ypfg\_12mo\_R

ypfg<-function()**{**

chi\_yp\_prev<-read.csv("TEST Chicago Daily YP.csv")

##Find current year

cy<- year(now())

##First day current year

fdcy<-ymd(as.character((now()),"%Y-%m-%d"))

month(fdcy)<-1

day(fdcy)<-1

wday(fdcy)<-1

##Last day of current year

ldcy<-ymd(as.character((now()),"%Y-%m-%d"))

month(ldcy)<-12

day(ldcy)<-31

##Find previous year

py<- year(now())-1

##First day past year

fdpy<-ymd(as.character((now()),"%Y-%m-%d"))

year(fdpy)<-year(now())-1

month(fdpy)<-1

day(fdpy)<-1

wday(fdpy)<-1

##Last day of past year

ldpy<-ymd(as.character((now()),"%Y-%m-%d"))

year(ldpy)<-year(now())-1

month(ldpy)<-12

day(ldpy)<-31

ifelse(fdcy<=ldpy,ldpy<-fdcy-1,ldpy)

yp\_fg<-read.csv("2 2) Fior all data.csv")

yp\_p<-read.csv("2 2) PELLETS all data.csv")

##proper format for dates

yp\_fg<-mutate(yp\_fg,date=as.Date(as.character(Date),"%d-%b-%y"), weekc=as.Date(as.character(WeekC),"%d-%b-%y"),location=as.character(Location))

yp\_p<-mutate(yp\_p,date=as.Date(as.character(Date),"%d-%b-%y"), weekc=as.Date(as.character(WeekC),"%d-%b-%y"),location=as.character(Location))

yp\_p\_py<-filter(arrange(yp\_p,location,desc(weekc)),weekc<ldpy&weekc>=fdpy)

yp\_fg\_py<-filter(arrange(yp\_fg,location,desc(weekc)),weekc<ldpy&weekc>=fdpy)

##calculate previous year averages

yp\_fg\_pys<-summarize(group\_by(select(yp\_fg\_py,location,weekc,PS.Actual.FG.LBS,PS.Fried.Lbs,CR.TT.Finished.Goods.Lbs,CR.TT.Fried.Lbs),location,weekc),psac=sum(PS.Actual.FG.LBS,na.rm=TRUE),psfr=sum(PS.Fried.Lbs,na.rm=TRUE),crac=sum(CR.TT.Finished.Goods.Lbs,na.rm=TRUE),crfr=sum(CR.TT.Fried.Lbs,na.rm=TRUE),psy=psac/psfr,cry=crac/crfr)

yp\_fg\_pym<-summarize(group\_by(yp\_fg\_pys,location),psac\_py=sum(psac),psfr\_py=sum(psfr),crac\_py=sum(crac),crfr\_py=sum(crfr),psy\_py=mean(psac\_py/psfr\_py),cry\_py=mean(crac\_py/crfr\_py))

##first build the current year weekly yields data frame

yp\_fg\_cy<-filter(arrange(yp\_fg,location,desc(weekc)),weekc<=ldcy&weekc>=fdcy)

yp\_p\_cy<-filter(arrange(yp\_p,location,desc(weekc)),weekc<=ldcy&weekc>=fdcy)

yp\_fg\_cys<-summarize(group\_by(select(yp\_fg\_cy,location,weekc,PS.Actual.FG.LBS,PS.Fried.Lbs,CR.TT.Finished.Goods.Lbs,CR.TT.Fried.Lbs),location,weekc),psac=sum(PS.Actual.FG.LBS,na.rm=TRUE),psfr=sum(PS.Fried.Lbs,na.rm=TRUE),crac=sum(CR.TT.Finished.Goods.Lbs,na.rm=TRUE),crfr=sum(CR.TT.Fried.Lbs,na.rm=TRUE),psy=ifelse(psac==0,NA,psac/psfr),cry=ifelse(crac==0,NA,crac/crfr))

yp\_fg\_cym<-summarize(group\_by(yp\_fg\_cys,location),psac\_cy=sum(psac),psfr\_cy=sum(psfr),crac\_cy=sum(crac),crfr\_cy=sum(crfr),psy\_cy=mean(psac\_cy/psfr\_cy),cry\_cy=mean(crac\_cy/crfr\_cy))

