Age Figure

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```
# Read in raw almond survey response data
almonds.project.raw <- read.csv("./Data/Raw/Almond_Survey_Results_Raw.csv")

# Look at column names
#colnames(almonds.project.raw)

# Select column names that only apply to cover crop analysis

almonds.project.CC.processed <- almonds.project.raw %>%
  dplyr::select(Role.in.Operation:Regions,
                Total.Yield.Bearing.Acreage, Acre.Ranges,
                Cover.Crop.Grown:Cover.Crop.Incentives, Pollination:Age)


# Fill all empty cells in almonds.project.CC.processed with 'NA'
# Name 'almonds.CC'
almonds.CC <- almonds.project.CC.processed %>% mutate_all(na_if, "")









almAge= almonds.CC[almonds.CC$Age != " " ,]

age.GrownCC <- data.frame(table(data.frame(almAge$Age, almAge$Cover.Crop.Grown)))

age.GrownCC
```

```
##              almAge.Age almAge.Cover.Crop.Grown Freq
## 1       18-24 years old                      No    7
## 2       25-34 years old                      No   56
## 3       35-44 years old                      No   34
## 4       45-54 years old                      No   33
## 5       55-64 years old                      No   38
## 6       65-74 years old                      No   24
## 7     75 years or older                      No    6
## 8  Prefer not to answer                      No    2
## 9       18-24 years old                     Yes    2
```

```
## 10      25-34 years old                    Yes   20
## 11      35-44 years old                    Yes   23
## 12      45-54 years old                    Yes   23
## 13      55-64 years old                    Yes   23
## 14      65-74 years old                    Yes    9
## 15    75 years or older                    Yes    1
## 16 Prefer not to answer                    Yes    0
```

```
colnames(age.GrownCC) <- c("Age", "Cover.Crop.Grown", "Freq")

Age.GrownCC.plot <- ggplot(age.GrownCC, aes(x = Age, y = Freq, fill = Cover.Crop.Grown)) +
  geom_bar(stat = "identity", position = position_dodge()) +
  theme_classic() +
  theme(axis.text.x = element_text(angle = 45, hjust = 1)) +
  ylim(0, 60) +
  #scale_fill_brewer(palette = "Set1") +
  scale_fill_manual(values = c("red", "blue")) +
  labs(x = "Age", y = "Count", fill = "Grown Cover Crop") +
  theme(legend.position = "right",
        legend.text = element_text(size = 7), legend.title = element_text(size = 8))
#print(Age.GrownCC.plot)




alm = almonds.CC[almonds.CC$Age != " ", ]

age.InterestCC <- data.frame(table(data.frame(alm$Age, alm$Cover.Crop.Interest)))

age.InterestCC[age.InterestCC == ""] <- NA

age.InterestCC <- age.InterestCC[complete.cases(age.InterestCC), ]

age.InterestCC
```

```
##                 alm.Age alm.Cover.Crop.Interest Freq
## 9       18-24 years old                      No    0
## 10      25-34 years old                      No   17
## 11      35-44 years old                      No    9
## 12      45-54 years old                      No   13
## 13      55-64 years old                      No   13
## 14      65-74 years old                      No    8
## 15    75 years or older                      No    2
## 16 Prefer not to answer                      No    1
## 17      18-24 years old               Not sure    3
## 18      25-34 years old               Not sure   20
## 19      35-44 years old               Not sure   18
## 20      45-54 years old               Not sure   11
## 21      55-64 years old               Not sure   17
## 22      65-74 years old               Not sure   12
## 23    75 years or older               Not sure    3
## 24 Prefer not to answer               Not sure    1
```

```
## 25      18-24 years old                    Yes    4
## 26      25-34 years old                    Yes   19
## 27      35-44 years old                    Yes    7
## 28      45-54 years old                    Yes    9
## 29      55-64 years old                    Yes    8
## 30      65-74 years old                    Yes    4
## 31    75 years or older                    Yes    1
## 32 Prefer not to answer                    Yes    0
```

```
colnames(age.InterestCC) <- c("Age", "Cover.Crop.Interest", "Freq")

Age.InterestCC.plot <- ggplot(age.InterestCC, aes(x = Age, y = Freq, fill = Cover.Crop.Interest)) +
  geom_bar(stat = "identity", position = position_dodge()) +
  theme_classic() +
  theme(axis.text.x = element_text(angle = 45, hjust = 1)) +
  ylim(0,23) +
  #scale_fill_brewer(palette = "Set1") +
  scale_fill_manual(values = c("red", "#E69F00" , "blue")) +
  labs(x = "Age", y = "Count", fill = "Interest in Growing Cover Crop") +
  theme(legend.position = "right",
        legend.text = element_text(size = 7), legend.title = element_text(size = 8))
#print(Age.InterestCC.plot)
```

