BalsamPheno.R

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```r
library(dplyr)
```

```
##
## Attaching package: 'dplyr'

## The following objects are masked from 'package:stats':
##
##     filter, lag

## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
```

```r
library(tidyr)
```

```
## Warning: package 'tidyr' was built under R version 3.2.5
```

```r
library(lubridate)
```

```
## Warning: package 'lubridate' was built under R version 3.2.5

##
## Attaching package: 'lubridate'

## The following object is masked from 'package:base':
##
##     date
```

```r
setwd("D:/Iowa State University/Debinski Lab/Nectar data/MAL")

bp1 <- read.csv("nectar analysis/data files/raw data/Balsamroot phenology/160528.csv", header = T, as.i
bp2 <- read.csv("nectar analysis/data files/raw data/Balsamroot phenology/160531.csv", header = T, as.i
bp3 <- read.csv("nectar analysis/data files/raw data/Balsamroot phenology/160603.csv", header = T, as.i
bp4 <- read.csv("nectar analysis/data files/raw data/Balsamroot phenology/160606.csv", header = T, as.i
bp5 <- read.csv("nectar analysis/data files/raw data/Balsamroot phenology/160609.csv", header = T, as.i
bp6 <- read.csv("nectar analysis/data files/raw data/Balsamroot phenology/160612.csv", header = T, as.i
bp7 <- read.csv("nectar analysis/data files/raw data/Balsamroot phenology/160615.csv", header = T, as.i
bp8 <- read.csv("nectar analysis/data files/raw data/Balsamroot phenology/160622.csv", header = T, as.i
bp9 <- read.csv("nectar analysis/data files/raw data/Balsamroot phenology/160625.csv", header = T, as.i

bpall <- as.data.frame(rbind(bp1, bp2, bp3, bp4, bp5, bp6, bp7, bp8, bp9))

bpall <- bpall[,-c(12:1002)]
rm(bp1, bp2, bp3, bp4, bp5, bp6, bp7, bp8, bp9)

#create unique plant ID
bpall$plantid <- paste(bpall$Plot.ID, bpall$Plant.ID, sep = "-")

#create treatment category
bpall$treatment <- gsub("^C", "", bpall$Plot.ID)
bpall$treatment <- gsub("W", "", bpall$treatment)
```

```r
bpall$treatment <- gsub("E", "", bpall$treatment)
bpall$treatment <- gsub("HSR", "H", bpall$treatment)
bpall$treatment <- gsub("SR", "C", bpall$treatment)
bpall$treatment <- gsub('[[:digit:]]+', '', bpall$treatment)

#remove plants that have no flowers
bpsmall <- bpall[!(is.na(bpall$Flower.height)),]
bpsmall <- bpsmall[bpsmall$Flower.height != "0",]
bpsmall <- bpsmall[(!is.na(bpsmall$Leaf.height)),]  #three leaf heights were recorded as flower heights
rm(bpall)
bpsmall <- bpsmall[,-c(2,4:5, 7, 11)]

bpsmall <- rename(bpsmall, plot = Plot.ID, date = Date, BD = Buds, FF = Fully.flowering, SG = Senescing

bpsmall <- bpsmall[,c(1,7,8,2,3,4,5,6)]

bpsmall$date <- mdy(bpsmall$date)
bpsmall$plot <- as.factor(bpsmall$plot)
bpsmall$plantid <- as.factor(bpsmall$plantid)
bpsmall$treatment <- as.factor(bpsmall$treatment)

bpsmall[is.na(bpsmall)] <- 0
bpsmall$TF <- rowSums(bpsmall[,5:8])

#To get the maximum number of flowers for plant CC6-1 in the senesced column:
#max(subset(bpsmall, plantid == "CC6-1", select = c(1:9))$SD)

cc1 <- subset(bpsmall, plantid == "CC6-1", select = c(1:9))
cc10 <- subset(bpsmall, plantid == "CC6-10", select = c(1:9))
cc4 <- subset(bpsmall, plantid == "CC6-4", select = c(1:9))
cc9 <- subset(bpsmall, plantid == "CC6-9", select = c(1:9))

ch2 <- subset(bpsmall, plantid == "CH5-2", select = c(1:9))
ch3 <- subset(bpsmall, plantid == "CH5-3", select = c(1:9))
ch4 <- subset(bpsmall, plantid == "CH5-4", select = c(1:9))
ch5 <- subset(bpsmall, plantid == "CH5-5", select = c(1:9))
ch6 <- subset(bpsmall, plantid == "CH5-6", select = c(1:9))
ch7 <- subset(bpsmall, plantid == "CH5-7", select = c(1:9))

chsr1 <- subset(bpsmall, plantid == "CHSR8-1", select = c(1:9))
chsr2 <- subset(bpsmall, plantid == "CHSR8-2", select = c(1:9))
chsr4 <- subset(bpsmall, plantid == "CHSR8-4", select = c(1:9))
chsr5 <- subset(bpsmall, plantid == "CHSR8-5", select = c(1:9))
chsr6 <- subset(bpsmall, plantid == "CHSR8-6", select = c(1:9))

csr1 <- subset(bpsmall, plantid == "CSR7-1", select = c(1:9))
csr3 <- subset(bpsmall, plantid == "CSR7-3", select = c(1:9))
csr5 <- subset(bpsmall, plantid == "CSR7-5", select = c(1:9))
csr6 <- subset(bpsmall, plantid == "CSR7-6", select = c(1:9))
csr8 <- subset(bpsmall, plantid == "CSR7-8", select = c(1:9))
csr9 <- subset(bpsmall, plantid == "CSR7-9", select = c(1:9))

ec1 <- subset(bpsmall, plantid == "EC3-1", select = c(1:9))
```

```r
ec3 <- subset(bpsmall, plantid == "EC3-3", select = c(1:9))

eh11 <- subset(bpsmall, plantid == "EH4-11", select = c(1:9))
eh3 <- subset(bpsmall, plantid == "EH4-3", select = c(1:9))
eh4 <- subset(bpsmall, plantid == "EH4-4", select = c(1:9))
eh5 <- subset(bpsmall, plantid == "EH4-5", select = c(1:9))
eh6 <- subset(bpsmall, plantid == "EH4-6", select = c(1:9))
eh7 <- subset(bpsmall, plantid == "EH4-7", select = c(1:9))
eh8 <- subset(bpsmall, plantid == "EH4-8", select = c(1:9))
eh9 <- subset(bpsmall, plantid == "EH4-9", select = c(1:9))

ehsr1 <- subset(bpsmall, plantid == "EHSR1-1", select = c(1:9))
ehsr2 <- subset(bpsmall, plantid == "EHSR1-2", select = c(1:9))
ehsr4 <- subset(bpsmall, plantid == "EHSR1-4", select = c(1:9))
ehsr5 <- subset(bpsmall, plantid == "EHSR1-5", select = c(1:9))

