



# **FARMERS MARKET- USA**

**IE6600-SEC 01**

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Despite the prevalence of fast food joints and frozen meals, many Americans are making the move to eating only locally grown, sustainable and fresh foods. Because of this innate longing to understand where our food comes from, farmers markets are flooded with more than just foodies and chefs. Everyday Joes are hitting the markets in the surge to eat better and eat locally.

A farmers' market allows growers to sell directly to consumers at a given location and time. This marketing method has grown in popularity.

Since USDA's Agricultural Marketing Service began tracking farmers' markets in 1994, the number of markets in the United States has grown to 8,720, an increase of about 7.07 percent from 2013. Total annual sales at U.S. farmers' markets are estimated at \$1 billion.

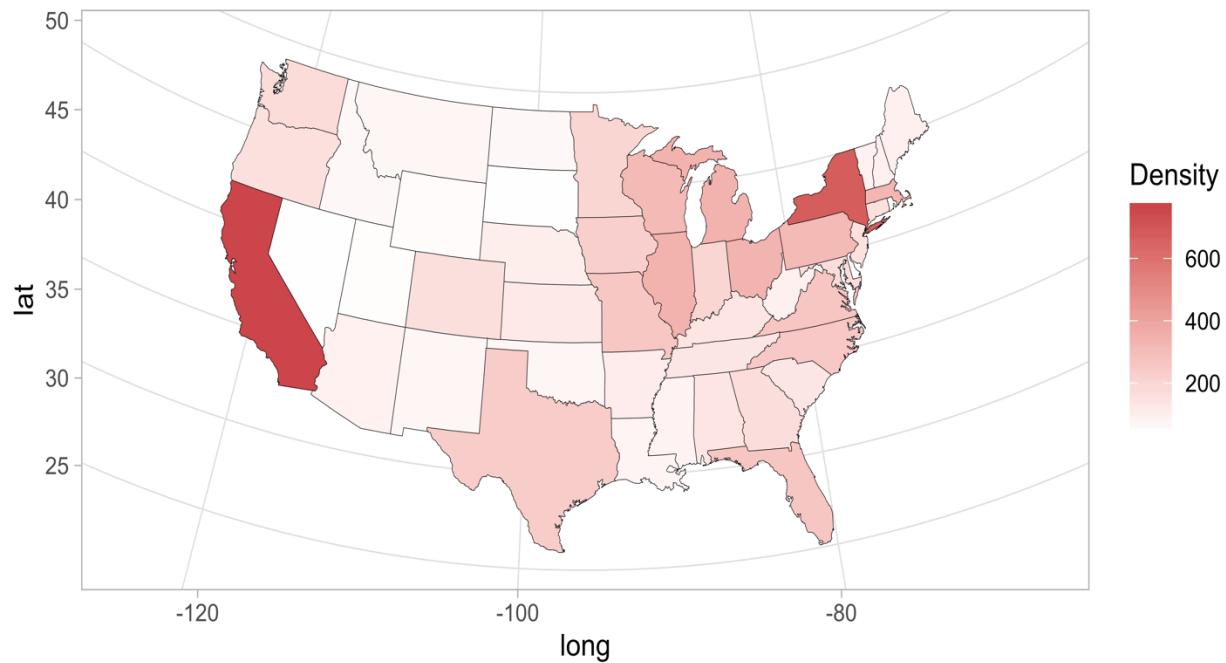


To appease the growing demands for information on the best farmers markets, I have rounded up the top 10 states who have highest farmers market in the U.S.

State <fctr>	Number_of_Markets <int>
California	759
New York	673
Michigan	343
Illinois	339
Ohio	335
Massachusetts	327
Wisconsin	312
Pennsylvania	310
Florida	264
Virginia	263

As we can see that California has the highest number of farmers market in the United States. The distribution of farmers market is clearly shown in Graph 1 below. As we can see even graphically that California has highest number of farmers market in the US. Second highest is New York. This graph is plotted using the dataset which has 8791 records without any duplicates. This growth in numbers can differ from region/state to region/state based on the funding or grants provided by the government to improve farmers market and encourage farmers and consumers.

## *Market distribution across the US*



**Graph 1: Markets distribution in the US**

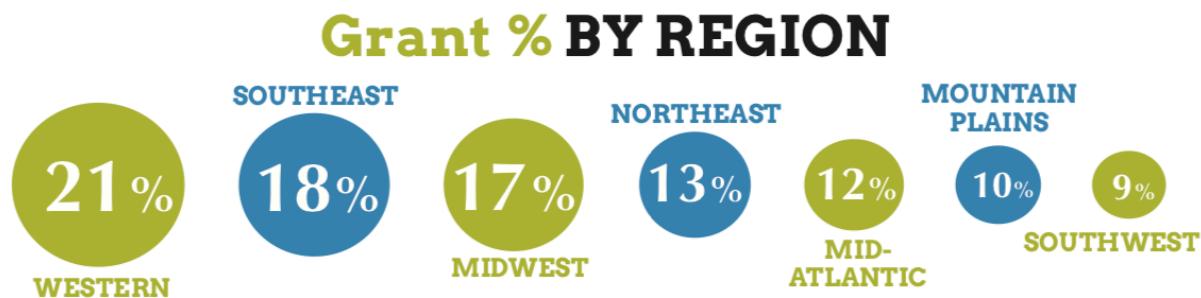
Above we have seen the top states in the US which have highest number of farmers markets. Now I would like to show some states which have a smaller number of farmers market. Delaware and Rhode Island has very few farmers market.

State <fcctr>	Region <fcctr>	Number_of_Markets <int>
Delaware	Mid Atlantic	36
Rhode Island	Northeast	36
Alaska	West	37
Nevada	Mountain Plains	38
South Dakota	Midwest	41
Utah	Mountain Plains	46
Wyoming	Mountain Plains	50
District of Columbia	South	58
Idaho	Mountain Plains	66
North Dakota	Midwest	66

## Growth of Farmers Market-by % Grant:

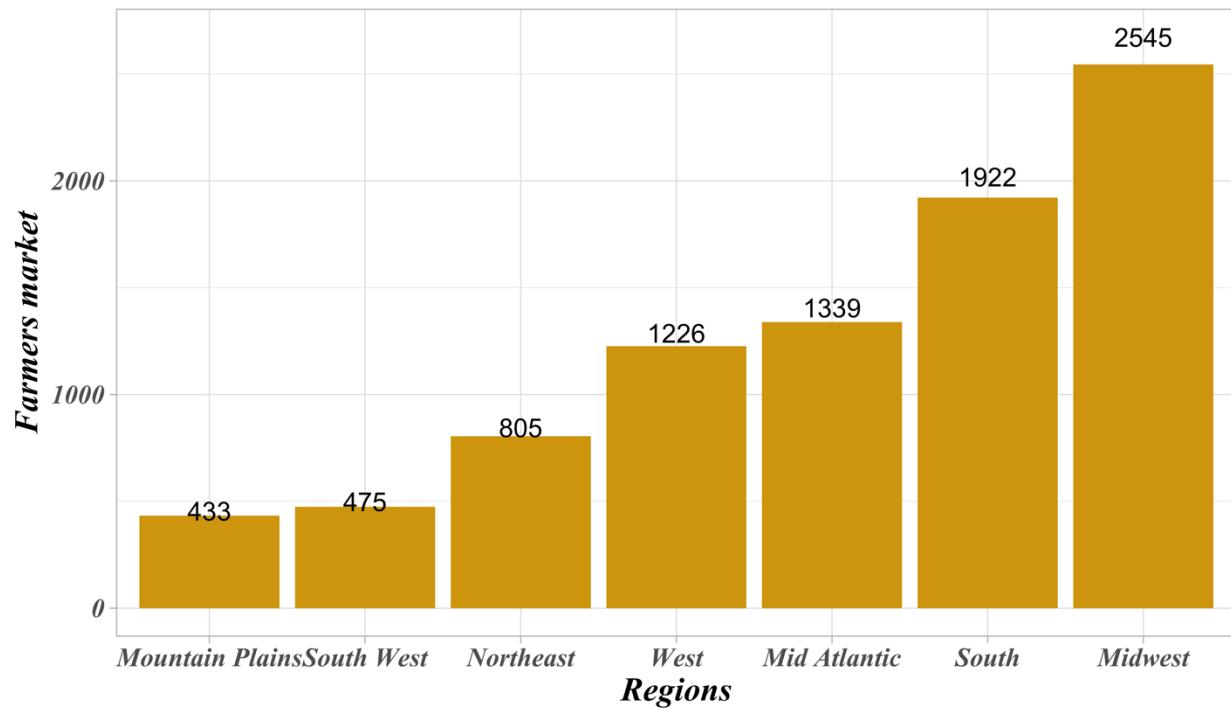
The U.S. Department of Agriculture (USDA) announced \$23.5 million in grant funding awarded to increase domestic consumption of, and access to, locally and regionally produced agricultural products, and to develop new market opportunities for farm and ranch operations serving local markets. These grants are divided across regions of US.

