



Summary of Open Forum and Breakout Sessions

Tuesday, April 23, 2019

**University of Chicago – Gleacher Center
450 North Cityfront Plaza Drive
Chicago, IL 60611**

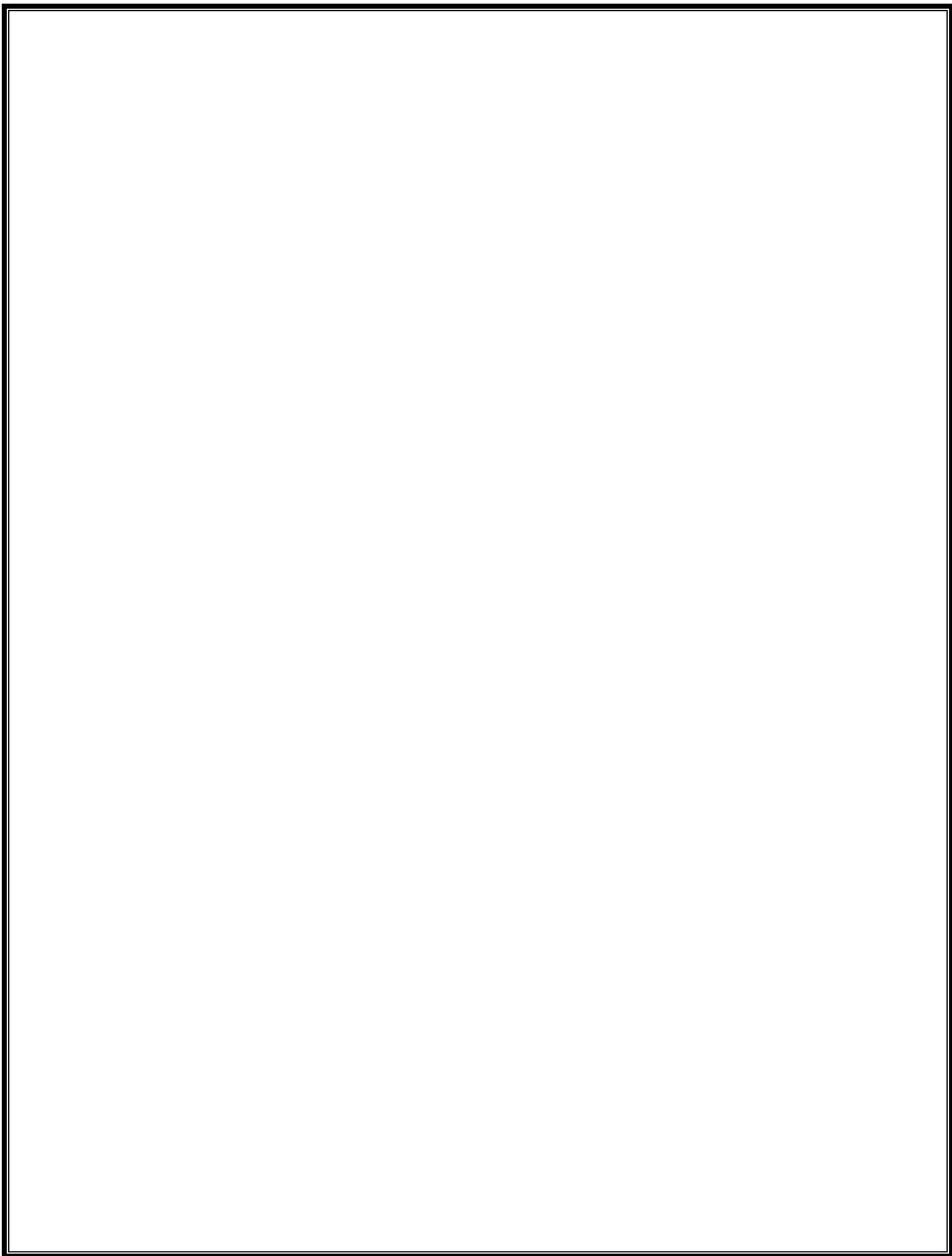


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2019 Data Users' Meeting
United States Department of Agriculture (USDA), National Agricultural Statistics Service
Chicago, Illinois
April 23, 2019