esr1 <- subset(bpsmall, plantid == "ESR2-1", select = c(1:9))
esr11 <- subset(bpsmall, plantid == "ESR2-11", select = c(1:9))
esr2 <- subset(bpsmall, plantid == "ESR2-2", select = c(1:9))
esr3 <- subset(bpsmall, plantid == "ESR2-3", select = c(1:9))
esr4 <- subset(bpsmall, plantid == "ESR2-4", select = c(1:9))
esr6 <- subset(bpsmall, plantid == "ESR2-6", select = c(1:9))
esr8 <- subset(bpsmall, plantid == "ESR2-8", select = c(1:9))

wc1 <- subset(bpsmall, plantid == "WC11-1", select = c(1:9))
wc2 <- subset(bpsmall, plantid == "WC11-2", select = c(1:9))
wc3 <- subset(bpsmall, plantid == "WC11-3", select = c(1:9))
wc4 <- subset(bpsmall, plantid == "WC11-4", select = c(1:9))
wc5 <- subset(bpsmall, plantid == "WC11-5", select = c(1:9))
wc7 <- subset(bpsmall, plantid == "WC11-7", select = c(1:9))

whsr1 <- subset(bpsmall, plantid == "WHSR9-1", select = c(1:9))
whsr2 <- subset(bpsmall, plantid == "WHSR9-2", select = c(1:9))
whsr3 <- subset(bpsmall, plantid == "WHSR9-3", select = c(1:9))
whsr4 <- subset(bpsmall, plantid == "WHSR9-4", select = c(1:9))

wsr1 <- subset(bpsmall, plantid == "WSR10-1", select = c(1:9))
wsr3 <- subset(bpsmall, plantid == "WSR10-3", select = c(1:9))
wsr7 <- subset(bpsmall, plantid == "WSR10-7", select = c(1:9))
wsr9 <- subset(bpsmall, plantid == "WSR10-9", select = c(1:9))

# Heated plots
ch2
```

```
##       plot plantid treatment      date BD FF SG SD TF
## 58    CH5   CH5-2          H 2016-05-28  6  0  0  0  6
## 216   CH5   CH5-2          H 2016-05-31  8  0  0  0  8
## 374   CH5   CH5-2          H 2016-06-03  7  1  0  0  8
## 532   CH5   CH5-2          H 2016-06-06  0  0  0  0  0
## 690   CH5   CH5-2          H 2016-06-09  0  8  0  0  8
## 848   CH5   CH5-2          H 2016-06-12  0  2  5  0  7
## 1006  CH5   CH5-2          H 2016-06-15  0  0  7  0  7
## 1165  CH5   CH5-2          H 2016-06-22  0  0  0  8  8
## 1324  CH5   CH5-2          H 2016-06-25  0  0  0  8  8
```

ch3

```
##        plot plantid treatment       date BD FF SG SD TF
## 59    CH5    CH5-3         H 2016-05-28  6  0  0  0  6
## 217   CH5    CH5-3         H 2016-05-31  7  0  0  0  7
## 375   CH5    CH5-3         H 2016-06-03  6  0  0  0  6
## 533   CH5    CH5-3         H 2016-06-06  3  4  0  0  7
## 691   CH5    CH5-3         H 2016-06-09  0  7  0  0  7
## 849   CH5    CH5-3         H 2016-06-12  0  2  5  0  7
## 1007  CH5    CH5-3         H 2016-06-15  0  0  7  0  7
## 1166  CH5    CH5-3         H 2016-06-22  0  0  0  7  7
## 1325  CH5    CH5-3         H 2016-06-25  0  0  0  7  7
```

ch4

```
##        plot plantid treatment       date BD FF SG SD TF
## 60    CH5    CH5-4         H 2016-05-28  8  0  0  0  8
## 218   CH5    CH5-4         H 2016-05-31 10  0  0  0 10
## 376   CH5    CH5-4         H 2016-06-03 11  0  0  0 11
## 534   CH5    CH5-4         H 2016-06-06  4  5  0  0  9
## 692   CH5    CH5-4         H 2016-06-09  0 10  0  0 10
## 850   CH5    CH5-4         H 2016-06-12  0  5  3  0  8
## 1008  CH5    CH5-4         H 2016-06-15  0  0 10  0 10
## 1167  CH5    CH5-4         H 2016-06-22  0  0  0 10 10
## 1326  CH5    CH5-4         H 2016-06-25  0  0  0 10 10
```

ch5

```
##        plot plantid treatment       date BD FF SG SD TF
## 61    CH5    CH5-5         H 2016-05-28  4  0  0  0  4
## 219   CH5    CH5-5         H 2016-05-31  6  0  0  0  6
## 377   CH5    CH5-5         H 2016-06-03  6  0  0  0  6
## 535   CH5    CH5-5         H 2016-06-06  0  4  0  0  4
## 693   CH5    CH5-5         H 2016-06-09  0  4  0  0  4
## 851   CH5    CH5-5         H 2016-06-12  0  1  4  0  5
## 1009  CH5    CH5-5         H 2016-06-15  0  0  5  0  5
## 1168  CH5    CH5-5         H 2016-06-22  0  0  0  5  5
## 1327  CH5    CH5-5         H 2016-06-25  0  0  0  5  5
```

ch6

```
##        plot plantid treatment       date BD FF SG SD TF
## 62    CH5    CH5-6         H 2016-05-28 14  0  0  0 14
## 220   CH5    CH5-6         H 2016-05-31 14  0  0  0 14
## 378   CH5    CH5-6         H 2016-06-03 14  0  0  0 14
## 536   CH5    CH5-6         H 2016-06-06  4  7  0  0 11
## 694   CH5    CH5-6         H 2016-06-09  1  9  0  0 10
## 852   CH5    CH5-6         H 2016-06-12  1  9  2  0 12
## 1010  CH5    CH5-6         H 2016-06-15  0  2 10  0 12
## 1169  CH5    CH5-6         H 2016-06-22  0  0  0 12 12
## 1328  CH5    CH5-6         H 2016-06-25  0  0  0 12 12
```

ch7

```
##        plot plantid treatment       date BD FF SG SD TF
## 63    CH5    CH5-7         H 2016-05-28 11  0  0  0 11
## 221   CH5    CH5-7         H 2016-05-31 15  0  0  0 15
## 379   CH5    CH5-7         H 2016-06-03 16  0  0  0 16
```

```
## 537   CH5   CH5-7           H 2016-06-06  9  6  0  0 15
## 695   CH5   CH5-7           H 2016-06-09  3 11  0  0 14
## 853   CH5   CH5-7           H 2016-06-12  1  5  9  0 15
## 1011  CH5   CH5-7           H 2016-06-15  0  2 15  0 17
## 1170  CH5   CH5-7           H 2016-06-22  0  0  0 17 17
## 1329  CH5   CH5-7           H 2016-06-25  0  0  0 16 16
```

chsr1