FMPP provides resources to support outreach and promotional activities that help direct producer-to-consumer markets become self-sustaining and can be repeated in communities across the country. These investments bring people together, support strong local and regional food systems, and increase access to healthy foods. Since the 2008 Farm Bill was enacted, FMPP has awarded over \$58 million to 879 projects.



Graph 2 describes the number of farmers market in each region of United States. US is divided into 7 regions and their corresponding number of farmers market is shown in the Graph 2. As we can see the number of markets in South West and Mountain plain region is comparatively less may be due to low grants. These regions are granted 10% of grants.

### ***Farmers Markets in US regions***



**Graph 2: Number of farmers market in the regions of US**

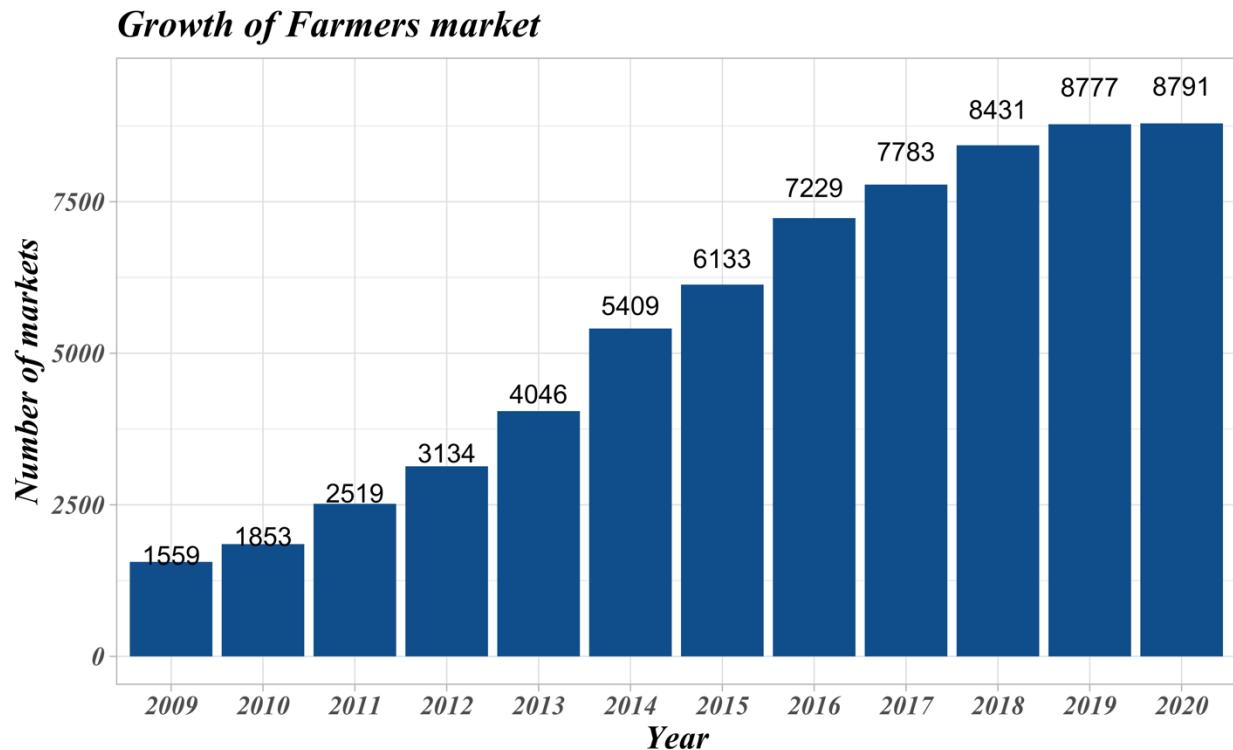
**Assumption: Plotted by ignoring the start year of the markets**

This Graph 2 is plotted by ignoring the start year of markets to provide overall idea on number of farmers market in each region.

## Growth of Farmers Market-Year wise:

Access to fresh local food from small-scale producers is increasing rapidly. According to the USDA Farmers Market Directory, from 2010–2020, the number of farmers' markets in the United States rose to more than 8,268 and increased by 217% from 2013–2020. Since 2020 has just started the number of entries in the 2020 may vary by end of the year.

Graph 3 is plotted by considering updated time column as the start date of each market.

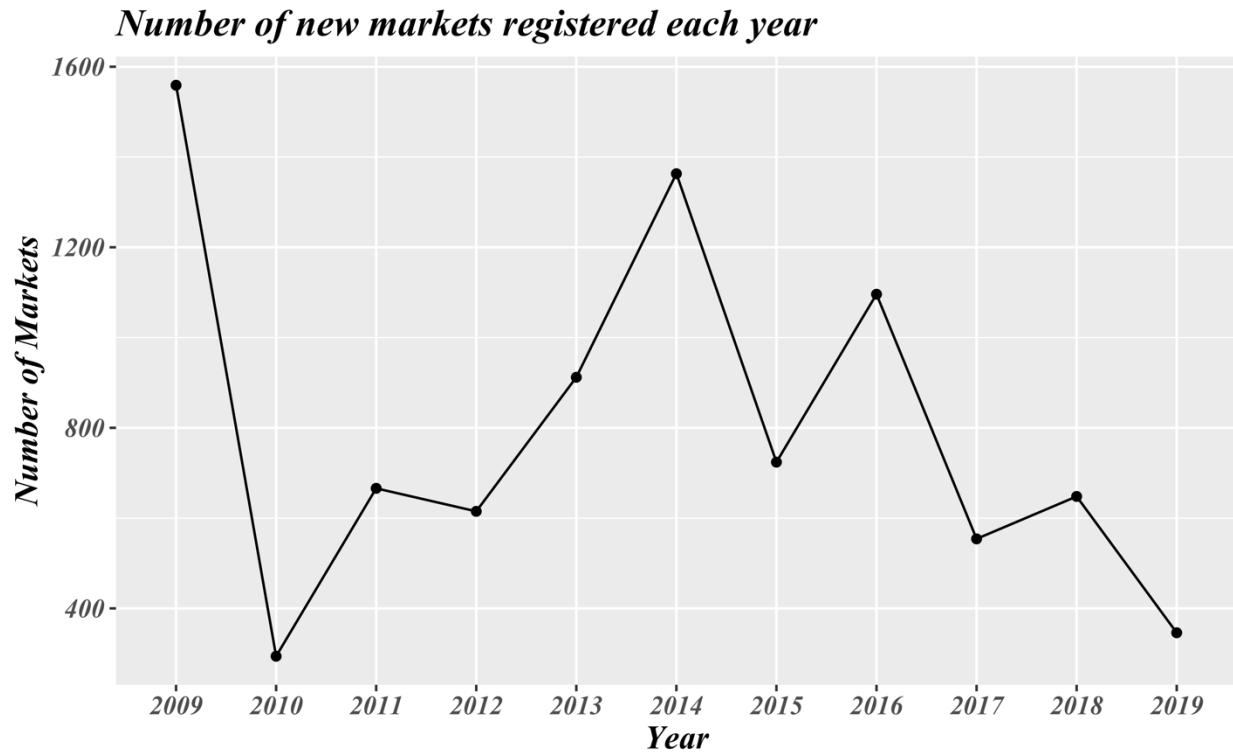


**Graph 3: Growth of farmers market each year from 2010-2020**

***This graph is plotted by assuming that updatedTime year is the started year of each farmers market.***

As we can see in the Graph 3, that there has been tremendous increase in number of farmers market from the year 2009 to 2020.

To make it even more clear, Graph 4 is plotted with line chart to show the growth of number of registered farmers market each year.

