Rapport\_CORproject

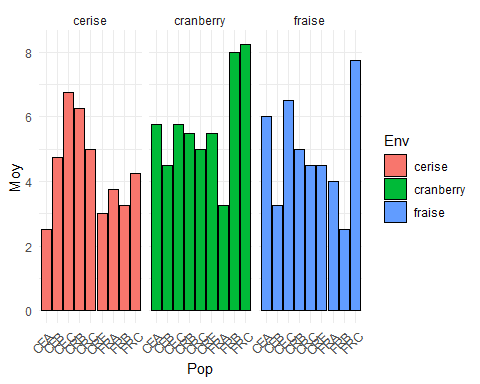
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## Visualisation des donnees

Moyenne pour chaque Population dans chaque environnement

## Pop Env Moy  
## 1 CEA cerise 2.50  
## 2 CEA cranberry 5.75  
## 3 CEA fraise 6.00  
## 4 CEB cerise 4.75  
## 5 CEB cranberry 4.50  
## 6 CEB fraise 3.25  
## 7 CEC cerise 6.75  
## 8 CEC cranberry 5.75  
## 9 CEC fraise 6.50  
## 10 CRB cerise 6.25  
## 11 CRB cranberry 5.50  
## 12 CRB fraise 5.00  
## 13 CRC cerise 5.00  
## 14 CRC cranberry 5.00  
## 15 CRC fraise 4.50  
## 16 CRE cerise 3.00  
## 17 CRE cranberry 5.50  
## 18 CRE fraise 4.50  
## 19 FRA cerise 3.75  
## 20 FRA cranberry 3.25  
## 21 FRA fraise 4.00  
## 22 FRB cerise 3.25  
## 23 FRB cranberry 8.00  
## 24 FRB fraise 2.50  
## 25 FRC cerise 4.25  
## 26 FRC cranberry 8.25  
## 27 FRC fraise 7.75

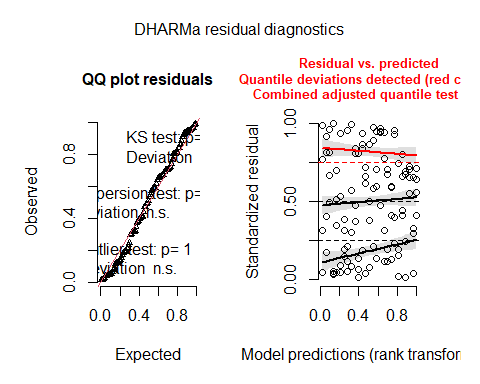


## Comparaison des groupes

## boundary (singular) fit: see ?isSingular

## Generalized linear mixed model fit by maximum likelihood (Laplace  
## Approximation) [glmerMod]  
## Family: poisson ( log )  
## Formula: Col ~ Env + Pop + (1 | Block)  
## Data: data\_temp  
## AIC BIC logLik deviance df.resid   
## 514.8210 547.0066 -245.4105 490.8210 96   
## Random effects:  
## Groups Name Std.Dev.  
## Block (Intercept) 0   
## Number of obs: 108, groups: Block, 4  
## Fixed Effects:  
## (Intercept) Envcranberry Envfraise PopCEB PopCEC   
## 1.42778 0.26528 0.10789 -0.13103 0.28768   
## PopCRB PopCRC PopCRE PopFRA PopFRB   
## 0.16164 0.01739 -0.09181 -0.25886 -0.03572   
## PopFRC   
## 0.35140   
## optimizer (Nelder\_Mead) convergence code: 0 (OK) ; 0 optimizer warnings; 1 lme4 warnings

## plotSimulatedResiduals is deprecated, please switch your code to simply using the plot() function



## Analysis of Deviance Table (Type II Wald chisquare tests)  
##   
## Response: Col  
## Chisq Df Pr(>Chisq)   
## Env 6.5044 2 0.03869 \*  
## Pop 19.7729 8 0.01123 \*  
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