```
##         plot plantid treatment       date BD FF SG SD TF
## 95   CHSR8 CHSR8-1         H 2016-05-28  3  0  0  0  3
## 253  CHSR8 CHSR8-1         H 2016-05-31  3  0  0  0  3
## 411  CHSR8 CHSR8-1         H 2016-06-03  4  0  0  0  4
## 569  CHSR8 CHSR8-1         H 2016-06-06  0  3  0  0  3
## 727  CHSR8 CHSR8-1         H 2016-06-09  0  3  0  0  3
## 885  CHSR8 CHSR8-1         H 2016-06-12  0  2  2  0  4
## 1043 CHSR8 CHSR8-1         H 2016-06-15  0  1  3  0  4
## 1202 CHSR8 CHSR8-1         H 2016-06-22  0  0  0  4  4
## 1361 CHSR8 CHSR8-1         H 2016-06-25  0  0  0  4  4
```

chsr2

```
##         plot plantid treatment       date BD FF SG SD TF
## 96   CHSR8 CHSR8-2         H 2016-05-28  9  0  0  0  9
## 254  CHSR8 CHSR8-2         H 2016-05-31 10  0  0  0 10
## 412  CHSR8 CHSR8-2         H 2016-06-03  8  0  0  0  8
## 570  CHSR8 CHSR8-2         H 2016-06-06  3  5  0  0  8
## 728  CHSR8 CHSR8-2         H 2016-06-09  1  7  0  0  8
## 886  CHSR8 CHSR8-2         H 2016-06-12  0  2  5  0  7
## 1044 CHSR8 CHSR8-2         H 2016-06-15  0  1  8  0  9
## 1203 CHSR8 CHSR8-2         H 2016-06-22  0  0  0  8  8
## 1362 CHSR8 CHSR8-2         H 2016-06-25  0  0  0  8  8
```

chsr4

```
##         plot plantid treatment       date BD FF SG SD TF
## 98   CHSR8 CHSR8-4         H 2016-05-28 27  0  0  0 27
## 256  CHSR8 CHSR8-4         H 2016-05-31 35  0  0  0 35
## 414  CHSR8 CHSR8-4         H 2016-06-03 41  0  0  0 41
## 572  CHSR8 CHSR8-4         H 2016-06-06 34  8  0  0 42
## 730  CHSR8 CHSR8-4         H 2016-06-09 22 15  0  0 37
## 888  CHSR8 CHSR8-4         H 2016-06-12  7 22  3  0 32
## 1046 CHSR8 CHSR8-4         H 2016-06-15  4 18 12  0 34
## 1205 CHSR8 CHSR8-4         H 2016-06-22  0  0  5 44 49
## 1364 CHSR8 CHSR8-4         H 2016-06-25  0  0 14 34 48
```

chsr5

```
##         plot plantid treatment       date BD FF SG SD TF
## 99   CHSR8 CHSR8-5         H 2016-05-28  8  0  0  0  8
## 257  CHSR8 CHSR8-5         H 2016-05-31  8  0  0  0  8
## 415  CHSR8 CHSR8-5         H 2016-06-03  8  0  0  0  8
## 573  CHSR8 CHSR8-5         H 2016-06-06  2  6  0  0  8
## 731  CHSR8 CHSR8-5         H 2016-06-09  1  7  0  0  8
## 889  CHSR8 CHSR8-5         H 2016-06-12  0  4  4  0  8
## 1047 CHSR8 CHSR8-5         H 2016-06-15  0  2  6  0  8
## 1206 CHSR8 CHSR8-5         H 2016-06-22  0  0  0  8  8
## 1365 CHSR8 CHSR8-5         H 2016-06-25  0  0  0  7  7
```

chsr6

```
##         plot plantid treatment       date BD FF SG SD TF
## 100   CHSR8 CHSR8-6         H 2016-05-28  7  0  0  0  7
## 258   CHSR8 CHSR8-6         H 2016-05-31  8  0  0  0  8
## 416   CHSR8 CHSR8-6         H 2016-06-03  4  3  0  0  7
## 574   CHSR8 CHSR8-6         H 2016-06-06  3  5  0  0  8
## 732   CHSR8 CHSR8-6         H 2016-06-09  1  7  0  0  8
## 890   CHSR8 CHSR8-6         H 2016-06-12  0  3  5  0  8
## 1048  CHSR8 CHSR8-6         H 2016-06-15  0  2  6  0  8
## 1207  CHSR8 CHSR8-6         H 2016-06-22  0  0  0  8  8
## 1366  CHSR8 CHSR8-6         H 2016-06-25  0  0  0  8  8
```

eh11

```
##        plot plantid treatment       date BD FF SG SD TF
## 45     EH4   EH4-11         H 2016-05-28  1  0  0  0  1
## 203    EH4   EH4-11         H 2016-05-31  2  0  0  0  2
## 361    EH4   EH4-11         H 2016-06-03  1  0  0  0  1
## 519    EH4   EH4-11         H 2016-06-06  2  0  0  0  2
## 677    EH4   EH4-11         H 2016-06-09  1  1  0  0  2
## 835    EH4   EH4-11         H 2016-06-12  1  1  0  0  2
## 993    EH4   EH4-11         H 2016-06-15  1  1  0  0  2
## 1152   EH4   EH4-11         H 2016-06-22  0  0  0  2  2
## 1311   EH4   EH4-11         H 2016-06-25  0  0  0  2  2
```

eh3

```
##       plot plantid treatment       date BD FF SG SD TF
## 37     EH4    EH4-3         H 2016-05-28 17  0  0  0 17
## 195    EH4    EH4-3         H 2016-05-31 19  0  0  0 19
## 353    EH4    EH4-3         H 2016-06-03 10  3  0  0 13
## 511    EH4    EH4-3         H 2016-06-06  5 10  0  0 15
## 669    EH4    EH4-3         H 2016-06-09  6 12  0  0 18
## 827    EH4    EH4-3         H 2016-06-12  2 10  3  0 15
## 985    EH4    EH4-3         H 2016-06-15  1  0 17  0 18
## 1144   EH4    EH4-3         H 2016-06-22  0  0  0 18 18
## 1303   EH4    EH4-3         H 2016-06-25  0  0  0 18 18
```

eh4

```
##       plot plantid treatment       date BD FF SG SD TF
## 38     EH4    EH4-4         H 2016-05-28 11  0  0  0 11
## 196    EH4    EH4-4         H 2016-05-31 10  0  0  0 10
## 354    EH4    EH4-4         H 2016-06-03  9  1  0  0 10
## 512    EH4    EH4-4         H 2016-06-06  8  2  0  0 10
## 670    EH4    EH4-4         H 2016-06-09  4  7  0  0 11
## 828    EH4    EH4-4         H 2016-06-12  2  8  1  0 11
## 986    EH4    EH4-4         H 2016-06-15  0  8  1  0  9
## 1145   EH4    EH4-4         H 2016-06-22  0  0  0 12 12
## 1304   EH4    EH4-4         H 2016-06-25  0  0  0 12 12
```

eh5