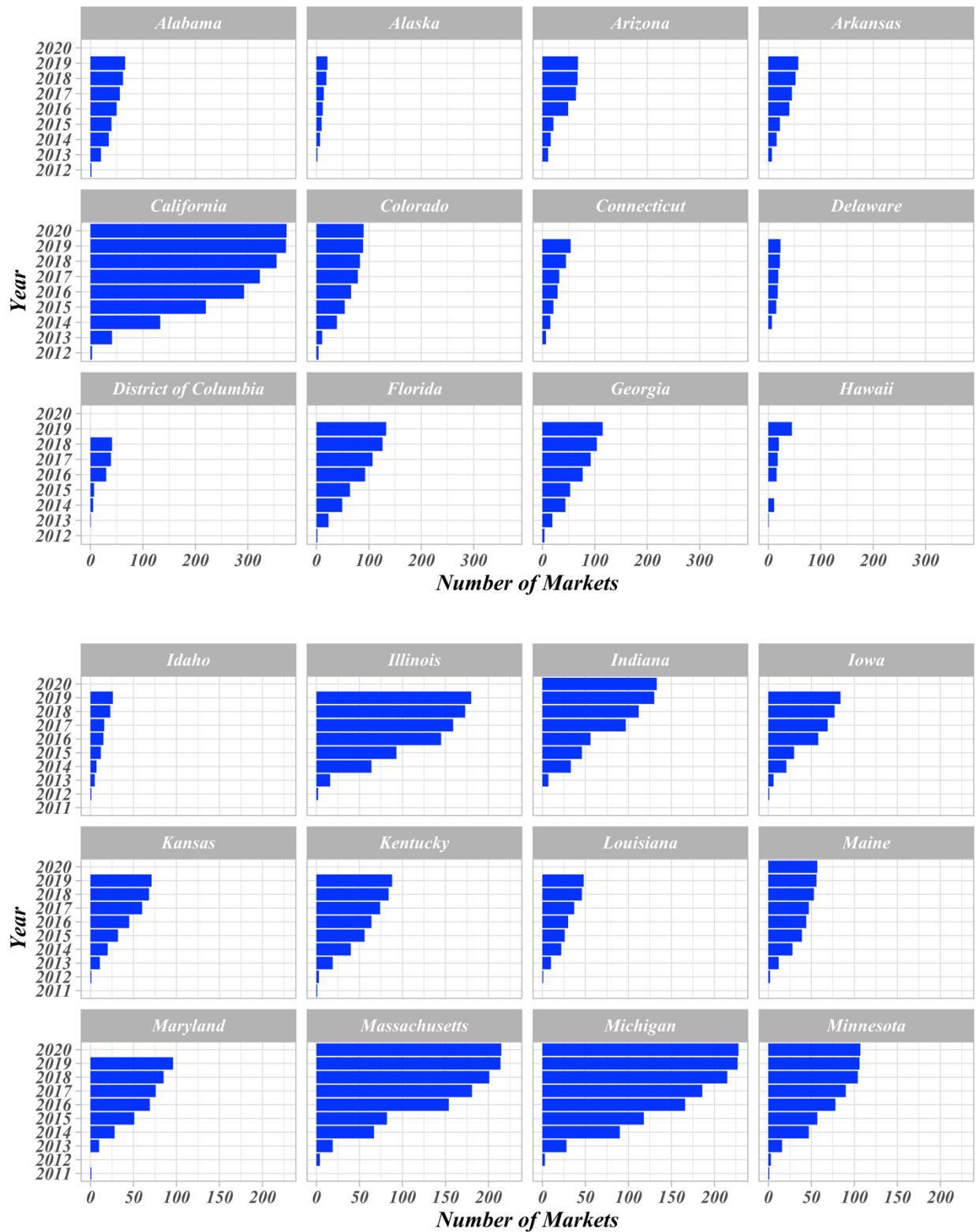


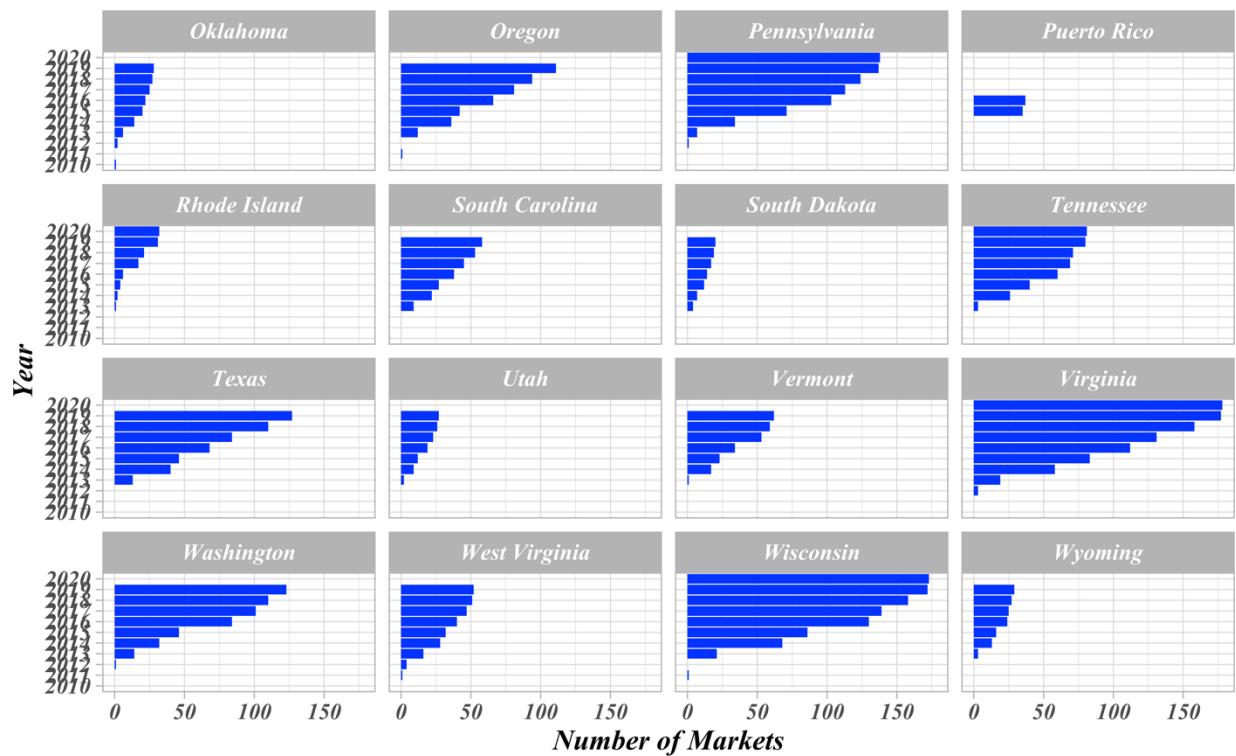
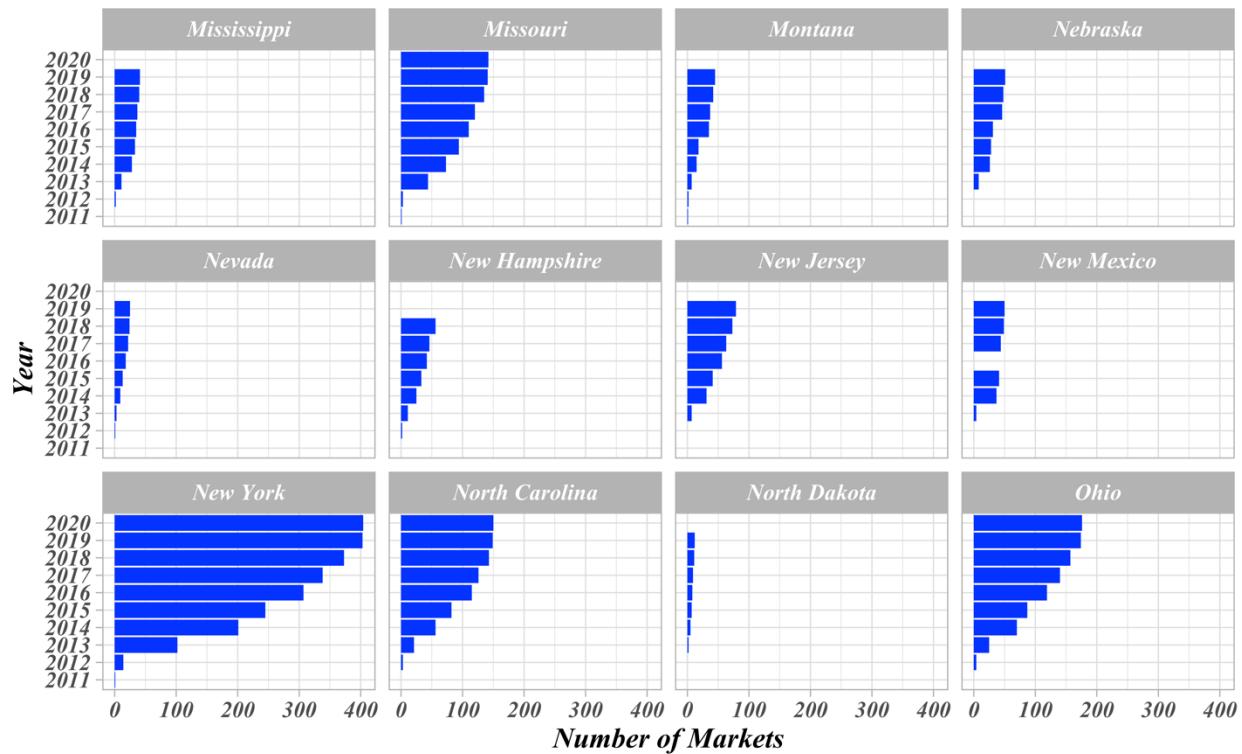
**Graph 4: Number of new markets registered each year**

Graph 4 is plotted with number of new farmers market registered each year. It is clearly visible that in the year 2014 there are the greatest number of new farmers market registered. The year 2020 has been disregarded to plot the graph because the year just started and cannot consider that number to draw the conclusion on new farmers market registered.

The growth of farmers market in each state through years is shown in graphs 5,6,7 and 8. In the graphs, we can see the cumulative number of markets increase in each year from 2010-2012 based on the data available for us.