##coiy\_cy<-subset(yp\_fg\_cys,location=="COI",select=c(location,weekc,psy,cry))

##yp\_fg\_pym[6,6]<-min(coiy\_cy$psy)

##yp\_fg\_pym[6,7]<-min(coiy\_cy$cry)

##yp\_fg\_pym[6,6]<-quantile((coiy\_cy$psy),probs=0.33)

##yp\_fg\_pym[6,7]<-quantile((coiy\_cy$cry),probs=0.33)

##yp\_fg\_pym[6,1]<-"COI"

pssav<-numeric()

crsav<-numeric()

k<-0

m<-0

for(i in 1:nrow(yp\_fg\_cys))**{**

pssav[i]=k+1.26\*(-as.numeric(yp\_fg\_cys[i,4])+as.numeric(yp\_fg\_cys[i,3])/ as.numeric(filter(yp\_fg\_pym,location==as.character(yp\_fg\_cys[i,1]))[,6]))

crsav[i]= m+1.26\*(-as.numeric(yp\_fg\_cys[i,6])+as.numeric(yp\_fg\_cys[i,5])/ as.numeric(filter(yp\_fg\_pym,location==as.character(yp\_fg\_cys[i,1]))[,7]))

ifelse(as.character(yp\_fg\_cys[i+1,1])== as.character(yp\_fg\_cys[i,1]),k<-pssav[i],k<-0)

ifelse(as.character(yp\_fg\_cys[i+1,1])== as.character(yp\_fg\_cys[i,1]),m<-crsav[i],m<-0)

**}**

sav\_cy<-data.frame(yp\_fg\_cys$location, yp\_fg\_cys$weekc, yp\_fg\_cys$psy ,pssav, yp\_fg\_cys$cry ,crsav)

##Exclude COI from the sum

evsav\_cy<-summarize(group\_by(subset(sav\_cy, yp\_fg\_cys.location!="COI"),yp\_fg\_cys.weekc),sum(pssav),sum(crsav,na.rm=TRUE))

evsav\_cy<-mutate(evsav\_cy,location="Evans")

names(evsav\_cy)<-c("weekc","pssav","crsav","location")

write.csv(sav\_cy,"sav\_cy.csv")

write.csv(yp\_fg\_cys,"yp\_fg\_cys.csv")

write.csv(yp\_fg\_cym ,"yp\_fg\_cym.csv")

write.csv(yp\_fg\_pym,"yp\_fg\_pym.csv")

write.csv(evsav\_cy,"evsav\_cy.csv")

plot.new()

dev.new()

ifelse(min(evsav\_cy$pssav,sav\_cy$pssav,na.rm=TRUE)>0,y1<-0,y1<- min(evsav\_cy$pssav,sav\_cy$pssav,na.rm=TRUE))

ifelse(max(evsav\_cy$pssav,sav\_cy$pssav,na.rm=TRUE)<0,y2<-0,y2<-max(evsav\_cy$pssav,sav\_cy$pssav,na.rm=TRUE))

plot(filter(sav\_cy,yp\_fg\_cys.location=="CAL")$yp\_fg\_cys.weekc,filter(sav\_cy,yp\_fg\_cys.location=="CAL")$pssav,type="l",col="pink",lwd=2,xlab="Current year",ylab="Accumulated savings (k usd)",main="FG PS yield savings Current vs Previous year", ylim=c(y1,y2),yaxt="n",bty="n")

points(filter(sav\_cy,yp\_fg\_cys.location=="TX")$yp\_fg\_cys.weekc,filter(sav\_cy,yp\_fg\_cys.location=="TX")$pssav,col="green",type="l",lwd=2, bty="n")

pts <-seq(y1,y2,by=(y2-y1)/3) ## c(100000,200000,300000,400000)

ptsv<-seq(0,length(unique(evsav\_cy$weekc)),by=1)