```
##       plot plantid treatment       date BD FF SG SD TF
## 39     EH4    EH4-5         H 2016-05-28  1  0  0  0  1
## 197    EH4    EH4-5         H 2016-05-31  1  0  0  0  1
## 355    EH4    EH4-5         H 2016-06-03  1  0  0  0  1
```

```
## 513    EH4    EH4-5           H 2016-06-06  1  0  0  0  1
## 671    EH4    EH4-5           H 2016-06-09  0  1  0  0  1
## 829    EH4    EH4-5           H 2016-06-12  0  1  0  0  1
## 987    EH4    EH4-5           H 2016-06-15  0  0  1  0  1
## 1146   EH4    EH4-5           H 2016-06-22  0  0  0  2  2
## 1305   EH4    EH4-5           H 2016-06-25  0  0  0  2  2
```

eh6

```
##         plot plantid treatment       date BD FF SG SD TF
## 40     EH4    EH4-6           H 2016-05-28 13  0  0  0 13
## 198    EH4    EH4-6           H 2016-05-31 14  0  0  0 14
## 356    EH4    EH4-6           H 2016-06-03 14  0  0  0 14
## 514    EH4    EH4-6           H 2016-06-06 15  0  0  0 15
## 672    EH4    EH4-6           H 2016-06-09  9  6  0  0 15
## 830    EH4    EH4-6           H 2016-06-12  0 10  1  0 11
## 988    EH4    EH4-6           H 2016-06-15  4  7  3  0 14
## 1147   EH4    EH4-6           H 2016-06-22  0  0  0 17 17
## 1306   EH4    EH4-6           H 2016-06-25  0  0  0 14 14
```

eh7

```
##         plot plantid treatment       date BD FF SG SD TF
## 41     EH4    EH4-7           H 2016-05-28  2  0  0  0  2
## 199    EH4    EH4-7           H 2016-05-31  2  0  0  0  2
## 357    EH4    EH4-7           H 2016-06-03  4  0  0  0  4
## 515    EH4    EH4-7           H 2016-06-06  2  1  0  0  3
## 673    EH4    EH4-7           H 2016-06-09  1  1  0  0  2
## 831    EH4    EH4-7           H 2016-06-12  0  1  1  0  2
## 989    EH4    EH4-7           H 2016-06-15  0  1  1  0  2
## 1148   EH4    EH4-7           H 2016-06-22  0  0  0  3  3
## 1307   EH4    EH4-7           H 2016-06-25  0  0  0  3  3
```

eh8

```
##         plot plantid treatment       date BD FF SG SD TF
## 42     EH4    EH4-8           H 2016-05-28  5  0  0  0  5
## 200    EH4    EH4-8           H 2016-05-31  5  0  0  0  5
## 358    EH4    EH4-8           H 2016-06-03  4  0  0  0  4
## 516    EH4    EH4-8           H 2016-06-06  3  2  0  0  5
## 674    EH4    EH4-8           H 2016-06-09  2  3  0  0  5
## 832    EH4    EH4-8           H 2016-06-12  0  4  1  0  5
## 990    EH4    EH4-8           H 2016-06-15  1  3  2  0  6
## 1149   EH4    EH4-8           H 2016-06-22  0  0  0  5  5
## 1308   EH4    EH4-8           H 2016-06-25  0  0  0  5  5
```

eh9

```
##         plot plantid treatment       date BD FF SG SD TF
## 43     EH4    EH4-9           H 2016-05-28  3  0  0  0  3
## 201    EH4    EH4-9           H 2016-05-31  5  0  0  0  5
## 359    EH4    EH4-9           H 2016-06-03  4  0  0  0  4
## 517    EH4    EH4-9           H 2016-06-06  3  2  0  0  5
## 675    EH4    EH4-9           H 2016-06-09  0  4  0  0  4
## 833    EH4    EH4-9           H 2016-06-12  0  3  1  0  4
## 991    EH4    EH4-9           H 2016-06-15  0  0  3  0  3
## 1150   EH4    EH4-9           H 2016-06-22  0  0  0  3  3
## 1309   EH4    EH4-9           H 2016-06-25  0  0  0  3  3
```

ehsr1

```
##        plot plantid treatment       date BD FF SG SD TF
## 1    EHSR1 EHSR1-1         H 2016-05-28 17  0  0  0 17
## 159  EHSR1 EHSR1-1         H 2016-05-31 19  0  0  0 19
## 317  EHSR1 EHSR1-1         H 2016-06-03 14  0  0  0 14
## 475  EHSR1 EHSR1-1         H 2016-06-06 20  0  0  0 20
## 633  EHSR1 EHSR1-1         H 2016-06-09  8 12  0  0 20
## 791  EHSR1 EHSR1-1         H 2016-06-12  4 11  0  0 15
## 949  EHSR1 EHSR1-1         H 2016-06-15  2  4  9  0 15
## 1108 EHSR1 EHSR1-1         H 2016-06-22  0  0  0 20 20
## 1267 EHSR1 EHSR1-1         H 2016-06-25  0  0  0 17 17
```

ehsr2

```
##        plot plantid treatment       date BD FF SG SD TF
## 2    EHSR1 EHSR1-2         H 2016-05-28 14  0  0  0 14
## 160  EHSR1 EHSR1-2         H 2016-05-31 15  0  0  0 15
## 318  EHSR1 EHSR1-2         H 2016-06-03 14  0  0  0 14
## 476  EHSR1 EHSR1-2         H 2016-06-06  9  7  0  0 16
## 634  EHSR1 EHSR1-2         H 2016-06-09  3 11  0  0 14
## 792  EHSR1 EHSR1-2         H 2016-06-12  0 15  0  0 15
## 950  EHSR1 EHSR1-2         H 2016-06-15  1  0 12  0 13
## 1109 EHSR1 EHSR1-2         H 2016-06-22  0  0  0 16 16
## 1268 EHSR1 EHSR1-2         H 2016-06-25  0  0  0 14 14
```

ehsr4

```
##        plot plantid treatment       date BD FF SG SD TF
## 4    EHSR1 EHSR1-4         H 2016-05-28  1  0  0  0  1
## 320  EHSR1 EHSR1-4         H 2016-06-03  1  0  0  0  1
## 478  EHSR1 EHSR1-4         H 2016-06-06  1  0  0  0  1
## 794  EHSR1 EHSR1-4         H 2016-06-12  0  0  1  0  1
## 952  EHSR1 EHSR1-4         H 2016-06-15  0  0  1  0  1
## 1111 EHSR1 EHSR1-4         H 2016-06-22  0  0  0  1  1
## 1270 EHSR1 EHSR1-4         H 2016-06-25  0  0  0  1  1
```

ehsr5