```
CC.Age.plots2 <- plot_grid(Age.GrownCC.plot, Age.InterestCC.plot,
                           align = "v", ncol = 1)

print(CC.Age.plots2)
```

```
alm.Region = almonds.CC[almonds.CC$Regions != " ", ]

Region.GrownCC <- data.frame(table(data.frame(alm$Regions, alm$Cover.Crop.Grown)))

#Region.GrownCC[Region.GrownCC == ""] <- NA

#Region.GrownCC <- Region.GrownCC[complete.cases(Region.GrownCC), ]

Region.GrownCC
```

```
##         alm.Regions alm.Cover.Crop.Grown Freq
## 1             Delta                   No    6
## 2 Sacramento Valley                   No    7
## 3 San Joaquin Basin                   No  125
## 4      Tulare Basin                   No   61
## 5             Delta                  Yes   14
## 6 Sacramento Valley                  Yes   13
## 7 San Joaquin Basin                  Yes   53
## 8      Tulare Basin                  Yes   21
```

```
Region.GrownCC.plot <- ggplot(Region.GrownCC, aes(x = alm.Regions, y = Freq, fill = alm.Cover.Crop.Grown
  geom_bar(stat = "identity", position = position_dodge()) +
  theme_classic() +
  theme(axis.text.x = element_text(angle = 45, hjust = 1)) +
```

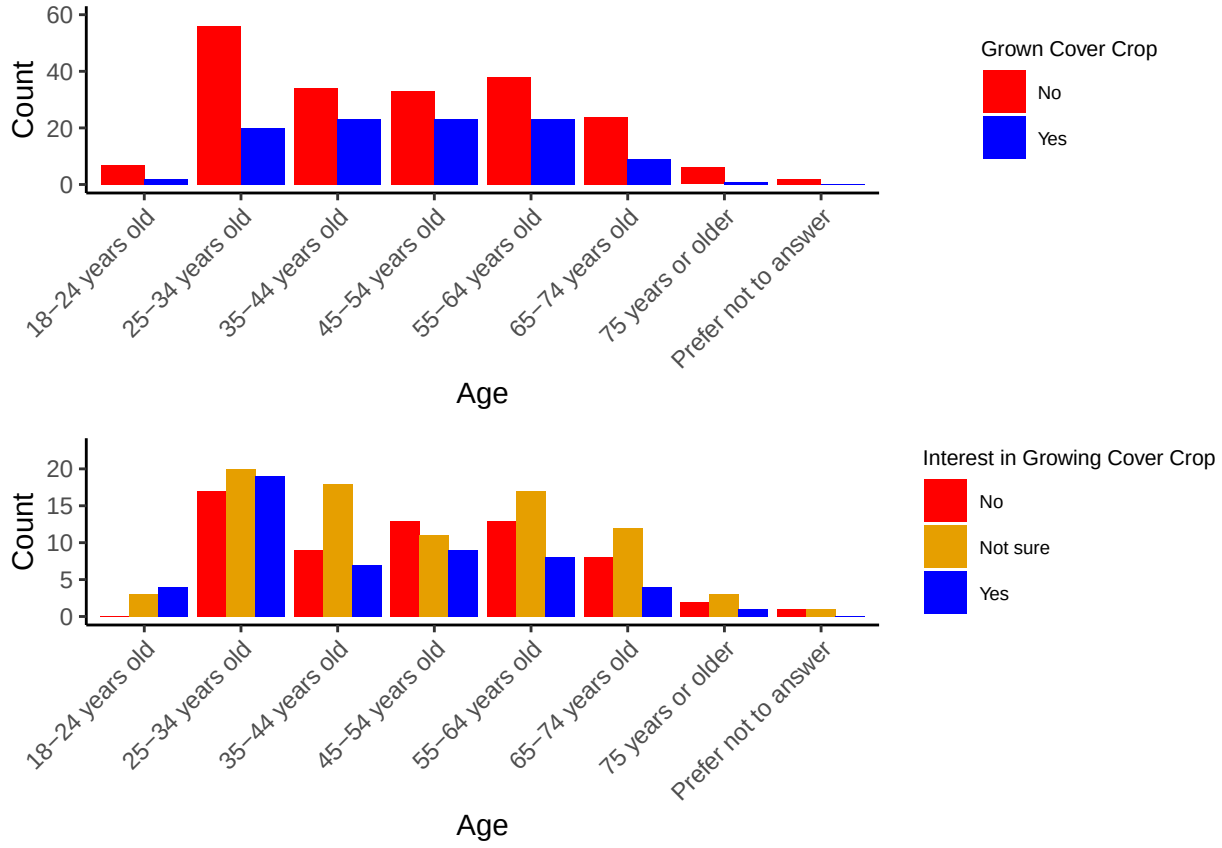
