# USDA's Economic Research Service Report

   USDA's Economic Research Service plays a pivotal role in analyzing trends in the agriculture and food sector in rural America, as well as assessing the well-being of farm businesses. The USDA's Agricultural Resource Management Survey (ARMS) examines the best production practices, financial condition and resources utilized in the agriculture sector in the United States so that policy makers can elaborate better practices, suggestions, or strategies in order to enhance the sector.

A brief analysis divided in two parts was performed by using the ARMS report Structural Characteristics with the variables:

- Total value of production expressed in 1000 usd.
- Total acres operated expressed in 1000 acres.
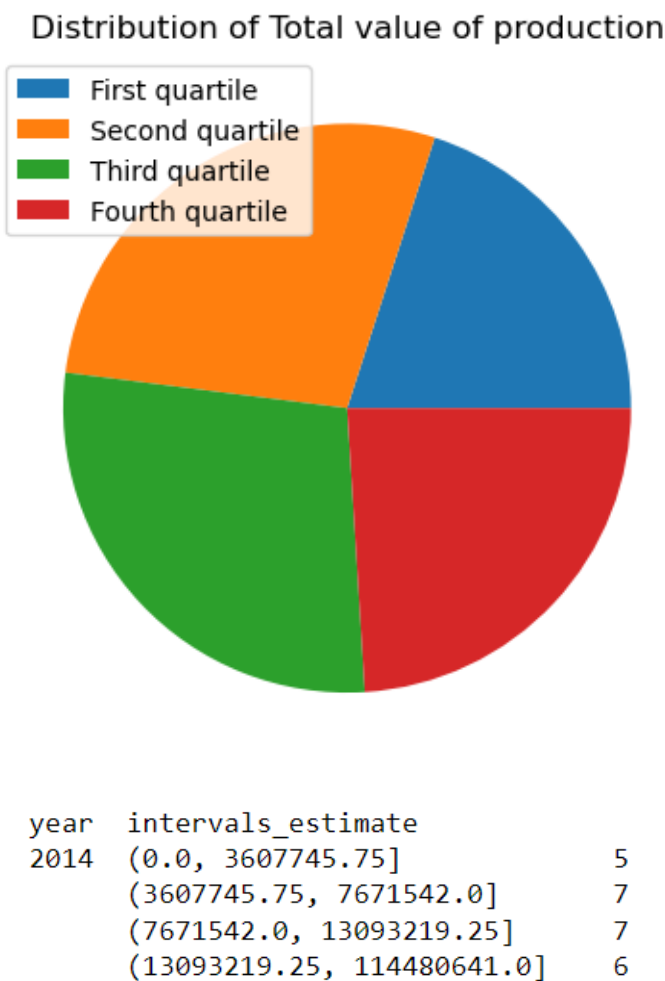
1. Total acres operated by year.
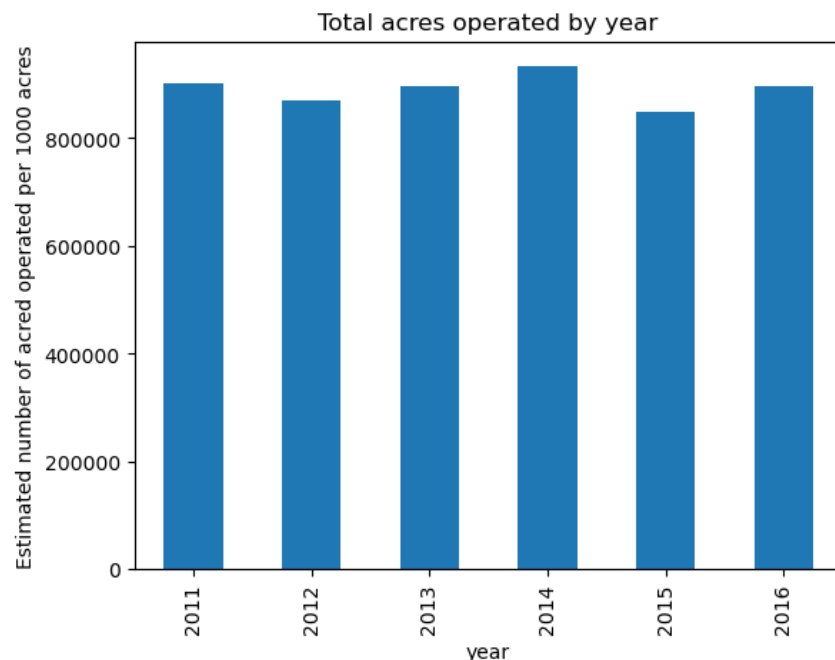
Extracted in Python.

The chart is partitioned into 6 years, from 2011 to 2016, where the estimated number of acres operated peaked in year 2014. As seen in the chart, there is a positive trend from 2011 to 2014, then the estimated number of acres declined in 2015 which registered the lowest record in the analysis to posteriorly increase in 2016, nearly to levels registered in 2011.

Additionally, the chart displays a certain stability in the estimated number of acres throughout the study period, it maintained over 800000 in the six years. However, it's important to note that after an important peak, the number declines in the following year and posteriorly increase the year after, for example from 2011 to 2014 and then from 2014 to 2016 but always above 800000 number of acres.

2. **Total value of production in year 2014.**

Distribution of Total value of production

```
year   intervals_estimate
2014   (0.0, 3607745.75]              5
       (3607745.75, 7671542.0]        7
       (7671542.0, 13093219.25]       7
       (13093219.25, 114480641.0]     6
```

This chart represents the distribution of estimated total value of production in year 2014 which is the year with the highest total value between 2011 and 2016. The data was split into quartiles, in this way obtained a better outlook on how many registers fall in the 0%-25%, 26%-50%, 51%-75% and 76%-100% of the estimated values of production.

- The first quartile, represented by the range (0.0, 3607745.75], contains 5 registers.
- The second quartile, represented by the range (3607745.75, 7671542.0], contains 7 registers.
- The third quartile, represented by the range (7671542.0, 13093219.25], contains 7 registers.
- The fourth quartile, represented by the range (13093219.25, 114480641.0], contains 6 registers.

This chart suggests that most registers are concentrated in the third quartile with estimated values falling within the range of 7,671,542.0 to 13,093,219.25. Meanwhile, the second and fourth quartiles have similar counts, indicating an even distribution between those with values in the range of 3,607,745.75 to 7,671,542.0 and those with higher values between 13,093,219.25 and 114,480,641.0.

Additionally, the data suggests that most of the estimated values of productions fall in the second half of the distribution (third and fourth quartiles), being the first quartile, where the lowest estimated values of total productions are located, the quartile with least observations or registers in the study.