```
##        plot plantid treatment       date BD FF SG SD TF
## 5    EHSR1 EHSR1-5         H 2016-05-28  6  0  0  0  6
## 163  EHSR1 EHSR1-5         H 2016-05-31  6  0  0  0  6
## 321  EHSR1 EHSR1-5         H 2016-06-03  6  0  0  0  6
## 479  EHSR1 EHSR1-5         H 2016-06-06  4  2  0  0  6
## 637  EHSR1 EHSR1-5         H 2016-06-09  2  4  0  0  6
## 795  EHSR1 EHSR1-5         H 2016-06-12  0  2  4  0  6
## 953  EHSR1 EHSR1-5         H 2016-06-15  0  0  5  0  5
## 1112 EHSR1 EHSR1-5         H 2016-06-22  0  0  0  6  6
## 1271 EHSR1 EHSR1-5         H 2016-06-25  0  0  0  6  6
```

whsr1

```
##        plot plantid treatment       date BD FF SG SD TF
## 103  WHSR9 WHSR9-1         H 2016-05-28  9  0  0  0  9
## 261  WHSR9 WHSR9-1         H 2016-05-31  8  0  0  0  8
## 419  WHSR9 WHSR9-1         H 2016-06-03  8  1  0  0  9
## 577  WHSR9 WHSR9-1         H 2016-06-06  5  3  0  0  8
## 735  WHSR9 WHSR9-1         H 2016-06-09  4  5  0  0  9
```

```
## 893  WHSR9 WHSR9-1         H 2016-06-12  0  8  1  0  9
## 1051 WHSR9 WHSR9-1         H 2016-06-15  1  4  4  0  9
## 1210 WHSR9 WHSR9-1         H 2016-06-22  0  1  1  8 10
## 1369 WHSR9 WHSR9-1         H 2016-06-25  0  0  1  9 10
```

whsr2

```
##         plot plantid treatment       date BD FF SG SD TF
## 104  WHSR9 WHSR9-2         H 2016-05-28 10  0  0  0 10
## 262  WHSR9 WHSR9-2         H 2016-05-31 11  0  0  0 11
## 420  WHSR9 WHSR9-2         H 2016-06-03 11  1  0  0 12
## 578  WHSR9 WHSR9-2         H 2016-06-06  6  5  0  0 11
## 736  WHSR9 WHSR9-2         H 2016-06-09  6  9  0  0 15
## 894  WHSR9 WHSR9-2         H 2016-06-12  2  9  4  0 15
## 1052 WHSR9 WHSR9-2         H 2016-06-15  0  6  9  0 15
## 1211 WHSR9 WHSR9-2         H 2016-06-22  0  0  0 12 12
## 1370 WHSR9 WHSR9-2         H 2016-06-25  0  0  0 15 15
```

whsr3

```
##         plot plantid treatment       date BD FF SG SD TF
## 105  WHSR9 WHSR9-3         H 2016-05-28  8  0  0  0  8
## 263  WHSR9 WHSR9-3         H 2016-05-31  6  0  0  0  6
## 421  WHSR9 WHSR9-3         H 2016-06-03  8  0  0  0  8
## 579  WHSR9 WHSR9-3         H 2016-06-06  8  0  0  0  8
## 737  WHSR9 WHSR9-3         H 2016-06-09  0  8  0  0  8
## 895  WHSR9 WHSR9-3         H 2016-06-12  0  7  1  0  8
## 1053 WHSR9 WHSR9-3         H 2016-06-15  0  0  8  0  8
## 1212 WHSR9 WHSR9-3         H 2016-06-22  0  0  0  8  8
## 1371 WHSR9 WHSR9-3         H 2016-06-25  0  0  0  8  8
```

whsr4

```
##         plot plantid treatment       date BD FF SG SD TF
## 106  WHSR9 WHSR9-4         H 2016-05-28  4  0  0  0  4
## 264  WHSR9 WHSR9-4         H 2016-05-31  5  0  0  0  5
## 422  WHSR9 WHSR9-4         H 2016-06-03  6  0  0  0  6
## 580  WHSR9 WHSR9-4         H 2016-06-06  6  1  0  0  7
## 738  WHSR9 WHSR9-4         H 2016-06-09  2  6  0  0  8
## 896  WHSR9 WHSR9-4         H 2016-06-12  0  4  2  0  6
## 1054 WHSR9 WHSR9-4         H 2016-06-15  0  1  5  0  6
## 1213 WHSR9 WHSR9-4         H 2016-06-22  0  1  0  5  6
## 1372 WHSR9 WHSR9-4         H 2016-06-25  0  0  1  4  5
```
Control Plots
cc1

```
##         plot plantid treatment       date BD FF SG SD TF
## 68   CC6   CC6-1         C 2016-05-28  7  0  0  0  7
## 226  CC6   CC6-1         C 2016-05-31  7  0  0  0  7
## 384  CC6   CC6-1         C 2016-06-03  6  0  0  0  6
## 542  CC6   CC6-1         C 2016-06-06  4  1  0  0  5
## 700  CC6   CC6-1         C 2016-06-09  0  5  0  0  5
## 858  CC6   CC6-1         C 2016-06-12  0  3  2  0  5
## 1016 CC6   CC6-1         C 2016-06-15  0  1  4  0  5
## 1175 CC6   CC6-1         C 2016-06-22  0  0  0  6  6
## 1334 CC6   CC6-1         C 2016-06-25  0  0  0  4  4
```

cc10

```
##       plot plantid treatment       date BD FF SG SD TF
## 77    CC6   CC6-10         C 2016-05-28  8  0  0  0  8
## 235   CC6   CC6-10         C 2016-05-31 10  0  0  0 10
## 393   CC6   CC6-10         C 2016-06-03  9  0  0  0  9
## 551   CC6   CC6-10         C 2016-06-06  4  4  0  0  8
## 709   CC6   CC6-10         C 2016-06-09  1  7  0  0  8
## 867   CC6   CC6-10         C 2016-06-12  0  2  5  0  7
## 1025  CC6   CC6-10         C 2016-06-15  1  0  7  0  8
## 1184  CC6   CC6-10         C 2016-06-22  0  0  0  8  8
## 1343  CC6   CC6-10         C 2016-06-25  0  0  0  8  8
```

cc4

```
##       plot plantid treatment       date BD FF SG SD TF
## 229   CC6    CC6-4         C 2016-05-31  2  0  0  0  2
## 387   CC6    CC6-4         C 2016-06-03  1  0  0  0  1
## 545   CC6    CC6-4         C 2016-06-06  0  0  0  0  0
```

cc9