From the below graphs we can see that there are more number of farmers market in California, Michigan and Virginia.





**Graph 5,6,7,8: Growth of farmers market in each state of the US**  
*This graph is plotted by assuming that seasonal year is the started year of each farmers market.*

## Summary of Products:

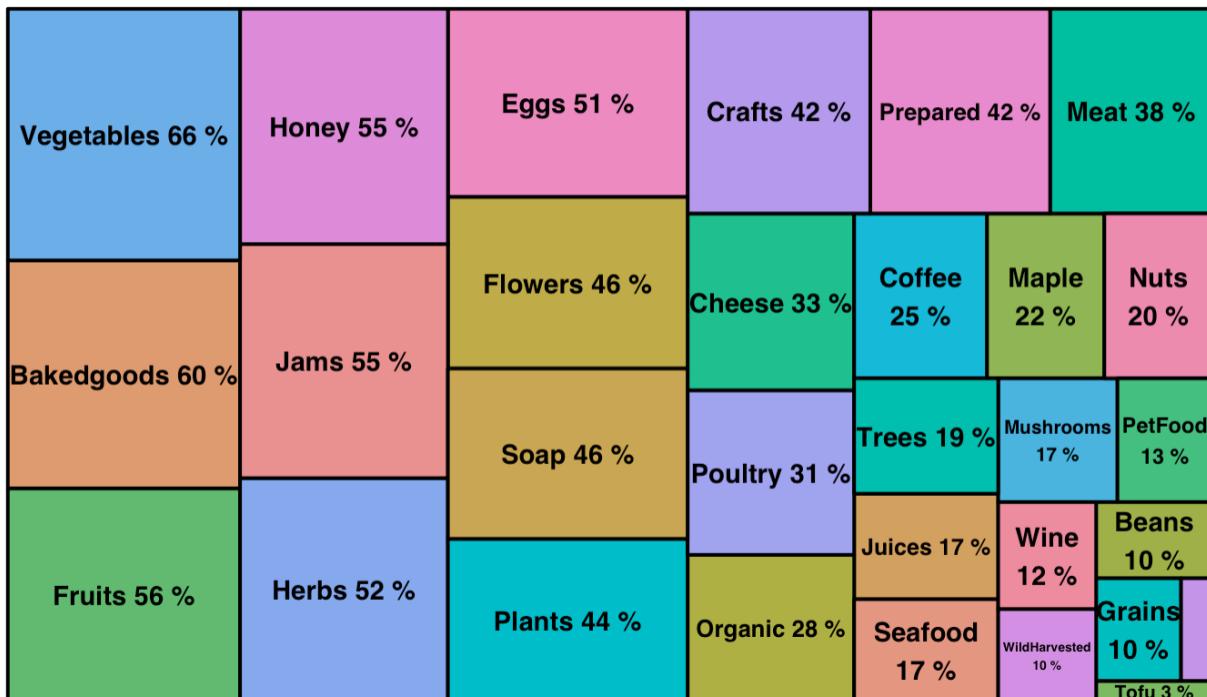
In the farmers market dataset, we have 8971 markets. Among which vegetables are available in most of the famers market. Below are the top 10 products available in most of the farmers market in the US.

.id <chr>	V1 <int>	percent <dbl>	label <chr>
Vegetables	5797	66	Vegetables 66 %
Bakedgoods	5256	60	Bakedgoods 60 %
Fruits	4913	56	Fruits 56 %
Honey	4853	55	Honey 55 %
Jams	4824	55	Jams 55 %
Herbs	4612	52	Herbs 52 %
Eggs	4476	51	Eggs 51 %
Flowers	4080	46	Flowers 46 %
Soap	4049	46	Soap 46 %
Plants	3874	44	Plants 44 %

**Assumption: Not specified columns are considered as not selling.**

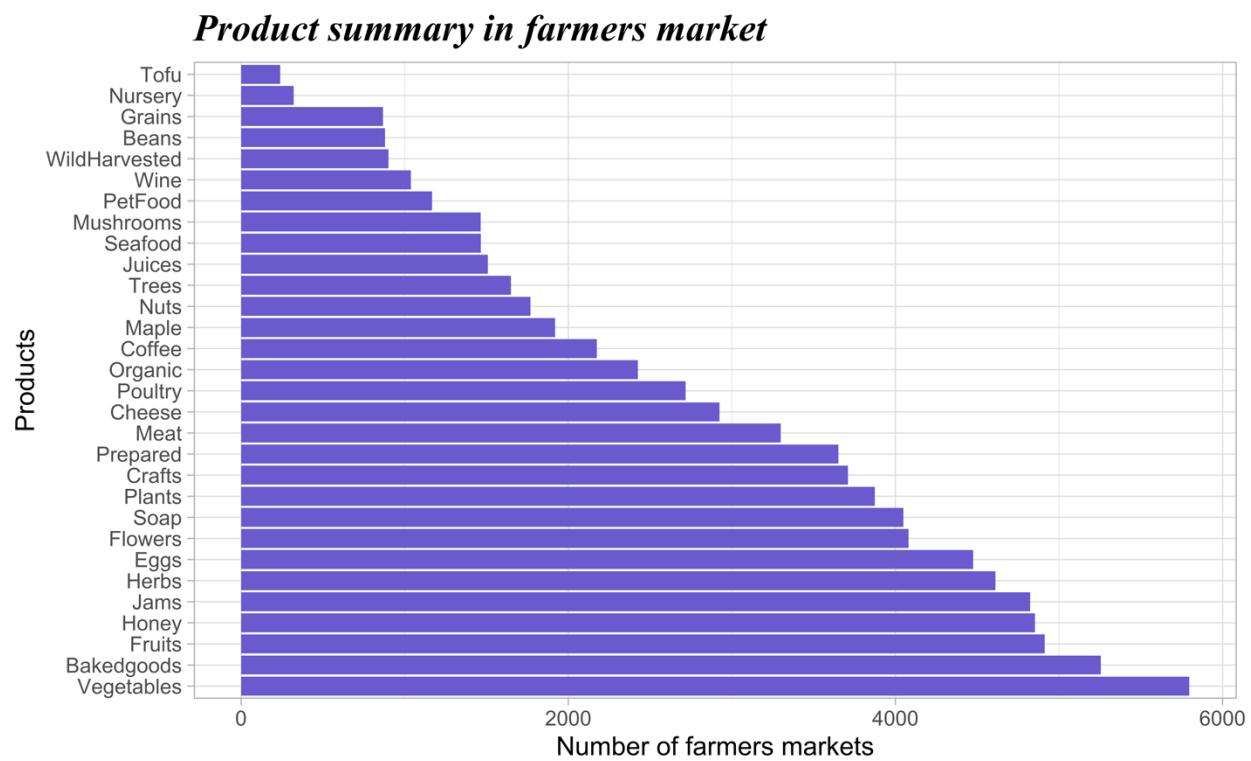
### Overview of the product summary:

Product Summary



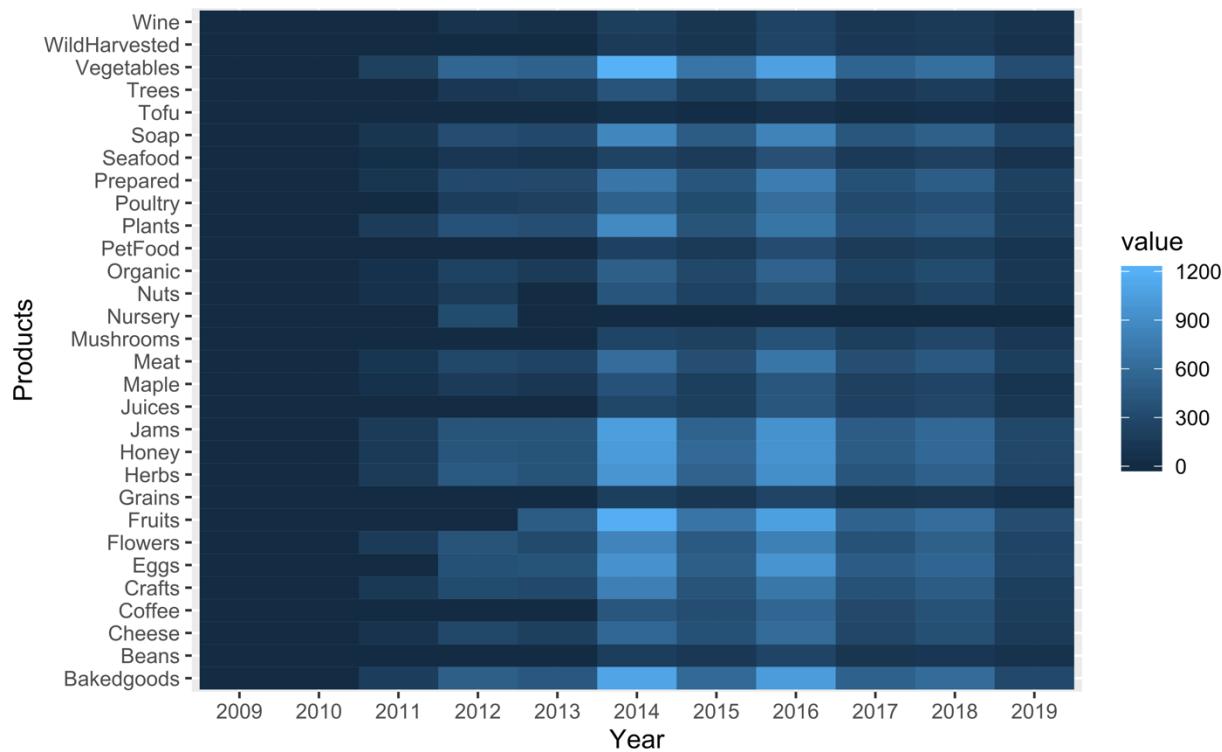
Graph 9: Summary of products in farmers market across the US

To see the number of markets which sell each product is shown in the bar graph.



