.746
PREF	16	1026.063	63.570	6.196
POSTF	16	1157.563	93.493	8.077
ES/EL (%)	16	87.034	7.325	8.416
NH/EL (%)	16	53.074	25.099	47.290
(EL-EC)/EL (%)	16	99.220	1.494	1.506
VE/ES (%)	16	85.533	25.362	29.632
NH/ES (%)	16	60.690	28.171	46.418
HS/ES (%)	16	60.355	28.547	47.299
LE/VE (%)	16	98.746	2.632	2.665
NH/LE (%)	16	73.449	25.346	34.508
HS/NH (%)	16	98.938	3.149	3.183

LEVEL=TRT3

Variable Label	N	Mean	Std Dev	CV
EL	15	40.533	15.334	37.830
EC	15	0.933	1.033	110.657
ES	15	30.133	12.159	40.350
VE	15	12.800	9.488	74.128
LE	15	12.133	9.349	77.055
NH	15	6.533	7.100	108.673
HS	15	6.200	6.678	107.715
THICK	15	0.371	0.021	5.648
HATWT	15	28.727	2.149	7.481
SURVWT	15	220.000	22.181	10.082
FOOD	15	150.980	26.098	17.286
PREM	15	1157.750	78.912	6.816
POSTM	15	1221.933	97.686	7.994
PREF	15	1027.250	88.906	8.655
POSTF	15	1110.800	106.683	9.604
ES/EL (%)	15	74.659	8.627	11.556
NH/EL (%)	15	18.332	20.760	113.243
(EL-EC)/EL (%)	15	97.454	2.771	2.843
VE/ES (%)	15	44.683	30.612	68.510
NH/ES (%)	15	23.721	24.918	105.047
HS/ES (%)	15	22.741	24.086	105.915
LE/VE (%)	15	94.320	8.711	9.235
NH/LE (%)	13	52.658	30.797	58.484
HS/NH (%)	11	97.039	8.578	8.840

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD

1. ANALYSIS OF EGGS LAID

General Linear Models Procedure

Class Level Information

Class Levels Values

4

Number of observations in data set = 64

NOTE: Due to missing values, only 60 observations can be used in this analysis.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 1. ANALYSIS OF EGGS LAID

 15:40 Wednesday, January 5, 2000

General Linear Models Procedure
 Type I Estimable Functions for: LEVEL

Effect Coefficients

INTERCEPT	0
LEVEL CONTROL	L2
TRT1	L3
TRT2	L4
TRT3	-L2-L3-L4

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 1. ANALYSIS OF EGGS LAID

 15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Dependent Variable: EL

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	1117.1381	372.3794	1.29	0.2871
Error	56	16177.5952	288.8856		
Corrected Total	59	17294.7333			

R-Square C.V. Root MSE EL Mean
 0.064594 35.98441 16.997 47.233

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	1117.1381	372.3794	1.29	0.2871

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 1. ANALYSIS OF EGGS LAID

 15:40 Wednesday, January 5, 2000

General Linear Models Procedure
 Least Squares Means

LEVEL	LSMEAN	EL	Pr > T	H0: LSMEAN(i)=LSMEAN(j)
CONTROL	51.2666667	1	0.9575	0.4385 0.0892
TRT1	50.9285714	2	0.9575	0.4794 0.1054
TRT2	46.5000000	3	0.4385	0.4794 0.3329
TRT3	40.5333333	4	0.0892	0.1054 0.3329

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 1. ANALYSIS OF EGGS LAID

 15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Tukey's Studentized Range (HSD) Test for variable: EL

NOTE: This test controls the type I experimentwise error rate.
 Alpha= 0.05 Confidence= 0.95 df= 56 MSE= 288.8856
 Critical Value of Studentized Range= 3.745

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Simultaneous Upper Confidence Limit
CONTROL - TRT1	-16.387	0.338	17.063
CONTROL - TRT2	-11.408	4.767	20.942
CONTROL - TRT3	-5.701	10.733	27.167
TRT1 - CONTROL	-17.063	-0.338	16.387
TRT1 - TRT2	-12.042	4.429	20.899
TRT1 - TRT3	-6.330	10.395	27.120
TRT2 - CONTROL	-20.942	-4.767	11.408
TRT2 - TRT1	-20.899	-4.429	12.042
TRT2 - TRT3	-10.208	5.967	22.142
TRT3 - CONTROL	-27.167	-10.733	5.701
TRT3 - TRT1	-22.120	-10.395	6.330
TRT3 - TRT2	-22.142	-5.967	10.208

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 1. ANALYSIS OF EGGS LAID

 15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Dunnett's One-tailed T tests for variable: EL

NOTE: This tests controls the type I experimentwise error for comparisons of all treatments against a control.

Alpha= 0.05 Confidence= 0.95 df= 56 MSE= 288.8856
 Critical Value of Dunnett's T= 2.107

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Simultaneous Upper Confidence Limit
TRT1 - CONTROL	-13.647	-0.338	12.970
TRT2 - CONTROL	-17.638	-4.767	8.105
TRT3 - CONTROL	-23.810	-10.733	2.344

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 2. ANALYSIS OF EGGS CRACKED

15:40 Wednesday, January 5, 2000

General Linear Models Procedure
 Class Level Information

Class Levels Values
 LEVEL 4 CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

NOTE: Due to missing values, only 60 observations can be used in this analysis.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 2. ANALYSIS OF EGGS CRACKED

15:40 Wednesday, January 5, 2000

General Linear Models Procedure
 Type I Estimable Functions for: LEVEL

Effect Coefficients

INTERCEPT 0
 LEVEL CONTROL L2
 TRT1 L3
 TRT2 L4
 TRT3 -L2-L3-L4

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 2. ANALYSIS OF EGGS CRACKED

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Dependent Variable: EC

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	2.9357143	0.9785714	0.82	0.4881
Error	56	66.7976190	1.1928146		
Corrected Total	59	69.7333333			

R-Square	C.V.	Root MSE	EC Mean
0.042099	148.9310	1.0922	0.7333

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	2.9357143	0.9785714	0.82	0.4881

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 2. ANALYSIS OF EGGS CRACKED

15:40 Wednesday, January 5, 2000

General Linear Models Procedure
 Least Squares Means

LEVEL	EC	Pr > T	HO: LSMEAN(i)=LSMEAN(j)
	LSMEAN	1/j	1 2 3 4
CONTROL	0.8000000	1	0.8885 0.2836 0.7394
TRT1	0.85714286	2	0.8885 0.2328 0.8518
TRT2	0.37500000	3	0.2836 0.2328 0.1604
TRT3	0.93333333	4	0.7394 0.8518 0.1604

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 2. ANALYSIS OF EGGS CRACKED

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Tukey's Studentized Range (HSD) Test for variable: EC

NOTE: This test controls the type I experimentwise error rate.

Alpha= 0.05 Confidence= 0.95 df= 56 MSE= 1.192815
 Critical Value of Studentized Range= 3.745

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous Lower Limit	Confidence	Difference Between Means	Simultaneous Upper Limit
TRT3 - CONTROL	-0.9985	0.0762	0.1333	1.1509
TRT3 - TRT2	-0.9227	0.1333	0.5583	1.1893
TRT3 - TRT1	-0.4810	0.5583		1.5977
TRT1 - CONTROL	-1.1509	-0.0762	0.0571	0.9985
TRT1 - TRT2	-1.0175	0.0571	0.4821	1.1318
TRT1 - TRT3	-0.5762	0.4821		1.5405
CONTROL - TRT3	-1.1893	-0.1333	0.4250	0.9227
CONTROL - TRT1	-1.1318	-0.0571	0.4250	1.0175
CONTROL - TRT2	-0.6144	0.4250		1.4644
TRT2 - TRT3	-1.5977	-0.5583	0.4821	0.4810
TRT2 - TRT1	-1.5405	-0.4821	0.4250	0.5762
TRT2 - CONTROL	-1.4644	-0.4250		0.6144

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 2. ANALYSIS OF EGGS CRACKED

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Dunnett's One-tailed T tests for variable: EC

NOTE: This tests controls the type I experimentwise error for comparisons of all treatments against a control.

Alpha= 0.05 Confidence= 0.95 df= 56 MSE= 1.192815
 Critical Value of Dunnett's T= 2.107

8

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous		Difference		Simultaneous	
	Lower Confidence Limit	Upper Confidence Limit	Between Means	Upper Confidence Limit	Upper Confidence Limit	Upper Confidence Limit
CONTROL	-0.7070	0.1333	0.1333	0.9736	0.9736	0.9736
- CONTROL	-0.7980	0.0571	0.0571	0.9123	0.9123	0.9123
- CONTROL	-1.2521	-0.4250	-0.4250	0.4021	0.4021	0.4021

TRT3
TRT1
TRT2

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD

3. ANALYSIS OF EGGS SET

15:40 Wednesday, January 5, 2000

General Linear Models Procedure
Class Level Information

Class Levels Values

LEVEL 4 CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

NOTE: Due to missing values, only 60 observations can be used in this analysis.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD

3. ANALYSIS OF EGGS SET

15:40 Wednesday, January 5, 2000

General Linear Models Procedure
Type I Estimable Functions for: LEVEL

Effect Coefficients

INTERCEPT 0

LEVEL CONTROL L2
TRT1 L3
TRT2 L4
TRT3 -L2-L3-L4

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD

3. ANALYSIS OF EGGS SET

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Dependent Variable: ES

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	2018.3595	672.7865	2.83	0.0464
Error	56	13303.8238	237.5683		
Corrected Total	59	15322.1833			

R-Square C.V. Root MSE

0.131728 38.74298 15.413
ES Mean 39.783

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	2018.3595	672.7865	2.83	0.0464

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD

3. ANALYSIS OF EGGS SET

15:40 Wednesday, January 5, 2000

General Linear Models Procedure
Least Squares Means

LEVEL	LSMEAN	ES Pr > T HO: LSMEAN(i)=LSMEAN(j)			
		1	2	3	4
CONTROL	44.5333333	1	0.9558	0.4696	0.0132
TRT1	44.2142857	2	0.9558	0.5129	0.0171
TRT2	40.5000000	3	0.4696	0.5129	0.0665
TRT3	30.1333333	4	0.0132	0.0171	0.0665

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD

3. ANALYSIS OF EGGS SET

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Tukey's Studentized Range (HSD) Test for variable: ES

NOTE: This test controls the type I experimentwise error rate.