Introductions and Opening Remarks from agency representatives within USDA and the Census Bureau

Agricultural Marketing Service (AMS)
Economic Research Service (ERS)
Foreign Agricultural Service (FAS)
Farm Service Agency (FSA)
World Agricultural Outlook Board (WAOB)
U.S. Census Bureau (Census), Department of Commerce
National Agricultural Statistics Service (NASS)

Question & Answer Summary

Note: The following write-up presents a topical summary of issues discussed during the afternoon open forum. Material is presented in chronological order. Questions and answers have been edited for clarity and readability.

Attendee: Have you ever done a study between crop ratings and the farmer yield survey? Two years ago, we had crop ratings low and we had the early yield estimates low and we went up. Last year we had crop ratings high and we had yield start out high and got up to 181 [bu/ac] and we lost five. Is there any correlation there?

NASS: Over the years we've looked at crop condition ratings and how they compare with some of the other indications we get. We've tried to use them in various ways to help us forecast yield. We don't see condition ratings in any of our analysis packages because they don't correlate, at least not as well as any of the other indications we have. We have looked at it over the years, they've never been a direct input into our estimates, and they're still not today.

Attendee: My real concern is not so much you guys looking at them, the concern I have is the impact they have on the producer themselves and the producer response that's given to you on the farmer survey. Have you ever looked at the correlation between the condition ratings and the farmer survey? Then that would only help you if you guys would find something, especially in the early reports, where the Ag Yield survey really gives the bulk of your yield estimates.

NASS: Whether or not they're responding versus where those ratings are at? No, I don't think we've done any research into that relationship.

Attendee: I do worry that there is something going on there that we don't know about.

NASS: We've done a lot of research into response and what kinds of things might be affecting that. One of the challenges you run into is that there are so many factors that impact response. That could be one of them but virtually anything and everything that happens that impacts a farmer's attitude or motivation toward responding to a survey can have an impact on any given month. I think it would be difficult to point to that specifically. Could be interesting to go back and take a look, though.

NASS: We do control for non-response in a number of different ways, certainly by geography but also by the size of the operation in the adjustment algorithm.

Attendee: Since we've now had the announcement that there won't be field data in the August Crop Report that puts everything on the farmer survey portion. Are we going to have an impact of that into the August report? Or is it going to be more like the July report from the point of view of it's more of a statistical look at where we've been, and maybe some general weather data about where August yields should be to begin the year?

Second question, what was the decision process about deciding not to use field data in August when they've really been counting plants and ears, they weren't that complicated?

NASS: We'll continue to do the farmer survey, the Ag Yield Survey, in August. Yield forecasts in August will still be based on survey information, they're not going to be just statistical models or based on weather. We won't have the objective yield component that we've had in the past. In August, as you mentioned, it's mostly counting plants, maybe ears, fairly basic information that we're getting. We went back and looked at the data that we had, both from objective yield and ag yield, and satellite based information as well and we felt, from an efficiency standpoint, that we can continue to produce the same quality forecasts that we are now without that additional burden of collecting the additional field data. That was the decision process.

NASS: The sample size is over 20,000 records sub-sampled from our June survey. So it's a substantial sample size.

Attendee: Does that change the geographical weighting at all to not include those objective yields in the August survey?

NASS: No, we will still continue to sample, from the ag yield perspective, the same way we have in the past. We still have our same speculative definition for the key states and we'll pick up the objective yield starting in September.

Attendee: For the changes in the WASDE you said you're going to put up the Excel template. Is it just going to be all X's or can we have numbers to make sure that our scrapers are working so that we don't get back X's and think that we have it right and have it wrong?

WAOB: No I can't. Without fail, somebody will call and say that the May number is in there already, but May Lockup hasn't occurred yet. All of the prior numbers will be in there, it just won't be the May numbers. If you look at the April numbers, and the back year numbers, they'll be in there. The new May numbers will be zero.

