

GROWTH AND EVOLUTION OF THE FARMERS MARKET IN THE US



USDA

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INTRODUCTION

Farmer's market is an important link between farmers and consumers, and this helps to promote farmer consumer relationships. The United States Department of Agriculture (USDA) found the importance of these markets and introduced many new programs such as Farmers Market Promotion Program (FMPP), Seniors Farmers' Market Nutrition Program (SFMNP), Supplemental Nutrition Assistance Program (SNAP), Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) and many other by Agricultural Marketing Service (AMS). This report analyses the growth and evolution of over 8,791 farmer's markets by visualizing many interesting and important factors on geographic, product and payment system distribution of farmers market across the country.

Farmers Market Promotion Program (FMPP)

Farmers Market Promotion Program¹ is an agricultural marketing service that connects rural and urban communities in the United States of America. It has connected many people with fresh and healthy food. The main agenda of this program is to award competitive grants which lead to expansion of access to products produced locally by farmers. This helped many communities in all 50 States and U.S. territories.

There was a drastic change in individuals prior to the FMPP grants and after. FMPP has awarded over 879 grants since 2008. It has awarded over \$58 million dollars to the projects by 2016. The requests for the funds and grants have an increasing trend from 2008 to 2015 with the same trend in awarded funds and grants. The percentage of awards is spread among Western, Southeast, Midwest, Northeast, Mid-Atlantic, Mountain plains, Southwest regions with around 21, 18, 17, 13, 12, 10, 9 percentages respectively.

FMPP is supporting capacity building projects and giving trainings, education to farmers to maintain quality in the food. According to the survey we can see that all the markets supported by FMPP has great increase in market promotion, business development, etc.

According to reports² there were 2700 applications and 879 grants for the period 2008 to 2015. It is also known that the amount requested is \$ \$201,807,383.66 and granted amount is \$ 58,319,434.86.

¹ <https://www.ams.usda.gov/sites/default/files/media/FMPP2016Highlights.pdf>

² <https://www.ams.usda.gov/sites/default/files/media/FMPP2016Report.pdf>

Year	No. of grants	Amount of funds awarded	Project Types
2017	52	\$13,398,332.58	Capacity Building, Community Development, Training, and Technical Assistance
2018	49	\$13,355,514.29	Capacity Building, Community Development, Training, and Technical Assistance
2019	49	\$11,744,365.78	Capacity Building, Community Development, Training, and Technical Assistance

Table 1³ - Analysis for the years 2017 to 2019

Senior Farmer's Market Nutrition Program (SFMNP)

Seniors Farmers Market Nutrition Program (SFMNP)⁴ is to help the seniors whose income is low. Only people with age more than 60 years and household income not more than 185% of Federal poverty income are eligible for this program. SFMNP grants are awarded over all the US states and territories. This provides coupons to eligible people which can be used to buy food at the farmers markets, roadside stands, etc. There are 3,641 farmer markets, 2,541 roadside stands and 94 CSAs participate in SFMNP and they all accept the coupons mentioned above.

Year	Total Granted Amounts
2012	\$22,241,184
2013	\$21,186,907

³ <https://www.ams.usda.gov/services/grants/fmpp/awards>

⁴ <https://fns-prod.azureedge.net/sites/default/files/sfmnp/SFMNPFactSheet.pdf>

2014	\$20,585,494
2015	\$20,617,305
2016	\$20,283,842
2017	\$20,419,111
2018	\$20,912,213
2019	\$20,991,931

Table 2⁵ - SFMNP Grant Amounts by Year.

Supplemental Nutrition Assistance Program (SNAP)

Supplemental Nutrition Assistance Program (SNAP) helps needy families to purchase healthy and nutritious food. This program helps around 46 million families each month. SNAP is highly beneficial for children and a few others such as disabled people, seniors, etc. According to the White House report⁶, SNAP helped 4.7 million people to come out of poverty in the year 2014. There is almost six times increase from 2008 to 2015 with \$18.8 million redemptions in the year 2014. From 2008 the markets and stands increased from 753 to in excess of 6,400.

Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)⁷

This is a special program for women, infants and children. This was established in 1971 as a permanent program which helps to maintain good health for low income people such as women, infant and children. This is available in all 50 states, territories and few Indian tribal organizations. Participants receive nutritious food such as milk, eggs, cheese, fruits, fish, bread, etc.

⁵ <https://fns-prod.azureedge.net/sites/default/files/resource-files/SFMNP-Grant-Amounts.pdf>

⁶ <https://www.fns.usda.gov/pressrelease/2015/wh-120815>

⁷ <https://fns-prod.azureedge.net/sites/default/files/wic/wic-fact-sheet.pdf>

Farmers Market Nutrition Program (FMNP)

This is connected to the WIC program discussed above and this provides nutritious food and educates about nutrition. Over 1.7 million people received benefits from this program. This is not operated in all states. According to the 2017⁸ report, the funding amount is \$18.548 million and 3,312 farmer's markets, 2,367 roadside stands accepted FMNP as payment method.