```
##       plot plantid treatment       date BD FF SG SD TF
## 76    CC6    CC6-9         C 2016-05-28 10  0  0  0 10
## 234   CC6    CC6-9         C 2016-05-31 10  0  0  0 10
## 392   CC6    CC6-9         C 2016-06-03  8  0  0  0  8
## 550   CC6    CC6-9         C 2016-06-06  7  1  0  0  8
## 708   CC6    CC6-9         C 2016-06-09  2  2  0  0  4
## 866   CC6    CC6-9         C 2016-06-12  1  0  3  0  4
## 1024  CC6    CC6-9         C 2016-06-15  0  0  3  0  3
## 1183  CC6    CC6-9         C 2016-06-22  0  0  0  4  4
## 1342  CC6    CC6-9         C 2016-06-25  0  0  0  4  4
```

csr1

```
##       plot plantid treatment       date BD FF SG SD TF
## 85    CSR7   CSR7-1         C 2016-05-28 12  0  0  0 12
## 243   CSR7   CSR7-1         C 2016-05-31 14  0  0  0 14
## 401   CSR7   CSR7-1         C 2016-06-03  9  1  0  0 10
## 559   CSR7   CSR7-1         C 2016-06-06  7  3  0  0 10
## 717   CSR7   CSR7-1         C 2016-06-09  3  5  0  0  8
## 875   CSR7   CSR7-1         C 2016-06-12  0  1  4  0  5
## 1033  CSR7   CSR7-1         C 2016-06-15  0  0  4  1  5
## 1192  CSR7   CSR7-1         C 2016-06-22  0  0  0  4  4
## 1351  CSR7   CSR7-1         C 2016-06-25  0  0  0  6  6
```

csr3

```
##       plot plantid treatment       date BD FF SG SD TF
## 87    CSR7   CSR7-3         C 2016-05-28  4  0  0  0  4
## 245   CSR7   CSR7-3         C 2016-05-31  5  0  0  0  5
## 403   CSR7   CSR7-3         C 2016-06-03  4  0  0  0  4
## 561   CSR7   CSR7-3         C 2016-06-06  2  2  0  0  4
## 719   CSR7   CSR7-3         C 2016-06-09  2  2  0  0  4
## 877   CSR7   CSR7-3         C 2016-06-12  0  1  1  0  2
## 1035  CSR7   CSR7-3         C 2016-06-15  0  1  0  1  2
## 1194  CSR7   CSR7-3         C 2016-06-22  0  0  0  3  3
## 1353  CSR7   CSR7-3         C 2016-06-25  0  0  0  2  2
```

csr5

```
##          plot plantid treatment       date BD FF SG SD TF
## 89   CSR7  CSR7-5         C 2016-05-28  2  0  0  0  2
## 247  CSR7  CSR7-5         C 2016-05-31  5  0  0  0  5
## 405  CSR7  CSR7-5         C 2016-06-03  1  1  0  0  2
## 563  CSR7  CSR7-5         C 2016-06-06  1  1  0  0  2
## 721  CSR7  CSR7-5         C 2016-06-09  0  2  0  0  2
## 879  CSR7  CSR7-5         C 2016-06-12  0  1  1  0  2
## 1037 CSR7  CSR7-5         C 2016-06-15  0  0  2  0  2
## 1196 CSR7  CSR7-5         C 2016-06-22  0  0  0  2  2
## 1355 CSR7  CSR7-5         C 2016-06-25  0  0  0  2  2
```

csr6

```
##          plot plantid treatment       date BD FF SG SD TF
## 90   CSR7  CSR7-6         C 2016-05-28  1  0  0  0  1
## 248  CSR7  CSR7-6         C 2016-05-31  1  0  0  0  1
## 406  CSR7  CSR7-6         C 2016-06-03  1  0  0  0  1
## 564  CSR7  CSR7-6         C 2016-06-06  0  1  0  0  1
## 722  CSR7  CSR7-6         C 2016-06-09  0  1  0  0  1
## 880  CSR7  CSR7-6         C 2016-06-12  0  0  1  0  1
## 1038 CSR7  CSR7-6         C 2016-06-15  0  0  0  1  1
## 1197 CSR7  CSR7-6         C 2016-06-22  0  0  0  1  1
## 1356 CSR7  CSR7-6         C 2016-06-25  0  0  0  1  1
```

csr8

```
##          plot plantid treatment       date BD FF SG SD TF
## 92   CSR7  CSR7-8         C 2016-05-28  6  0  0  0  6
## 250  CSR7  CSR7-8         C 2016-05-31  8  0  0  0  8
## 408  CSR7  CSR7-8         C 2016-06-03  4  0  0  0  4
## 566  CSR7  CSR7-8         C 2016-06-06  1  2  0  0  3
## 724  CSR7  CSR7-8         C 2016-06-09  0  2  0  0  2
## 882  CSR7  CSR7-8         C 2016-06-12  0  0  2  0  2
## 1040 CSR7  CSR7-8         C 2016-06-15  0  0  2  0  2
## 1199 CSR7  CSR7-8         C 2016-06-22  0  0  0  2  2
## 1358 CSR7  CSR7-8         C 2016-06-25  0  0  0  2  2
```

csr9

```
##          plot plantid treatment       date BD FF SG SD TF
## 93   CSR7  CSR7-9         C 2016-05-28 19  0  0  0 19
## 251  CSR7  CSR7-9         C 2016-05-31 23  0  0  0 23
## 409  CSR7  CSR7-9         C 2016-06-03 10  4  0  0 14
## 567  CSR7  CSR7-9         C 2016-06-06  8  9  0  0 17
## 725  CSR7  CSR7-9         C 2016-06-09  2 15  0  0 17
## 883  CSR7  CSR7-9         C 2016-06-12  0  5  9  0 14
## 1041 CSR7  CSR7-9         C 2016-06-15  0  2 12  0 14
## 1200 CSR7  CSR7-9         C 2016-06-22  0  0  0 15 15
## 1359 CSR7  CSR7-9         C 2016-06-25  0  0  0 16 16
```

ec1

```
##          plot plantid treatment       date BD FF SG SD TF
## 22   EC3   EC3-1         C 2016-05-28  8  0  0  0  8
## 180  EC3   EC3-1         C 2016-05-31  5  0  0  0  5
## 338  EC3   EC3-1         C 2016-06-03  4  1  0  0  5
```

```
## 496    EC3    EC3-1           C 2016-06-06  2  1  0  0  3
## 654    EC3    EC3-1           C 2016-06-09  2  1  0  0  3
## 812    EC3    EC3-1           C 2016-06-12  0  1  1  0  2
## 970    EC3    EC3-1           C 2016-06-15  0  0  2  0  2
## 1129   EC3    EC3-1           C 2016-06-22  0  0  0  0  0
## 1288   EC3    EC3-1           C 2016-06-25  0  0  0  2  2
```

ec3