Attendee: Could you do the April WASDE in the new format?

WAOB: No. It will confuse somebody no matter what.

Attendee: Are you going to do the old numbers less China like you do in the new format?

WAOB: Well, that's just math. If you look back in 2016/17, there will be a line in there that says world less China. It'll calculate that out, it's just math, so there's no problem there.

Attendee: It goes back three years, are you going to go back further?

WAOB: The WASDE only goes back three years. The PS&D, you can take world and you can subtract out China, it's there.

Attendee: You've got more than just the stocks number, you've got exports and domestic use and things like that. Having a clear cost and having it in that same format, it's so much easier to visualize what you're talking about. Three years doesn't make people feel good about where it's at.

I want to congratulate you for making this change to get the data to the point where we can actually see a tradable supply. That's the biggest problem we've had here for a while is these big numbers have got completely off and they were not showing, from the point of view of Europe, Russia, United, States, South America, numbers that can be utilized as a tradable supply for the world.

WAOB: Absolutely. I heard a news report saying it's because the stocks are big. That's only part of it, that's a necessary but not sufficient condition for this. If those stocks behaved like everybody else's stocks, there would be no reason to break them out, per se, you could just go down and see how much is held in China. It's because they're not transparent. It's because they don't behave like the market signals. Quite honestly, who knows what the data are. We make our guesses as to what those stocks are. For corn Mike [Jewison] does an excellent job. But Mike will tell you, there's no way to know for sure.

Attendee: I've argued for a couple of years against going to the price point estimate. If you look at wheat and you look at the October WASDE, it does a very good job of predicting where the monthly price is going to be for wheat as you move through the rest of the marketing year.

One of the things I'd asked for a couple years ago is could we provide some sort of measure around the point estimate, a standard error or confidence interval. I was told that was possible. When I saw the most recent format for the new WASDE, none of that information is in there on the back sheet. Have you decided to drop that?

The second question. I understood you to say one of the problems with reporting the range was people tend to think it's equally likely prices will go up versus go down. How does the point estimate change that? How do I decide?

WAOB: It's the midpoint we're dealing with, and then putting bounds around it. The bound around it implies symmetry.

Attendee: It doesn't necessarily imply symmetry, maybe people are interpreting it that way or maybe that's how you presented it. But that's not what it implies.

WAOB: If I give you a midpoint, and I give you either side of that, people take that as being symmetry and it's not, it doesn't have that meaning. I'll go back to my other point, which is you say it represents about the middle third in a given month?

Attendee: I said, if you look at the range reported in October, most WASDEs, as you move forward, the price tends to move within that range. I didn't know how you actually come up with it. I didn't know it was a middle third until you explained that earlier.

WAOB: It said back in the WASDE in the late 1980s, this represents about the middle third. It's operated as convention since that point. If you look at it, it doesn't mean that consistently each month and your point about in October, it means something specific, it doesn't mean that same thing in the rest of the months.

We talked earlier about trying to put out a range. It can't go into the WASDE, because you see how long it takes to make a change within the WASDE. The proposal was to take options markets as one way of doing this, and putting it on a website that says here's today's WASDE, here's today's options market following the WASDE and here's a projection of price ranges. We still have an interest in doing this. We've done research, we experimented with that in the background and that gave us more comfort not to put price ranges in the report but to go to a simple point estimate, given what the options market tells us

about what that price range is likely to be. We'd like to do it in a separate page, just not right in the WASDE.

Attendee: That's great, I would encourage you to do that. I hadn't seen reference until just now to that work going on or where it was going to be posted.

WAOB: That's part of the reason why we're fairly unanimous that we didn't want ranges. If somebody is using that range as a center probability, they're probably using it wrong, especially if they're using it consistently as a center third of the price ranges over the entirety of the season, then they're definitely using it wrong, because we went back and looked at that in pretty good detail.

Attendee: I can appreciate that. I'm not sure about the fact that if people might use your numbers wrong means you need to change what you're doing. As soon as you report a point estimate in September, for the marketing year, if they use that they're also going to be wrong. I'm not sure what you improved.

