**USING A 2CM ZONE AROUND THE FLOWERS**

flight=read.csv('Expt3\_InspectionTimeData.csv')

flight$flowType=factor(flight$flowType,levels=c("val","sal","dist"))

flight$firstTrain=factor(flight$firstTrain,levels=c("yellow","blue"))

**Interaction model between order and flower type: BEST MODEL**

m=glmer(cbind(timeFrames,totalFlowers-timeFrames)~flowType\*firstTrain+(1|bee), data=flight, family=binomial(link="logit"))

summary(m)

Generalized linear mixed model fit by maximum likelihood (Laplace

 Approximation) [glmerMod]

 Family: binomial ( logit )

Formula:

cbind(timeFrames, totalFlowers - timeFrames) ~ flowType \* order +

 (1 | bee)

 Data: flight

 AIC BIC logLik deviance df.resid

 8355.0 8368.1 -4170.5 8341.0 41

Scaled residuals:

 Min 1Q Median 3Q Max

-35.902 -8.591 -1.013 7.535 30.592

Random effects:

 Groups Name Variance Std.Dev.

 bee (Intercept) 0 0

Number of obs: 48, groups: bee, 16

Fixed effects:

 Estimate Std. Error z value Pr(>|z|)

(Intercept) 0.08470 0.02317 3.656 0.000256 \*\*\*

flowTypesal -0.63617 0.03338 -19.058 < 2e-16 \*\*\*

flowTypedist -2.14203 0.04324 -49.537 < 2e-16 \*\*\*

orderblueFirst 0.83572 0.03631 23.017 < 2e-16 \*\*\*

flowTypesal:orderblueFirst -2.27457 0.05832 -39.001 < 2e-16 \*\*\*

flowTypedist:orderblueFirst -0.40242 0.06172 -6.520 7.02e-11 \*\*\*

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Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Correlation of Fixed Effects:

 (Intr) flwTyps flwTypd ordrbF flwTyps:F

flowTypesal -0.694

flowTypedst -0.536 0.372

orderblFrst -0.638 0.443 0.342

flwTypsl:rF 0.397 -0.572 -0.213 -0.623

flwTypdst:F 0.375 -0.261 -0.701 -0.588 0.366

convergence code: 0

boundary (singular) fit: see ?isSingular