

Data Visualization – Assignment 3

Student Name : Varun Ramesh

Student Id : s3793675

Link to Dashboard: https://rpubs.com/varunram/honey_prodAnalysis

Code:

```
---  
title: "Varun's Dashboard"  
output:  
  flexdashboard::flex_dashboard:  
    orientation: rows  
    vertical_layout: scroll  
    social: ["twitter", "facebook", "menu"]  
    source_code: embed  
    theme: united  
---  
  
```{r setup, include=FALSE}  
library(flexdashboard)
library(knitr)
library(DT)
library(rpivotTable)
library(ggplot2)
library(plotly)
library(dplyr)
library(openintro)
library(highcharter)
library(ggvis)
library(tidyverse)
library(crosstalk)
library(shiny)
require(plotly)
```\n\n```{r}  
df <- read.csv("honeyproduction.csv")  
```\n\n.tabset {  
 background-color: #D8BFD8;
 color:white
}
```

Interactive Data Visualization

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Row

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### Honey Production

```
`r`
valueBox(paste("Honey Production Analysis"),
 color = "orange")
`r`
```

Column { .tabset .tabset-fade data-width=100 .colored }

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### Average State wise Production Map

```
`r`
map1 <- df %>%
 group_by(state) %>%
 summarize(total = round(mean(totalprod)),2)

map1$state <- abbr2state(map1$state)

highchart() %>%
 hc_title(text = "Honey Production in the USA (lbs)") %>%
 hc_subtitle(text = "Source: honeyproduction.csv") %>%
 hc_add_series_map(usgeojson, map1,
 name = "state",
 value = "total",
 joinBy = c("woename", "state")) %>%
 hc_mapNavigation(enabled = T)

`r`
```

### Average Price per pound Map

```
`r`
map2 <- df %>%
 group_by(state) %>%
 summarize(total = round(mean(priceperlb)),2)

map2$state <- abbr2state(map2$state)

highchart() %>%
 hc_title(text = "Honey price perLb in the USA (USD)") %>%
 hc_subtitle(text = "Source: honeyproduction.csv") %>%
 hc_add_series_map(usgeojson, map2,
 name = "state",
 value = "total",
 joinBy = c("woename", "state")) %>%
 hc_mapNavigation(enabled = T)

`r`
```

### Average Yield per colony Map

```
`r`
map3 <- df %>%
 group_by(state) %>%
 summarize(total = round(mean(yieldpercol)),2)

map3$state <- abbr2state(map3$state)
```

```

highchart() %>%
 hc_title(text = "Yield per Colony (lbs)") %>%
 hc_subtitle(text = "Source: honeyproduction.csv") %>%
 hc_add_series_map(usgeojson, map3,
 name = "state",
 value = "total",
 joinBy = c("woename", "state")) %>%
 hc_mapNavigation(enabled = T)

...

Average Stock by State Map

```{r}
map4 <- df %>%
  group_by(state) %>%
  summarize(total = round(mean(stocks)), 2)

map4$state <- abbr2state(map4$state)

highchart() %>%
  hc_title(text = "Stocks per State by Colonies (lbs)") %>%
  hc_subtitle(text = "Source: honeyproduction.csv") %>%
  hc_add_series_map(usgeojson, map3,
    name = "state",
    value = "total",
    joinBy = c("woename", "state")) %>%
  hc_mapNavigation(enabled = T)

...

### Overview

```{r}
allPlots <- df %>%
 group_by(year) %>%
 mutate(
 colNum.year = mean(numcol),
 colYield.year = mean(yieldpercol),
 totalprod.year = mean(totalprod),
 totalStocks.year = mean(stocks),
 priceperlb.year = mean(priceperlb),
 totalProdValue.year = mean(prodvalue)) %>%
 select(contains("year")) %>%
 gather(key = "type", value = "value", -year)

label <- c(
 "colNum.year" = "No. of Honey colonies",
 "priceperlb.year" = "Average price per pound (USD)",
 "totalProdValue.year" = "Total production value(USD)",
 "totalStocks.year" = "Total Stocks (lbs)",
 "totalprod.year" = "Total production (lbs)",
 "colYield.year" = "Honey yield per colony (lbs)"
)

plot1 <- allPlots %>%
 ggplot(aes(x = year, y = value, group = type, color = type)) +
 geom_line(show.legend = F) +
 facet_wrap(~type, scales = "free_y", labeller = as_labeller(label), shrink = TRUE) +
 labs(y = "")

plot1%>% ggplotly()

```

```
```
```

```
Row {.tabset .tabset-fade data-width=200 .colored }
```

```
### State wise production graph
```

```
```{r}
```

```
state.production <- df %>%
 ggplot(aes(x = year, y = totalprod/1000000, color = state)) +
 geom_smooth(show.legend = T, se = FALSE) +
 labs(title = "Honey Production from 1998 to 2012 by each state") +
 ylab("Total Production in Millions")+
 xlab("Years ")
state.production %>% ggplotly()
```

```
```
```

```
### Price per pound graph
```

```
```{r}
```

```
pricePerPound <- df %>%
 ggplot(aes(x = year, y = priceperlb, color = state)) +
 geom_smooth(show.legend = T, se = FALSE) +
 labs(title = "Price per pound from 1998 to 2012 by each state") +
 ylab("State-wise Price in Million Dollars")+
 xlab("Years ")
pricePerPound %>% ggplotly()
```

```
```
```

```
### Yield Per Colony Graph
```

```
```{r}
```

```
yieldPerColony <- df %>%
 ggplot(aes(x = year, y = yieldpercol, color = state)) +
 geom_smooth(show.legend = T, se = FALSE) +
 labs(title = "Honey yield per colony from 1998 to 2012 by each state") +
 ylab("Total yield in lbs")+
 xlab("Years ")
yieldPerColony %>% ggplotly()
```

```
```
```

```
### Stock by State Graph
```

```
```{r}
```

```
p3 <- state.production <- df %>%
 ggplot(aes(x = year, y = stocks, color = state)) +
 geom_smooth(show.legend = T, se = FALSE) +
 labs(title = "Honey Stock from 1998 to 2012 by each state") +
 ylab("Stocks of Honey per State in lbs")+
 xlab("Years ")
state.production %>% ggplotly()
```

```
p3 %>% ggplotly()
```

...

## References

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### ### Dataset Reference

Li, J. (2018). Honey Production in the USA (1998-2012). Kaggle.com. Retrieved 4 June 2020, from <https://www.kaggle.com/jessicali9530/honey-production>.

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### ### Bibliography

\* Using flexdashboard. Rmarkdown.rstudio.com. (2020). Retrieved 16 June 2020, from [https://rmarkdown.rstudio.com/flexdashboard%2Fusing.html%23value\\_boxes%2F#appearance](https://rmarkdown.rstudio.com/flexdashboard%2Fusing.html%23value_boxes%2F#appearance).

\* Honey production. Kaggle.com. (2020). Retrieved 17 June 2020, from <https://www.kaggle.com/arthurpaulino/honey-production>.

\* Rai, B. (2018). How to use flexi Dashboards [Video]. Retrieved 17 June 2020, from [https://www.youtube.com/watch?v=\\_a4S4tq620E](https://www.youtube.com/watch?v=_a4S4tq620E).

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Created by : Varun Ramesh  
ID : s3793675