Alpha= 0.05 Confidence= 0.95 df= 56 MSE= 237.5683
Critical Value of Studentized Range= 3.745

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous		Difference		Simultaneous	
	Lower Confidence Limit	Upper Confidence Limit	Between Means	Upper Confidence Limit	Upper Confidence Limit	Upper Confidence Limit
CONTROL - TRT1	-14.848	0.319	0.319	15.486	15.486	15.486
CONTROL - TRT2	-10.635	4.033	4.033	18.702	18.702	18.702
CONTROL - TRT3	-0.503	14.400	14.400	29.303	29.303	29.303
TRT1 - CONTROL	-15.486	-0.319	-0.319	14.848	14.848	14.848
TRT1 - TRT2	-11.222	3.714	3.714	18.650	18.650	18.650
TRT1 - TRT3	-1.086	14.081	14.081	29.248	29.248	29.248
TRT2 - CONTROL	-18.702	-4.033	-4.033	10.635	10.635	10.635
TRT2 - TRT1	-18.650	-3.714	-3.714	11.222	11.222	11.222
TRT2 - TRT3	-4.302	10.367	10.367	25.035	25.035	25.035
TRT3 - CONTROL	-29.303	-14.400	-14.400	0.503	0.503	0.503
TRT3 - TRT1	-29.248	-14.081	-14.081	1.086	1.086	1.086
TRT3 - TRT2	-25.035	-10.367	-10.367	4.302	4.302	4.302

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD

3. ANALYSIS OF EGGS SET

15:40 Wednesday, January 5, 2000



General Linear Models Procedure

Dunnett's One-tailed T tests for variable: ES

NOTE: This tests controls the type I experimentwise error for comparisons of all treatments against a control.

Alpha= 0.05 Confidence= 0.95 df= 56 MSE= 237.5683
Critical Value of Dunnett's T= 2.107

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Upper Confidence Limit
TRT1 - CONTROL	-12.388	-0.319	11.750
TRT2 - CONTROL	-15.705	-4.033	7.639
TRT3 - CONTROL	-26.259	-14.400	-2.541

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
4. ANALYSIS OF VIABLE EMBRYOS

15:40 Wednesday, January 5, 2000

General Linear Models Procedure
Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

NOTE: Due to missing values, only 60 observations can be used in this analysis.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
4. ANALYSIS OF VIABLE EMBRYOS

15:40 Wednesday, January 5, 2000

General Linear Models Procedure
Type I Estimable Functions for: LEVEL

Effect	Coefficients
INTERCEPT	0
LEVEL CONTROL	L2
TRT1	L3
TRT2	L4
TRT3	-L2-L3-L4

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
4. ANALYSIS OF VIABLE EMBRYOS

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Dependent Variable: VE	DF	Sum of Squares	Mean Square	F Value	Pr > F
Source					

Model	3	6876.1929	2292.0643	9.91	0.0001
Error	56	12948.6571	231.2260		
Corrected Total	59	19824.8500			

R-Square 0.346847
C.V. 48.97300
Root MSE 15.206
VE Mean 31.050

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	6876.1929	2292.0643	9.91	0.0001

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
4. ANALYSIS OF VIABLE EMBRYOS

15:40 Wednesday, January 5, 2000

General Linear Models Procedure
Least Squares Means

LEVEL	LSMEAN	VE Pr > T H0: LSMEAN(i)=LSMEAN(j)
CONTROL	38.2000000	1 0.8483 0.4728 0.0001
TRT1	39.2857143	2 0.8483 0.3694 0.0001
TRT2	34.2500000	3 0.4728 0.3694 0.0002
TRT3	12.8000000	4 0.0001 0.0001 0.0002

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
4. ANALYSIS OF VIABLE EMBRYOS

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Tukey's Studentized Range (HSD) Test for variable: VE

NOTE: This test controls the type I experimentwise error rate.

Alpha= 0.05 Confidence= 0.95 df= 56 MSE= 231.226
Critical Value of Studentized Range= 3.745

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Upper Confidence Limit
TRT1 - CONTROL	-13.877	1.086	16.049
TRT1 - TRT2	-9.700	5.036	19.771
TRT1 - TRT3	11.523	26.486	41.449
CONTROL - TRT1	-16.049	-1.086	13.877
CONTROL - TRT2	-10.521	3.950	18.421
CONTROL - TRT3	10.697	25.400	40.103
TRT2 - TRT1	-19.771	-5.036	9.700
TRT2 - CONTROL	-18.421	-3.950	10.521

TRT2 - TRT3 6.979 21.450 35.921 ***
 TRT3 - TRT1 -41.449 -26.486 -11.523 ***
 TRT3 - CONTROL -40.103 -25.400 -10.697 ***
 TRT3 - TRT2 -35.921 -21.450 -6.979 ***

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 4. ANALYSIS OF VIABLE EMBRYOS

15:40 Wednesday, January 5, 2000
 General Linear Models Procedure

Dunnnett's One-tailed T tests for variable: VE

NOTE: This tests controls the type I experimentwise error for comparisons of all treatments against a control.

Alpha= 0.05 Confidence= 0.95 df= 56 MSE= 231.226
 Critical Value of Dunnnett's T= 2.107

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous		Difference		Simultaneous	
	Lower Confidence Limit	Upper Confidence Limit	Between Means	Upper Confidence Limit	Lower Confidence Limit	Upper Confidence Limit
TRT1 - CONTROL	-10.821	1.086	1.086	12.992		
TRT2 - CONTROL	-15.465	-3.950	-3.950	7.565		
TRT3 - CONTROL	-37.100	-25.400	-25.400	-13.700		***

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 5. ANALYSIS OF LIVE 3-WEEK EMBRYOS

15:40 Wednesday, January 5, 2000
 General Linear Models Procedure
 Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

NOTE: Due to missing values, only 60 observations can be used in this analysis.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 5. ANALYSIS OF LIVE 3-WEEK EMBRYOS

15:40 Wednesday, January 5, 2000
 General Linear Models Procedure
 Type I Estimable Functions for: LEVEL

Effect	Coefficients
INTERCEPT	0
LEVEL	CONTROL L2 TRT1 L3 TRT2 L4 TRT3 -L2-L3-L4

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 5. ANALYSIS OF LIVE 3-WEEK EMBRYOS

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Dependent Variable: LE

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	6934.7524	2311.5841	10.26	0.0001
Error	56	12612.1810	225.2175		
Corrected Total	59	19546.9333			

R-Square	C.V.	Root MSE	LE Mean
0.354774	49.25793	15.007	30.467

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	6934.7524	2311.5841	10.26	0.0001

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 5. ANALYSIS OF LIVE 3-WEEK EMBRYOS

15:40 Wednesday, January 5, 2000

General Linear Models Procedure
 Least Squares Means

LEVEL	LSMEAN	LE	Pr > T	H0: LSMEAN(i)=LSMEAN(j)	
				i/j	2 3 4
CONTROL	37.4666667	1	0.8040	0.4936	0.0001
TRT1	38.8571429	2	0.8040	0.3564	0.0001
TRT2	33.7500000	3	0.4936	0.3564	0.0002
TRT3	12.1333333	4	0.0001	0.0001	0.0002

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 5. ANALYSIS OF LIVE 3-WEEK EMBRYOS

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Tukey's Studentized Range (HSD) Test for variable: LE

NOTE: This test controls the type I experimentwise error rate.

Alpha= 0.05 Confidence= 0.95 df= 56 MSE= 225.2175
 Critical Value of Studentized Range= 3.745

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous		Difference		Simultaneous	
	Lower Confidence Limit	Upper Confidence Limit	Between Means	Upper Confidence Limit	Lower Confidence Limit	Upper Confidence Limit
CONTROL L2						
TRT1 L3						
TRT2 L4						
TRT3 -L2-L3-L4						

9

TRT1 - CONTROL	-13.377	1.390	16.158
TRT1 - TRT2	-9.436	5.107	19.650
TRT1 - TRT3	11.957	26.724	41.491 ***
CONTROL - TRT1	-16.158	-1.390	13.377
CONTROL - TRT2	-10.565	3.717	17.999
CONTROL - TRT3	10.823	25.333	39.844 ***
TRT2 - TRT1	-19.650	-5.107	9.436
TRT2 - CONTROL	-17.999	-3.717	10.565
TRT2 - TRT3	7.335	21.617	35.899 ***
TRT3 - TRT1	-41.491	-26.724	-11.957 ***
TRT3 - CONTROL	-39.844	-25.333	-10.823 ***
TRT3 - TRT2	-35.899	-21.617	-7.335 ***

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 5. ANALYSIS OF LIVE 3-WEEK EMBRYOS

 15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Dunnett's One-tailed T tests for variable: LE

NOTE: This tests controls the type I experimentwise error for comparisons of all treatments against a control.

