

Análisis de la Corriente, 723 (Experimento de Screening)
29/11/2005 11:17 a.m.

Analysis Summary

File name: CB_706B.sfx

Estimated effects for Ol y Ona 723

average = 169,298 +/- 1,71482
A:Carga = 19,7994 +/- 3,42964
B:Vapor E530 = -5,77563 +/- 3,42964
C:P_C525 = 37,7556 +/- 3,42964
D:Nivel_V540 = 17,8269 +/- 3,42964
E:Vapor_E532 = 4,39938 +/- 3,42964
AB = -5,33188 +/- 3,42964
AC = 8,63937 +/- 3,42964
AD = 9,81812 +/- 3,42964
AE = -0,771875 +/- 3,42964
BC = -9,32563 +/- 3,42964
BD = -8,67187 +/- 3,42964
BE = 4,63813 +/- 3,42964
CD = 13,7244 +/- 3,42964
CE = -0,935625 +/- 3,42964
DE = 0,668125 +/- 3,42964

Standard errors are based on total error with 16 d.f.

The StatAdvisor

This table shows each of the estimated effects and interactions. Also shown is the standard error of each of the effects, which measures their sampling error. To plot the estimates in decreasing order of importance, select Pareto Charts from the list of Graphical Options. To test the statistical significance of the effects, select ANOVA Table from the list of Tabular Options. You can then remove insignificant effects by pressing the alternate mouse button, selecting Analysis Options, and pressing the Exclude button.

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Analysis of Variance for Ol y Ona 723

Source	Sum of Squares	Df	Mean Square	F-Ratio	P-Value
A:Carga	3136,12	1	3136,12	33,33	0,0000
B:Vapor E530	266,863	1	266,863	2,84	0,1116
C:P C525	11403,9	1	11403,9	121,19	0,0000
D:Nivel V540	2542,38	1	2542,38	27,02	0,0001
E:Vapor E532	154,836	1	154,836	1,65	0,2179
AB	227,431	1	227,431	2,42	0,1396
AC	597,11	1	597,11	6,35	0,0228
AD	771,165	1	771,165	8,20	0,0113
AE	4,76633	1	4,76633	0,05	0,8248
BC	695,738	1	695,738	7,39	0,0152
BD	601,611	1	601,611	6,39	0,0224
BE	172,098	1	172,098	1,83	0,1951
CD	1506,87	1	1506,87	16,01	0,0010
CE	7,00315	1	7,00315	0,07	0,7885
DE	3,57113	1	3,57113	0,04	0,8480
Total error	1505,59	16	94,0995		
Total (corr.)	23597,1	31			

R-squared = 93,6196 percent
 R-squared (adjusted for d.f.) = 87,6379 percent
 Standard Error of Est. = 9,70049
 Mean absolute error = 5,08402
 Durbin-Watson statistic = 2,53493 (P=0,0134)
 Lag 1 residual autocorrelation = -0,283755

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The ANOVA table partitions the variability in Ol y Ona 723 into separate pieces for each of the effects. It then tests the statistical significance of each effect by comparing the mean square against an estimate of the experimental error. In this case, 8 effects have P-values less than 0,05, indicating that they are significantly different from zero at the 95,0% confidence level.

The R-Squared statistic indicates that the model as fitted explains 93,6196% of the variability in Ol y Ona 723. The adjusted R-squared statistic, which is more suitable for comparing models with different numbers of independent variables, is 87,6379%. The standard error of the estimate shows the standard deviation of the residuals to be 9,70049. The mean absolute error (MAE) of 5,08402 is the average value of the residuals. The Durbin-Watson (DW) statistic tests the residuals to determine if there is any significant correlation based on the order in which they occur in your data file. Since the P-value is less than 0.05, there is an indication of possible serial correlation. Plot the residuals versus row order to see if there is any pattern which can be seen.

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Regression coeffs. for Ol y Ona 723

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constant      = -3192,37  
A:Carga       = 0,0265902  
B:Vapor E530  = 0,360964  
C:P C525     = 179,15  
D:Nivel V540  = 4,70491  
E:Vapor E532  = -0,564506  
AB           = -0,00000304679  
AC           = 0,00246839  
AD           = 0,00040074  
AE           = -7,35119E-7  
BC           = -0,0373025  
BD           = -0,00495536  
BE           = 0,0000618417  
CD           = 3,92125  
CE           = -0,0062375  
DE           = 0,00063631  
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This pane displays the regression equation which has been fitted to the data. The equation of the fitted model is

