

Split Plot Discussion

Respond to the following questions individually then discuss your answers in your group. You should hand in both your individual responses and a group response. We will discuss your group responses and then I will lecture on advanced topics.

A surgical glove manufacturer divided 4 shipments of latex pellets into 5 batches each. Each batch was randomly assigned to one of 5 preparation methods. As batches are being processed in a run, the level of coagulant can be changed. One level of coagulant was randomly assigned to the first third of the run, another level of coagulant was assigned to the second third of the run and a third level of coagulant was assigned to the final third of the run. The response variable was the number of gloves with pinhole defects (for each third of a run).

1. Identify the blocking variable, the whole plot, the whole plot factor, the split plot and the split plot factor. Which terms are confounded?
2. Which denominator term would latex preparation method be tested against? Which denominator term would coagulant concentration be tested against?
3. What would be appropriate SAS or Minitab code for analyzing this experiment?