Agricultural Marketing Service (AMS)

Agricultural Marketing Service (AMS) is an agency which conducts test and checks the quality of commodities. According to the 2014 survey report⁹ conducted by AMS, there are many trends that include a great increase in customer traffic and market sales, and many reported that there is an increase in annual sales. 85% of market managers attempted to expand and sell different kinds of products. Many of the market managers used web-based technologies to communicate with customers. 81% of 85% used a website for their farmers market and many used social media such as Facebook, Twitter, etc. AMS declares¹⁰ that there was a rise in farmer markets from 1755 to 8771 from the period 1994 to 2019 by showing a 0.6% increase from 2018 to 2019.

⁸ <https://fns-prod.azureedge.net/sites/default/files/fmnp/WICFMNPFactSheet.pdf>

⁹

<https://www.ams.usda.gov/sites/default/files/media/2014%20Farmers%20Market%20Managers%20Survey%20Summary%20Report%20final%20July%2024%202015.pdf>

¹⁰ <https://www.ams.usda.gov/sites/default/files/media/NationalCountofFarmersMarketDirectoryListings082019.pdf>

Analysis of Dataset fmarket

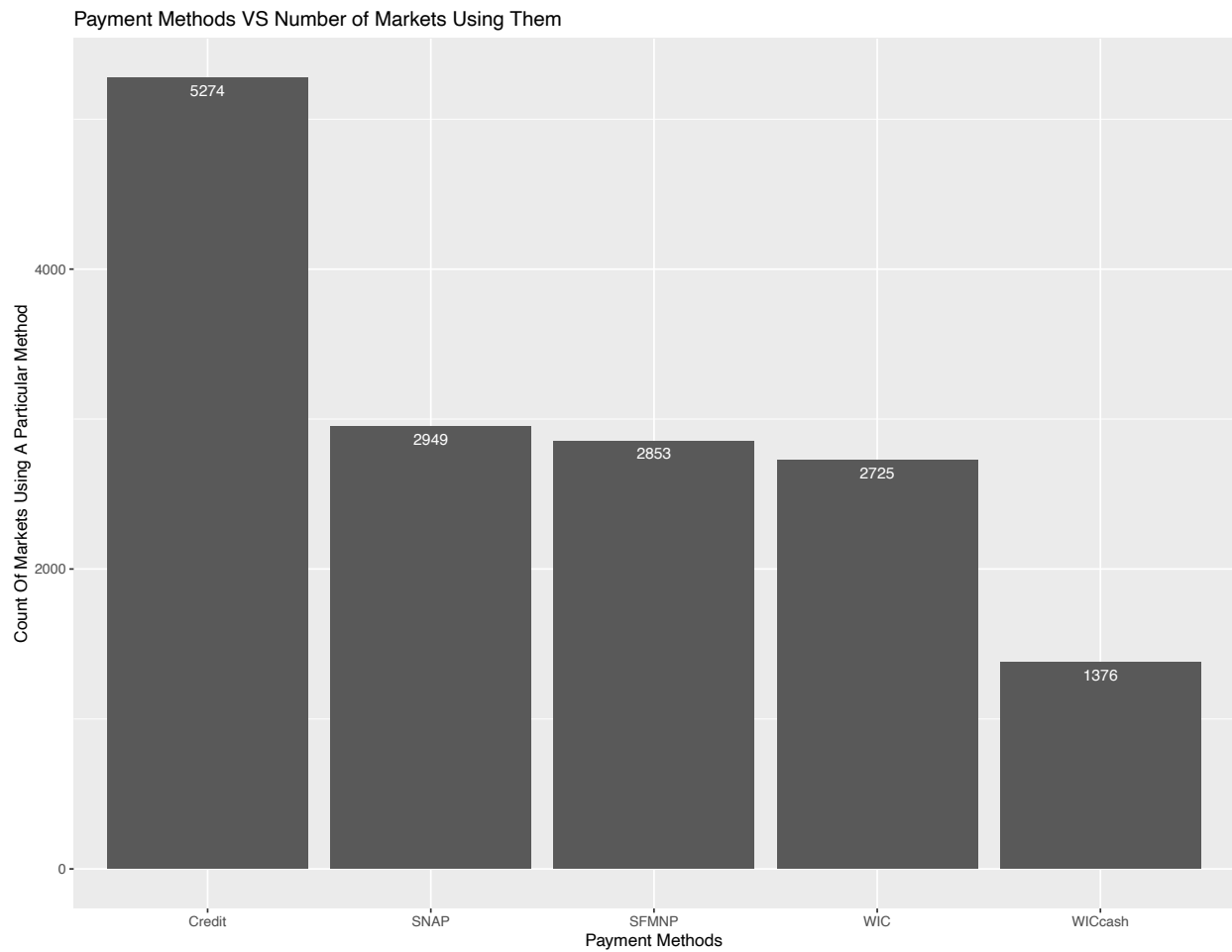


Figure 1 - Payment methods VS Number of markets using them.