##axis**(**2, at = c**(**0,as.numeric**(**evsav\_cy[length(evsav\_cy$pssav),2]**)** ,pts**)**, labels = c(0,formatC**(**as.numeric**(**evsav\_cy[length**(**evsav\_cy$pssav**)**,2]/1000**)**,format="f",digits=0,big.mark=","**)**,paste**(**formatC**(**pts/1000,format="f",digits=0,big.mark=","**)**, "k", sep = ""**)**),las=1**)**

axis**(**2, at = c**(**0,as.numeric**(**evsav\_cy[length(evsav\_cy$pssav),2]**))**, labels = c(0,formatC**(**as.numeric**(**evsav\_cy[length**(**evsav\_cy$pssav**)**,2]/1000**)**,format="f",digits=0,big.mark=","**)**),las=1**)**

points(filter(sav\_cy,yp\_fg\_cys.location=="OH")$yp\_fg\_cys.weekc,filter(sav\_cy,yp\_fg\_cys.location=="OH")$pssav,col="blue",type="l",lwd=2,bty="n")

points(filter(sav\_cy,yp\_fg\_cys.location=="CHI")$yp\_fg\_cys.weekc,filter(sav\_cy,yp\_fg\_cys.location=="CHI")$pssav,col="orange",type="l",lwd=2,bty="n")

points(filter(sav\_cy,yp\_fg\_cys.location=="COI")$yp\_fg\_cys.weekc,filter(sav\_cy,yp\_fg\_cys.location=="COI")$pssav,col="red",type="l",lwd=2,bty="n")

points(filter(sav\_cy,yp\_fg\_cys.location=="MEX")$yp\_fg\_cys.weekc,filter(sav\_cy,yp\_fg\_cys.location=="MEX")$pssav,col="purple",type="l",lwd=2,bty="n")

points(evsav\_cy$weekc,evsav\_cy$pssav,col="brown",type="l",lwd=2,bty="n")

legend("bottomleft",lty=1:1,col=c("pink","green","blue","orange","red","purple","brown"),legend=c("CAL","TX","OH","CHI","COI","MEX","Evans"),ncol=2,lwd=3)

##abline(h=pts,v=numeric(unique(month(evsav\_cy$weekc,label=TRUE,abbr=TRUE))),col=" lightgray ", lwd=1,lty="dotted")

##abline(h=pts,v=(unique(month(evsav\_cy$weekc))),col=" lightgray ", lwd=1,lty="dotted")

abline(h=pts,v=ptsv,col=" lightgray", lwd=1,lty="dotted")

abline(h=0,col=" lightgray", lwd=1,lty="dotted")

abline(h= as.numeric(evsav\_cy[length(evsav\_cy$pssav),2]),col=" lightgray", lwd=1,lty="dotted")

pause = function()

{

    if (interactive())

    {

        invisible(readline(prompt = " Please copy the graph, click on this window and press <Enter> to continue..."))

    }

    else

    {

        cat("Please copy the graph, click on this window and press <Enter> to continue...")

        invisible(readLines(file("stdin"), 1))

    }

}

pause()

plot.new()

dev.new()

ifelse(min(evsav\_cy$crsav,sav\_cy$crsav,na.rm=TRUE)>0,y1<-0,y1<- min(evsav\_cy$crsav,sav\_cy$crsav,na.rm=TRUE))

ifelse(max(evsav\_cy$crsav,sav\_cy$crsav,na.rm=TRUE)<0,y2<-0,y2<- max(evsav\_cy$crsav,sav\_cy$crsav,na.rm=TRUE))

plot(filter(sav\_cy,yp\_fg\_cys.location=="CAL")$yp\_fg\_cys.weekc,filter(sav\_cy,yp\_fg\_cys.location=="CAL")$crsav,type="l",col="pink",lwd=2,xlab="Current year",ylab="Accumulated savings (k usd)",main="FG CR yield savings Current year vs Previous year", ylim=c(y1,y2),yaxt="n",bty="n")

points(filter(sav\_cy,yp\_fg\_cys.location=="TX")$yp\_fg\_cys.weekc,filter(sav\_cy,yp\_fg\_cys.location=="TX")$crsav,col="green",type="l",lwd=2, bty="n")

pts <-seq(y1,y2,by=(y2-y1)/3) ## c(-25000,50000,100000,150000,200000)

ptsv<-seq(0,length(unique(evsav\_cy$weekc)),by=1)

##axis(2, at = c(0,pts), labels = c(0,paste(formatC(pts/1000,format="f",digits=0,big.mark=","), "k", sep = "")),las=1)

axis**(**2, at = c**(**as.numeric**(**evsav\_cy[length(evsav\_cy$crsav),3]**)**,0,pts**)**, labels = c(formatC**(**as.numeric**(**evsav\_cy[length**(**evsav\_cy$crsav**)**,3]/1000**)**,format="f",digits=0,big.mark=","**)**,0,paste**(**formatC**(**pts/1000,format="f",digits=0,big.mark=","**)**, "k", sep = ""**)**),las=1**)**