WAOB: We're operating in point estimates, everybody brings their point estimates to the table and says, okay, by convention, we've done this range in the past. What information is it providing? I don't think it's providing any information and potentially providing misleading information. I think it's much better to put the point estimate out, and then do the additional research on both historical ranges and options markets, and put that on a supplemental page that if people are interested in it, they can go out there and get it.

Attendee: Would you be open to releasing the release URLs for the primary economic indicators ahead of time, I know it follows a relatively consistent format.

NASS: I'm not sure, it's something we can take under advisement.

Attendee: There's different coding across different agencies, you can look at RMA's summary of business versus NASS's Quick Stats versus FSA's program info, even the commodities will have different names or different abbreviations. When you try to integrate across different data sources within USDA, it's a lot of work. It's pretty time consuming. Is there any way or any point in the future where it could be standardized across agencies and across databases?

NASS: That's something that USDA has been looking at. Jody were you on the team that was working on it?

NASS: Actually the group I'm working on is precision ag. It's more about capturing acreage. But the one thing they are looking at is we all have our own databases, and getting our own metadata inside of our own databases synced is a challenge. But I think as an end goal, it would be nice for all data users to have things synced up.

Attendee: Thank you, Seth, for doing the World less China. Can I put a request in for May 2020, assuming they're still using soybean meal, to include China under soybean meal usage in the WASDE?

For the fall conference, I'd like to see somebody from EIA there, I think that would be useful. Joe and Patrick, I appreciated your responsiveness in getting squared away on those soybean meal exports that were identified as being not exactly correct.

NASS: We can probably at least get EIA in the room, whether we'll have them on the panel or not we'll see. But it would be great to have them there.

Attendee: The changes to the WASDE report just kind of popped up on the website. The dropping of the August Objective Yield survey was announced in March. There was a press release, that didn't mention any of the changes of the 5 year review, you had to go to a link and the top three items were about edible peas, and potatoes and sweet potatoes, and you really had to dig. Could you put out a press release on some of these big changes to these reports that the market follows closely?

NASS: The first thing we do when we make program changes, or any changes at NASS is we put out Agricultural Statistical Board notices. With the lapse in funding this year, our time was condensed, we wanted to have program changes done much earlier.

NASS: After the lapse in funding, one of the things we wanted to try to do was make the changes work in this crop year. We were on a tight timeline, to make all of those things happen from getting the Census out, reviewing the program changes, making it visible and then getting the information necessary for our internal teams to move forward in the sampling process that needed to take place. We were moving pretty quick. We might have been able to message some things a little bit differently. But we knew we wanted to do a comprehensive job with that ASB notice and the link to the program review changes that you see.

NASS: To add on to that, I think this is the first time that we've ever put out on our website the program changes listed out in a nice orderly fashion, the states that are in them, which states will be published, etc. This is something that we want to build on in the future. As each year comes around and we do annual program changes we plan on adding to that area.

NASS: We did go out and do a fair bit of media immediately after the changes. A lot of radio and other media outlets.

WAOB: We put it out a little bit early. There was an announcement and it hasn't actually been effective yet. The May WASDE is not out yet. If anything we're ahead of the game, including the spreadsheet which will come out soon.

Attendee: I note on page 25 [in the program], the "Export Sales Reporting (ESR) Program requires exporters of reportable U.S. commodities to report each week all of their exports sales, regardless of the quantity, to the Foreign Agricultural Service." Last year, the weekly export sales report covered 58% of the total pork exported according to the monthly data. For China, that number was 27%. This weekly report, if it's mandatory, and they're required to report, why are those numbers like they are?

FAS: For the Export Sales Report, pork is one of the newer commodities that were added to the reporting. I know there was a lot of work done on it.

Attendee: That was seven years ago.

FAS: There has been a lot of work over the years since then, on compliance with the reporting for the new commodities that were added. One thing I would point out is that not all pork that is exported is actually covered by the Export Sales Report. There are many commodities that would show up as pork on Census Bureau data for export that you might be using for comparison that is not actually covered by the export sales reporting requirements. That could be some reason for discrepancies. There are differences there about what's actually captured.