The above figure 1 was plotted using the data from fmarket dataset and this tells us that there are 5 payment methods with 5274 markets using credit, 2949 markets using SNAP coupons, 2853 SFMNP coupons, 2725 WIC and 1376 WICcash as a payment method respectively.

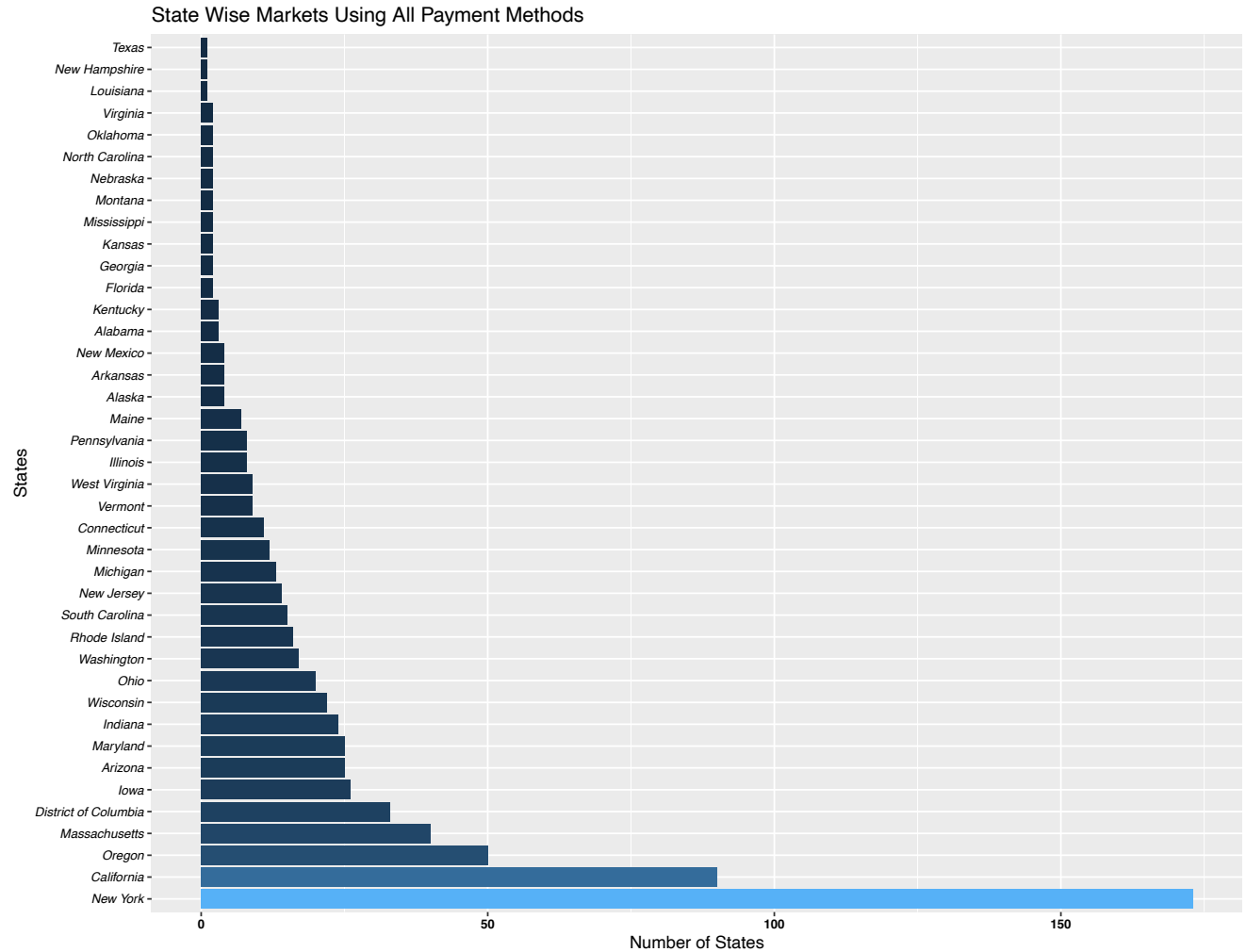


Figure 2 – State wise Markets using all payment methods.

This above graph tells us the total number of markets using all payment methods by their respective states. It is found that New York state is leading with more than 150 markets using all payment types and the Texas is lagging with very few markets using all the payment methods. By this analysis we can understand that grants were not awarded in many states.