**Graph 10: Number of farmers market selling each product**

Products availability vary from year to year and this can be seen in the graph 11. As we can see, in the year 2014 most of the products were sold in most of the farmers market and also in the year 2016.

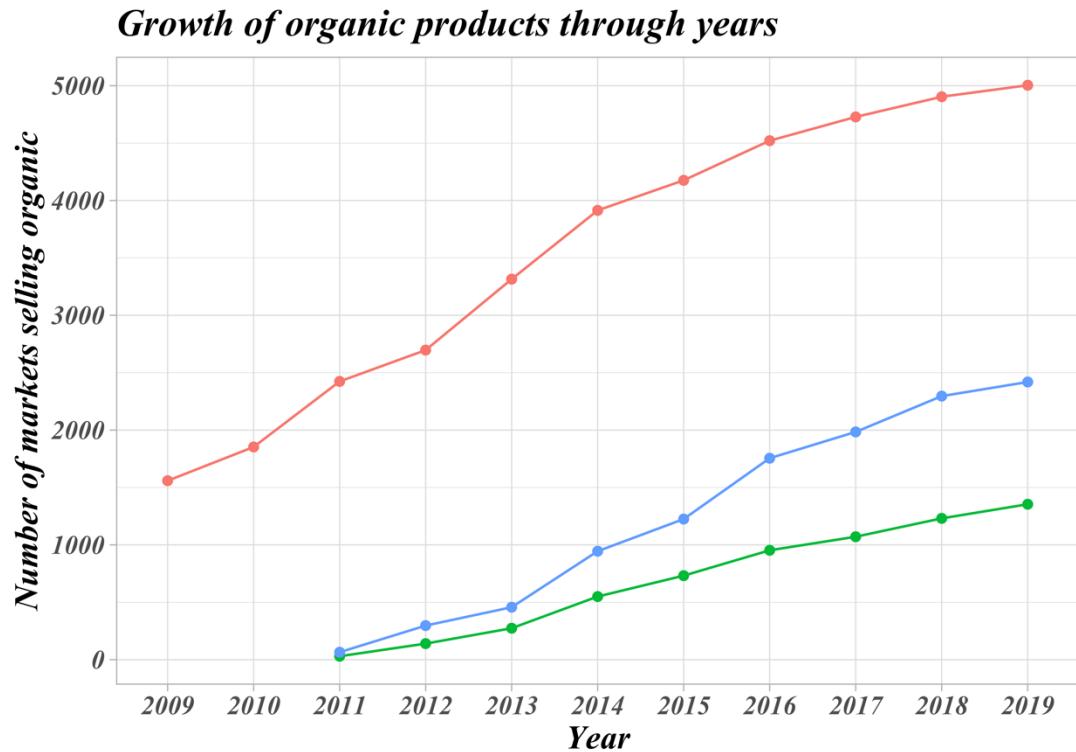


**Graph 11: Number of products available in farmers market every year**

## Organic Products:

Fresh fruits and vegetables have been the top selling category of organically grown food since the organic food industry started retailing products over 3 decades ago, and they are still outselling other food categories, according to the Nutrition Business Journal. Produce accounted for 43 percent of U.S. organic food sales in 2012, followed by dairy (15 percent), packaged/prepared foods (11 percent), beverages (11 percent), bread/grains (9 percent), snack foods (5 percent), meat/fish/poultry (3 percent), and condiments (3 percent).

Most organic sales (93 percent) take place through conventional and natural food supermarkets and chains, according to the Organic Trade Association (OTA). OTA estimates the remaining 7 percent of U.S. organic food sales occur through farmers' markets, foodservice, and marketing channels other than retail stores.



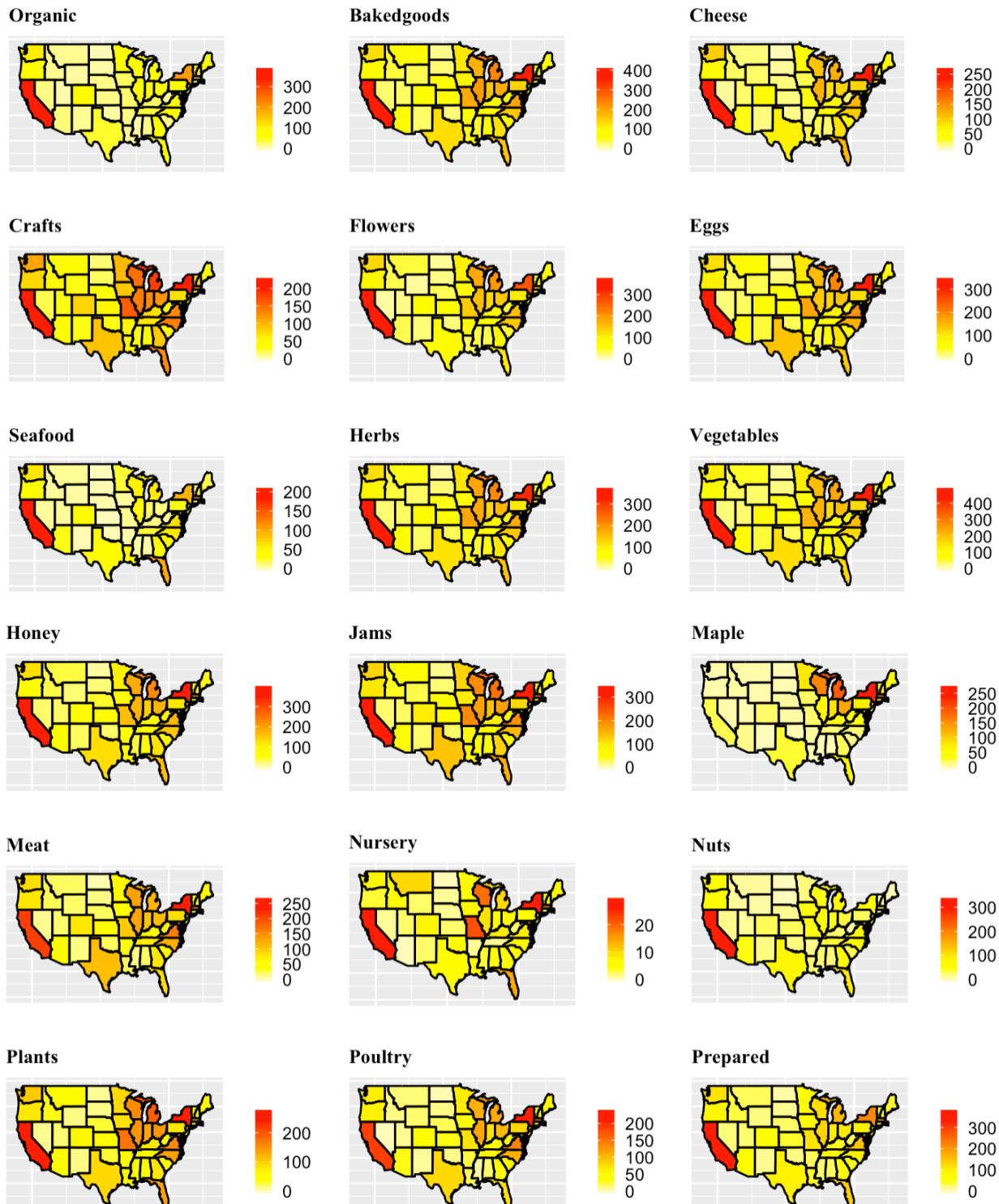
**Graph 12: Organic products growth every year**