Beyond that, our staff is constantly looking at compliance. There's been recent effort to work in coordination with Census on compliance and reporting efforts, specifically on pork and other areas where we might be lacking a little bit. I will definitely take your concerns back to Washington and talk to them about that.

Attendee: I can add some comments since the U.S. Meat Export Federation has been in contact with some ESR staff on pork specifically. We know that they can only include fresh and frozen muscle cuts so there's a lot of trimming volume that's missing. Specifically for China, there was a lot of confusion on whether carcasses should be reported or not.

What we've heard is that they have gone back to a lot of the exporters' and encouraged them to include those six piece carcasses. If we're sending six piece carcasses they should be included if they're shipped as the whole muscle cut, but depending on the spec, if they have the feet attached, or something like that, that would automatically exclude them from being included, because of the variety meat inclusion there. It's very specific on the definitions.

Attendee: But the Chinese want to buy carcasses with feet on them.

Attendee: We're still hearing that we're mostly sending six piece carcasses lately. FAS has been encouraging exporters to include more of that data in their reporting. I think there was some confusion on the reporting side with that, and maybe that's been reflected in the bigger sales we've seen in the last few weeks.

Attendee: As far as the market at large, I think a lot of people are still in the dark. There really hasn't been much communication from FAS about what's in the data and what's not. There are people that have been in the industry for 15-20 years and they still didn't know that trimmings are not included. Sometimes people need to get a little bit of a reminder so when they look at the data they know what it means. There's a website it should be fairly simple to be transparent then people can draw their own conclusions and know what to make of the data.

[15 minute break]

NASS: While you're getting seated, I'll make a pitch. At the Ag Statistics Board, we often have visitors come in, a lot of farm groups, a lot of folks come in, especially in the summertime before the August crop report, July and such and we really welcome having visitors. If you're in town and you want to meet we welcome those conversations. I'm sure that's true for the other folks on the panel here as well. If you have a farm group or a group of producers, it's an opportunity for us to engage with farmers and agro businesses and those that provide data. Reach out to Matt right here and he'll get it on the calendar.

NASS: It's not just the crop boards you can come in for. You can come in for the livestock ones as well. When we do bigger economic releases, we like people to come in, just send Matt an email or call and we can set it up.

NASS: If you want to engage with one of the other USDA agencies we can try to help make that happen. Seth often drops in and we really appreciate him in the conversation.

Attendee: If I'm looking at the AMS beef reports, I've noticed that the comprehensive load counts as a percentage of production, it doesn't seem like a lot of the data is there. Can there be some more transparency around where some of that volume is going?

As a follow up question. With select beef being reported in lower and lower volumes and not meeting the requirements to be reported, is that something that is going to go away at some point? Or is there anything being done to increase reporting on select beef?

AMS: As far as whether a product is select or not, they're still required to be reported. We've not discussed not reporting it, not publishing that information.

Attendee: Looking at the amount of beef that is produced on a week to week basis, if you look at the comprehensive volumes that are sold on a week to week basis, the percentage is lower than we would expect. There are beef sales that aren't being reported, we're curious about where that volume is going.

AMS: On our comprehensive reports on beef and soon to be on pork, we simply take everything that was reported for the week prior. As far as anything missing, I can't answer your question on that. Are you seeing a decrease in volume? It's comprehensive of everything that was reported and passed confidentiality that goes into that composite reporting on a weekly basis. In livestock mandatory reporting we cover packers who kill 125,000 or more cattle. We wouldn't capture anything below that. Our composites are very straightforward, it's just everything in.

Attendee: With that being a lower percentage of total production now, at the end of the day, there's beef that's being produced, and it's a comprehensive volume of what's being reported. So then what's not being reported?

AMS: I don't know of anything that isn't being reported. If it meets the mandate of the law, it's reported.

AMS: If a packer is taking more of their loin cuts, for example, and shipping those to a steak cutter, and then selling it as cut steaks, that doesn't meet the requirements of being reported.