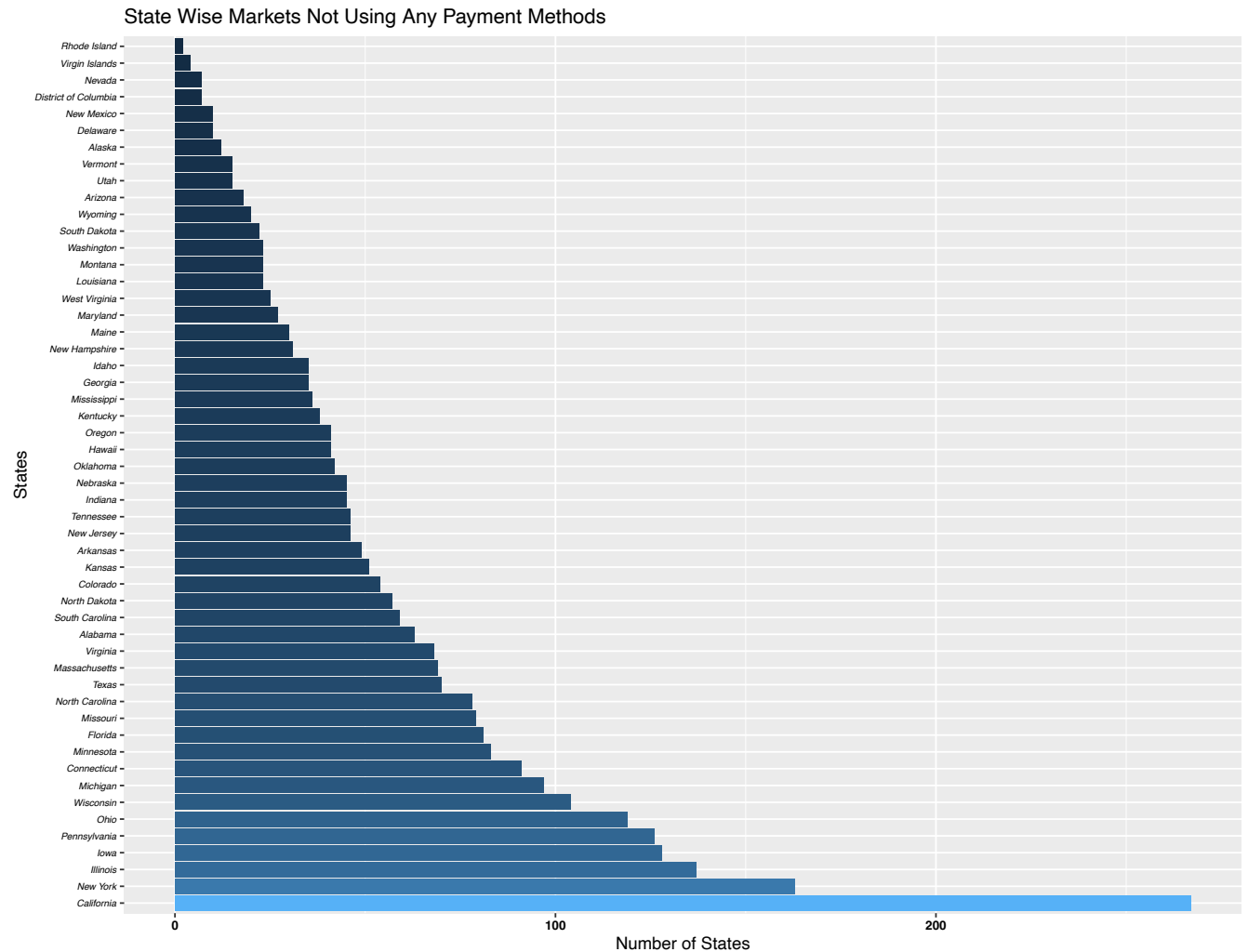


Figure 3 – State wise Markets not using all payment methods.

This above graph tells us the total number of markets not using all payment methods by their respective states. It is found that California state is the one which has a greater number of markets not using all payment methods and Rhode Island having a very low number of markets but this doesn't mean Rhode Island has more number of markets using all payment methods if we compare with other states we can understand that Rhode Island received good number of grants.