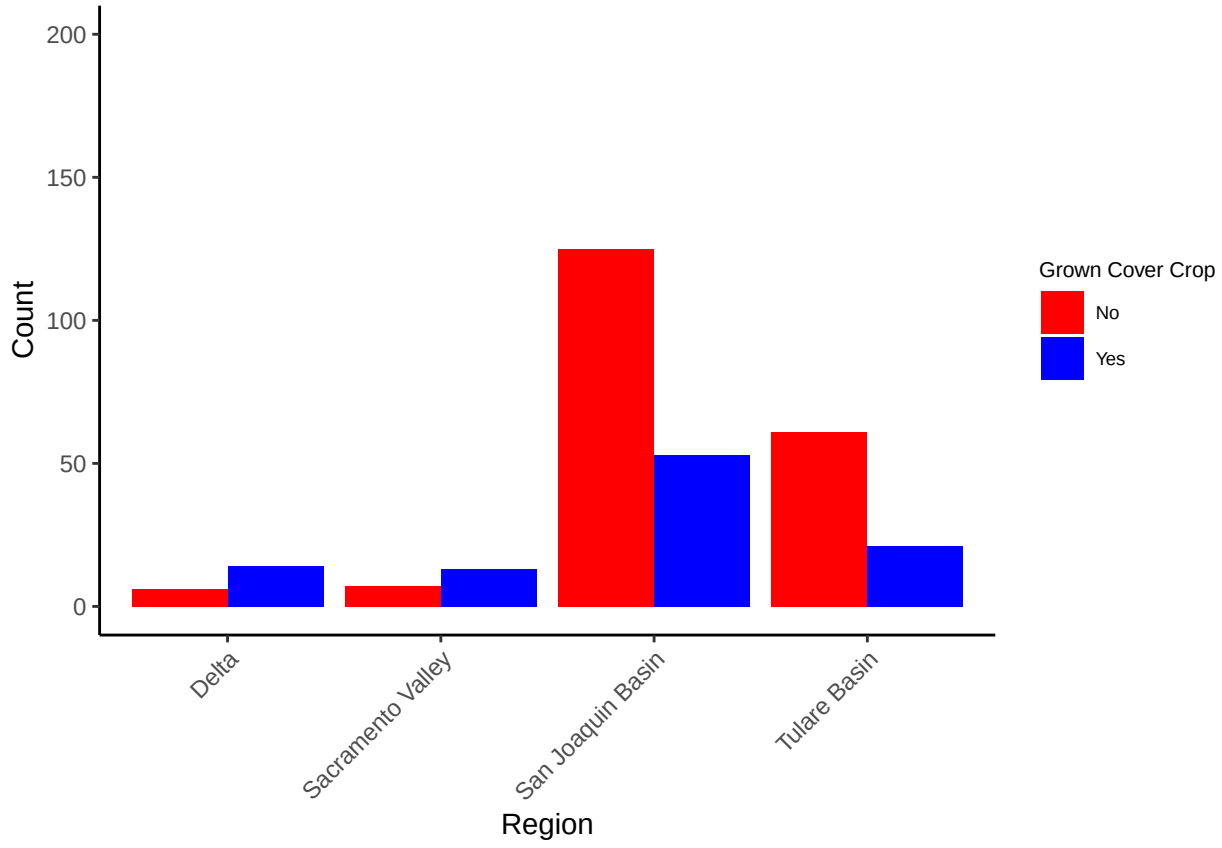


Figure 1: Number of survey respondents (almond producers in CA) who have planted cover crop in the last five years (top graph) versus the number of respondents who are interested in planting cover crop (bottom), by age range. Respondents between 25-34 years old may have recently acquired land or do not own the land they farm which might explain the greater number who have not grown cover crop. However, these respondents are more interested in planting cover crop than respondents from older age groups. Note: the question regarding *interest* in growing cover crop only appeared for those who selected *no* to having grown cover crop in the last 5 years. Thus, the total count in this analysis is lower than that of the cover crop *grown* analysis.

```
  ylim(0,200) +
  #scale_fill_brewer(palette = "Set1") +
  scale_fill_manual(values = c("red", "blue")) +
  labs(x = "Region", y = "Count", fill = "Grown Cover Crop") +
  theme(legend.position = "right",
        legend.text = element_text(size = 7), legend.title = element_text(size = 8))
print(Region.GrownCC.plot)
```



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