##axis(2, at = c(0,pts,as.numeric(evsav\_cy[length(evsav\_cy$crsav),3])), labels = c(0,paste(formatC(pts/1000,format="f",digits=0,big.mark=","), "k", sep = ""), formatC(as.numeric(evsav\_cy[length(evsav\_cy$crsav),3]),format="f",digits=0,big.mark=",")))

points(filter(sav\_cy,yp\_fg\_cys.location=="OH")$yp\_fg\_cys.weekc,filter(sav\_cy,yp\_fg\_cys.location=="OH")$crsav,col="blue",type="l",lwd=2,bty="n")

points(filter(sav\_cy,yp\_fg\_cys.location=="CHI")$yp\_fg\_cys.weekc,filter(sav\_cy,yp\_fg\_cys.location=="CHI")$crsav,col="orange",type="l",lwd=2,bty="n")

points(filter(sav\_cy,yp\_fg\_cys.location=="COI")$yp\_fg\_cys.weekc,filter(sav\_cy,yp\_fg\_cys.location=="COI")$crsav,col="red",type="l",lwd=2,bty="n")

points(filter(sav\_cy,yp\_fg\_cys.location=="MEX")$yp\_fg\_cys.weekc,filter(sav\_cy,yp\_fg\_cys.location=="MEX")$crsav,col="purple",type="l",lwd=2,bty="n")

points(evsav\_cy$weekc,evsav\_cy$crsav,col="brown",type="l",lwd=2,bty="n")

legend("bottomleft",lty=1:1,col=c("pink","green","blue","red","brown"),legend=c("CAL","TX","OH","COI","Evans"),ncol=2,lwd=3)

abline(h=pts,v=ptsv,col=" lightgray", lwd=1,lty="dotted")

abline(h=0,col=" lightgray", lwd=1,lty="dotted")

abline(h= as.numeric(evsav\_cy[length(evsav\_cy$crsav),3]),col=" lightgray", lwd=1,lty="dotted")

##Now for the scorecard new graphs

##Merge all weeks available

yp\_fg\_wks<-rbind(yp\_fg\_pys,yp\_fg\_cys)

##Prepare for weighted average of yields

yp\_fg\_12mo<-mutate(group\_by(yp\_fg\_wks[yp\_fg\_wks$weekc>=now()%m-%months(12),],location),wpsy=psfr\*psy,wcry=crfr\*cry)

##12 mo

yp\_fg\_12mos<-summarize(group\_by(yp\_fg\_12mo[yp\_fg\_12mo$weekc>=now()%m-%months(12),],location),psy12m=sum(wpsy,na.rm=T)/sum(psfr,na.rm=T),cry12m=sum(wcry,na.rm=T)/sum(crfr,na.rm=T),psfr12m=sum(psfr,na.rm=T), crfr12m=sum(crfr,na.rm=T),psfr12m=mean(psfr,na.rm=T),crfr12m=mean(crfr,na.rm=T))

##3 mo

yp\_fg\_3mos<-summarize(group\_by(yp\_fg\_12mo[yp\_fg\_12mo$weekc>=now()%m-%months(3),],location),psy3m=sum(wpsy,na.rm=T)/sum(psfr,na.rm=T),cry3m=sum(wcry,na.rm=T)/sum(crfr,na.rm=T),psfr3m=sum(psfr,na.rm=T), crfr3m=sum(crfr,na.rm=T),psfr3m=mean(psfr,na.rm=T),crfr3m=mean(crfr,na.rm=T))

