

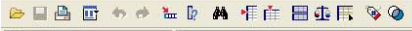


41:

	protein	Time	Co	Diet
1	3.63	1.0	B01	
2	3.57	2.0	B01	
3	3.47	3.0	B01	
4	3.65	4.0	B01	
5	3.89	5.0	B01	
6	3.73	6.0	B01	
7	3.77	7.0	B01	
8	3.90	8.0	B01	
9	3.78	9.0	B01	
10	3.82	10.0	B01	
11	3.83	11.0	B01	
12	3.71	12.0	B01	
13	4.10	13.0	B01	
14	4.02	14.0	B01	
15	4.13	15.0	B01	
16	4.08	16.0	B01	
17	4.22	17.0	B01	
18	4.44	18.0	B01	
19	4.30	19.0	B01	
20	3.24	1.0	B02	
21	3.25	2.0	B02	1
22	3.29	3.0	B02	1
23	3.09	4.0	B02	1
24	3.38	5.0	B02	1
25	3.33	6.0	B02	1
26	3.00	7.0	B02	1
27	3.16	8.0	B02	1
28	3.34	9.0	B02	1
29	3.32	10.0	B02	1
30	3.31	11.0	B02	1
31	3.27	12.0	B02	1
32	3.41	13.0	B02	1
33	3.45	14.0	B02	1
34	3.12	15.0	B02	1
35	3.42	16.0	B02	1
36	3.40	17.0	B02	1
37	3.17	18.0	B02	1
38	3.00	19.0	B02	1
39	3.98	1.0	B03	1
40	3.60	2.0	B03	1
41	3.43	3.0	B03	1
42	3.30	4.0	B03	1
43	3.29	5.0	B03	1
44	3.25	6.0	B03	1
45	2.93	7.0	B03	1
46	3.20	8.0	B03	1
47	3.27	9.0	B03	1
48	3.22	10.0	B03	1
49	2.93	11.0	B03	1
50	2.92	12.0	B03	1
51	2.82	13.0	B03	1
52	2.64	14.0	B03	1
53	3.66	1.0	B04	1
54	3.50	2.0	B04	1
55	3.05	3.0	B04	1

- Chart Builder...
- Interactive
 - Bar...
 - 3-D Bar...
 - Line...
 - Area...
 - Pie...
 - High-Low...
- Pareto...
- Control...
- Boxplot...
- Error Bar...
- Population Pyramid...
- Scatter/Dot...
- Histogram...
- P-P...
- Q-Q...
- Sequence...
- ROC Curve...
- Time Series

var	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var



41 :

	protein	Time	Co	Diet	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var
1	3.63	1.0	B01	1																			
2	3.57	2.0	B01	1																			
3	3.47	3.0	B01	1																			
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52	2.64	14.0	B03	1																			
53	3.66	1.0	B04	1																			
54	3.50	2.0	B04	1																			
55	3.05	3.0	B04	1																			

Boxplot

Simple Define

Clustered Cancel

Help

Data in Chart Are

- Summaries for groups of cases
- Summaries of separate variables

41 :	protein	Time	Co	Diet	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var	
1	3.63	1.0	B01	1																				
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54	3.50	2.0	B04	1																				
55	3.05	3.0	B04	1																				

Define Simple Boxplot: Summaries for Group...

Measurement per cow
Cow Label [Cow]

Variable: Protein Level (%) [protein]

Category Axis: Diet [Diet]

Label Cases by:

Options...

Panel by

Rows:
 Nest variables (no empty rows)

Columns:
 Nest variables (no empty columns)

41 :

	protein	Time	Co	Diet	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var
1	3.63	1.0	B01	1																			
2	3.57	2.0	B01	1																			
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53	3.66	1.0	B04	1																			
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55	3.05	3.0	B04	1																			

Output

- Explore
 - Title
 - Notes
 - Active Dataset
 - Diet
 - Title
 - Case Processing Summary
 - Protein Level (%)
 - Title
 - Boxplot

Explore

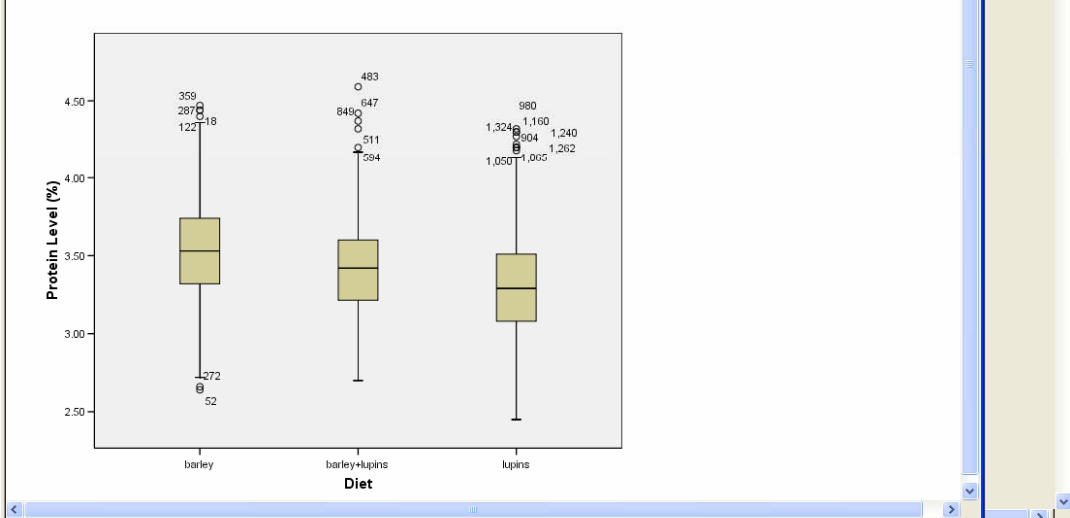
[DataSet1] C:\Work\Courses\204\SPSS\MilkSPSS.sav