Alpha= 0.05 Confidence= 0.95 df= 56 MSE= 225.2175
 Critical Value of Dunnett's T= 2.107

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous		Simultaneous	
	Lower Confidence Limit	Difference Between Means	Upper Confidence Limit	
TRT1 - CONTROL	-10.360	1.390	13.141	
TRT2 - CONTROL	-15.081	-3.717	7.648	
TRT3 - CONTROL	-36.880	-25.333	-13.787	***

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 6. ANALYSIS OF NORMAL HATCHLINGS

 15:40 Wednesday, January 5, 2000

General Linear Models Procedure
 Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

NOTE: Due to missing values, only 60 observations can be used in this analysis.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 6. ANALYSIS OF NORMAL HATCHLINGS

 15:40 Wednesday, January 5, 2000

General Linear Models Procedure
 Type I Estimable Functions for: LEVEL

Coefficients

INTERCEPT	0
LEVEL	
CONTROL	L2
TRT1	L3
TRT2	L4
TRT3	-L2-L3-L4

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 6. ANALYSIS OF NORMAL HATCHLINGS

 15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Dependent Variable: NH

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	5243.9190	1747.9730	11.07	0.0001
Error	56	8844.9310	157.9452		
Corrected Total	59	14088.8500			

R-Square C.V. Root MSE
 0.372203 56.99603 12.568

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	5243.9190	1747.9730	11.07	0.0001

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 6. ANALYSIS OF NORMAL HATCHLINGS

 15:40 Wednesday, January 5, 2000

General Linear Models Procedure
 Least Squares Means

LEVEL	NH	Pr > T H0: LSMEAN(i)=LSMEAN(j)			
		LSMEAN	i/j	2	3
CONTROL	28.8666667	1	0.7857	0.2089	0.0001
TRT1	50.1428571	2	0.7857	0.1327	0.0001
TRT2	23.1250000	3	0.2089	0.1327	0.0005
TRT3	6.5333333	4	0.0001	0.0001	0.0005

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 6. ANALYSIS OF NORMAL HATCHLINGS

 15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Tukey's Studentized Range (HSD) Test for variable: NH

10

NOTE: This test controls the type I experimentwise error rate.
 Alpha= 0.05 Confidence= 0.95 df= 56 MSE= 157.9452
 Critical Value of Studentized Range= 3.745

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Simultaneous Upper Confidence Limit
TRT1 - CONTROL	-11.090	1.276	13.643
TRT1 - TRT2	-5.161	7.018	19.196
TRT1 - TRT3	11.243	23.610	35.976
CONTROL - TRT1	-13.643	-1.276	11.090
CONTROL - TRT2	-6.218	5.742	17.702
CONTROL - TRT3	10.182	22.333	34.485
TRT2 - TRT1	-19.196	-7.018	5.161
TRT2 - CONTROL	-17.702	-5.742	6.218
TRT2 - TRT3	4.632	16.592	28.552
TRT3 - TRT1	-35.976	-23.610	-11.243
TRT3 - CONTROL	-34.485	-22.333	-10.182
TRT3 - TRT2	-28.552	-16.592	-4.632

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD

6. ANALYSIS OF NORMAL MATCHINGS

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Dunnett's One-tailed T tests for variable: NH

NOTE: This tests controls the type I experimentwise error for comparisons of all treatments against a control.

Alpha= 0.05 Confidence= 0.95 df= 56 MSE= 157.9452
 Critical Value of Dunnett's T= 2.107

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Simultaneous Upper Confidence Limit
TRT1 - CONTROL	-8.564	1.276	11.117
TRT2 - CONTROL	-15.259	-5.742	3.776
TRT3 - CONTROL	-32.003	-22.333	-12.664

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD

7. ANALYSIS OF 14-DAY-OLD SURVIVORS

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

NOTE: Due to missing values, only 60 observations can be used in this analysis.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD

7. ANALYSIS OF 14-DAY-OLD SURVIVORS

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Type I Estimable Functions for: LEVEL

Effect Coefficients

INTERCEPT	0
LEVEL	
CONTROL	L2
TRT1	L3
TRT2	L4
TRT3	-L2-L3-L4

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD

7. ANALYSIS OF 14-DAY-OLD SURVIVORS

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Dependent Variable: HS

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	5265.7958	1755.2653	11.44	0.0001
Error	56	8594.9375	153.4810		
Corrected Total	59	13860.7333			

R-Square 0.379907
 C.V. 56.91614
 Root MSE 12.389
 HS Mean 21.767

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	5265.7958	1755.2653	11.44	0.0001

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD

7. ANALYSIS OF 14-DAY-OLD SURVIVORS

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Least Squares Means

LEVEL	LSMEAN	HS	Pr > T	H0: LSMEAN(i)=LSMEAN(j)
CONTROL	28.400000	1	0.7295	0.2250 0.0001
TRT1	30.000000	2	0.7295	0.1249 0.0001
TRT2	22.9375000	3	0.2250	0.1249 0.0004
TRT3	6.2000000	4	0.0001	0.0001 0.0004

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
7. ANALYSIS OF 14-DAY-OLD SURVIVORS

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Tukey's Studentized Range (HSD) Test for variable: HS

NOTE: This test controls the type I experimentwise error rate.

Alpha= 0.05 Confidence= 0.95 df= 56 MSE= 153.481
Critical Value of Studentized Range= 3.745

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Simultaneous Upper Confidence Limit
TRT1 - CONTROL	-10.591	1.600	13.791
TRT1 - TRT2	-4.943	7.063	19.068
TRT1 - TRT3	11.609	23.800	35.991
CONTROL - TRT1	-13.791	-1.600	10.591
CONTROL - TRT2	-6.327	5.463	17.252
CONTROL - TRT3	10.221	22.200	34.179
TRT2 - TRT1	-19.068	-7.063	4.943
TRT2 - CONTROL	-17.252	-5.463	6.327
TRT2 - TRT3	4.948	16.738	28.527
TRT3 - TRT1	-35.991	-23.800	-11.609
TRT3 - CONTROL	-34.179	-22.200	-10.221
TRT3 - TRT2	-28.527	-16.738	-4.948

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
7. ANALYSIS OF 14-DAY-OLD SURVIVORS

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Dunnett's One-tailed T tests for variable: HS

NOTE: This tests controls the type I experimentwise error for comparisons of all treatments against a control.

Alpha= 0.05 Confidence= 0.95 df= 56 MSE= 153.481
Critical Value of Dunnett's T= 2.107

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Simultaneous Upper Confidence Limit
TRT1 - CONTROL	-8.101	1.600	11.301
TRT2 - CONTROL	-14.844	-5.463	3.919
TRT3 - CONTROL	-31.732	-22.200	-12.668

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
8. ANALYSIS OF EGGS SET/EGGS LAID

15:40 Wednesday, January 5, 2000

General Linear Models Procedure
Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

NOTE: Due to missing values, only 59 observations can be used in this analysis.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
8. ANALYSIS OF EGGS SET/EGGS LAID

15:40 Wednesday, January 5, 2000

General Linear Models Procedure
Type I Estimable Functions for: LEVEL

Coefficients

Effect	INTERCEPT	LEVEL
	0	
	CONTROL	L2
	TRT1	L3
	TRT2	L4
	TRT3	-L2-L3-L4

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
8. ANALYSIS OF EGGS SET/EGGS LAID

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Dependent Variable: RESPONSE

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	802.99618	267.66539	8.31	0.0001
Error	55	1770.75595	32.19556		
Corrected Total	58	2573.75214			

R-Square 0.311994
C.V. 8.550095
Root MSE 5.6741
RESPONSE Mean 66.363

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	802.99618	267.66539	8.31	0.0001

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
8. ANALYSIS OF EGGS SET/EGGS LAID

15:40 Wednesday, January 5, 2000

General Linear Models Procedure
Least Squares Means

LEVEL	RESPONSE LSMEAN	Pr > T 1/j	HO: LSMEAN(i)=LSMEAN(j) 2	3	4
CONTROL	67.8469406	1	0.8329	0.4779	0.0005
TRT1	68.2938705	2	0.8329	0.6259	0.0003
TRT2	69.3275569	3	0.4779	0.6259	0.0001
TRT3	60.1129846	4	0.0005	0.0003	0.0001

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
8. ANALYSIS OF EGGS SET/EGGS LAID

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Tukey's Studentized Range (HSD) Test for variable: RESPONSE

NOTE: This test controls the type I experimentwise error rate.

Alpha= 0.05 Confidence= 0.95 df= 55 MSE= 32.19556
Critical Value of Studentized Range= 3.747

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous		Difference Between Means	Simultaneous	
	Lower Confidence Limit	Upper Confidence Limit		Lower Confidence Limit	Upper Confidence Limit
TRT2 - TRT1	-4.533	6.620	1.034	6.620	
TRT2 - CONTROL	-4.009	6.970	1.481	6.970	***
TRT2 - TRT3	3.725	14.704	9.215	14.704	***
TRT1 - TRT2	-6.620	4.553	-1.034	4.553	
TRT1 - CONTROL	-5.139	6.033	0.447	6.033	***
TRT1 - TRT3	2.595	13.767	8.181	13.767	***
CONTROL - TRT2	-6.970	4.009	-1.481	4.009	
CONTROL - TRT1	-6.033	5.139	-0.447	5.139	***
CONTROL - TRT3	2.245	13.223	7.734	13.223	***
TRT3 - TRT2	-14.704	-3.725	-9.215	-3.725	***
TRT3 - TRT1	-13.767	-2.595	-8.181	-2.595	***
TRT3 - CONTROL	-13.223	-2.245	-7.734	-2.245	***

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
8. ANALYSIS OF EGGS SET/EGGS LAID

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Dunnnett's One-tailed T tests for variable: RESPONSE

NOTE: This tests controls the type I experimentwise error for comparisons of all treatments against a control.

Alpha= 0.05 Confidence= 0.95 df= 55 MSE= 32.19556
Critical Value of Dunnnett's T= 2.109

Comparisons significant at the 0.05 level are indicated by ****.

Simultaneous Simultaneous

LEVEL Comparison	Lower Confidence Limit	Difference Between Means	Upper Confidence Limit
TRT2 - CONTROL	-2.889	1.481	5.851
TRT1 - CONTROL	-4.000	0.447	4.894
TRT3 - CONTROL	-12.104	-7.734	-3.364

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
9. ANALYSIS OF VIABLE EMBRYOS/EGGS SETS

15:40 Wednesday, January 5, 2000

General Linear Models Procedure
Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

NOTE: Due to missing values, only 59 observations can be used in this analysis.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
9. ANALYSIS OF VIABLE EMBRYOS/EGGS SETS

15:40 Wednesday, January 5, 2000

General Linear Models Procedure
Type I Estimable Functions for: LEVEL

Effect	Coefficients
INTERCEPT	0
LEVEL	CONTROL L2
	TRT1 L3
	TRT2 L4
	TRT3 -L2-L3-L4

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
9. ANALYSIS OF VIABLE EMBRYOS/EGGS SETS

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Dependent Variable: RESPONSE

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	11295.562	3765.187	12.58	0.0001
Error	55	16463.715	299.340		
Corrected Total	58	27759.277			

R-Square	C.V.	Root MSE	RESPONSE Mean
0.406911	27.30679	17.301	63.360

Source	DF	Type I SS	Mean Square	F Value	Pr > F
--------	----	-----------	-------------	---------	--------

13

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
9. ANALYSIS OF VIABLE EMBRYOS/EGGS SETS

15:40 Wednesday, January 5, 2000

General Linear Models Procedure
Least Squares Means

LEVEL	RESPONSE	Pr > T	H0: LSMEAN(i)=LSMEAN(j)	1	2	3	4
	LSMEAN	i/j					
CONTROL	67.8351545	1	0.3559	0.4625	0.0001		
TRT1	73.8215911	2	0.3559	0.8391	0.0001		
TRT2	72.5100781	3	0.4625	0.8391	0.0001		
TRT3	39.9689353	4	0.0001	0.0001	0.0001		

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
9. ANALYSIS OF VIABLE EMBRYOS/EGGS SETS

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Tukey's Studentized Range (HSD) Test for variable: RESPONSE

NOTE: This test controls the type I experimentwise error rate.

