

Using JMP to Optimize Agricultural Production

Optional Follow-on Exercise

Follow-on Exercise

This is an optional follow-on exercise to help you get started using JMP. There are 3 exercises you can try on your own. Next week, there will be a quick 15 minute meeting to show you how to solve each exercise in JMP.

Step 1: Download a Free Trial of JMP (if you don't already have a copy). To request a copy, go to

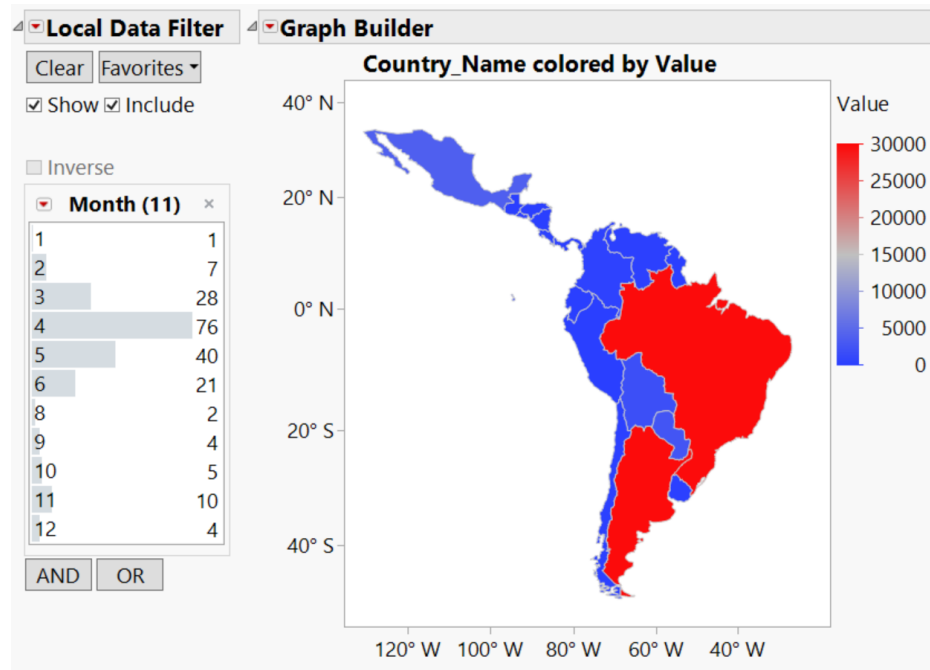
https://www.jmp.com/en_us/download-jmp-free-trial.html (English)

https://www.jmp.com/es_mx/software/data-analysis-software.html (Spanish)

https://www.jmp.com/pt_br/software/data-analysis-software.html (Portuguese)

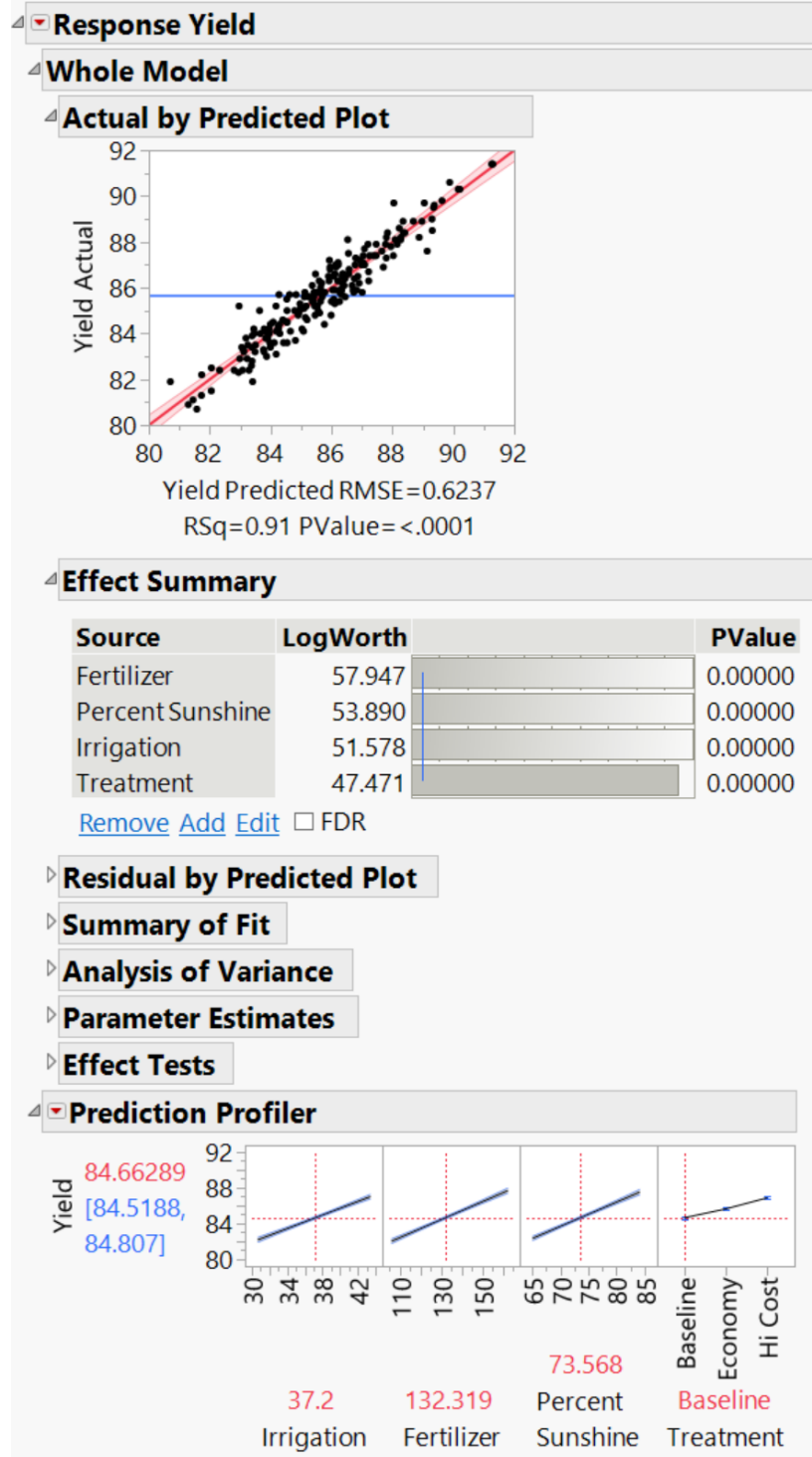
Step 2: Open JMP table from the meeting invitation email