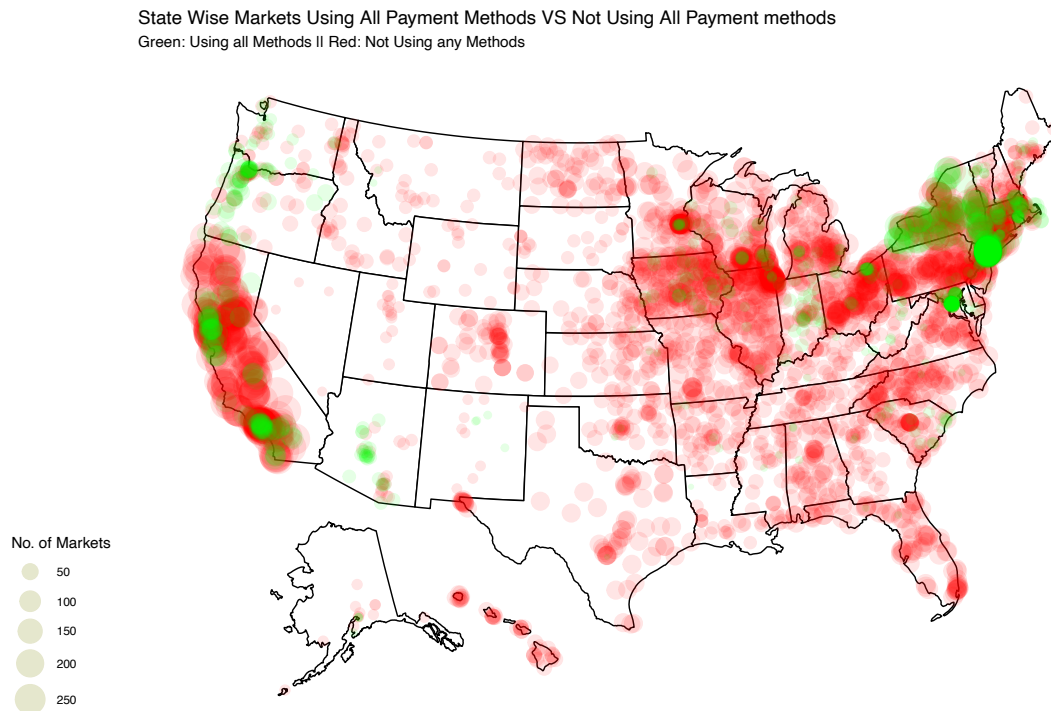


Figure 4 - State wise markets using all payment methods VS not using all methods.

The above figure is a US state map and acts as a heatmap which shows the correlation between the places with markets using all payment methods and not using all payment methods. From this map, we can clearly understand that there are a greater number of states not using all payment methods such as Credit, SNAP, SFMNP, WIC, WICcash. By this, we can understand that a number of grants has to be awarded to increase the number of payment methods in all states.

Payment Method Usage By Region

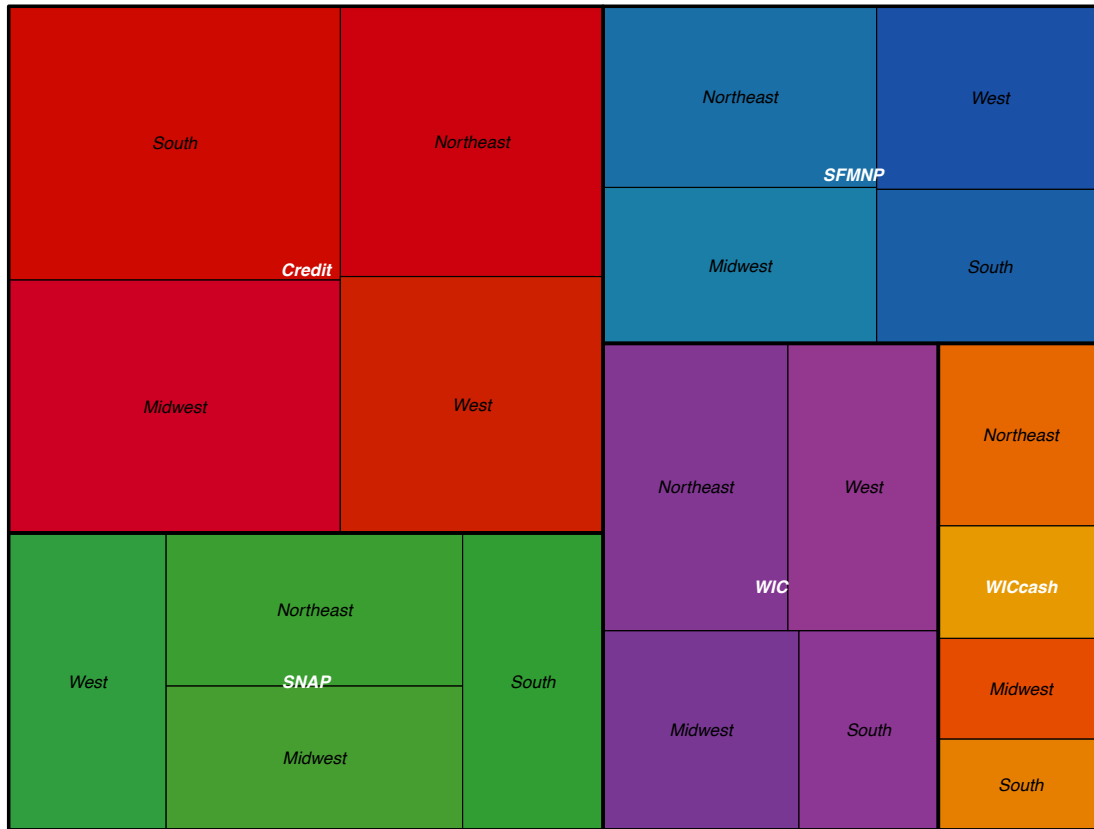


Figure 5 – Payment method usage by region.

The above graph is a treemap which shows the distribution of markets using different kinds of payment methods with respective regions. It is found that the Credit payment method is used more in South and Midwest regions, SFMNP, SNAP, WIC in the Northeast and Midwest regions, and WICcash in Northeast and West regions. It is found that the Northeast and Midwest regions got a more number of grants and almost all payment methods were in usage.