AMS: Including the further processed items such as case ready, those sort of items don't meet the reporting requirements.

Attendee: If it's something that is sold but it doesn't have a price to it at the time of sale, it doesn't get reported, correct?

AMS: They can't report to us until the price is known. But once the price is known, then we get it.

Attendee: If you sell it in April, and the price is known in December, then you'll get it in December.

AMS: Then we will get it in December, correct. I think there's more of a trend toward more of the processed items, or something that's not wholesale anymore, it's more retail ready. That's part of the overall production that's not being captured.

Attendee: How about stuff that's done in house? As you have more and more concentration, and you have more large companies, they're integrating, using more stuff in house. That wouldn't show up also.

Attendee: That's the same problem we have with pork products.

AMS: To answer your other question, we still concentrate on choice select and choice select spreads. With 80% of the cattle nationwide grading choice, there's a lot more choice and high choice cattle. Right now from the packers we don't get the data in that manner. We get reported to us choice and select but maybe we need to split that out into a high choice, choice, select spread. Select is here to stay, until there's just none left we will continue to report that.

Attendee: On the subject of export sales, we've got beef, and we've got pork. What about adding chicken or poultry? Now that we're entering into these potential trade situations, maybe we will export more poultry over to China if the ban is lifted. That would be useful data to have. Is there any talk about poultry being added to export sales?

FAS: I have not heard any discussion about adding poultry. As an industry, if it's something that you feel is needed, then there is a mechanism to petition the government to consider it. Then it would have to be rulemaking, a public comment period, and the industry would need to be on board and support it.

Attendee: I'm a dairy outlook person for ERS and I get phone calls and emails a lot about data. They may be about ERS data but a lot of times it's about NASS data. The question that I get most often is, how many dairy farms are there? One reason I get that question is because there's not an intuitive way to find it. If you go to NASS Quick Stats, you drill down through livestock, you don't drill down through dairy. If there was some way that was fixed it would be helpful.

Another thing that I get asked a lot is do you have some data by farm size groups? I know NASS discontinued the farm size groups in 2012. I know the Census has some data on that. But people are asking me about that data and I have to tell them it ended in 2012. I don't know if there's some possibility of getting that back.

NASS: The farm size groups you get that with the Census every five years. That's a decision NASS made to publish that once every five years and in between you can interpolate. As far as the dairy goes, that is also coming from the Census. However, in February, there is the state counts of licensed dairy herd that is published.

NASS: All state data is from the state inspection data. We use the five year process to true up dairy herds having milk sales. Every February in the Milk Production report we publish number of licensed dairy herds in each state in the U.S.

Attendee: There's not a problem with the licensed dairy herds that it is very good data and I can refer people to that data. People have problems finding it in Quick Stats because the way that you get to it is you have to click on cattle, you don't click on dairy.

NASS: This is more broad, but one thing I would say is that we have a request for information, a procurement instrument on the street right now that we're looking at how we go about doing dissemination, especially around Quick Stats, and looking at what the state of the art is, and getting some advice around that. That won't necessarily solve that specific problem, because that's around some metadata. One challenge, especially in the hog industry, where we go to hog ownership, we may go to contractors in the annual survey program, and not to the individual contractees. Doing so makes by size statistics harder. The Census of Agriculture gives us a great opportunity to be able to do that.

Attendee: I had a question on the sample size reduction. What do you think the impact on accuracy will be specifically on corn and soybeans? Or is it more that other methods that you're compiling with it, give you more confidence to reduce the sample size? It seems like we have more corn the last couple years than your estimates are coming out with and maybe just how that plays into it as well.

NASS: On the objective yield, we've talked about the fact that we're eliminating this collection in August, but also for the remaining months we're reducing our sample sizes for all the commodities. That's the result of an optimization of those sample sizes. Figuring out those optimum sample sizes, you try to keep them as small as you can, from a budget standpoint, but try to keep them as large as you can because more data is always better.