##Build table with 12mav, 3moav,12momax,12momin,last week

yp\_fg\_extps<-summarize(yp\_fg\_12mo,max\_psy12m=max(psy,na.rm=T),min\_psy12m=min(psy,na.rm=T), max\_psfr12m=max(psfr,na.rm=T))

yp\_fg\_extcr<-summarize(yp\_fg\_12mo,max\_cry12m=max(cry,na.rm=T),min\_cry12m=min(cry,na.rm=T),max\_crfr12m=max(crfr,na.rm=T))

yp\_fg\_extcr<-yp\_fg\_extcr[!(yp\_fg\_extcr$max\_cry12m=="-Inf"| yp\_fg\_extcr$max\_cry12m =="Inf"),]

psy12<-select(yp\_fg\_12mos,location,psy12m)

psy12[,3]<-"12mAvg"

names(psy12)<-c("Plant","x","When")

psymax<-select(yp\_fg\_extps,location,max\_psy12m)

psymax[,3]<-"Max 12m"

names(psymax)<-c("Plant","x","When")

psymin<-select(yp\_fg\_extps,location,min\_psy12m)

psymin[,3]<-"Min 12m"

names(psymin)<-c("Plant","x","When")

cry12<-select(yp\_fg\_12mos,location,cry12m)

cry12[,3]<-"12mAvg"

names(cry12)<-c("Plant","x","When")

cry12<-cry12[complete.cases(cry12$x),]

crymax<-select(yp\_fg\_extcr,location,max\_cry12m)

crymax[,3]<-"Max 12m"

names(crymax)<-c("Plant","x","When")

crymax<-crymax[complete.cases(crymax$x),]

crymin<-select(yp\_fg\_extcr,location,min\_cry12m)

crymin[,3]<-"Min 12m"

names(crymin)<-c("Plant","x","When")

psy3<-select(yp\_fg\_3mos,location,psy3m)

psy3[,3]<-"3mAvg"

names(psy3)<-c("Plant","x","When")

cry3<-select(yp\_fg\_3mos,location,cry3m)

cry3[,3]<-"3mAvg"

names(cry3)<-c("Plant","x","When")

cry3<-cry3[complete.cases(cry3$x),]

##Last week

yp\_fg\_wks\_ps<-select(yp\_fg\_wks,location,weekc,psy)

yp\_fg\_wks\_cr<-select(yp\_fg\_wks[complete.cases(yp\_fg\_wks$cry),],location,weekc,cry)

##Same Evans-wide

##Tabla de partida sera esta, por ejemplo…

## yp\_fg\_12mo

##Evans ps

##12 mo

yp\_fg\_12mos\_ev<-summarize(group\_by(yp\_fg\_12mo[yp\_fg\_12mo$weekc>=now()%m-%months(12),]),psy12m=sum(wpsy,na.rm=T)/sum(psfr,na.rm=T),cry12m=sum(wcry,na.rm=T)/sum(crfr,na.rm=T),psfr12m=sum(psfr,na.rm=T), crfr12m=sum(crfr,na.rm=T),psfr12m=mean(psfr,na.rm=T),crfr12m=mean(crfr,na.rm=T))

##3 mo

yp\_fg\_3mos\_ev<-summarize(group\_by(yp\_fg\_12mo[yp\_fg\_12mo$weekc>=now()%m-%months(3),]),psy3m=sum(wpsy,na.rm=T)/sum(psfr,na.rm=T),cry3m=sum(wcry,na.rm=T)/sum(crfr,na.rm=T),psfr3m=sum(psfr,na.rm=T), crfr3m=sum(crfr,na.rm=T),psfr3m=mean(psfr,na.rm=T),crfr3m=mean(crfr,na.rm=T))

##Build table with 12mav, 3moav,12momax,12momin,last week

##Evans weekly table

yp\_fg\_wkly\_ev<-summarize(group\_by(yp\_fg\_12mo,weekc),psy=sum(wpsy,na.rm=T)/sum(psfr,na.rm=T),cry=sum(wcry,na.rm=T)/sum(crfr,na.rm=T),psfr=sum(psfr,na.rm=T), crfr=sum(crfr,na.rm=T),psfr=mean(psfr,na.rm=T),crfr=mean(crfr,na.rm=T))

yp\_fg\_extps\_ev<-summarize(group\_by(yp\_fg\_wkly\_ev),max\_psy12m=max(psy,na.rm=T),min\_psy12m=min(psy,na.rm=T), max\_psfr12m=max(psfr,na.rm=T))

yp\_fg\_extcr\_ev<-summarize(group\_by(yp\_fg\_wkly\_ev),max\_cry12m=max(cry,na.rm=T),min\_cry12m=min(cry,na.rm=T), max\_crfr12m=max(crfr,na.rm=T))