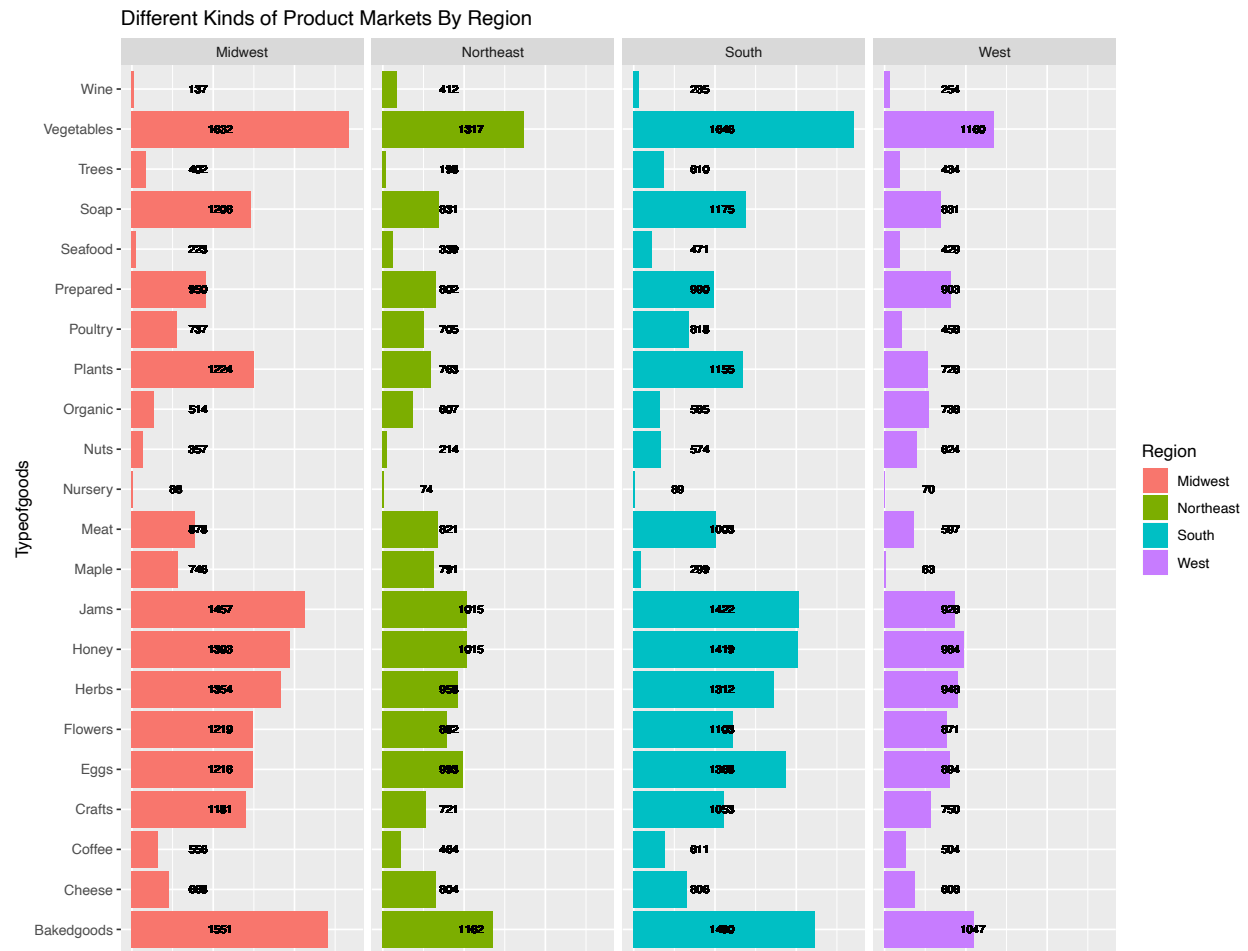


Figure 6 – Different kind of product markets by region.

The above graph is a bar plot which gives us clear details about the different kinds of product markets by their respective regions. From this plot we can easily compare the count of type of food markets in each region.