## Warning in RET$pfunction("adjusted", ...): Completion with error > abseps  
  
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##   
## Simultaneous Tests for General Linear Hypotheses  
##   
## Multiple Comparisons of Means: Tukey Contrasts  
##   
##   
## Fit: lme4::glmer(formula = Col ~ Env + Pop + (1 | Block), data = data\_temp,   
## family = "poisson")  
##   
## Linear Hypotheses:  
## Estimate Std. Error z value Pr(>|z|)   
## CEB - CEA == 0 -0.13103 0.19376 -0.676 0.9991   
## CEC - CEA == 0 0.28768 0.17522 1.642 0.7799   
## CRB - CEA == 0 0.16164 0.18019 0.897 0.9931   
## CRC - CEA == 0 0.01739 0.18651 0.093 1.0000   
## CRE - CEA == 0 -0.09181 0.19177 -0.479 0.9999   
## FRA - CEA == 0 -0.25886 0.20068 -1.290 0.9340   
## FRB - CEA == 0 -0.03572 0.18901 -0.189 1.0000   
## FRC - CEA == 0 0.35140 0.17289 2.033 0.5182   
## CEC - CEB == 0 0.41871 0.18209 2.299 0.3398   
## CRB - CEB == 0 0.29267 0.18688 1.566 0.8220   
## CRC - CEB == 0 0.14842 0.19298 0.769 0.9976   
## CRE - CEB == 0 0.03922 0.19807 0.198 1.0000   
## FRA - CEB == 0 -0.12783 0.20671 -0.618 0.9995   
## FRB - CEB == 0 0.09531 0.19540 0.488 0.9999   
## FRC - CEB == 0 0.48243 0.17985 2.682 0.1535   
## CRB - CEC == 0 -0.12604 0.16758 -0.752 0.9980   
## CRC - CEC == 0 -0.27029 0.17435 -1.550 0.8301   
## CRE - CEC == 0 -0.37949 0.17997 -2.109 0.4653   
## FRA - CEC == 0 -0.54654 0.18943 -2.885 0.0909 .  
## FRB - CEC == 0 -0.32340 0.17703 -1.827 0.6625   
## FRC - CEC == 0 0.06372 0.15970 0.399 1.0000   
## CRC - CRB == 0 -0.14425 0.17935 -0.804 0.9967   
## CRE - CRB == 0 -0.25345 0.18481 -1.371 0.9080   
## FRA - CRB == 0 -0.42050 0.19404 -2.167 0.4253   
## FRB - CRB == 0 -0.19736 0.18195 -1.085 0.9763   
## FRC - CRB == 0 0.18976 0.16514 1.149 0.9662   
## CRE - CRC == 0 -0.10920 0.19098 -0.572 0.9997   
## FRA - CRC == 0 -0.27625 0.19992 -1.382 0.9040   
## FRB - CRC == 0 -0.05311 0.18821 -0.282 1.0000   
## FRC - CRC == 0 0.33401 0.17201 1.942 0.5826   
## FRA - CRE == 0 -0.16705 0.20484 -0.816 0.9964   
## FRB - CRE == 0 0.05609 0.19342 0.290 1.0000   
## FRC - CRE == 0 0.44321 0.17770 2.494 0.2332   
## FRB - FRA == 0 0.22314 0.20226 1.103 0.9736   
## FRC - FRA == 0 0.61026 0.18728 3.259 0.0311 \*  
## FRC - FRB == 0 0.38712 0.17472 2.216 0.3930   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
## (Adjusted p values reported -- single-step method)

##   
## Simultaneous Tests for General Linear Hypotheses  
##   
## Multiple Comparisons of Means: Tukey Contrasts  
##   
##   
## Fit: lme4::glmer(formula = Col ~ Env + Pop + (1 | Block), data = data\_temp,   
## family = "poisson")  
##   
## Linear Hypotheses:  
## Estimate Std. Error z value Pr(>|z|)   
## cranberry - cerise == 0 0.2653 0.1058 2.509 0.0325 \*  
## fraise - cerise == 0 0.1079 0.1096 0.984 0.5865   
## fraise - cranberry == 0 -0.1574 0.1026 -1.533 0.2750   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
## (Adjusted p values reported -- single-step method)