Diet

Case Processing Summary

Diet		Cases				Total	
		Valid		Missing		N	Percent
Protein Level (%)	barley	425	100.0%	0	.0%	425	100.0%
	barley+lupins	459	100.0%	0	.0%	459	100.0%
	lupins	453	100.0%	0	.0%	453	100.0%

Protein Level (%)





16:

	protein	Time	Co
1	3.63	1.0	B01
2	3.57	2.0	B01
3	3.47	3.0	B01
4	3.65	4.0	B01
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16	4.08	16.0	B01
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18	4.44	18.0	B01
19	4.30	19.0	B01
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21	3.25	2.0	B02
22	3.29	3.0	B02
23	3.09	4.0	B02
24	3.38	5.0	B02
25	3.33	6.0	B02
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50	2.92	12.0	B03
51	2.82	13.0	B03
52	2.64	14.0	B03
53	3.66	1.0	B04
54	3.50	2.0	B04
55	3.05	3.0	B04

- Reports
- Descriptive Statistics
- Compare Means
 - Means...
 - One-Sample T Test...
 - Independent-Samples T Test...
 - Paired-Samples T Test...
 - One-Way ANOVA...
- General Linear Model
- Correlate
- Regression
- Classify
- Data Reduction
- Scale
- Nonparametric Tests
- Time Series

	protein	Time	Co	Diet	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var	var
1	3.63	1.0	B01	1																		
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One-Way ANOVA

Dependent List: Protein Level (%) [prot]

Factor: Diet [Diet]

Buttons: OK, Reset, Cancel, Help, Contrasts..., Post Hoc..., Options...

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One-Way ANOVA

Dependent List: Measurement per cow
 Protein Level [%] [prot]

One-Way ANOVA: Options

Statistics

- Descriptive
- Fixed and random effects
- Homogeneity of variance test
- Brown-Forsythe
- Welch

Means plot

- Exclude cases analysis by analysis
- Exclude cases listwise

Buttons: Continue, Cancel, Help, OK, Reset, Cancel, Help

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3	3.47	3.0	B01	1																
4	3.65	4.0	B01	1																
5	3.89	5.0	B01	1																
6	3.73	6.0	B01	1																
7	3.77	7.0	B01	1																
8	3.90	8.0	B01	1																
9	3.78	9.0	B01	1																
10	3.82	10.0	B01	1																
11	3.83	11.0	B01	1																
12	3.71	12.0	B01	1																
13	4.10	13.0	B01	1																
14	4.02	14.0	B01	1																
15	4.13	15.0	B01	1																
16	4.08	16.0	B01	1																
17	4.22	17.0	B01	1																
18	4.44	18.0	B01	1																
19	4.30	19.0	B01	1																
20	3.24	1.0	B02	1																
21	3.25	2.0	B02	1																
22	3.29	3.0	B02	1																
23	3.09	4.0	B02	1																
24	3.38	5.0	B02	1																
25	3.33	6.0	B02	1																
26	3.00	7.0	B02	1																
27	3.16	8.0	B02	1																
28	3.34	9.0	B02	1																
29	3.32	10.0	B02	1																
30	3.31	11.0	B02	1																
31	3.27	12.0	B02	1																
32	3.41	13.0	B02	1																
33	3.45	14.0	B02	1																
34	3.12	15.0	B02	1																
35	3.42	16.0	B02	1																
36	3.40	17.0	B02	1																
37	3.17	18.0	B02	1																
38	3.00	19.0	B02	1																
39	3.98	1.0	B03	1																
40	3.60	2.0	B03	1																
41	3.43	3.0	B03	1																
42	3.30	4.0	B03	1																
43	3.29	5.0	B03	1																
44	3.25	6.0	B03	1																
45	2.93	7.0	B03	1																
46	3.20	8.0	B03	1																
47	3.27	9.0	B03	1																
48	3.22	10.0	B03	1																
49	2.93	11.0	B03	1																
50	2.92	12.0	B03	1																
51	2.82	13.0	B03	1																
52	2.64	14.0	B03	1																
53	3.66	1.0	B04	1																
54	3.50	2.0	B04	1																
55	3.05	3.0	B04	1																

Output - SPSS Viewer

File Edit View Data Transform Insert Format Analyze Graphs Utilities Window Help

Output

- Explore
 - Title
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 - Active Dataset
 - Diet
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 - Case Processing Summary
 - Protein Level (%)
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 - Protein Level (%)

Oneway

[DataSet1] C:\Work\Courses\204\SPSS\MilkSPSS.sav

Descriptives

Protein Level (%)

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
barley	425	3.5319	.31921	.01548	3.5015	3.5624	2.64	4.47
barley+lupins	459	3.4297	.30234	.01411	3.4020	3.4574	2.70	4.59
lupins	453	3.3124	.33709	.01584	3.2813	3.3435	2.45	4.32
Total	1337	3.4224	.33175	.00907	3.4046	3.4402	2.45	4.59

Test of Homogeneity of Variances

Protein Level (%)

Levene Statistic	df1	df2	Sig.
1.838	2	1334	.160

ANOVA

Protein Level (%)

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	10.606	2	5.303	51.851	.000
Within Groups	136.432	1334	.102		
Total	147.038	1336			

SPSS Processor is ready