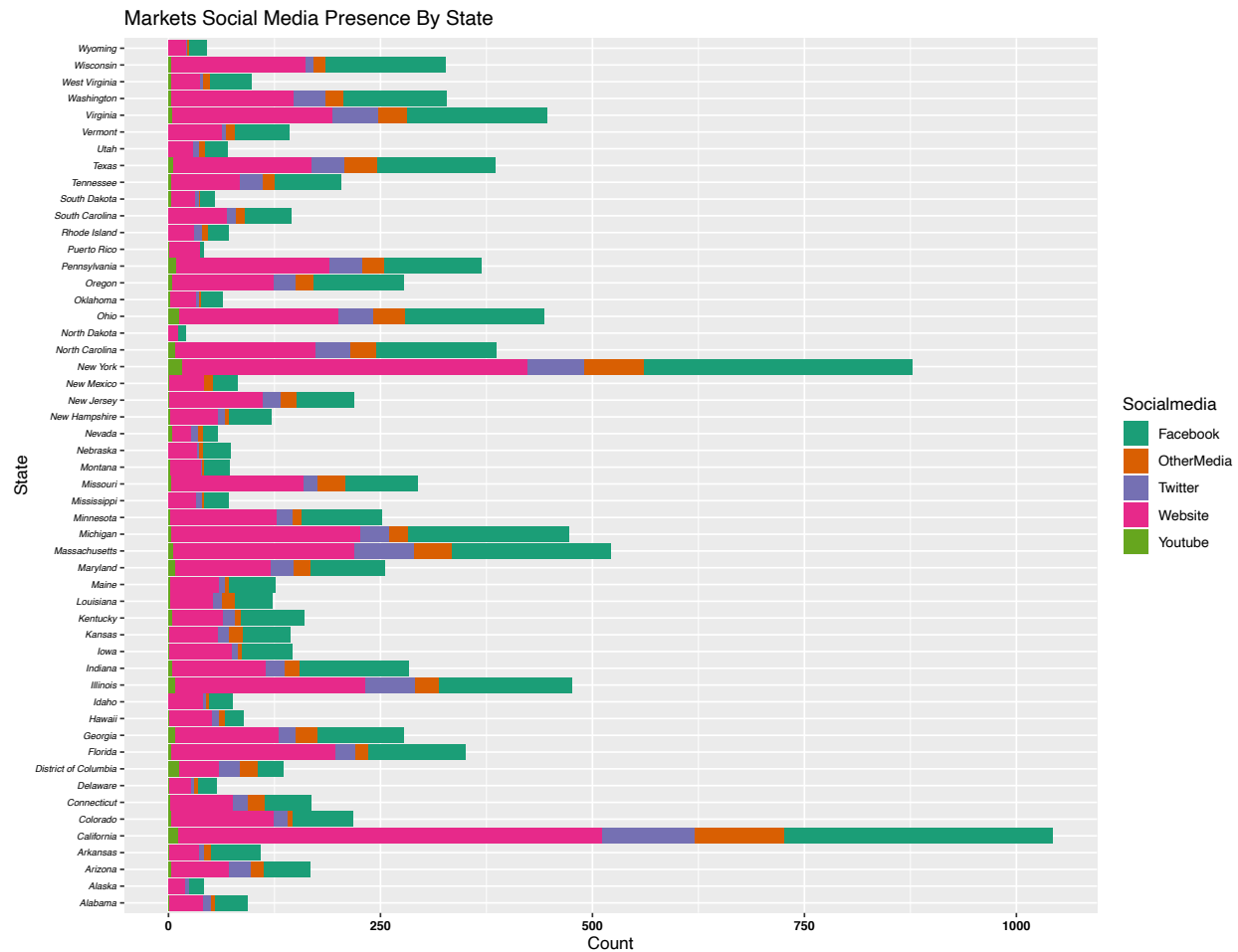


Figure 7 – Markets social media presence by state.

The above bar plot is about the social media presence of the markets according to their region. An assumption¹¹ is made to plot this graph. We have seen that there are a greater number of markets using website and other social media from the 2014 report analysis in the Agricultural Marketing Service (AMS) section which was discussed earlier. The reflection of that analysis is exactly shown in this bar graph. We can see that most of the markets are using a website and few others using different social media as well.

¹¹ Assumption: All markets having URLs are considered as using that social media and NA values as not using that social media.

