



## Best "Pat-Tricks" on Model Diagnostics

What are they? Why use them? What good do they do?

Before we get started feel free to download the presentation and file(s) being used for today's webinar.

<http://www.statease.com/webinar.html>

You will find:

- three PDF files:
  - *Diagnostic 'Pat Tricks'.pdf*
  - *Diagnostics Report – Formulas & Definitions.pdf*
  - *Residual Analysis and Diagnostics Plots Guide.pdf*
- one self extraction zip file of Design-Expert® files:
  - *Diagnostics.exe*

Diagnostic "Pat Tricks"

1



## Who We Are This Month's Webinar

Webinar presented by:  
Pat Whitcomb



Diagnostic "Pat Tricks"

With the Stat-Ease, Inc.  
consulting team



Mark Anderson



Shari Kraber



Wayne Adams

2



## Best "Pat-Tricks" on Model Diagnostics a series of examples

1. Popcorn
2. Bearings
3. Metal Molding
4. Ratio Assay
5. Persian CCD
6. Rails
7. Collet

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3



## Agenda Transition

1. **Popcorn**
2. Bearings
3. Metal Molding
4. Ratio Assay
5. Persian CCD
6. Rails
7. Collet

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4

Use a simple DOE to introduce diagnostics:



Std order	A: Brand expense	B: Time minutes	C: Power percent	R <sub>i</sub> : Taste rating
1	Cheap	4.0	75.0	74.0
2	Costly	4.0	75.0	75.0
3	Cheap	6.0	75.0	71.0
4	Costly	6.0	75.0	80.0
5	Cheap	4.0	100.0	81.0
6	Costly	4.0	100.0	77.0
7	Cheap	6.0	100.0	42.0
8	Costly	6.0	100.0	32.0

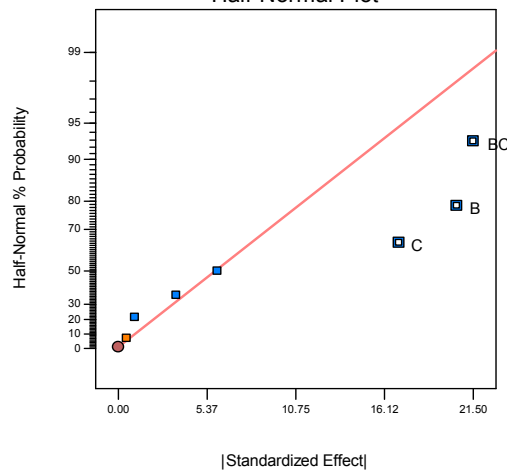
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5

Design-Expert® Software  
Taste

Shapiro-Wilk test  
W-value = 0.973  
p-value = 0.861  
A: Brand  
B: Time  
C: Power  
■ Positive Effects  
■ Negative Effects

Half-Normal Plot



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6











