```
##        plot plantid treatment       date BD FF SG SD TF
## 24     EC3    EC3-3           C 2016-05-28 10  0  0  0 10
## 182    EC3    EC3-3           C 2016-05-31 12  0  0  0 12
## 340    EC3    EC3-3           C 2016-06-03  2  2  0  0  4
## 498    EC3    EC3-3           C 2016-06-06  0  4  0  0  4
## 656    EC3    EC3-3           C 2016-06-09  0  2  2  0  4
## 814    EC3    EC3-3           C 2016-06-12  0  0  4  0  4
## 972    EC3    EC3-3           C 2016-06-15  0  0  3  0  3
## 1131   EC3    EC3-3           C 2016-06-22  0  0  0  0  0
## 1290   EC3    EC3-3           C 2016-06-25  0  0  0  4  4
```

esr1

```
##        plot plantid treatment       date BD FF SG SD TF
## 8      ESR2  ESR2-1          C 2016-05-28  2  0  0  0  2
## 166    ESR2  ESR2-1          C 2016-05-31  2  0  0  0  2
## 324    ESR2  ESR2-1          C 2016-06-03  2  0  0  0  2
## 482    ESR2  ESR2-1          C 2016-06-06  1  0  0  0  1
```

esr11

```
##        plot plantid treatment       date BD FF SG SD TF
## 18     ESR2 ESR2-11          C 2016-05-28  1  0  0  0  1
## 176    ESR2 ESR2-11          C 2016-05-31  1  0  0  0  1
## 334    ESR2 ESR2-11          C 2016-06-03  1  0  0  0  1
## 492    ESR2 ESR2-11          C 2016-06-06  0  1  0  0  1
## 650    ESR2 ESR2-11          C 2016-06-09  0  0  0  0  0
## 808    ESR2 ESR2-11          C 2016-06-12  0  0  1  0  1
## 1125   ESR2 ESR2-11          C 2016-06-22  0  0  0  1  1
```

esr2

```
##        plot plantid treatment       date BD FF SG SD TF
## 9      ESR2   ESR2-2          C 2016-05-28  8  0  0  0  8
## 167    ESR2   ESR2-2          C 2016-05-31  7  0  0  0  7
## 325    ESR2   ESR2-2          C 2016-06-03  6  0  0  0  6
## 483    ESR2   ESR2-2          C 2016-06-06  4  1  0  0  5
## 641    ESR2   ESR2-2          C 2016-06-09  2  3  0  0  5
## 799    ESR2   ESR2-2          C 2016-06-12  0  3  1  0  4
## 957    ESR2   ESR2-2          C 2016-06-15  1  2  0  0  3
## 1116   ESR2   ESR2-2          C 2016-06-22  0  0  0  6  6
## 1275   ESR2   ESR2-2          C 2016-06-25  0  0  0  4  4
```

esr3

```
##        plot plantid treatment       date BD FF SG SD TF
## 10     ESR2   ESR2-3          C 2016-05-28 22  0  0  0 22
## 168    ESR2   ESR2-3          C 2016-05-31 27  0  0  0 27
## 326    ESR2   ESR2-3          C 2016-06-03 26  0  0  0 26
## 484    ESR2   ESR2-3          C 2016-06-06 20  0  0  0 20
```

```
## 642  ESR2  ESR2-3         C 2016-06-09  0  0  0  0  0
## 800  ESR2  ESR2-3         C 2016-06-12  0  0  0  0  0
## 958  ESR2  ESR2-3         C 2016-06-15  0  0  1  0  1
## 1117 ESR2  ESR2-3         C 2016-06-22 25  0  0  3 28
## 1276 ESR2  ESR2-3         C 2016-06-25  0  0  0  2  2
```

esr4

```
##       plot plantid treatment       date BD FF SG SD TF
## 11   ESR2  ESR2-4         C 2016-05-28 12  0  0  0 12
## 169  ESR2  ESR2-4         C 2016-05-31 13  3  0  0 16
## 327  ESR2  ESR2-4         C 2016-06-03  4  5  0  0  9
## 485  ESR2  ESR2-4         C 2016-06-06  4  5  0  0  9
## 643  ESR2  ESR2-4         C 2016-06-09  0  2  3  0  5
## 801  ESR2  ESR2-4         C 2016-06-12  0  0  5  0  5
## 959  ESR2  ESR2-4         C 2016-06-15  0  0  2  3  5
## 1118 ESR2  ESR2-4         C 2016-06-22  0  0  0  9  9
## 1277 ESR2  ESR2-4         C 2016-06-25  0  0  0  3  3
```

esr6

```
##       plot plantid treatment       date BD FF SG SD TF
## 13   ESR2  ESR2-6         C 2016-05-28  3  0  0  0  3
## 171  ESR2  ESR2-6         C 2016-05-31  4  0  0  0  4
## 329  ESR2  ESR2-6         C 2016-06-03  2  0  0  0  2
## 487  ESR2  ESR2-6         C 2016-06-06  1  1  0  0  2
## 645  ESR2  ESR2-6         C 2016-06-09  1  1  0  0  2
## 803  ESR2  ESR2-6         C 2016-06-12  0  0  1  0  1
## 961  ESR2  ESR2-6         C 2016-06-15  0  0  1  0  1
## 1120 ESR2  ESR2-6         C 2016-06-22  0  0  0  1  1
## 1279 ESR2  ESR2-6         C 2016-06-25  0  0  0  1  1
```

esr8

```
##       plot plantid treatment       date BD FF SG SD TF
## 331 ESR2  ESR2-8         C 2016-06-03  0  0  0  0  0
## 489 ESR2  ESR2-8         C 2016-06-06  0  0  0  0  0
## 647 ESR2  ESR2-8         C 2016-06-09  0  0  0  0  0
## 805 ESR2  ESR2-8         C 2016-06-12  0  0  0  0  0
```

wc1

```
##       plot plantid treatment       date BD FF SG SD TF
## 282  WC11  WC11-1         C 2016-05-31  3  0  0  0  3
## 440  WC11  WC11-1         C 2016-06-03  2  0  0  0  2
## 598  WC11  WC11-1         C 2016-06-06  0  0  0  0  0
## 756  WC11  WC11-1         C 2016-06-09  1  0  0  0  1
## 914  WC11  WC11-1         C 2016-06-12  0  1  0  0  1
## 1072 WC11  WC11-1         C 2016-06-15  0  1  0  0  1
## 1231 WC11  WC11-1         C 2016-06-22  0  0  0  1  1
## 1390 WC11  WC11-1         C 2016-06-25  0  0  0  1  1
```

wc2

```
##       plot plantid treatment       date BD FF SG SD TF
## 125  WC11  WC11-2         C 2016-05-28  7  0  0  0  7
## 283  WC11  WC11-2         C 2016-05-31  3  0  0  0  3
## 441  WC11  WC11-2         C 2016-06-03  1  1  0  0  2
## 599  WC11  WC11-2         C 2016-06-06  1  1  0  0  2
```

```
## 757  WC11   WC11-2          C 2016-06-09  0   1   1   0   2
## 915  WC11   WC11-2          C 2016-06-12  0   0   2   0   2
## 1073 WC11   WC11-2          C 2016-06-15  0   0   1   1   2
## 1232 WC11   WC11-2          C 2016-06-22  0   0   0   2   2
## 1391 WC11   WC11-2          C 2016-06-25  0   0   0   2   2
```

wc3