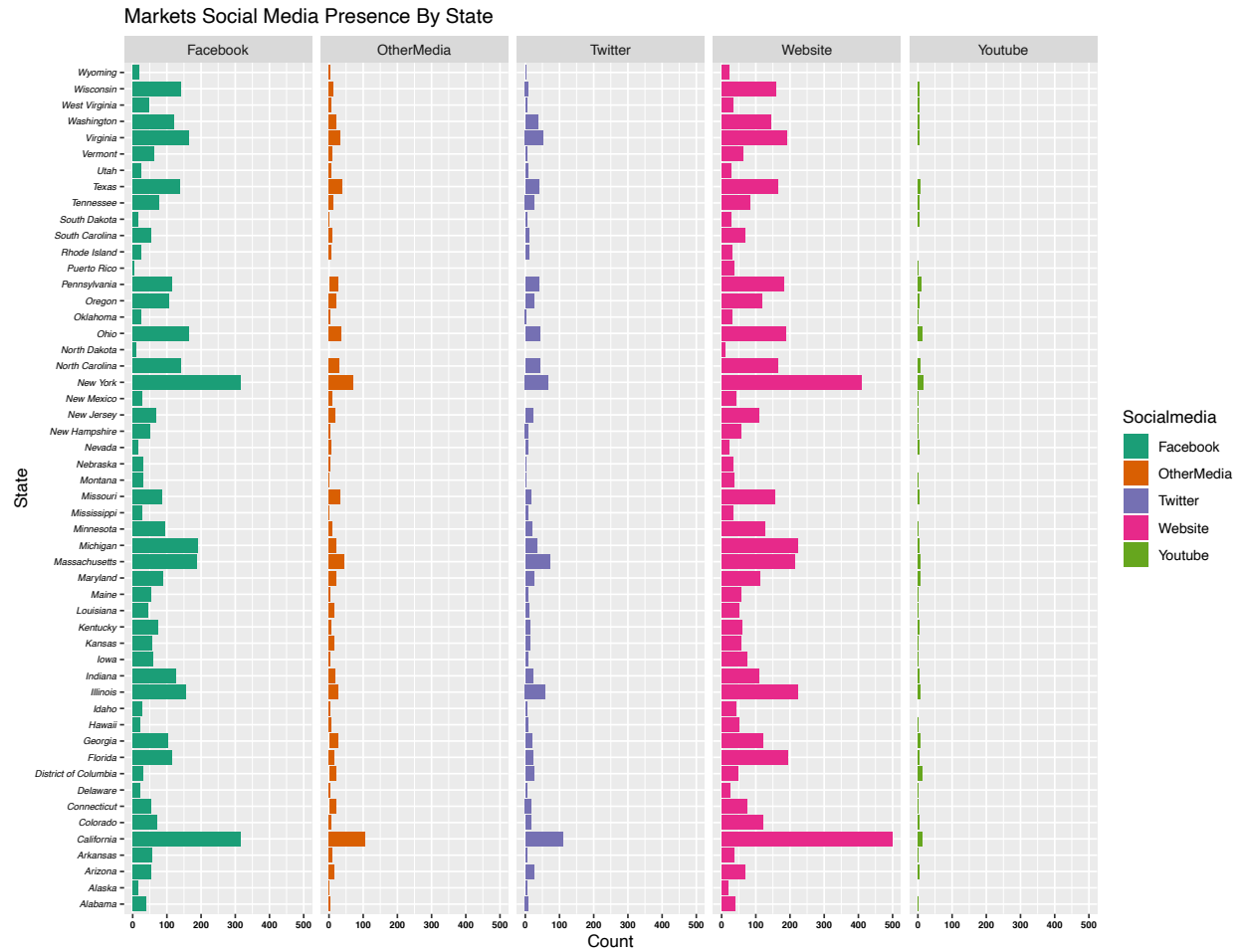


Figure 8 - Markets social media presence by state.

Figure 8 is similar to Figure 7, but this plot is really great to compare the presence of social media of different markets in different states. From the above graph, we can understand that website and Facebook mostly used by all markets whereas usage of Twitter, YouTube, and other social media is relatively low.

New York	Wisconsin	Illinois	Virginia	Ohio	North Carolina			
California	Pennsylvania	Indiana	Florida	Colorado	Maryland	Iowa		
	Missouri	Georgia	Tennessee	New Mexico	Vermont	South Carolina	Arkansas	
		Kentucky	Alabama	District of Columbia	Montana	West Virginia		
Michigan	Washington	Minnesota	Maine	Mississippi	Louisiana	Hawaii	Puerto Rico	
			New Jersey	Nebraska	Arizona	Wyoming	Oklahoma	Nevada
Massachusetts	Texas	Oregon	Kansas	New Hampshire	Connecticut	Utah	Idaho	Rhode Island
			Delaware	Alaska	South Dakota			
			North Dakota					

Figure 9 – No. of season 1 markets by state.

The above map is a treemap which shows the number of markets in season1 according to their respective states. An assumption¹² is made to plot this map. From the map, we can clearly understand that there are a greater number of markets in New York, California, Michigan, and Massachusetts states and there are very few markets in states like North Dakota, South Dakota, Rhode Island, Nevada in season1. We can also see that there are a greater number of markets with a mean range of count.

¹² Assumption: All data in season 1 column of fmarket dataset is converted into a year to year format and considered those as a season 1 by grouping them.

Conclusion

The overall conclusion is that there is a good amount of growth in farmer's markets and the number of funds, grants awarded to the markets is increasing year by year. From the above-stated information, we can understand that many payments are introduced as a part of growth programs such as SNAP, SFMNP, WIC, etc. and these were started to grow and impacting other markets to incorporate these for their expansion. We got to know that many of the farmer's markets are using social media such as Websites, Facebook, etc. to reach their consumers. Now, because of the special programs introduced by UDSA, senior citizens, women, children, and infants can stay healthy by getting the locally grown nutritious food. The overall growth is not just in markets but also in Roadside stands, CSAs. Finally, the recommendations I would like to give from my analysis are as follows. We have seen that the markets are grown from 1755 to 8771 during the period 1994 to 2019 which is a very long period. Also, the growth from the past 5 years is varying between .6% and 5 % which is very minimum. I would like to suggest the USDA to not just focus on implementing the growth programs in highly developed states like New York and California but also in the states like South Dakota, North Dakota, etc.