Alpha= 0.05 Confidence= 0.95 df= 55 MSE= 299.3403
Critical Value of Studentized Range= 3.747

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL	Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Upper Confidence Limit
TRT1	- TRT2	-15.723	1.311	18.345
TRT1	- CONTROL	-11.048	5.986	23.020
TRT1	- TRT3	16.819	33.852	50.886 ***
TRT2	- TRT1	-18.345	-1.311	15.723
TRT2	- CONTROL	-12.063	4.675	21.413
TRT2	- TRT3	15.804	32.541	49.279 ***
CONTROL	- TRT1	-23.020	-5.986	11.048
CONTROL	- TRT2	-21.413	-4.675	12.063
CONTROL	- TRT3	11.129	27.866	44.604 ***
TRT3	- TRT1	-50.886	-33.852	-16.819 ***
TRT3	- TRT2	-49.279	-32.541	-15.804 ***
TRT3	- CONTROL	-44.604	-27.866	-11.129 ***

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
9. ANALYSIS OF VIABLE EMBRYOS/EGGS SETS

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

NOTE: This tests controls the type I experimentwise error for comparisons of all treatments against a control.

Alpha= 0.05 Confidence= 0.95 df= 55 MSE= 299.3403
Critical Value of Dunnnett's T= 2.109

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL	Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Upper Confidence Limit
TRT1	- CONTROL	-7.575	5.986	19.547
TRT2	- CONTROL	-8.650	4.675	18.000
TRT3	- CONTROL	-41.191	-27.866	-14.541 ***

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
10. ANALYSIS OF LIVE 3-WEEK EMBRYOS/VIABLE EMBRYOS

15:40 Wednesday, January 5, 2000

General Linear Models Procedure
Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

NOTE: Due to missing values, only 57 observations can be used in this analysis.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
10. ANALYSIS OF LIVE 3-WEEK EMBRYOS/VIABLE EMBRYOS

15:40 Wednesday, January 5, 2000

General Linear Models Procedure
Type I Estimable Functions for: LEVEL

Effect	Coefficients
INTERCEPT	0
LEVEL	CONTROL L2 TRT1 L3 TRT2 L4 TRT3 -L2-L3-L4

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
10. ANALYSIS OF LIVE 3-WEEK EMBRYOS/VIABLE EMBRYOS

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Dependent Variable: RESPONSE

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	269.95245	89.98415	1.56	0.2104

Corrected Total 56 3330.89213
R-Square 0.081045 8.943779 7.5996 84.971

C.V. Root MSE 57.75358
Type I SS Mean Square F Value Pr > F
3 269.95245 89.98415 1.56 0.2104

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
10. ANALYSIS OF LIVE 3-WEEK EMBRYOS/VIALE EMBRYOS

15:40 Wednesday, January 5, 2000

General Linear Models Procedure
Least Squares Means

LEVEL	RESPONSE LSMEAN	Pr > T ₁	H0: LSMEAN(i)=LSMEAN(j) ₃ ⁴
CONTROL	84.2494613	1	0.3350 0.3637 0.3473
TRT1	86.9969093	2	0.3350 0.9424 0.0668
TRT2	86.7919820	3	0.3637 0.9424 0.0727
TRT3	81.5186515	4	0.3473 0.0668 0.0727

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
10. ANALYSIS OF LIVE 3-WEEK EMBRYOS/VIALE EMBRYOS

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Tukey's Studentized Range (HSD) Test for variable: RESPONSE

NOTE: This test controls the type I experimentwise error rate.

Alpha= 0.05 Confidence= 0.95 df= 53 MSE= 57.75358
Critical Value of Studentized Range= 3.751

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Upper Confidence Limit
TRT1 - TRT2	-7.286	0.205	7.696
TRT1 - CONTROL	-4.743	2.747	10.238
TRT1 - TRT3	-2.286	5.478	13.242
TRT2 - TRT1	-7.696	-0.205	7.286
TRT2 - CONTROL	-4.818	2.543	9.903
TRT2 - TRT3	-2.365	5.273	12.911
CONTROL - TRT1	-10.238	-2.747	4.743
CONTROL - TRT2	-9.903	-2.543	4.818
CONTROL - TRT3	-4.907	2.751	10.369
TRT3 - TRT1	-13.242	-5.478	2.286

TRT3 - TRT2 -12.911 2.365
TRT3 - CONTROL -10.369 4.907

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
10. ANALYSIS OF LIVE 3-WEEK EMBRYOS/VIALE EMBRYOS

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Dunnett's One-tailed T tests for variable: RESPONSE

NOTE: This tests controls the type I experimentwise error for comparisons of all treatments against a control.

Alpha= 0.05 Confidence= 0.95 df= 53 MSE= 57.75358
Critical Value of Dunnett's T= 2.114

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Upper Confidence Limit
TRT1 - CONTROL	-3.222	2.747	8.717
TRT2 - CONTROL	-3.523	2.543	8.408
TRT3 - CONTROL	-8.818	-2.731	3.356

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD

11. ANALYSIS OF NORMAL HATCHLINGS/3-WEEK LIVE EMBRYOS

15:40 Wednesday, January 5, 2000

General Linear Models Procedure
Class Level Information

Class Levels Values
LEVEL 4 CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

NOTE: Due to missing values, only 57 observations can be used in this analysis.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
11. ANALYSIS OF NORMAL HATCHLINGS/3-WEEK LIVE EMBRYOS

15:40 Wednesday, January 5, 2000

General Linear Models Procedure
Type I Estimable Functions for: LEVEL

Effect	Coefficients
INTERCEPT	0
LEVEL	
CONTROL	L2
TRT1	L3
TRT2	L4
TRT3	-L2-L3-L4

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
11. ANALYSIS OF NORMAL HATCHLINGS/3-WEEK LIVE EMBRYOS

15:40 Wednesday, January 5, 2000
General Linear Models Procedure

Dependent Variable: RESPONSE

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	2744.4025	914.8008	2.93	0.0417
Error	53	16524.9638	311.7918		
Corrected Total	56	19269.3663			

R-Square 0.142423 C.V. 30.24237 Root MSE 17.658 RESPONSE Mean 58.387

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
11. ANALYSIS OF NORMAL HATCHLINGS/3-WEEK LIVE EMBRYOS

15:40 Wednesday, January 5, 2000
General Linear Models Procedure

Dunnett's One-tailed T tests for variable: RESPONSE

NOTE: This tests controls the type I experimentwise error for comparisons of all treatments against a control.

Alpha= 0.05 Confidence= 0.95 df= 53 MSE= 311.7918
Critical Value of Dunnett's T= 2.114

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous Lower Confidence Limit		Difference Between Means	Simultaneous Upper Confidence Limit	
	Lower Limit	Upper Limit		Lower Limit	Upper Limit
TRT1 - CONTROL	-18.682	-12.592	1.278	15.148	
TRT2 - CONTROL	-16.936	-13.795	-0.165	13.464	
TRT3 - CONTROL	-1.614	-30.277	-16.133	-1.989	***

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
12. ANALYSIS OF NORMAL HATCHLINGS/EGGS LAID

15:40 Wednesday, January 5, 2000
General Linear Models Procedure
Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

NOTE: Due to missing values, only 59 observations can be used in this analysis.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
12. ANALYSIS OF NORMAL HATCHLINGS/EGGS LAID

15:40 Wednesday, January 5, 2000
General Linear Models Procedure
Type I Estimable Functions for: LEVEL

15:40 Wednesday, January 5, 2000
General Linear Models Procedure

Dependent Variable: RESPONSE

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	2744.4025	914.8008	2.93	0.0417
Error	53	16524.9638	311.7918		
Corrected Total	56	19269.3663			

R-Square 0.142423 C.V. 30.24237 Root MSE 17.658 RESPONSE Mean 58.387

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
11. ANALYSIS OF NORMAL HATCHLINGS/3-WEEK LIVE EMBRYOS

15:40 Wednesday, January 5, 2000
General Linear Models Procedure
Least Squares Means

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

LEVEL	RESPONSE LSMEAN	Pr > T HO: LSMEAN(i)=LSMEAN(j)			
		1	2	3	4
CONTROL	61.7961635	1	0.8463	0.9796	0.0194
TRT1	63.0741033	2	0.8463	0.8267	0.0134
TRT2	61.6307879	3	0.9796	0.8267	0.0206
TRT3	45.6651006	4	0.0194	0.0134	0.0206

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
11. ANALYSIS OF NORMAL HATCHLINGS/3-WEEK LIVE EMBRYOS

15:40 Wednesday, January 5, 2000
General Linear Models Procedure

Tukey's Studentized Range (HSD) Test for variable: RESPONSE

NOTE: This test controls the type I experimentwise error rate.

Alpha= 0.05 Confidence= 0.95 df= 53 MSE= 311.7918
Critical Value of Studentized Range= 3.751

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous Lower Confidence Limit		Difference Between Means	Simultaneous Upper Confidence Limit	
	Lower Limit	Upper Limit		Lower Limit	Upper Limit
TRT1 - CONTROL	-16.126	-1.278	1.278	18.682	
TRT2 - CONTROL	-15.961	-1.443	1.443	18.848	

NOTE: This test controls the type I experimentwise error rate.

