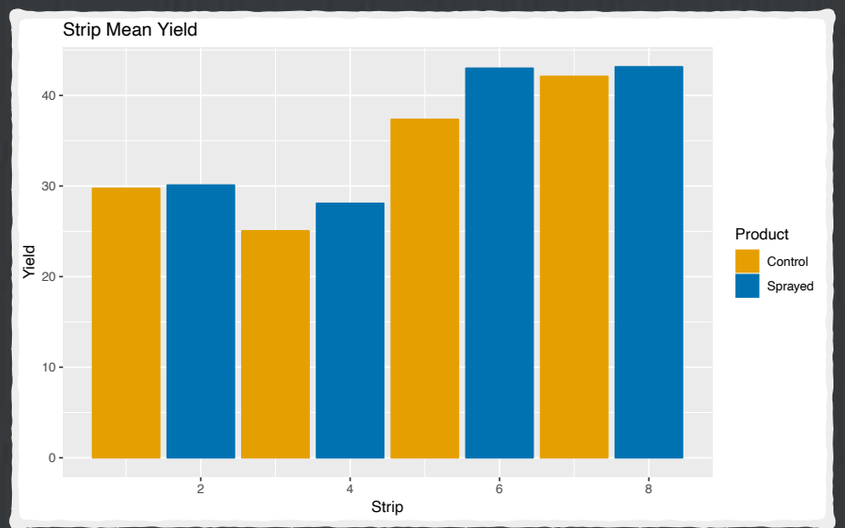
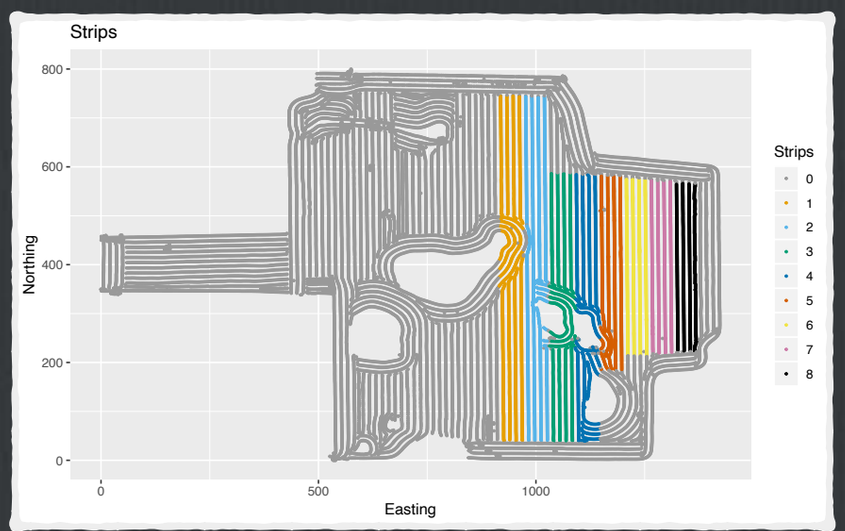
Likelihood Ratio (Naive)



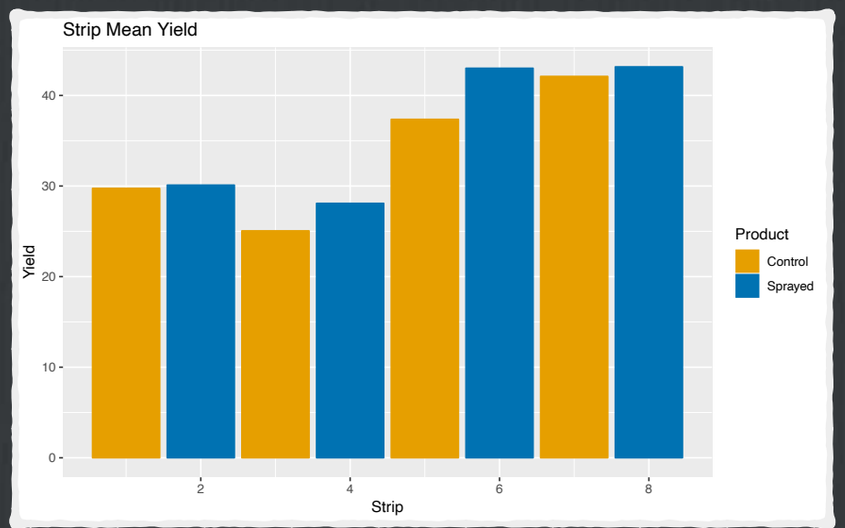


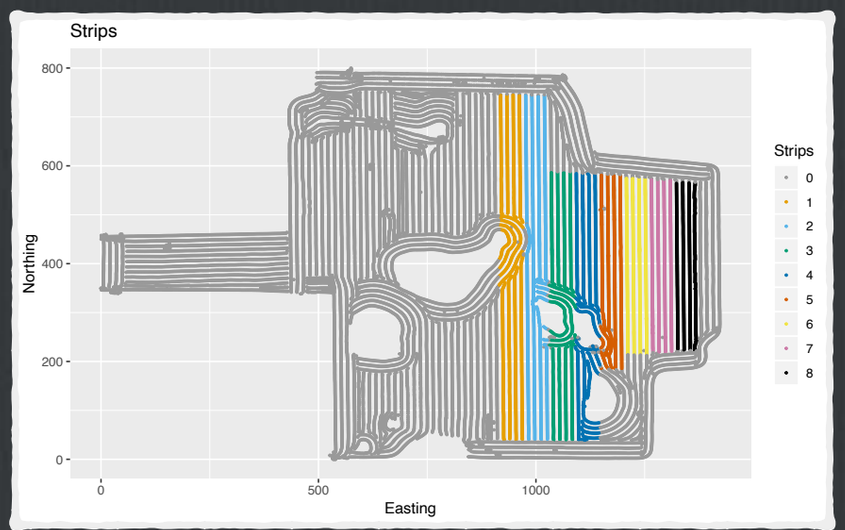
- Subtract the logs, then exponentiate to get a ratio

```
> 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)
```

- H2 is more likely, but is it much more likely?

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?**
  ```