```
##       plot plantid treatment       date BD FF SG SD TF
## 126  WC11   WC11-3          C 2016-05-28 10   0   0   0  10
## 284  WC11   WC11-3          C 2016-05-31 10   0   0   0  10
## 442  WC11   WC11-3          C 2016-06-03  4   0   0   0   4
## 600  WC11   WC11-3          C 2016-06-06  1   3   0   0   4
## 758  WC11   WC11-3          C 2016-06-09  0   4   0   0   4
## 916  WC11   WC11-3          C 2016-06-12  0   3   1   0   4
## 1074 WC11   WC11-3          C 2016-06-15  0   0   4   0   4
## 1233 WC11   WC11-3          C 2016-06-22  0   0   2   2   4
## 1392 WC11   WC11-3          C 2016-06-25  0   0   0   4   4
```

wc4

```
##       plot plantid treatment       date BD FF SG SD TF
## 127  WC11   WC11-4          C 2016-05-28  3   0   0   0   3
## 285  WC11   WC11-4          C 2016-05-31  1   0   0   0   1
## 443  WC11   WC11-4          C 2016-06-03  2   0   0   0   2
## 601  WC11   WC11-4          C 2016-06-06  1   0   0   0   1
## 759  WC11   WC11-4          C 2016-06-09  0   1   0   0   1
## 917  WC11   WC11-4          C 2016-06-12  0   1   0   0   1
## 1075 WC11   WC11-4          C 2016-06-15  0   0   1   0   1
## 1234 WC11   WC11-4          C 2016-06-22  0   0   0   1   1
## 1393 WC11   WC11-4          C 2016-06-25  0   0   0   1   1
```

wc5

```
##       plot plantid treatment       date BD FF SG SD TF
## 128  WC11   WC11-5          C 2016-05-28  2   0   0   0   2
## 286  WC11   WC11-5          C 2016-05-31  2   0   0   0   2
## 444  WC11   WC11-5          C 2016-06-03  2   0   0   0   2
## 602  WC11   WC11-5          C 2016-06-06  2   0   0   0   2
## 760  WC11   WC11-5          C 2016-06-09  0   2   0   0   2
## 918  WC11   WC11-5          C 2016-06-12  0   1   1   0   2
## 1076 WC11   WC11-5          C 2016-06-15  0   0   0   0   0
## 1235 WC11   WC11-5          C 2016-06-22  0   0   0   2   2
## 1394 WC11   WC11-5          C 2016-06-25  0   0   0   2   2
```

wc7

```
##       plot plantid treatment       date BD FF SG SD TF
## 130  WC11   WC11-7          C 2016-05-28  8   0   0   0   8
## 288  WC11   WC11-7          C 2016-05-31  6   0   0   0   6
## 446  WC11   WC11-7          C 2016-06-03  3   0   0   0   3
## 604  WC11   WC11-7          C 2016-06-06  3   0   0   0   3
## 762  WC11   WC11-7          C 2016-06-09  0   3   0   0   3
## 920  WC11   WC11-7          C 2016-06-12  0   2   1   0   3
## 1078 WC11   WC11-7          C 2016-06-15  0   0   2   1   3
## 1237 WC11   WC11-7          C 2016-06-22  0   0   0   3   3
## 1396 WC11   WC11-7          C 2016-06-25  0   0   0   3   3
```

wsr1

```
##         plot plantid treatment       date BD FF SG SD TF
## 113   WSR10 WSR10-1         C 2016-05-28 24  0  0  0 24
## 271   WSR10 WSR10-1         C 2016-05-31 24  0  0  0 24
## 429   WSR10 WSR10-1         C 2016-06-03 22  0  0  0 22
## 587   WSR10 WSR10-1         C 2016-06-06  9 13  0  0 22
## 745   WSR10 WSR10-1         C 2016-06-09  2 16  0  0 18
## 903   WSR10 WSR10-1         C 2016-06-12  2  6  8  0 16
## 1061  WSR10 WSR10-1         C 2016-06-15  0  2 14  0 16
## 1220  WSR10 WSR10-1         C 2016-06-22  0  0  0 16 16
## 1379  WSR10 WSR10-1         C 2016-06-25  0  0  0 18 18
```

wsr3

```
##         plot plantid treatment       date BD FF SG SD TF
## 115   WSR10 WSR10-3         C 2016-05-28  2  0  0  0  2
## 273   WSR10 WSR10-3         C 2016-05-31  2  0  0  0  2
## 431   WSR10 WSR10-3         C 2016-06-03  1  1  0  0  2
## 589   WSR10 WSR10-3         C 2016-06-06  1  1  0  0  2
## 747   WSR10 WSR10-3         C 2016-06-09  0  1  0  0  1
## 905   WSR10 WSR10-3         C 2016-06-12  0  0  1  0  1
## 1063  WSR10 WSR10-3         C 2016-06-15  0  0  1  0  1
## 1222  WSR10 WSR10-3         C 2016-06-22  0  0  0  1  1
## 1381  WSR10 WSR10-3         C 2016-06-25  0  0  0  2  2
```

wsr7

```
##         plot plantid treatment       date BD FF SG SD TF
## 119   WSR10 WSR10-7         C 2016-05-28 27  0  0  0 27
## 277   WSR10 WSR10-7         C 2016-05-31 18  0  0  0 18
## 435   WSR10 WSR10-7         C 2016-06-03  5  8  0  0 13
## 593   WSR10 WSR10-7         C 2016-06-06  2 10  0  0 12
## 751   WSR10 WSR10-7         C 2016-06-09  0  2  8  0 10
## 909   WSR10 WSR10-7         C 2016-06-12  0  0 11  0 11
## 1067  WSR10 WSR10-7         C 2016-06-15  0  0  8  3 11
## 1226  WSR10 WSR10-7         C 2016-06-22  0  0  0  9  9
## 1385  WSR10 WSR10-7         C 2016-06-25  0  0  0 11 11
```

wsr9

```
##         plot plantid treatment       date BD FF SG SD TF
## 121   WSR10 WSR10-9         C 2016-05-28  4  0  0  0  4
## 279   WSR10 WSR10-9         C 2016-05-31  5  0  0  0  5
## 437   WSR10 WSR10-9         C 2016-06-03  1  0  0  0  1
## 595   WSR10 WSR10-9         C 2016-06-06  1  0  0  0  1
## 753   WSR10 WSR10-9         C 2016-06-09  0  0  0  0  0
## 911   WSR10 WSR10-9         C 2016-06-12  0  0  0  0  0
## 1069  WSR10 WSR10-9         C 2016-06-15  0  0  0  0  0
## 1228  WSR10 WSR10-9         C 2016-06-22  0  0  0  0  0
## 1387  WSR10 WSR10-9         C 2016-06-25  0  0  0  1  1
```