Alpha= 0.05 Confidence= 0.95 df= 53 MSE= 311.7918
Critical Value of Studentized Range= 3.751

Comparisons significant at the 0.05 level are indicated by ****.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
12. ANALYSIS OF NORMAL HATCHLINGS/EGGS LAID

15:40 Wednesday, January 5, 2000
General Linear Models Procedure
Type I Estimable Functions for: LEVEL

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL	CONTROL	L2	L3	L4
INTERCEPT	0			
LEVEL	CONTROL	L2	L3	L4
	TRT1			
	TRT2			
	TRT3			
	-L2-L3-L4			

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 12. ANALYSIS OF NORMAL HATCHLINGS/EGGS LAID

 15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Dependent Variable: RESPONSE

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	8125.3757	2708.4586	13.60	0.0001
Error	55	10949.7178	199.0858		
Corrected Total	58	19075.0935			

R-Square	C.V.	Root MSE	RESPONSE Mean
0.425968	34.41577	14.110	40.998

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	8125.3757	2708.4586	13.60	0.0001

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 12. ANALYSIS OF NORMAL HATCHLINGS/EGGS LAID

 15:40 Wednesday, January 5, 2000

General Linear Models Procedure
 Least Squares Means

LEVEL	RESPONSE	PR > T	H0: LSMEAN(i)=LSMEAN(j)
CONTROL	46.5066142	1	0.4743 0.9605 0.0001
TRT1	50.2838435	2	0.4743 0.5048 0.0001
TRT2	46.7632384	3	0.9605 0.5048 0.0001
TRT3	21.0573260	4	0.0001 0.0001 0.0001

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 12. ANALYSIS OF NORMAL HATCHLINGS/EGGS LAID

 15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Tukey's Studentized Range (HSD) Test for variable: RESPONSE

NOTE: This test controls the type I experimentwise error rate.
 Alpha= 0.05 Confidence= 0.95 df= 55 MSE= 199.0858

LEVEL	Class	Levels	Values
CONTROL	4	CONTROL	TRT1 TRT2 TRT3

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL	Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Simultaneous Upper Confidence Limit
TRT1	- TRT2	-10.371	3.521	17.412
TRT1	- CONTROL	-10.114	3.777	17.669
TRT1	- TRT3	15.335	29.227	43.118
TRT2	- TRT1	-17.412	-3.521	10.371
TRT2	- CONTROL	-13.393	0.257	13.907
TRT2	- TRT3	12.056	25.706	39.356
CONTROL	- TRT1	-17.669	-3.777	10.114
CONTROL	- TRT2	-13.907	-0.257	13.393
CONTROL	- TRT3	11.799	25.449	39.099
TRT3	- TRT1	-43.118	-29.227	-15.335
TRT3	- TRT2	-39.356	-25.706	-12.056
TRT3	- CONTROL	-39.099	-25.449	-11.799

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 12. ANALYSIS OF NORMAL HATCHLINGS/EGGS LAID

 15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Dunnett's One-tailed T tests for variable: RESPONSE

NOTE: This tests controls the type I experimentwise error for comparisons of all treatments against a control.
 Alpha= 0.05 Confidence= 0.95 df= 55 MSE= 199.0858
 Critical Value of Dunnett's T= 2.109

Comparisons significant at the 0.05 level are indicated by ****.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 12. ANALYSIS OF NORMAL HATCHLINGS/EGGS LAID

 15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Dunnett's One-tailed T tests for variable: RESPONSE

LEVEL	Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Simultaneous Upper Confidence Limit
TRT1	- CONTROL	-7.282	3.777	14.837
TRT2	- CONTROL	-10.610	0.257	11.124
TRT3	- CONTROL	-36.316	-25.449	-14.582

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 12. ANALYSIS OF 14-DAY HATCHLING SURVIVORS/NORMAL HATCHLINGS

 15:40 Wednesday, January 5, 2000

General Linear Models Procedure
 Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

LEVEL	Class	Levels	Values
CONTROL	4	CONTROL	TRT1 TRT2 TRT3

NOTE: Due to missing values, only 55 observations can be used in this analysis.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
13. ANALYSIS OF 14-DAY HATCHLING SURVIVORS/NORMAL HATCHLINGS

15:40 Wednesday, January 5, 2000

General Linear Models Procedure
Type I Estimable Functions for: LEVEL

Effect INTERCEPT 0

LEVEL CONTROL L2
TRT1 L3
TRT2 L4
TRT3 -L2-L3-L4

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
13. ANALYSIS OF 14-DAY HATCHLING SURVIVORS/NORMAL HATCHLINGS

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Dependent Variable: RESPONSE

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	98.598386	32.866129	0.82	0.4901
Error	51	2050.167475	40.199362		
Corrected Total	54	2148.765861			

R-Square 0.045886
C.V. 7.280401
Root MSE 6.3403
RESPONSE Mean 87.087

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	98.598386	32.866129	0.82	0.4901

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
13. ANALYSIS OF 14-DAY HATCHLING SURVIVORS/NORMAL HATCHLINGS

15:40 Wednesday, January 5, 2000

General Linear Models Procedure
Least Squares Means

LEVEL	RESPONSE	Pr > T	H0: LSMEAN(i)=LSMEAN(j)
	LSMEAN	i/j	1 2 3 4
CONTROL	85.5476911	1	0.1737 0.3263 0.8646
TRT1	88.7983679	2	0.1737 0.6865 0.2750
TRT2	87.8421226	3	0.3263 0.6865 0.4626
TRT3	85.9791669	4	0.8646 0.2750 0.4626

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD

13. ANALYSIS OF 14-DAY HATCHLING SURVIVORS/NORMAL HATCHLINGS

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Tukey's Studentized Range (HSD) Test for variable: RESPONSE
NOTE: This test controls the type I experimentwise error rate.

Alpha= 0.05 Confidence= 0.95 df= 51 MSE= 40.19936
Critical Value of Studentized Range= 3.756

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Simultaneous Upper Confidence Limit
TRT1 - TRT2	-5.301	0.956	7.214
TRT1 - TRT3	-3.965	2.819	9.604
TRT1 - CONTROL	-3.007	3.251	9.508
TRT2 - TRT1	-7.214	-0.956	5.301
TRT2 - TRT3	-4.821	1.863	8.547
TRT2 - CONTROL	-3.854	2.294	8.443
TRT3 - TRT1	-9.604	-2.819	3.965
TRT3 - TRT2	-8.547	-1.863	4.821
TRT3 - CONTROL	-6.253	0.431	7.116
CONTROL - TRT1	-9.508	-3.251	3.007
CONTROL - TRT2	-8.443	-2.294	3.854
CONTROL - TRT3	-7.116	-0.431	6.253

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
13. ANALYSIS OF 14-DAY HATCHLING SURVIVORS/NORMAL HATCHLINGS

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Dunnett's One-tailed T tests for variable: RESPONSE

NOTE: This tests controls the type I experimentwise error for comparisons of all treatments against a control.

Alpha= 0.05 Confidence= 0.95 df= 51 MSE= 40.19936
Critical Value of Dunnett's T= 2.119

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Simultaneous Upper Confidence Limit
TRT1 - CONTROL	-1.742	3.251	8.243
TRT2 - CONTROL	-2.611	2.294	7.200
TRT3 - CONTROL	-4.902	0.431	5.765

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
14. ANALYSIS OF EGGS NOT CRACKED/EGGS LAID

15:40 Wednesday, January 5, 2000

CONTROL	83.7970755	1	0.3568	0.1249	0.7352
TRT1	85.8372247	2	0.3568	0.5498	0.2118
TRT2	87.1582268	3	0.1249	0.5498	0.0629
TRT3	85.0636597	4	0.7352	0.2118	0.0629

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
14. ANALYSIS OF EGGS NOT CRACKED/EGGS LAID

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Tukey's Studentized Range (HSD) Test for variable: RESPONSE

NOTE: This test controls the type I experimentwise error rate.

Alpha= 0.05 Confidence= 0.95 df= 55 MSE= 34.90037
Critical Value of Studentized Range= 3.747

Comparisons significant at the 0.05 level are indicated by *****.

LEVEL Comparison	Simultaneous Lower Confidence Limit		Difference Between Means	Simultaneous Upper Confidence Limit	
	Lower Limit	Upper Limit		Lower Limit	Upper Limit
TRT2 - TRT1	-4.495	1.321	1.321	7.137	
TRT2 - CONTROL	-2.354	3.361	3.361	9.076	
TRT2 - TRT3	-1.621	4.095	4.095	9.810	
TRT1 - TRT2	-7.137	-1.321	-1.321	4.495	
TRT1 - CONTROL	-3.776	2.040	2.040	7.856	
TRT1 - TRT3	-3.043	2.774	2.774	8.590	
CONTROL - TRT2	-9.076	-3.361	-3.361	2.354	
CONTROL - TRT1	-7.856	-2.040	-2.040	3.776	
CONTROL - TRT3	-4.982	0.733	0.733	6.449	
TRT3 - TRT2	-9.810	-4.095	-4.095	1.621	
TRT3 - TRT1	-8.590	-2.774	-2.774	3.043	
TRT3 - CONTROL	-6.449	-0.733	-0.733	4.982	

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
14. ANALYSIS OF EGGS NOT CRACKED/EGGS LAID

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Dunnett's One-tailed T tests for variable: RESPONSE

NOTE: This tests controls the type I experimentwise error for comparisons of all treatments against a control.

Alpha= 0.05 Confidence= 0.95 df= 55 MSE= 34.90037
Critical Value of Dunnett's T= 2.109

Comparisons significant at the 0.05 level are indicated by *****.