psy12\_ev<-data.frame()

psy12\_ev[1,1]<-"Evans"

psy12\_ev[1,2]<-select(yp\_fg\_12mos\_ev,psy12m)

psy12\_ev[1,3]<-"12mAvg"

names(psy12\_ev)<-c("Plant","x","When")

psy3\_ev<-data.frame()

psy3\_ev[1,1]<-"Evans"

psy3\_ev[1,2]<-select(yp\_fg\_3mos\_ev,psy3m)

psy3\_ev[1,3]<-"3mAvg"

names(psy3\_ev)<-c("Plant","x","When")

psymax\_ev<-data.frame()

psymax\_ev[1,1]<-"Evans"

psymax\_ev[1,2]<-select(yp\_fg\_extps\_ev,max\_psy12m)

psymax\_ev[1,3]<-"Max 12m"

names(psymax\_ev)<-c("Plant","x","When")

psymin\_ev<-data.frame()

psymin\_ev[1,1]<-"Evans"

psymin\_ev[1,2]<-select(yp\_fg\_extps\_ev,min\_psy12m)

psymin\_ev[1,3]<-"Min 12m"

names(psymin\_ev)<-c("Plant","x","When")

psylast\_ev<-data.frame()

psylast\_ev[1,1]<-"Evans"

psylast\_ev[1,2]<-filter(yp\_fg\_wkly\_ev,weekc==max(unique(yp\_fg\_wkly\_ev$weekc)))$psy

psylast\_ev[1,3]<-"Last week"

names(psylast\_ev)<-c("Plant","x","When")

##Evans cr

yp\_fg\_extcr\_ev<-summarize(group\_by(yp\_fg\_wkly\_ev),max\_cry12m=max(cry,na.rm=T),min\_cry12m=min(cry,na.rm=T), max\_crfr12m=max(crfr,na.rm=T))

yp\_fg\_extcr\_ev<-summarize(group\_by(yp\_fg\_wkly\_ev),max\_cry12m=max(cry,na.rm=T),min\_cry12m=min(cry,na.rm=T), max\_crfr12m=max(crfr,na.rm=T))

cry12\_ev<-data.frame()

cry12\_ev[1,1]<-"Evans"

cry12\_ev[1,2]<-select(yp\_fg\_12mos\_ev,cry12m)

cry12\_ev[1,3]<-"12mAvg"

names(cry12\_ev)<-c("Plant","x","When")

cry3\_ev<-data.frame()

cry3\_ev[1,1]<-"Evans"

cry3\_ev[1,2]<-select(yp\_fg\_3mos\_ev,cry3m)

cry3\_ev[1,3]<-"3mAvg"

names(cry3\_ev)<-c("Plant","x","When")

crymax\_ev<-data.frame()

crymax\_ev[1,1]<-"Evans"

crymax\_ev[1,2]<-select(yp\_fg\_extcr\_ev,max\_cry12m)

crymax\_ev[1,3]<-"Max 12m"

names(crymax\_ev)<-c("Plant","x","When")

crymin\_ev<-data.frame()

crymin\_ev[1,1]<-"Evans"

crymin\_ev[1,2]<-select(yp\_fg\_extcr\_ev,min\_cry12m)

crymin\_ev[1,3]<-"Min 12m"

names(crymin\_ev)<-c("Plant","x","When")

crylast\_ev<-data.frame()

crylast\_ev[1,1]<-"Evans"

crylast\_ev[1,2]<-filter(yp\_fg\_wkly\_ev,weekc==max(unique(yp\_fg\_wkly\_ev$weekc)))$cry

crylast\_ev[1,3]<-"Last week"

names(crylast\_ev)<-c("Plant","x","When")

mets\_ps<-rbind(psy12,psy12\_ev,psy3,psy3\_ev,psymax,psymax\_ev,psymin,psymin\_ev,last\_w\_ps,psylast\_ev)

mets\_cr<-rbind(cry12,cry12\_ev,cry3,cry3\_ev,crymax,crymax\_ev,crymin,crymin\_ev,last\_w\_cr,crylast\_ev)

for\_y<-data.frame(c("Evans","CAL","COI","CHI","OH","TX","MEX"),c(0.5,1.3,2.1,4.5,2.9,3.7,5.3))

names(for\_y)<-c("Plant","y")

for(i in 1:nrow(mets\_ps)){

mets\_ps$y[i]<-for\_y[grepl(mets\_ps$Plant[i],for\_y$Plant),2]