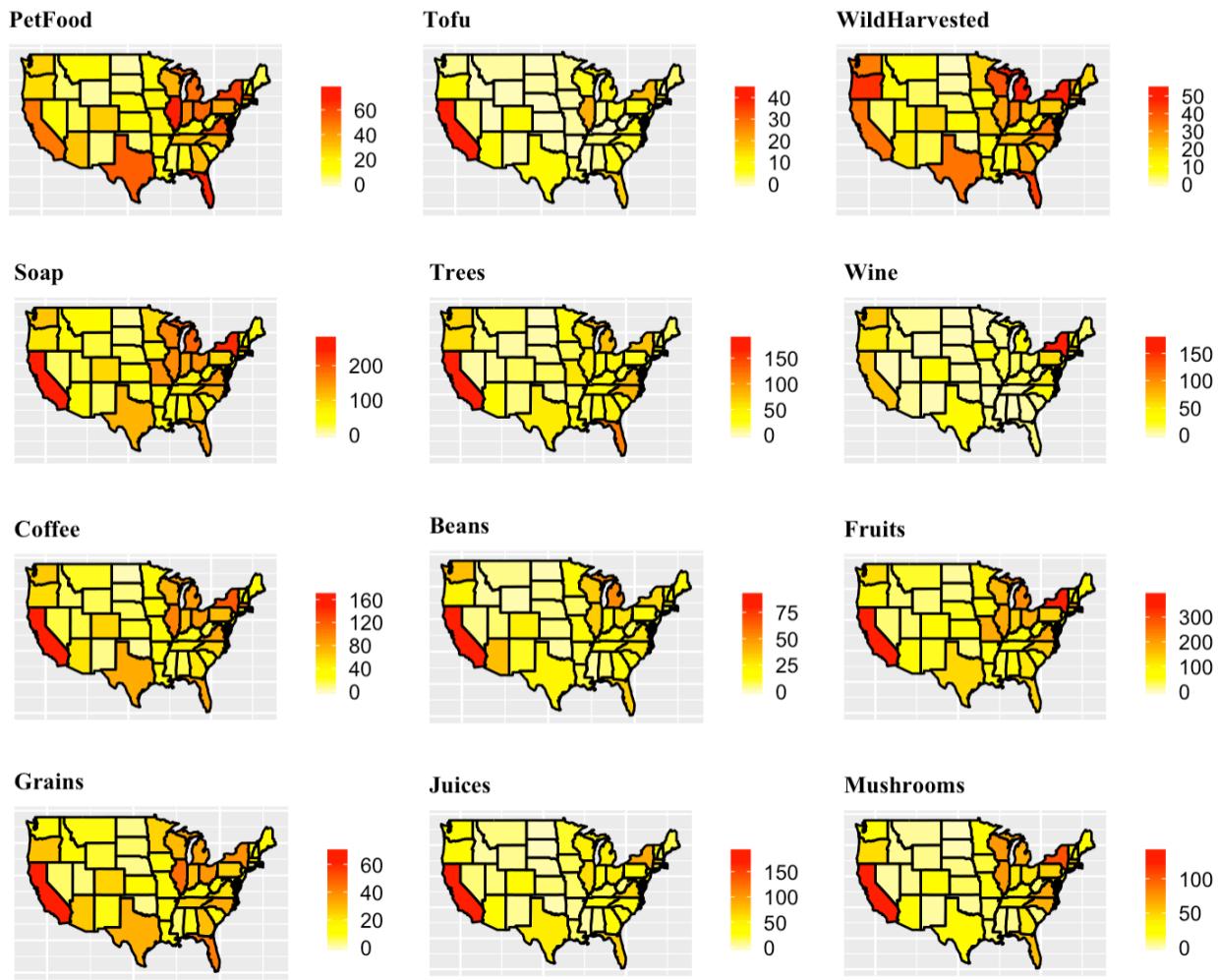
From the graph we can see that organic products became very popular every year.

### Distribution of each products across USA

We have seen the relationship and growth of each products each year above. Now graph 13 shows each product details which is sold across the US.

From the graph 13 we can see that California sells most of the products compared to other states except Maple, Wild Harvested product and Wine.





**Graph 13: Product distribution across the US**

## Payment Types:

**Credit:** Farmers market accept card payment

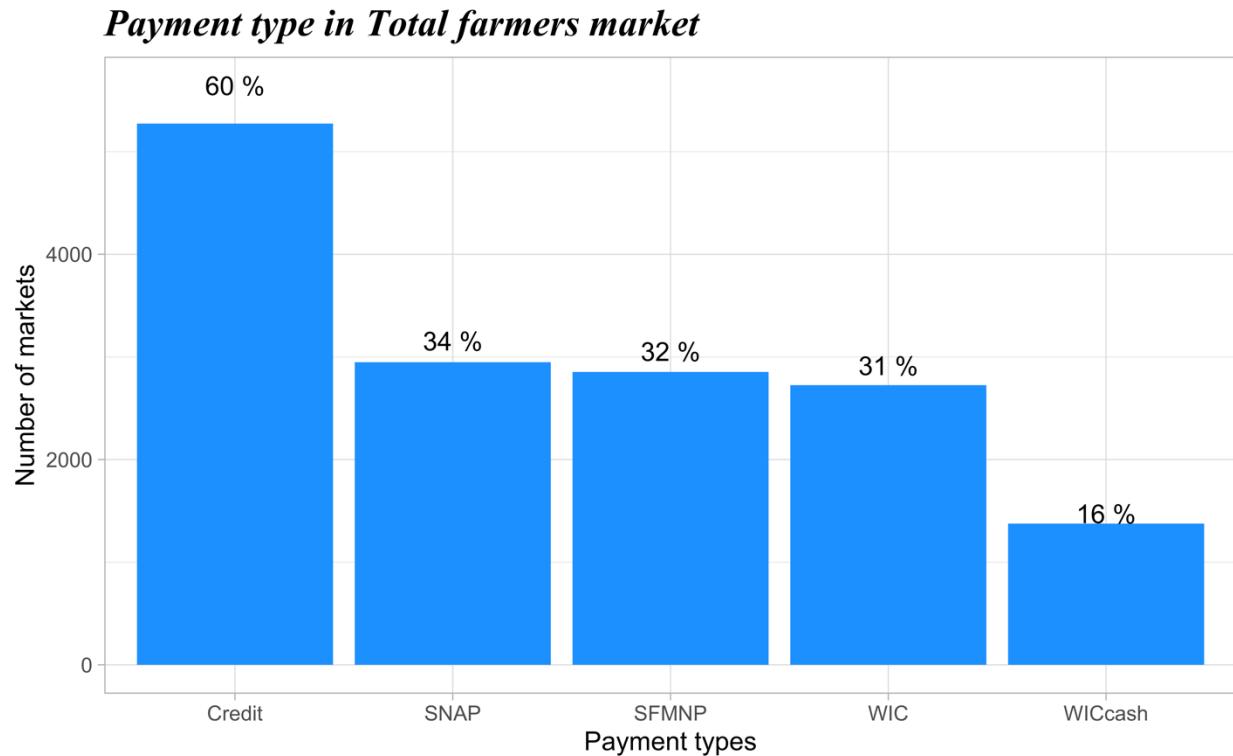
**WIC:** Farmers Market Nutrition Program. Gives seniors and families coupons to buy fresh fruits and vegetables at farmers markets. Every summer, cities and towns hand out coupons to seniors and WIC families.

**WIC Cash:** Value check is funded through USDA. The Cash Value Check is a part of the regular WIC food package. The checks are issued monthly to each eligible participant.

**SFMNP:** The Senior Farmers Market Nutrition Program (SFMNP) is the only federal program dedicated to connecting local farmers with Americans over age 60 who are experiencing food insecurity.

**SNAP** (formerly known as the Food Stamps Program) is a federal program administered by the Department of Transitional Assistance (DTA) that lets participants buy fresh foods, including fruits, vegetables, meat, fish, eggs, dairy, and some seeds and plant starters at farmers' markets.

Considering 8791 farmers market in the dataset, not all the farmers offers all the payment types and all the nutrition programs. Graph 14 shows the statistics of each payment type percentage.