The way I look at it is we're probably optimizing a bit more toward the region level than we are the individual states. Nationally, we're good, you don't need as many samples overall. It might be a little bit more challenging for us in the individual states, but it's not the only data source we have. That's where we can draw on the strength of the farmer reported yields, and draw on the strength of the satellite data, and we can draw on the strength from other states within the region.

On the second question over the last couple of years there's been some concern that maybe our final production numbers haven't exactly jived with what some folks thought they were. I think you can remove the link from the objective yield sample sizes, because our final production numbers are going to draw more on

the 80,000 plus actual reports of harvest results we get from the producers. Although we do still have final objective yield that we incorporate into the end process that's really geared more toward the forecasting.

NASS: On the sample sizes, we have a whole entire series of policy and standards memoranda that we've developed over time, that guide the organization. One of those is on precision around certain survey processes. For objective yield we have coefficient of variation (CV) targets on the model. In reviewing it we had some room to be able to reduce some sample sizes.

Attendee: It wasn't budget related then?

NASS: I think everything is budget related. We're looking at how we allocate resources and try and optimize within the resources we have available.

Attendee: The stocks report is one of your best reports because it has a solid statistical background and you can get access to the off-farm storage. I'm a little surprised by the on-farm number that we had in March. The World Board had to be very creative to try to figure out why all of a sudden we had a lot less use of corn. That meant we must have had either a crop change or the farmers not being able to look in their bin and figure out what's in there. It's hard to explain how we had the coldest winter, we had more livestock numbers and we are feeding less corn than we did last year. This is an anomaly and I hope we find a better scenario as we go to June. It's interesting, in six weeks we went from a pretty solid, good looking idea what we had to all of a sudden six weeks later, when we get the next report that was a startling one. I'm still dancing out here to try to say how did this happen and what does it mean? Do you have any insight Mr. Lance?

NASS: We got a few questions and calls after that report. The stocks numbers that come out of NASS have two components, the on-farm and the off-farm, and they're collected completely independently. The off-farm is a complete census, we go to all the commercial facilities out there, about 8,500, give or take. It doesn't mean every single bushel gets reported but nonetheless, at least you've gone to everybody. The on-farm piece comes from the same farmers that we were surveying in this particular case for their prospective plantings numbers. I think there were a little over 82,000 farmers we surveyed. We're asking them to tell us how many bushels do you have on hand as of the first of March? As a result of what they tell us, that's what we estimate and report in the stocks reports.

We're reporting what either the commercial facilities or the farmers tell us they have on hand, as of the first of the month. We do look at a balance sheet but

we're not going to skew our stocks numbers dramatically away from what folks told us they have, because our task is to report what's out there.

Attendee: The interesting thing is that we've had a big increase in on-farm storage. The numbers in the December report did not show how much change there has been in the last 5 years but we know it's been significant. It makes it hard to put all of the statistics together to stay intact.

Is that 80,000 that you send the survey out to in December for the fall production the same 80,000 that you send the survey to in March for plantings? After a while fatigue sets in and you don't get as many returns.

NASS: There's some overlap and then there's some that swap in and out from quarter to quarter. If you look at the four quarters throughout the year, we've got some different things that we're targeting each time. In September, we're focused on small grains so our sample is going to be geared a lot there. In December, we're more concerned about the row crops for those final production numbers. In addition to that, we always ensure that we're also hitting the folks that we know are probably storing grain as well. We want adequate coverage on the row crops storage, even though it's September and we need final small grain numbers. The point is that the folks represented in those samples are going to vary from quarter to quarter. But it's not a completely independent sample either, there's overlap, but it's not identical samples.

NASS: We purposely bring in new folks and drive overlap. If you're a very large farmer or if you have a large amount of storage, your likelihood of being in each survey period is quite a lot higher.

Attendee: Was there an anomaly in response rates in March compared to years' past?

NASS: I wouldn't call it an anomaly. It's no secret that response rates have been declining a bit over the years. March was lower than we saw last year but I wouldn't call it drastically lower. I don't remember the number exactly off the top my head but I can tell you it was down a little over three points from the previous year. That's one of the challenges that we face, but we're still getting a relatively high percentage.