LEVEL Comparison	Simultaneous Lower Confidence Limit		Difference Between Means	Simultaneous Upper Confidence Limit	
	Lower Limit	Upper Limit		Lower Limit	Upper Limit
TRT2 - TRT1	-4.495	1.321	1.321	7.137	
TRT2 - CONTROL	-2.354	3.361	3.361	9.076	
TRT2 - TRT3	-1.621	4.095	4.095	9.810	
TRT1 - TRT2	-7.137	-1.321	-1.321	4.495	
TRT1 - CONTROL	-3.776	2.040	2.040	7.856	
TRT1 - TRT3	-3.043	2.774	2.774	8.590	
CONTROL - TRT2	-9.076	-3.361	-3.361	2.354	
CONTROL - TRT1	-7.856	-2.040	-2.040	3.776	
CONTROL - TRT3	-4.982	0.733	0.733	6.449	
TRT3 - TRT2	-9.810	-4.095	-4.095	1.621	
TRT3 - TRT1	-8.590	-2.774	-2.774	3.043	
TRT3 - CONTROL	-6.449	-0.733	-0.733	4.982	

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

NOTE: Due to missing values, only 59 observations can be used in this analysis.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
14. ANALYSIS OF EGGS NOT CRACKED/EGGS LAID

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Type I Estimable Functions for: LEVEL

Effect Coefficients

INTERCEPT	0
LEVEL	
CONTROL	L2
TRT1	L3
TRT2	L4
TRT3	-L2-L3-L4

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
14. ANALYSIS OF EGGS NOT CRACKED/EGGS LAID

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Dependent Variable: RESPONSE

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	157.47702	52.49234	1.50	0.2237
Error	55	1919.52012	34.90037		
Corrected Total	58	2076.99714			

R-Square	C.V.	Root MSE	RESPONSE Mean
0.075820	6.954333	5.9077	84.949

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	157.47702	52.49234	1.50	0.2237

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
14. ANALYSIS OF EGGS NOT CRACKED/EGGS LAID

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Least Squares Means

LEVEL	RESPONSE	Pr > T	LSMEAN(i)=LSMEAN(j)
	LSMEAN	i/j	1 2 3 4

19

TRT2 - CONTROL -1.189 3.361 7.911
 TRT1 - CONTROL -2.590 2.040 6.671
 TRT3 - CONTROL -5.283 -0.733 3.816

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 15. ANALYSIS OF NORMAL HATCHLINGS/EGGS SET

15:40 Wednesday, January 5, 2000

General Linear Models Procedure
 Class Level Information

Class Levels Values
 LEVEL 4 CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

NOTE: Due to missing values, only 59 observations can be used in this analysis.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 15. ANALYSIS OF NORMAL HATCHLINGS/EGGS SET

15:40 Wednesday, January 5, 2000

General Linear Models Procedure
 Type I Estimable Functions for: LEVEL

Effect Coefficients

INTERCEPT 0
 LEVEL CONTROL L2
 TRT1 L3
 TRT2 L4
 TRT3 -L2-L3-L4

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 15. ANALYSIS OF NORMAL HATCHLINGS/EGGS SET

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Dependent Variable: RESPONSE

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	9593.9751	3197.9917	11.79	0.0001
Error	55	14913.2502	271.1500		
Corrected Total	58	24507.2253			

R-Square C.V. Root MSE RESPONSE Mean
 0.391475 35.52926 16.467 46.347

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	9593.9751	3197.9917	11.79	0.0001

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 15. ANALYSIS OF NORMAL HATCHLINGS/EGGS SET

15:40 Wednesday, January 5, 2000

General Linear Models Procedure
 Least Squares Means

LEVEL	RESPONSE	Pr > T	HO: LSMEAN(i)=LSMEAN(j)
	LSMEAN	i/j	2 3 4
CONTROL	52.1068779	1	0.4216 0.9929 0.0001
TRT1	57.0617562	2	0.4216 0.4266 0.0001
TRT2	52.1602947	3	0.9929 0.4266 0.0001
TRT3	24.7721192	4	0.0001 0.0001 .

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 15. ANALYSIS OF NORMAL HATCHLINGS/EGGS SET

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Tukey's Studentized Range (HSD) Test for variable: RESPONSE

NOTE: This test controls the type I experimentwise error rate.

Alpha= 0.05 Confidence= 0.95 df= 55 MSE= 271.15
 Critical Value of Studentized Range= 3.747

Comparisons significant at the 0.05 level are indicated by *****.

LEVEL Comparison	Simultaneous		Difference Between Means	Simultaneous	
	Lower Confidence Limit	Upper Confidence Limit		Lower Confidence Limit	Upper Confidence Limit
TRT1 - TRT2	-11.311	4.901	4.901	21.113	
TRT1 - CONTROL	-11.257	4.955	4.955	21.167	
TRT1 - TRT3	16.078	32.290	32.290	48.502	***
TRT2 - TRT1	-21.113	-4.901	-4.901	11.311	
TRT2 - CONTROL	-15.877	0.053	0.053	15.983	
TRT2 - TRT3	11.458	27.388	27.388	43.318	***
CONTROL - TRT1	-21.167	-4.955	-4.955	11.257	
CONTROL - TRT2	-15.983	-0.053	-0.053	15.877	
CONTROL - TRT3	11.405	27.335	27.335	43.265	***
TRT3 - TRT1	-48.502	-32.290	-32.290	-16.078	***
TRT3 - TRT2	-43.318	-27.388	-27.388	-11.458	***
TRT3 - CONTROL	-43.265	-27.335	-27.335	-11.405	***

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 15. ANALYSIS OF NORMAL HATCHLINGS/EGGS SET

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Dunnett's One-tailed T tests for variable: RESPONSE

NOTE: This test controls the type I experimentwise error for

comparisons of all treatments against a control.
 Alpha= 0.05 Confidence= 0.95 df= 55 MSE= 271.15
 Critical Value of Dunnett's T= 2.109
 Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous		Difference Between Means	Simultaneous	
	Lower Confidence Limit	Upper Confidence Limit		Lower Confidence Limit	Upper Confidence Limit
- CONTROL	-7.952	4.955	17.862		
TRT1	-12.829	0.053	12.736		
TRT2	-40.017	-27.335	-14.653		***

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 16. ANALYSIS OF 14-DAY HATCHLING SURVIVORS/EGGS SET

 15:40 Wednesday, January 5, 2000

General Linear Models Procedure
 Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

NOTE: Due to missing values, only 59 observations can be used in this analysis.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 16. ANALYSIS OF 14-DAY HATCHLING SURVIVORS/EGGS SET

 15:40 Wednesday, January 5, 2000

General Linear Models Procedure
 Type I Estimable Functions for: LEVEL

Effect	Coefficients
INTERCEPT	0
LEVEL	CONTROL L2 TRT1 L3 TRT2 L4 TRT3 -L2-L3-L4

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 16. ANALYSIS OF 14-DAY HATCHLING SURVIVORS/EGGS SET

 15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	9783.8124	3261.2708	12.30	0.0001
Error	55	14580.6807	265.1033		
Corrected Total	58	24364.4931			

R-Square 0.401560
 C.V. 35.44038
 Root MSE 16.282
 RESPONSE Mean 45.942

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	9783.8124	3261.2708	12.30	0.0001

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 16. ANALYSIS OF 14-DAY HATCHLING SURVIVORS/EGGS SET

 15:40 Wednesday, January 5, 2000

General Linear Models Procedure
 Least Squares Means

LEVEL	RESPONSE	Pr > T H0: LSMEAN(i)=LSMEAN(j)			
		LSMEAN	1/j	2	3
CONTROL	51.4991944	1	0.3785	0.9398	0.0001
TRT1	56.8713532	2	0.3785	0.4195	0.0001
TRT2	51.9503512	3	0.9398	0.4195	0.0001
TRT3	24.1754181	4	0.0001	0.0001	0.0001

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 16. ANALYSIS OF 14-DAY HATCHLING SURVIVORS/EGGS SET

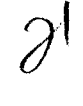
 15:40 Wednesday, January 5, 2000

General Linear Models Procedure
 Tukey's Studentized Range (HSD) Test for variable: RESPONSE

NOTE: This test controls the type I experimentwise error rate.
 Alpha= 0.05 Confidence= 0.95 df= 55 MSE= 265.1033
 Critical Value of Studentized Range= 3.747

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Lower Confidence Limit	Upper Confidence Limit	Difference Between Means	Simultaneous	
				Lower Confidence Limit	Upper Confidence Limit
TRT1 - TRT2	-11.109	4.921	20.951		
TRT1 - TRT3	-10.658	5.372	21.402		
TRT1 - CONTROL	16.666	32.696	48.726		***
TRT2 - TRT1	-20.951	-4.921	11.109		
TRT2 - CONTROL	-15.300	0.451	16.203		
TRT2 - TRT3	12.024	27.775	43.526		***
CONTROL - TRT1	-21.402	-5.372	10.658		
CONTROL - TRT2	-16.203	-0.451	15.300		
CONTROL - TRT3	11.572	27.324	43.075		***
TRT3 - TRT1	-48.726	-32.696	-16.666		***
TRT3 - TRT2	-43.526	-27.775	-12.024		***
TRT3 - CONTROL	-43.075	-27.324	-11.572		***



ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 16. ANALYSIS OF 14-DAY HATCHLING SURVIVORS/EGGS SET

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Dunnett's One-tailed T tests for variable: RESPONSE

NOTE: This tests controls the type I experimentwise error for comparisons of all treatments against a control.

Alpha= 0.05 Confidence= 0.95 df= 55 MSE= 265.1033
 Critical Value of Dunnett's T= 2.109

Comparisons significant at the 0.05 level are indicated by *****.

LEVEL Comparison	Simultaneous Lower Confidence Limit		Difference Between Means		Simultaneous Upper Confidence Limit	
	Lower Limit	Upper Limit	Difference	Means	Upper Limit	Lower Limit
TRT1 - CONTROL	-7.390	5.372	12.991	18.134		
TRT2 - CONTROL	-12.089	0.451				
TRT3 - CONTROL	-39.864	-27.324				

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 17. ANALYSIS OF EGGSHELL THICKNESS

15:40 Wednesday, January 5, 2000

General Linear Models Procedure
 Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

NOTE: Due to missing values, only 59 observations can be used in this analysis.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 17. ANALYSIS OF EGGSHELL THICKNESS

15:40 Wednesday, January 5, 2000

General Linear Models Procedure
 Type I Estimable Functions for: LEVEL

Effect	Coefficients
INTERCEPT	0
LEVEL	CONTROL L2 TRT1 L3 TRT2 L4 TRT3 -L2-L3-L4

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 17. ANALYSIS OF EGGSHELL THICKNESS

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Dependent Variable: THICK

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	0.0029309	0.0009770	2.67	0.0562
Error	55	0.0200977	0.0003654		
Corrected Total	58	0.0230286			

R-Square 0.127272
 C.V. 4.997040
 Root MSE 0.0191
 THICK Mean 0.3825

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	0.0029309	0.0009770	2.67	0.0562

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 17. ANALYSIS OF EGGSHELL THICKNESS

15:40 Wednesday, January 5, 2000

General Linear Models Procedure
 Least Squares Means

LEVEL	THICK LSMEAN	Pr > T , H0: LSMEAN(i)=LSMEAN(j)			
		1	2	3	4
CONTROL	0.38480000	1	0.9060	0.5373	0.0498
TRT1	0.38564286	2	0.9060	0.6251	0.0413
TRT2	0.38913333	3	0.5373	0.6251	0.0112
TRT3	0.37080000	4	0.0498	0.0413	0.0112

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 17. ANALYSIS OF EGGSHELL THICKNESS

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Tukey's Studentized Range (HSD) Test for variable: THICK

NOTE: This test controls the type I experimentwise error rate.