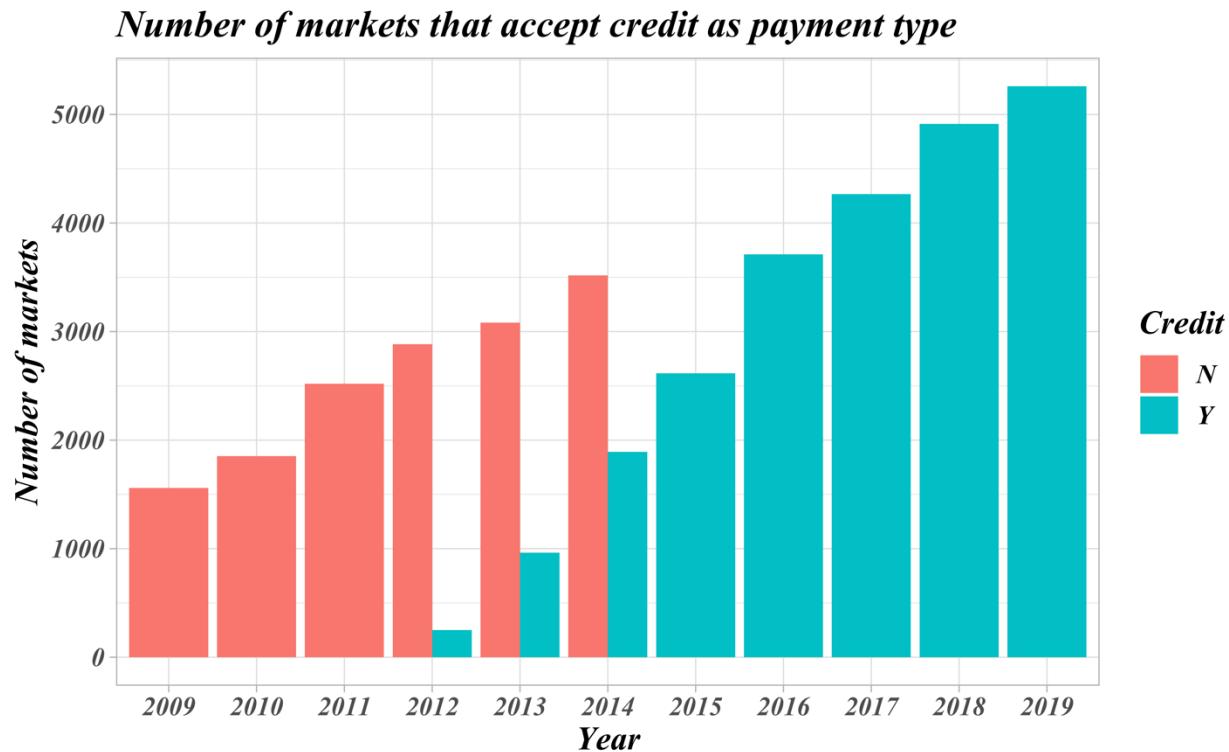


**Graph 14: Payment distribution across the US**

*Assuming only those entries which have Y|N and not counting not specified rows*

The evolution of farmers market we have seen over the years in the above graphs and now we will see the evolution of payment type every year in the US.

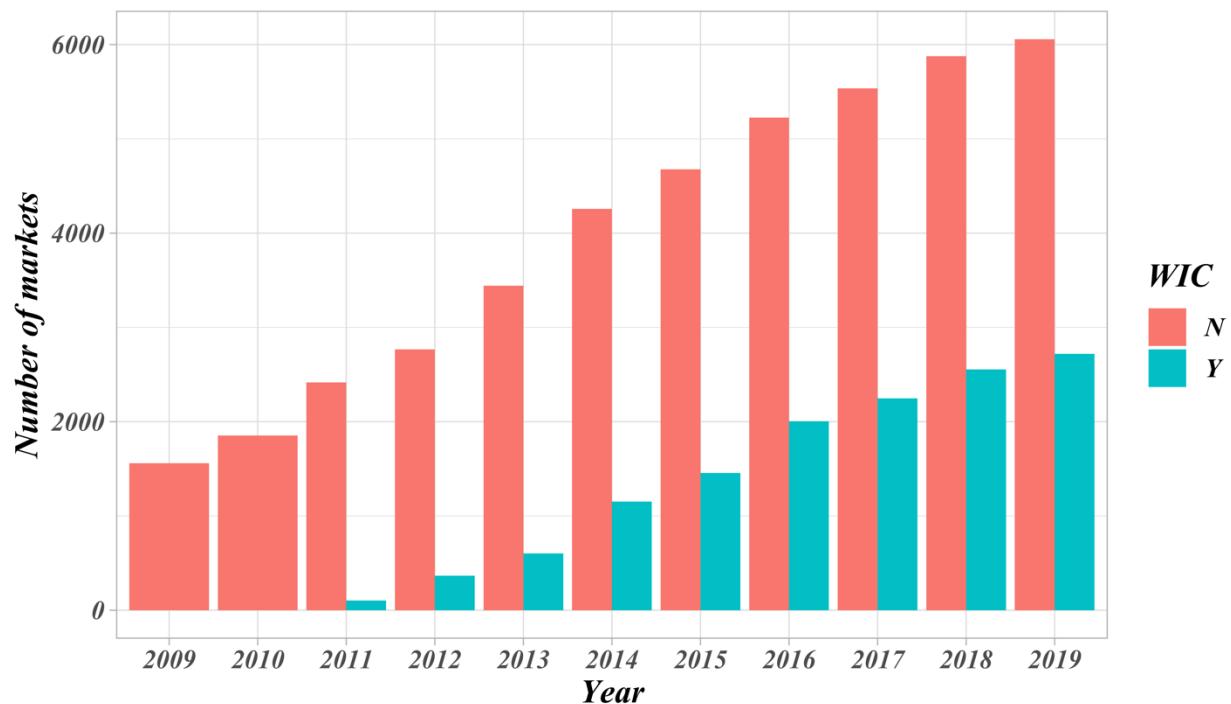
All the graphs below are plotted by considering only Yes and No values, and ignoring not specified values.



**Graph 15**

From the graph 15, it is clearly visible that over the years there is improvement in number of farmers market that accepts credit card as a payment mode. By the we reached 2019, all the farmers market are accepting credit card as their payment mode.

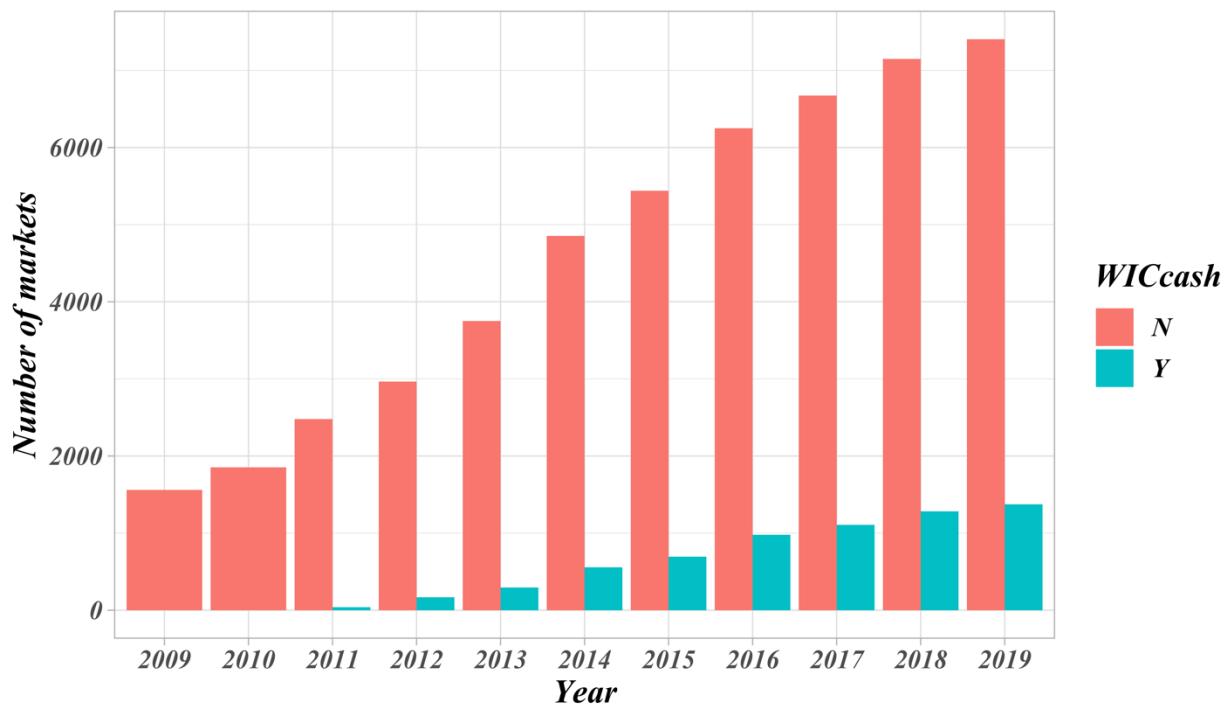
*Number of markets that accept WIC as payment type*



**Graph 16**

From the graph 16 we can say that definitely there is improvement in number of farmers market that offer WIC program but also there are many farmers market that do not offers WIC program.