Step 3: Build this graph



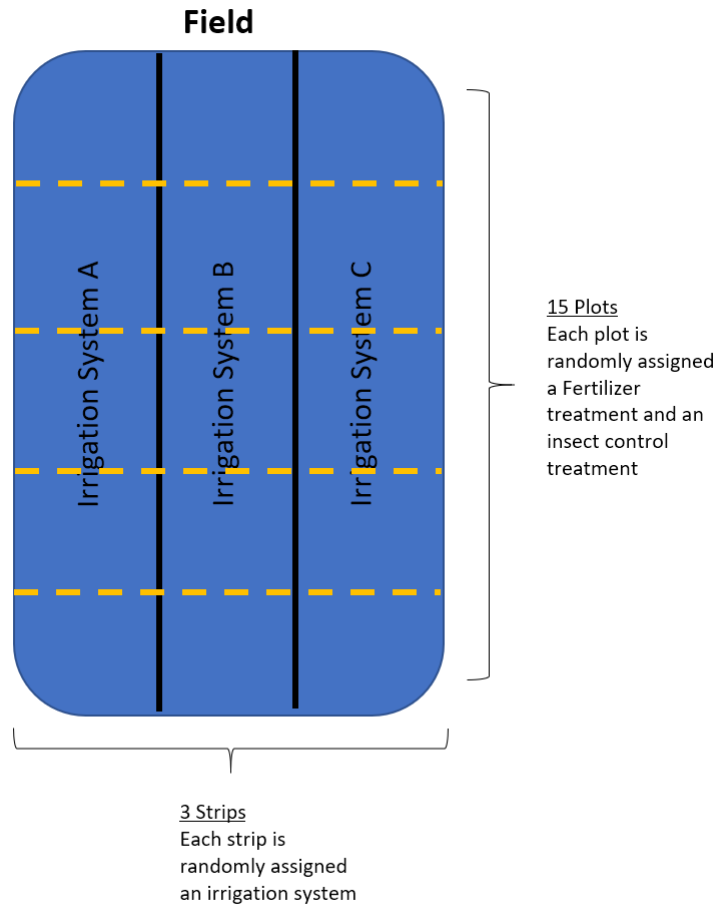
Step 4: Make this model and use the Prediction Profiler to determine optimum conditions

- Response = Yield
- Effects = Fertilizer, Percent Sunshine, Irrigation, Treatment



Step 4: Use Custom Design to design this experiment (DOE)

An experiment is needed to understand optimal conditions for growing grapes using 3 different irrigation systems, 4 fertilizer treatments and 2 types of insect control. A field is being divided into 15 sections for the experiment. However, because setting up irrigation systems is difficult and expensive, the field is divided into 3 strip plots, one for each type of irrigation system. Fertilizer and insect treatments are randomly applied in each of the 15 plots. Hint: make Irrigation System a “hard to change” factor. For this experiment, the responses are Yield (maximize) and Cost (minimize).



Step 5: Attend this 15 minute meeting to see how to do these things in JMP

Meeting Date: 9/2/20

Meeting Time: 3:00PM to 3:15PM, EST Time (GMT-5)

Join Zoom Meeting Using:

<https://sas.zoom.us/j/96926722245>