Alpha= 0.05 Confidence= 0.95 df= 55 MSE= 0.000365
 Critical Value of Studentized Range= 3.747

Comparisons significant at the 0.05 level are indicated by *****.

LEVEL Comparison	Simultaneous Lower Confidence Limit		Difference Between Means		Simultaneous Upper Confidence Limit	
	Lower Limit	Upper Limit	Difference	Means	Upper Limit	Lower Limit
TRT2 - TRT1	-0.015330	0.003490	0.003490	0.022311		
TRT2 - CONTROL	-0.014160	0.004333	0.004333	0.022826		
TRT2 - TRT3	-0.000160	0.018333	0.018333	0.036826		
TRT1 - TRT2	-0.022311	-0.003490	-0.003490	0.015330		

TRT1 - CONTROL 0.00083 0.019663
 TRT1 - TRT3 -0.017977 0.014843
 CONTROL - TRT2 -0.022826 -0.004333
 CONTROL - TRT1 -0.019663 -0.000843
 CONTROL - TRT3 -0.004493 0.014000
 TRT3 - TRT2 -0.036826 -0.018333
 TRT3 - TRT1 -0.033663 -0.014843
 TRT3 - CONTROL -0.032493 -0.014000

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 17. ANALYSIS OF EGGSHELL THICKNESS

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Dunnett's One-tailed T tests for variable: THICK

NOTE: This tests controls the type I experimentwise error for comparisons of all treatments against a control.

Alpha= 0.05 Confidence= 0.95 df= 55 MSE= 0.000365
 Critical Value of Dunnett's T= 2.109

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous		Difference		Simultaneous	
	Lower Confidence Limit	Upper Confidence Limit	Between Means	Upper Confidence Limit	Upper Confidence Limit	Upper Confidence Limit
- CONTROL	-0.010389	0.004333	0.004333	0.019056		
- CONTROL	-0.014140	0.000843	0.000843	0.015826		
- CONTROL	-0.028722	-0.014000	-0.014000	0.000722		

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 18. ANALYSIS OF HATCHLING WEIGHT

15:40 Wednesday, January 5, 2000

General Linear Models Procedure
 Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

NOTE: Due to missing values, only 55 observations can be used in this analysis.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 18. ANALYSIS OF HATCHLING WEIGHT

15:40 Wednesday, January 5, 2000

General Linear Models Procedure
 Type I Estimable Functions for: LEVEL

Effect
 INTERCEPT 0

23

LEVEL CONTROL L2
 TRT1 L3
 TRT2 L4
 TRT3 -L2-L3-L4

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 18. ANALYSIS OF HATCHLING WEIGHT

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Dependent Variable: HATWT

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	316.22165	105.40722	19.36	0.0001
Error	51	277.70563	5.44521		
Corrected Total	54	593.92727			

R-Square C.V. Root MSE HATWT Mean
 0.532425 7.079004 2.3335 32.964

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	316.22165	105.40722	19.36	0.0001

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 18. ANALYSIS OF HATCHLING WEIGHT

15:40 Wednesday, January 5, 2000

General Linear Models Procedure
 Least Squares Means

LEVEL	HATWT LSMEAN	Pr > T H0: LSMEAN(i)=LSMEAN(j)			
		i/j	1	2	3
CONTROL	35.6666667	1	0.0287	0.0009	0.0001
TRT1	33.7142857	2	0.0287	0.2326	0.0001
TRT2	32.6666667	3	0.0009	0.2326	0.0001
TRT3	28.7272727	4	0.0001	0.0001	0.0001

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 18. ANALYSIS OF HATCHLING WEIGHT

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Tukey's Studentized Range (HSD) Test for variable: HATWT

NOTE: This test controls the type I experimentwise error rate.

Alpha= 0.05 Confidence= 0.95 df= 51 MSE= 5.445208
 Critical Value of Studentized Range= 3.756

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Simultaneous Upper Confidence Limit
CONTROL - TRT1	-0.3506	1.9524	4.2554
CONTROL - TRT2	0.7371	3.0000	5.2629
CONTROL - TRT3	4.4793	6.9394	9.3995
TRT1 - CONTROL	-4.2554	-1.9524	0.3506
TRT1 - TRT2	-1.2554	1.0476	3.3506
TRT1 - TRT3	2.4900	4.9870	7.4840
TRT2 - CONTROL	-5.2629	-3.0000	-0.7371
TRT2 - TRT1	-3.3506	-1.0476	1.2554
TRT2 - TRT3	1.4793	3.9394	6.3995
TRT3 - CONTROL	-9.3995	-6.9394	-4.4793
TRT3 - TRT1	-7.6840	-4.9870	-2.4900
TRT3 - TRT2	-6.3995	-3.9394	-1.4793

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 18. ANALYSIS OF HATCHLING WEIGHT

 15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Dunnett's One-tailed T tests for variable: HATWT

NOTE: This tests controls the type I experimentwise error for comparisons of all treatments against a control.

Alpha= 0.05 Confidence= 0.95 df= 51 MSE= 5.445208
 Critical Value of Dunnett's T= 2.119

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Simultaneous Upper Confidence Limit
TRT1 - CONTROL	-3.7899	-1.9524	-0.1149
TRT2 - CONTROL	-4.8055	-3.0000	-1.1945
TRT3 - CONTROL	-8.9022	-6.9394	-4.9766

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 19. ANALYSIS OF 14-DAY SURVIVOR WEIGHT

 15:40 Wednesday, January 5, 2000

General Linear Models Procedure
 Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

NOTE: Due to missing values, only 55 observations can be used in this analysis.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 19. ANALYSIS OF 14-DAY SURVIVOR WEIGHT

 15:40 Wednesday, January 5, 2000

General Linear Models Procedure
 Type I Estimable Functions for: LEVEL

Effect	Coefficients
INTERCEPT	0
LEVEL	CONTROL L2 TRT1 L3 TRT2 L4 TRT3 -L2-L3-L4

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 19. ANALYSIS OF 14-DAY SURVIVOR WEIGHT

 15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Dependent Variable: SURVWT

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	42992.003	14330.668	28.96	0.0001
Error	51	25237.924	494.861		
Corrected Total	54	68229.927			

R-Square 0.630105 C.V. 8.088195 Root MSE 22.245
 SURVWT Mean 275.04

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	42992.003	14330.668	28.96	0.0001

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 19. ANALYSIS OF 14-DAY SURVIVOR WEIGHT

 15:40 Wednesday, January 5, 2000

General Linear Models Procedure
 Least Squares Means

LEVEL	SURVWT LSMEAN	Pr > T HO: LSMEAN(i)=LSMEAN(j)
CONTROL	295.333333	1 0.1056 0.4297 0.0001
TRT1	281.714286	2 0.1056 0.3910 0.0001
TRT2	288.866667	3 0.4297 0.3910 0.0001
TRT3	220.000000	4 0.0001 0.0001 0.0001

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 19. ANALYSIS OF 14-DAY SURVIVOR WEIGHT

 15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Tukey's Studentized Range (HSD) Test for variable: SURVWT

NOTE: This test controls the type I experimentwise error rate.

Alpha= 0.05 Confidence= 0.95 df= 51 MSE= 494.8613
Critical Value of Studentized Range= 3.756

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Simultaneous Upper Confidence Limit
CONTROL - TRT2	-15.106	6.467	28.040
CONTROL - TRT1	-8.336	13.619	35.574
CONTROL - TRT3	51.881	75.333	98.786
TRT2 - CONTROL	-28.040	-6.467	15.106
TRT1 - CONTROL	-14.802	7.152	29.107
TRT1 - TRT3	45.414	68.867	92.319
TRT1 - CONTROL	-35.574	-13.619	8.336
TRT1 - TRT2	-29.107	-7.152	14.802
TRT1 - TRT3	37.910	61.714	85.518
TRT3 - CONTROL	-98.786	-75.333	-51.881
TRT2 - TRT1	-92.319	-68.867	-45.414
TRT3 - TRT1	-85.518	-61.714	-37.910

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
19. ANALYSIS OF 14-DAY SURVIVOR WEIGHT

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Dunnnett's One-tailed T tests for variable: SURVWT

NOTE: This tests controls the type I experimentwise error for comparisons of all treatments against a control.

Alpha= 0.05 Confidence= 0.95 df= 51 MSE= 494.8613
Critical Value of Dunnnett's T= 2.119

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Simultaneous Upper Confidence Limit
CONTROL - TRT2	-23.679	-6.467	10.746
CONTROL - TRT1	-31.136	-13.619	3.898
CONTROL - TRT3	-94.045	-75.333	-56.622

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
20. ANALYSIS OF FOOD CONSUMPTION

15:40 Wednesday, January 5, 2000

General Linear Models Procedure
Class Level Information

LEVEL 4 CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

NOTE: Due to missing values, only 60 observations can be used in this analysis.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
20. ANALYSIS OF FOOD CONSUMPTION

15:40 Wednesday, January 5, 2000

General Linear Models Procedure
Type I Estimable Functions for: LEVEL

Effect	Coefficients
INTERCEPT	0
LEVEL	CONTROL L2 TRT1 L3 TRT2 L4 TRT3 -L2-L3-L4

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
20. ANALYSIS OF FOOD CONSUMPTION

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Dependent Variable: FOOD

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	1914.2989	638.0996	0.98	0.4078
Error	56	36383.9385	649.7132		
Corrected Total	59	38298.2373			

R-Square 0.049984 C.V. 17.69201 Root MSE 25.489
FOOD Mean 144.07

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	1914.2989	638.0996	0.98	0.4078

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
20. ANALYSIS OF FOOD CONSUMPTION

15:40 Wednesday, January 5, 2000

General Linear Models Procedure
Least Squares Means

LEVEL	FOOD LSMEAN	Pr > T H0: LSMEAN(i)=LSMEAN(j)
CONTROL	135.313333	1
TRT1	144.085714	2 0.3584
		3 0.2572
		4 0.0979
		5 0.8549
		6 0.4697

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 20. ANALYSIS OF FOOD CONSUMPTION

 15:40 Wednesday, January 5, 2000
 General Linear Models Procedure

Tukey's Studentized Range (HSD) Test for variable: FOOD

NOTE: This test controls the type I experimentwise error rate.
 Alpha= 0.05 Confidence= 0.95 df= 56 MSE= 649.7132
 Critical Value of Studentized Range= 3.745
 Comparisons significant at the 0.05 level are indicated by *****.

