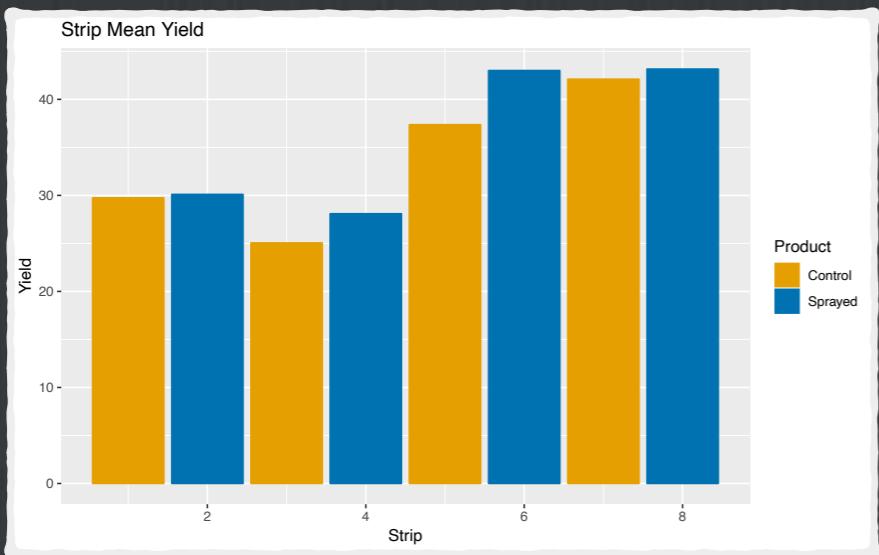
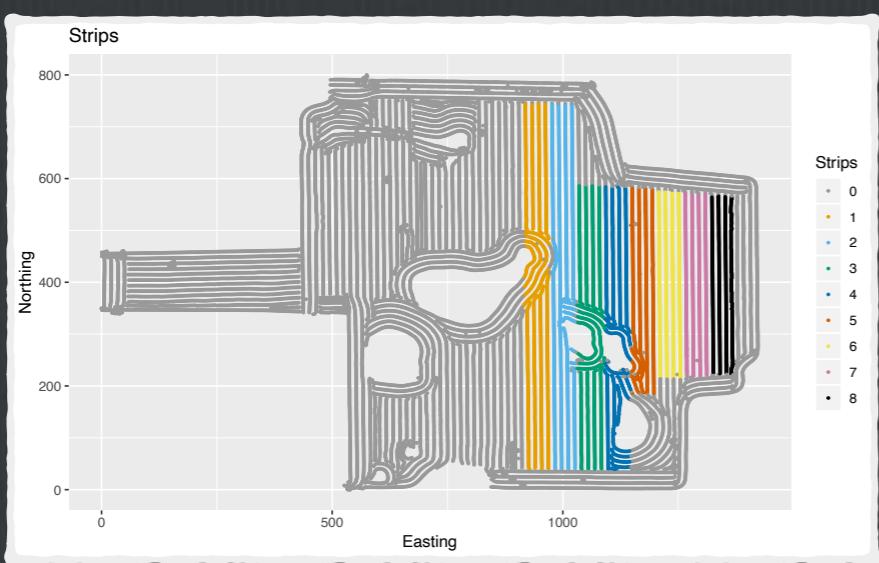


Likelihood Ratio (Naive)

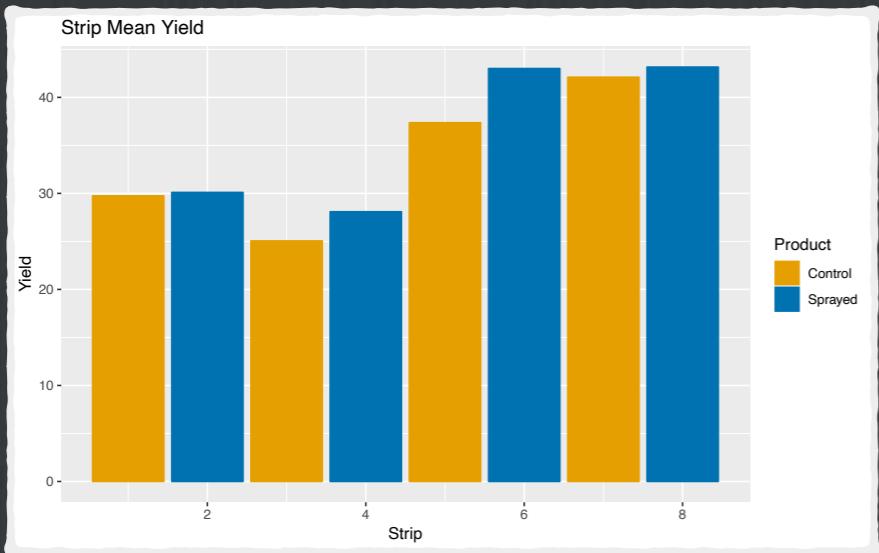


> H1.lm <- lm(Yield ~ Block,
 data=meansEqual.dat)
> H2.lm <- lm(Yield ~ Block + Product,
 data=meansEqual.dat)
> logLik(H1.lm)
'log Lik.' -29.18457 (df=5)
> logLik(H2.lm)
'log Lik.' -28.61411 (df=6)
> logLik(H2.lm)-logLik(H1.lm)
'log Lik.' 0.5704535 (df=6)
> exp(logLik(H2.lm)-logLik(H1.lm))
'log Lik.' **1.769069** (df=6)



Is it reasonable to say that it's almost twice as likely that the product increased yield by 2.5 b/acre, than that the product did nothing?

Information Criteria



- We might use information criteria,
 $AIC = 2k - 2\ell$
 $BIC = \ln(n)k - 2\ell$
- where k is the number of parameters, and n is the number of observations

```
> AIC(H1.lm)
[1] 68.36914
> AIC(H2.lm)
[1] 69.22823
> BIC(H1.lm)
[1] 68.76634
> BIC(H2.lm)
[1] 69.70488
```



- With IC, smaller is better; the model without a parameter for treatment effect is preferred