$$\begin{aligned} \text{Ol y Ona 723} = & -3192,37 + 0,0265902*\text{Carga} + 0,360964*\text{Vapor_E530} + \\ & 179,15*P\ \text{C525} + 4,70491*\text{Nivel V540} - 0,564506*\text{Vapor E532} - \\ & 0,00000304679*\text{Carga}*\text{Vapor E530} + 0,00246839*\text{Carga}*P\ \text{C525} + \\ & 0,00040074*\text{Carga}*\text{Nivel V540} - 7,35119E-7*\text{Carga}*\text{Vapor E532} - \\ & 0,0373025*\text{Vapor E530}*P\ \text{C525} - 0,00495536*\text{Vapor E530}*\text{Nivel V540} + \\ & 0,0000618417*\text{Vapor E530}*\text{Vapor E532} + 3,92125*P\ \text{C525}*\text{Nivel V540} - \\ & 0,0062375*P\ \text{C525}*\text{Vapor E532} + 0,00063631*\text{Nivel V540}*\text{Vapor E532} \end{aligned}$$

where the values of the variables are specified in their original units. To have STATGRAPHICS evaluate this function, select Predictions from the list of Tabular Options. To plot the function, select Response Plots from the list of Graphical Options.

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Estimation Results for Ol y Ona 723

Row	Observed Value	Fitted Value	Lower 95,0% CL for Mean	Upper 95,0% CL for Mean
1	138,45	138,521	123,98	153,062
2	151,15	145,966	131,425	160,507
3	143,9	151,436	136,895	165,977
4	151,43	148,218	133,677	162,759
5	163,21	164,174	149,633	178,715
6	177,59	188,898	174,357	203,439
7	165,01	158,438	143,897	172,979
8	177,41	172,499	157,958	187,04
9	142,01	140,809	126,268	155,35
10	156,17	167,891	153,35	182,432
11	143,39	136,381	121,84	150,922
12	155,52	152,799	138,258	167,34
13	189,47	193,911	179,37	208,452
14	260,39	238,271	223,73	252,812
15	169,06	170,831	156,29	185,372
16	189,41	204,528	189,987	219,069
17	140,52	139,321	124,78	153,862
18	152,8	145,223	130,682	159,764
19	155,16	161,513	146,972	176,054
20	153,54	156,751	142,21	171,292
21	167,4	163,103	148,562	177,644
22	180,37	186,284	171,743	200,825
23	169,5	166,644	152,103	181,185
24	178,71	179,161	164,62	193,702
25	144,27	142,946	128,405	157,487
26	163,79	168,484	153,943	183,025
27	151,02	147,794	133,253	162,335
28	163,6	162,668	148,127	177,209
29	191,63	194,176	179,635	208,717
30	235,75	236,993	222,452	251,534
31	176,37	180,373	165,832	194,914
32	219,53	212,526	197,985	227,067

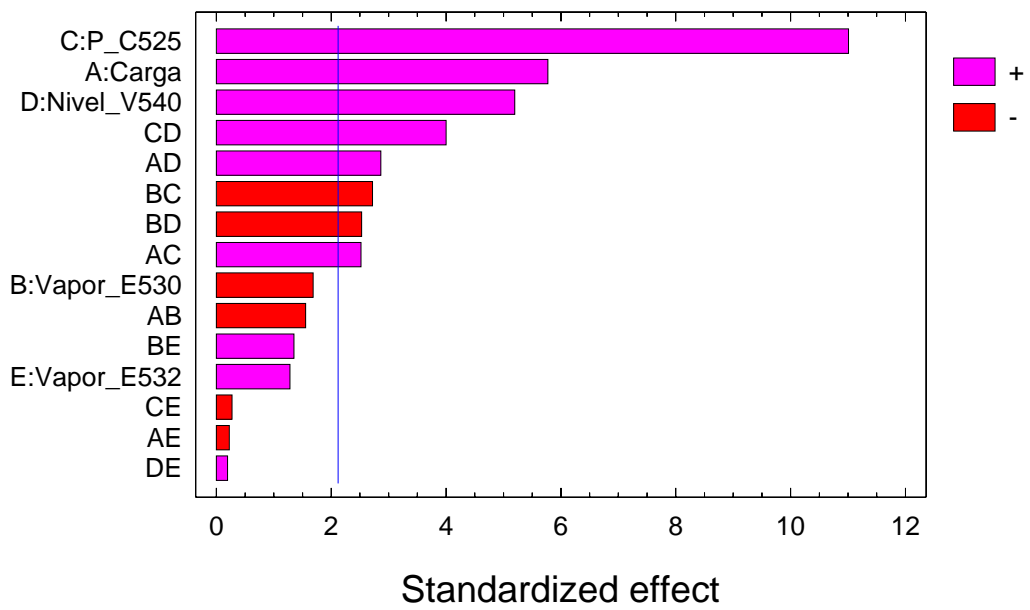
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This table contains information about values of Ol y Ona 723 generated using the fitted model. The table includes:

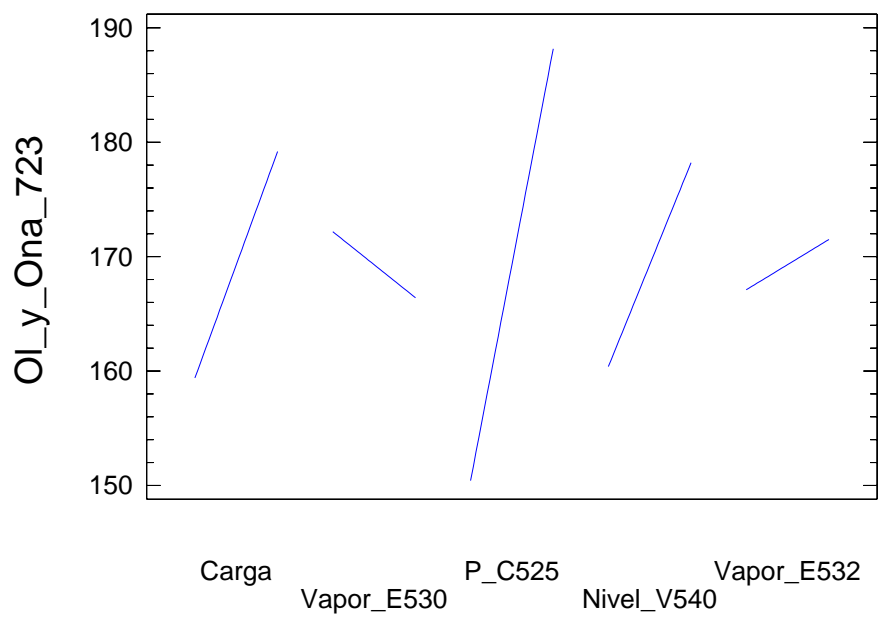
- (1) the observed value of Ol y Ona 723 (if any)
- (2) the predicted value of Ol y Ona 723 using the fitted model
- (3) 95,0% confidence limits for the mean response

Each item corresponds to the values of the experimental factors in a specific row of your data file. To generate forecasts for additional combinations of the factors, add additional rows to the bottom of your data file. In each new row, enter values for the experimental factors but leave the cell for the response empty. When you return to this pane, forecasts will be added to the table for the new rows, but the model will be unaffected.

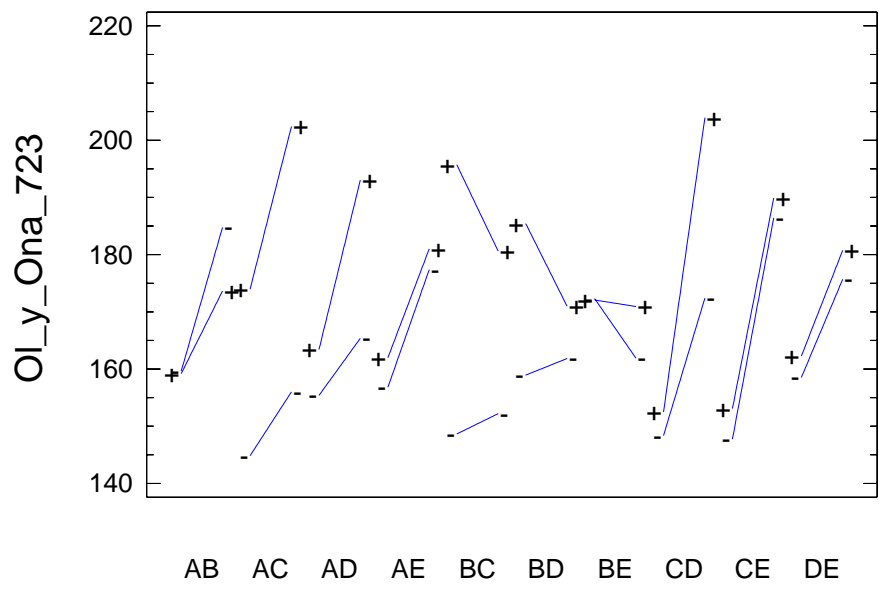
Standardized Pareto Chart for Ol_y_Ona_723



Main Effects Plot for OI_y_Ona_723



Interaction Plot for OI_y_Ona_723



Normal Probability Plot for Ol_y_Ona_723

