* setwd("D:/travers/orchids/NSERC grant 2023/Pollination study 2023/Summer 2023/Plant marking and fruit set")
* flwrfrt23 <- read.csv("D:/travers/orchids/NSERC grant 2023/Pollination study 2023/Summer 2023/Plant marking and fruit set/Overview\_data\_set\_(adjust\_for\_R).csv") #load fruitset data
* head(flwrfrt23) #look at top few lines
* str(flwrfrt23)
* flwrfrt23$C1Height <- as.numeric(flwrfrt23$C1Height) # convert height to numeric values
* names(flwrfrt23)
* flwrfrt23$C1\_open\_flwrs <- as.numeric(flwrfrt23$C1\_open\_flwrs) # convert open flwrs to numeric values
* flwrfrt23$C1\_buds <- as.numeric(flwrfrt23$C1\_buds)
* flwrfrt23$C2\_open\_flwrs <- as.numeric(flwrfrt23$C2\_open\_flwrs) # convert open flwrs to numeric values
* flwrfrt23$C2\_buds <- as.numeric(flwrfrt23$C2\_buds) # convert to numeric values
* str(flwrfrt23)
* flwrfrt23$FC\_swollenfrt <- as.numeric(flwrfrt23$FC\_swollenfrt) # convert frts to numeric values
* flwrfrt23$FC\_undev <- as.numeric(flwrfrt23$FC\_undev) # convert frts to numeric values
* flwrfrt23$FC\_halfway <- as.numeric(flwrfrt23$FC\_halfway)
* # make new data subsets
* install.packages("tidyr") # install the package
* library(tidyr) # load the package
* install.packages("dplyr") # install the package
* library(dplyr) # load the package
* flwrfrt\_subset <- dplyr::select(flwrfrt23, Population, PlantID, C1Height,
  + C1\_open\_flwrs, C1\_buds, C2\_open\_flwrs, C2\_buds,
  + FC\_swollenfrt, FC\_undev, FC\_halfway) # make subset dataset without fate columns
* head(flwrfrt\_subset)
* flwrfrt\_subset <- flwrfrt\_subset %>% mutate(C1\_open\_flwrs = ifelse(is.na(C1\_open\_flwrs), 0, C1\_open\_flwrs),
  + - * C1\_buds = ifelse(is.na(C1\_buds), 0, C1\_buds),
      * C2\_open\_flwrs = ifelse(is.na(C2\_open\_flwrs), 0, C2\_open\_flwrs),
      * C2\_buds = ifelse(is.na(C2\_buds), 0, C2\_buds),
      * FC\_swollenfrt = ifelse(is.na(FC\_swollenfrt), 0, FC\_swollenfrt),
      * FC\_undev = ifelse(is.na(FC\_undev), 0, FC\_undev),
      * FC\_halfway = ifelse(is.na(FC\_halfway), 0, FC\_halfway)) # replace NA entries with zeros
* flwrfrt\_subset <- mutate(flwrfrt\_subset, C1 = C1\_open\_flwrs + C1\_buds) # create C1 and 2 variable from two censuses
* flwrfrt\_subset <- mutate(flwrfrt\_subset, C2 = C2\_open\_flwrs + C2\_buds) # create C1 and 2 variable from two censuses
* head(flwrfrt\_subset)
* # collate flower counts across columns
* flwrfrt\_subset$node <- ifelse(flwrfrt\_subset$C1>=flwrfrt\_subset$C2,
  + - flwrfrt\_subset$C1,flwrfrt\_subset$C2) # choose between C1 and C2
* # Make a frequency distribution of flower production
* library(ggplot2)
* ggplot(flwrfrt\_subset, aes(x=node)) + geom\_histogram(binwidth=1)



Produce a table of the four different fate frequencies grouped by population

* # make new datasubset with just fate info
* fate\_subset <- dplyr::select(flwrfrt23, Population, PlantID,
  + - Fate\_MT, Fate\_Herb, Fate\_Hum, Fate\_intact) # make subset dataset with fate columns
* head(fate\_subset)
* #convert chr to numeric columns
* fate\_subset$Fate\_MT <- as.numeric(fate\_subset$Fate\_MT)
* fate\_subset$Fate\_Herb <- as.numeric(fate\_subset$Fate\_Herb)
* fate\_subset$Fate\_Hum <- as.numeric(fate\_subset$Fate\_Hum)
* fate\_subset$Fate\_intact <- as.numeric(fate\_subset$Fate\_intact)
* # remove rows with NAs
* fate\_subset <- filter(fate\_subset, Fate\_MT %in% c(0, 1),
  + - Fate\_Herb %in% c(0,1), Fate\_Hum %in% c(0,1), Fate\_intact %in% c(0,1))
* View(fate\_subset)
* # Make a table for population level fate proportions
* fate\_grouped <- group\_by(fate\_subset, Population) # grouping our dataset by pop
* summary2 <- summarise(fate\_grouped, total.MT = sum(Fate\_MT),
  + - total.Herb = sum(Fate\_Herb),
    - total.Hum = sum(Fate\_Hum),
    - total.intact = sum(Fate\_intact))
* View(summary2)

|  | **Population** | **total.MT** | **total.Herb** | **total.Hum** | **total.intact** |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |
| **1** | Aannex | 23 | 5 | 0 | 0 |
| **2** | Burnham | 5 | 4 | 0 | 22 |
| **3** | Foxboro | 1 | 10 | 0 | 1 |
| **4** | North Brown | 7 | 3 | 14 | 2 |
| **5** | South Brown | 16 | 9 | 4 | 4 |
| **6** | Ullen | 0 | 8 | 0 | 1 |

Showing 1 to 6 of 6 entries, 5 total columns