}

for(i in 1:nrow(mets\_cr)){

mets\_cr$y[i]<-for\_y[grepl(mets\_cr$Plant[i],for\_y$Plant),2]

}

q<-ggplot(data=**mets\_ps,aes(x,y,label=mets\_ps$When,color=mets\_ps$Plant))**

**q1<-q+geom\_point(shape=6,size=2)**

**q11<-q1**+scale\_color\_manual(labels=sort(unique(mets\_ps$Plant)),values=c("magenta1","orange2","plum4","darkgrey","slateblue1","cyan3","springgreen2"))

**q2<-q11+geom\_path()**

**q21<-q2+**geom\_text(aes(label=mets\_ps$When),hjust=-0.1, vjust=0,angle=60,size=3.5)

q22<-q21+geom\_text(aes(label= ifelse(as.character(mets\_ps$When)=="Min 12m",mets\_ps$Plant,"")),hjust=1.2,size=3)

**q3<-q22+** theme\_bw()+theme(panel.border = element\_blank())

q4<-q3+ theme(axis.title.y=element\_blank(),axis.text.y=element\_blank(),axis.ticks.y=element\_blank(),axis.title.x=element\_blank())

q5<-q4

q6<-q5+theme(legend.position="none")+ggtitle("PS yields")

q7<-q6+scale\_y\_continuous(limits=c(0.5,6))

q8<-q7+scale\_x\_continuous**(**breaks=seq(floor(min(mets\_ps$x)),ceiling(max(mets\_ps$x)),by=(max(mets\_ps$x)-min(mets\_ps$x))/20),labels=scales::percent\_format(accuracy=1),limits=c((min(mets\_ps$x)-0.02),(max(mets\_ps$x)+0.02))**)**

q9<-q8+theme(axis.line.x = element\_line(size = 0.5, linetype = "solid", colour = "black"),axis.text.x=element\_text(angle=60,vjust=0.7,hjust=0.7,size=8))

##print(q9)

**ggsave(plot=q9,width=7,height=7,dpi=300,filename="scr\_psy.png")**

t<-ggplot(data=**mets\_cr,aes(x,y,label=mets\_cr$When,color=mets\_cr$Plant))**

**t1<-t+geom\_point(shape=6,size=2)**

**t11<-t1**+scale\_color\_manual(labels=sort(unique(mets\_cr$Plant)),values=c("magenta1","plum4","darkgrey","slateblue1","cyan3"))

**t2<-t11+geom\_path()**

**t21<-t2+**geom\_text(aes(label=mets\_cr$When),hjust=-0.1, vjust=0,angle=60,size=3.5)

t22<-t21+geom\_text(aes(label= ifelse(as.character(mets\_cr$When)=="Min 12m",mets\_cr$Plant,"")),hjust=1.2,size=3)

**t3<-t22+** theme\_bw()+theme(panel.border = element\_blank())

t4<-t3+ theme(axis.title.y=element\_blank(),axis.text.y=element\_blank(),axis.ticks.y=element\_blank(),axis.title.x=element\_blank())

t5<-t4

t6<-t5+theme(legend.position="none")+ggtitle("CR yields")

t7<-t6+scale\_y\_continuous(limits=c(0.5,4))

t8<-t7+scale\_x\_continuous(breaks=seq(floor(min(mets\_cr$x)),ceiling(max(mets\_cr$x)),by=(max(mets\_cr$x)-min(mets\_cr$x))/20),labels=scales::percent\_format(accuracy=1), limits=c((min(mets\_cr$x)-0.02),(max(mets\_cr$x)+0.02)))

t9<-t8+theme(axis.line.x = element\_line(size = 0.5, linetype = "solid", colour = "black"),axis.text.x=element\_text(angle=60,vjust=0.7,hjust=0.7,size=8))

##print(t9)

##

**ggsave(plot=t9,width=7,height=7,dpi=300,filename="scr\_cry.png")**

tot<-ggarrange(q9,t9,labels="",ncol=1,nrow=2)

**ggsave(plot=tot,width=7,height=7,dpi=300,filename="scr\_fgy.png")**

print(tot)

**}**