*Number of markets that accept WIC cash as payment type*

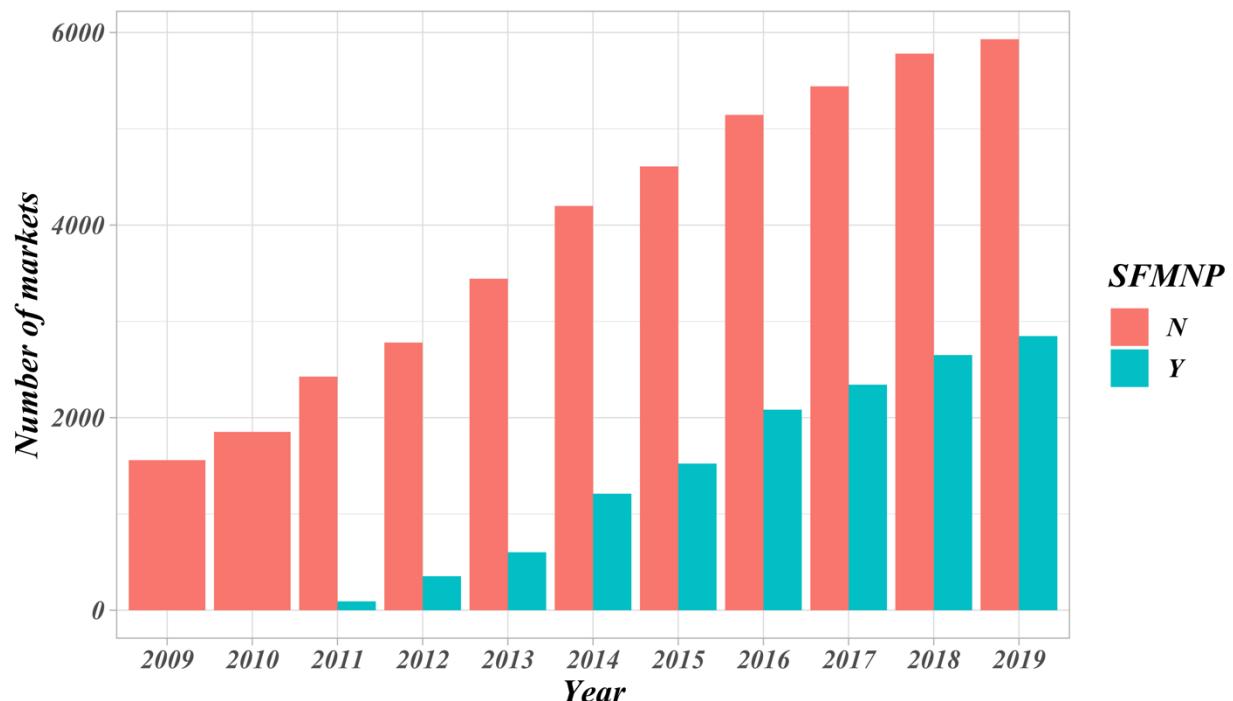


**Graph 17**

WICcash is not offered by many farmers market.

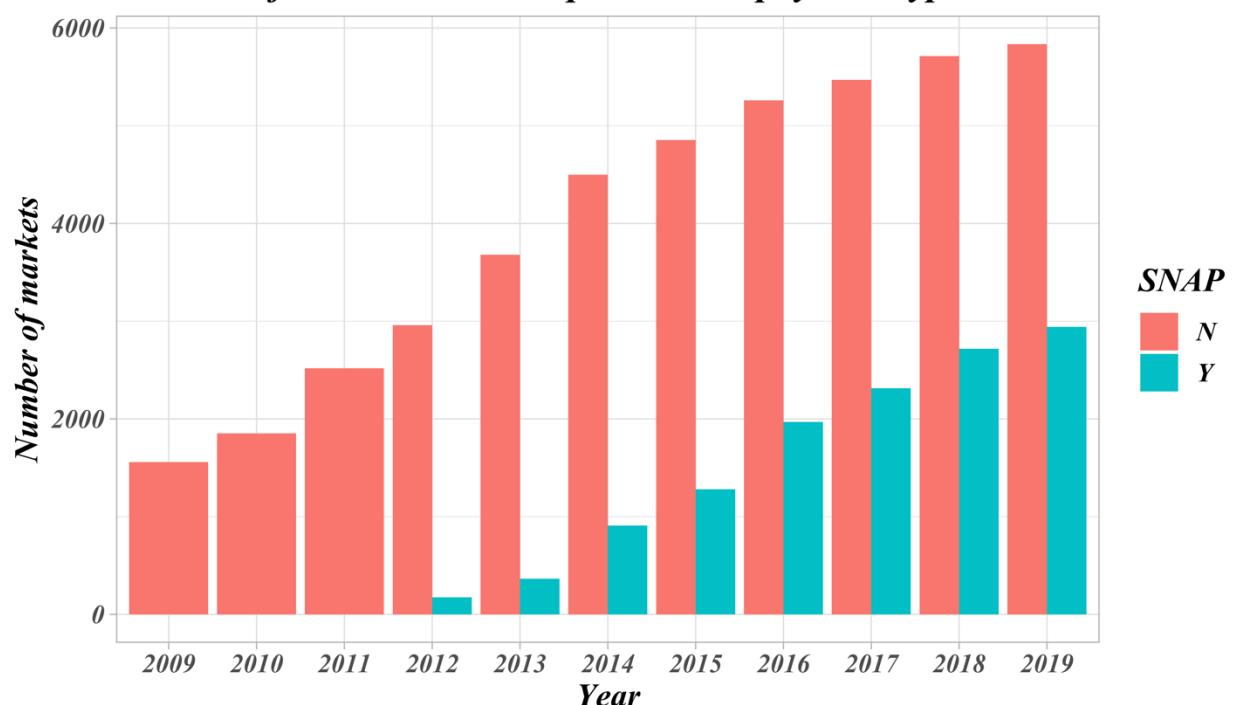
From graph 18 and 19, SFMNP and SNAP are really popular programs in the US.

*Number of markets that accept SFMNP as payment type*



Graph 18

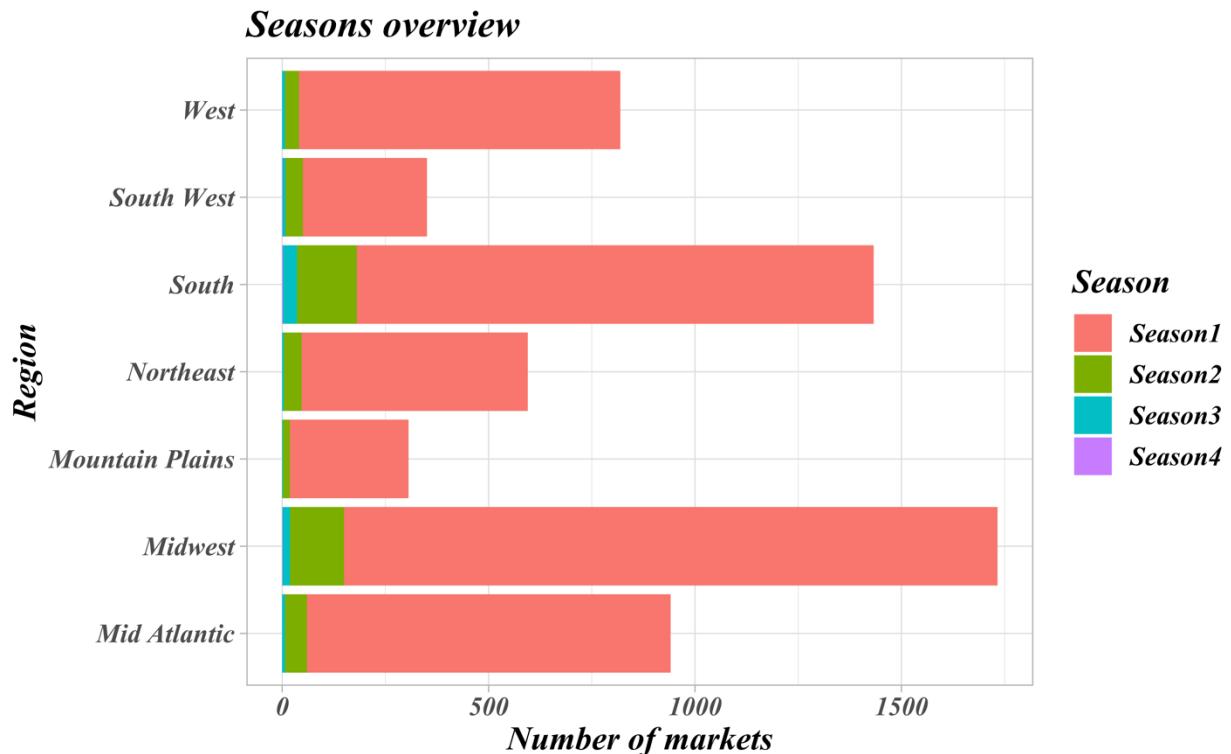
*Number of markets that accept SNAP as payment type*



Graph 19

## Season overview:

Most farmers' markets are operated on a seasonal basis, opening in the spring and closing in the fall. There are year-round markets and they are found on the West Coast, southeast and southwest United States.



**Graph 20: Number of farmers market open in each region**

The above graph shows the overview of number of farmers market open in each season in each 7 regions. There are very few farmers market operate in season 4 as per our data.

Region <fctr>	Season1Date <int>	Season2Date <int>	Season3Date <int>	Season4Date <int>
Mid Atlantic	881	53	7	0
Midwest	1583	131	18	1
Mountain Plains	287	17	2	0
Northeast	548	43	4	0
South	1252	145	34	2
South West	301	42	7	1
West	778	34	7	0

**Conclusion:** There is 216% increase in farmers market in the US from the year 2013 to 2020. There is increase in new markets registered every year. Provided proper funding and marketing the farmers market would increase growth of farmers market.

*THE END*