Collected GEN interp answers Spring 2005

## GEN Day Four Interpretation Questions (and Answers)

1. Interpret your data from the phage titering experiment. Topics that you discuss should include:

a. What was the titer of your phage stock?

**Depends on the data gathered.**

b. What was the M.O.I. for your mutagenesis (Expt. IIA)?

**Depends on the data gathered.**

c. What can you infer about what occurred during the mutagenesis you performed given the MOI that you actually had versus the MOI that we were aiming for?

**We were aiming for a low MOI (0.1) because this means that if any insertion occurred at all, there was only one transposon-induced mutation. Having more than one insertion is problematic because there is no way to tell which insertion is responsible for phenotypes observed. If the students calculated a high MOI, then they had a high # of phage particles per bacterial cell. Thus they were less likely to have no phage adsorption to the cell, and more likely to have more than one phage per bacterium. This means that there is probably more than one transposon-induced insertion in each of their mutants.**

2. Interpret your data from the patching plates of your newly isolated white mutants. Topics that you discuss should include:

a. Were you successful in creating an *ara::lacZ* translational fusion?

**Depends on the data gathered.**

b. Into what gene did the transposon insert in each of your mutants?

**Depends on the data gathered. If they saw no LacZ expression, they should say that they can't tell whether the transposon inserted into *araA*, *araB*, or *araC*. If they saw constitutive LacZ expression, they should say *araC*. If they saw arabinose-inducible LacZ expression, they should say that the insertion could be in *araB* or in *araA*.**

c. Did you successfully confirm that the "white" phenotype you saw was because your mutants were Ara-?

**They should say no, because the minimal plates didn't work. They should know that the problem was with the plates because most of their controls didn't grow either**

c. Did you successfully confirm that the "white" phenotype you saw was because your mutants were Ara-?

**They should say no, because the minimal plates didn't work. They should know that the problem was with the plates because most of their controls didn't grow either (except for EJ1 on the M9 Glu Leu Kan plate). (As opposed to the problem being that their white mutants had mutations in them that make them unable to grow on minimal plates, for instance).**