LEVEL Comparison	Simultaneous Lower Confidence Limit		Difference Between Means	Simultaneous Upper Confidence Limit	
	Lower Limit	Upper Limit		Lower Limit	Upper Limit
TRT3 - TRT2	-19.077	29.437	5.180	19.077	49.514
TRT3 - TRT1	-18.188	31.976	6.894	26.415	45.407
TRT3 - CONTROL	-8.979	40.312	15.667	34.744	54.383
TRT2 - TRT3	-29.437	19.077	-5.180	18.188	37.667
TRT2 - TRT1	-22.986	26.415	1.714	22.986	45.407
TRT2 - CONTROL	-13.771	34.744	10.487	33.854	54.383
TRT1 - TRT3	-31.976	18.188	-6.894	19.077	37.667
TRT1 - TRT2	-26.415	22.986	-1.714	26.415	45.407
TRT1 - CONTROL	-16.309	33.854	8.772	34.744	54.383
CONTROL - TRT3	-40.312	8.979	-15.667	8.979	29.437
CONTROL - TRT2	-34.744	13.771	-10.487	13.771	26.415
CONTROL - TRT1	-33.854	16.309	-8.772	16.309	23.477

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 20. ANALYSIS OF FOOD CONSUMPTION

 15:40 Wednesday, January 5, 2000
 General Linear Models Procedure

Dunnett's One-tailed T tests for variable: FOOD

NOTE: This tests controls the type I experimentwise error for comparisons of all treatments against a control.

Alpha= 0.05 Confidence= 0.95 df= 56 MSE= 649.7132
 Critical Value of Dunnett's T= 2.107
 Comparisons significant at the 0.05 level are indicated by *****.

LEVEL Comparison	Simultaneous Lower Confidence Limit		Difference Between Means	Simultaneous Upper Confidence Limit	
	Lower Limit	Upper Limit		Lower Limit	Upper Limit
CONTROL - TRT3	-3.945	35.278	15.667	35.278	66.190
CONTROL - TRT2	-8.816	29.789	10.487	29.789	50.763

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 21. COVARIATE ANALYSIS OF MALE BODY WEIGHT

 15:40 Wednesday, January 5, 2000
 General Linear Models Procedure
 Class Level Information

Class Levels Values
 LEVEL 4 CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

NOTE: Due to missing values, only 60 observations can be used in this analysis.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 21. COVARIATE ANALYSIS OF MALE BODY WEIGHT

 15:40 Wednesday, January 5, 2000
 General Linear Models Procedure

Dependent Variable: POSTM

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	4	145306.45	36326.61	3.77	0.0089
Error	55	530186.54	9639.76		
Corrected Total	59	675492.98			
R-Square		C.V.	Root MSE	POSTM Mean	
	0.215112	7.860974	98.182	1249.0	

Source DF Type I SS Mean Square F Value Pr > F

LEVEL PREM 3 56382.398 18794.133 1.95 0.1323

PREM 1 88924.048 88924.048 9.22 0.0036

Source DF Type III SS Mean Square F Value Pr > F

LEVEL PREM 3 61777.747 20592.582 2.14 0.1061

PREM 1 88924.048 88924.048 9.22 0.0036

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 21. COVARIATE ANALYSIS OF MALE BODY WEIGHT

 15:40 Wednesday, January 5, 2000
 General Linear Models Procedure
 Least Squares Means

LEVEL	POSTM LSMEAN	Std Err LSMEAN	Pr > T	LSMEAN	
				HO:LSMEAN=0	Number
CONTROL	1215.54395	25.35118	0.0001	1	
TRT1	1281.38379	26.27744	0.0001	2	

TRT2 1280.81869 24.54679 0.0001 3
 TRT3 1218.22458 25.37994 0.0001 4

Pr > |T| H0: LSMEAN(i)=LSMEAN(j)

i/j	1	2	3	4
1		0.0768	0.0697	0.9407
2	0.0768		0.9875	0.0898
3	0.0697	0.9875		0.0817
4	0.9407	0.0898	0.0817	

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 21. COVARIATE ANALYSIS OF MALE BODY WEIGHT

 15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Tukey's Studentized Range (HSD) Test for variable: POSTM

NOTE: This test controls the type I experimentwise error rate.
 Alpha= 0.05 Confidences= 0.95 df= 55 MSE= 9639.755
 Critical Value of Studentized Range= 3.747

Comparisons significant at the 0.05 level are indicated by *****.

LEVEL Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Simultaneous Upper Confidence Limit
TRT2 - TRT1	-90.77	4.42	99.61
TRT2 - TRT3	-33.86	59.63	153.12
TRT2 - CONTROL	-26.92	66.56	160.05
TRT1 - TRT2	-99.61	-4.42	90.77
TRT1 - TRT3	-41.45	55.21	151.87
TRT1 - CONTROL	-34.52	62.14	158.81
TRT3 - TRT2	-153.12	-59.63	33.86
TRT3 - TRT1	-151.87	-55.21	41.45
TRT3 - CONTROL	-88.05	-6.93	101.92
CONTROL - TRT2	-160.05	-66.56	26.92
CONTROL - TRT1	-158.81	-62.14	34.52
CONTROL - TRT3	-101.92	-6.93	88.05

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 21. COVARIATE ANALYSIS OF MALE BODY WEIGHT

 15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Dunnnett's One-tailed T tests for variable: POSTM

NOTE: This tests controls the type I experimentwise error for comparisons of all treatments against a control.

Alpha= 0.05 Confidences= 0.95 df= 55 MSE= 9639.755
 Critical Value of Dunnett's t= 2.108

Comparisons significant at the 0.05 level are indicated by *****.

LEVEL Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Simultaneous Upper Confidence Limit
TRT2 - CONTROL	-7.82	66.56	140.94
TRT1 - CONTROL	-14.77	62.14	139.05
TRT3 - CONTROL	-68.64	6.93	82.50

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 22. COVARIATE ANALYSIS OF FEMALE BODY WEIGHT

 15:40 Wednesday, January 5, 2000

General Linear Models Procedure
 Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

NOTE: Due to missing values, only 60 observations can be used in this analysis.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 22. COVARIATE ANALYSIS OF FEMALE BODY WEIGHT

 15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Dependent Variable: POSTF					
Model	4	486758.12	121689.53	18.64	0.0001
Error	55	359062.48	6528.41		
Corrected Total	59	845820.60			

R-Square 0.575486 C.V. 6.901731 Root MSE 80.799 POSTF Mean 1170.7

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	101267.67	33755.89	5.17	0.0032
PREF	1	385490.45	385490.45	59.05	0.0001
Source	DF	Type III SS	Mean Square	F Value	Pr > F
LEVEL	3	97919.98	32639.99	5.00	0.0039
PREF	1	385490.45	385490.45	59.05	0.0001

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
 22. COVARIATE ANALYSIS OF FEMALE BODY WEIGHT

 15:40 Wednesday, January 5, 2000

General Linear Models Procedure
Least Squares Means

LEVEL	POSTF LSMEAN	Std Err LSMEAN	Pr > T HO:LSMEAN=0	LSMEAN Number
CONTROL	1219.56628	20.86378	0.0001	1
TRT1	1194.92866	21.60330	0.0001	2
TRT2	1158.65631	20.20014	0.0001	3
TRT3	1112.06691	20.86275	0.0001	4

Pr > |T| HO: LSMEAN(i)=LSMEAN(j)

i/j	1	2	3	4
1		0.4156	0.0406	0.0006
2	0.4156		0.2253	0.0079
3	0.0406	0.2253		0.1144
4	0.0006	0.0079	0.1144	

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
22. COVARIATE ANALYSIS OF FEMALE BODY WEIGHT

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Tukey's Studentized Range (HSD) Test for variable: POSTF

NOTE: This test controls the type I experimentwise error rate.

Alpha= 0.05 Confidence= 0.95 df= 55 MSE= 6528.409
Critical Value of Studentized Range= 3.747

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Simultaneous Upper Confidence Limit
CONTROL - TRT1	-61.73	17.82	97.37
CONTROL - TRT2	-16.96	59.97	136.91
CONTROL - TRT3	28.57	106.73	184.90
TRT1 - CONTROL	-97.37	-17.82	61.73
TRT1 - TRT2	-36.19	42.15	120.49
TRT1 - TRT3	9.37	88.91	168.46
TRT2 - CONTROL	-136.91	-59.97	16.96
TRT2 - TRT1	-120.49	-42.15	36.19
TRT2 - TRT3	-30.17	46.76	123.70
TRT3 - CONTROL	-184.90	-106.73	-28.57
TRT3 - TRT1	-168.46	-88.91	-9.37
TRT3 - TRT2	-123.70	-46.76	30.17

ALACHLOR: A REPRODUCTION STUDY WITH THE MALLARD
22. COVARIATE ANALYSIS OF FEMALE BODY WEIGHT

15:40 Wednesday, January 5, 2000

General Linear Models Procedure

Dunnnett's One-tailed T tests for variable: POSTF

NOTE: This tests controls the type I experimentwise error for comparisons of all treatments against a control.

Alpha= 0.05 Confidence= 0.95 df= 55 MSE= 6528.409
Critical Value of Dunnett's T= 2.108

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Simultaneous Upper Confidence Limit
TRT1 - CONTROL	-81.11	-17.82	45.47
TRT2 - CONTROL	-121.18	-59.97	1.24
TRT3 - CONTROL	-168.92	-106.73	-44.54

28