

Exploring Data For Non Additive Model

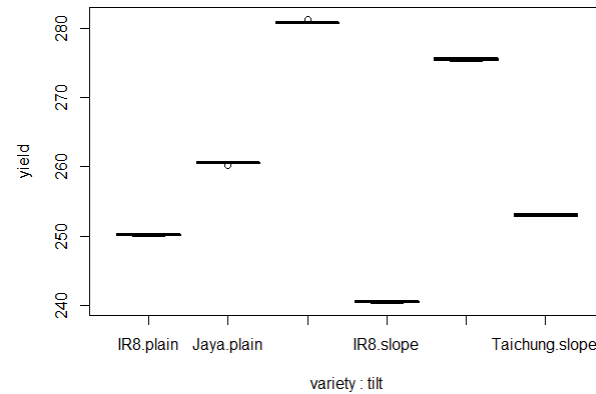
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We first look at the boxplots of the six different combinations of variety and tilt plotted against the yield.

```
> dat=read.csv(file.choose(),as.is = F)
> variety=dat$variety
> tilt=dat$tilt
> yield=dat$yield
> with(dat,boxplot(yield~variety:tilt))
```

The output is:



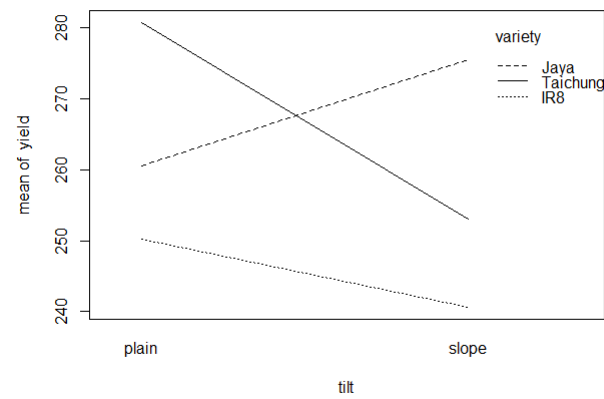
We notice 3 things about this plot:

1. The homoscedasticity assumption is very well satisfied.
2. We get a rough idea about the interaction plots. For example, notice the straight line joining the first three plots gives the profile of the yield of different varieties on plain surface. Also notice that the curve joining the last 3 plots gives the profile of the yield of different varieties on sloping surface. Clearly the two profiles are completely different as one is increasing from IR8 to Jaya to Taichung and the other first increases from IR8 to Jaya then decreases from Jaya to Taichung.
3. Also, joining the first and fourth plots we get the profile of IR8, similarly for Jaya and Taichung and we see that the profiles are NOT parallel.

Having this basic idea of the interaction plot in mind, we create the interaction plot separately as follows:

```
>with(dat,interaction.plot(tilt,variety,yield))
```

We get the output as:



We see that the 3 plots are not parallel