Attendee: For corn we can have feed and residual vary together. If you look at some of the year to year changes across quarters, we get an awful lot of variability one quarter to the next with feed and residual, a lot higher than last year, then it's a lot lower than last year. We're getting a lot of volatility much like what happens in wheat, is it time we take a solid attempt and try to figure out how much we're feeding.

Attendee: I disagree, there's not that much variability. There's a seasonality to it.

Attendee: There's a lot of quarter to quarter variability.

Attendee: If you plot it, it's not. On a material basis percentage per quarter on overall usage there's actually a trend upward on the first half the year towards the second half the year.

The stocks report has been quite the shocking number because you found 270 million bushels [of corn] that you weren't really intending to find and the USDA only lowered their feed and residual number marginally leaving around 200 million bushels off the table. Is there an expectation that we're going to see an aberrant or outlier second half usage just to tail in that feed number?

The only way you can make that number work is if you have an exceptional last half. I understand other years, we've had high production, or rationing like 2012, where you forced quarters down for good reason. But we're in a non rationing situation. The only other implication would be, what if the production number actually went the wrong direction for final? We won't be able to update until September. That would be the only way that you could say that the stocks were as they are.

NASS: For corn, it will be open to revision next January but we're not going to have a lot of new data to look at corn production. If you're only looking at a residual on a balance sheet, it would be pretty hard to fine tune corn production based on that feed and residual number. I'm not saying it won't change next year, I'm just saying, it's completely different when we look at soybeans a year later and when we look at corn. Historically, you'll see a lot more revisions on soybeans the following year then you see on corn, largely because we've got better administrative date to true that up. It's something we're gonna have to look at but it won't be open until the end of this year.

Attendee: Feed and residual would have had to have collapsed otherwise. To his point it's true that all of a sudden, the stocks report would imply that consumption has been displaced. That could be displacement by DDGs. It's not by wheat because we know wheat is in decline. We're producing more ethanol, exporting less DDGs therefore, the only place that can go is domestic.

NASS: That's something we'll have to look at.

WAOB: If you're looking at feed and residual for corn and you've been doing a good job, you shouldn't be in this meeting because that's been a very hard number to forecast for corn the last couple of years, everybody would concede that right? Let's back up a second. Feeding, is it actually measured? Does NASS survey feed use? No. That category is feed plus all the accumulated statistical error from all of the other categories in the balance sheet.

Attendee: Unexplained disappearance.

WAOB: Yes.

Attendee: If you look at first half versus last half feeding, you have 69% of the annual consumption in the first half of the year within a point or two. It's a lot more consistent. There a very good seasonality to feed usage.

WAOB: Seasonality, yes, but variability from quarter to quarter. There are a number of plausible explanations for some of the variability in corn. I don't have the right answer. I'm not sure anybody does.

Attendee: For some statistical categories, like dairy cattle, you do the thousand plus and so we look at the large producers. Participation rates are going to be a problem, they're going to continue to decline and you're going to have more and more of a problem every year because farmers are getting bigger, and it's harder to get participation.

Is it worth thinking about a category of large producers and stocks and then the rest? Then some day you will wean us off the rest and we will just do farmers with X number of acres or X amount of production? If you could do something like that, where you don't survey, you get a census, more like you do with the off- farm stocks, that would give us more guidance. We don't have to rely completely on that in year one but wean us off of the total, which has a lot of error. Does that make any sense? Can you do something like that legally, like you do with dairy cattle?

NASS: We asked our methodology group to look at different techniques, different sampling approaches that we can use for the future because NASS realizes the burden that there is on farmers. The approach isn't always consistent between crops and livestock. On the livestock side, we've always looked more at coverage than we have response rate. On the crop side, you'll hear about the response for that survey. The response for the surveys maybe isn't always as important as the coverage is for the survey.

We are looking at what can NASS do in the future. It's going to take some time but when NASS does make that change, the first thing we'll do is make sure that you're all aware of it.

NASS: We have our friends from Stats Canada here, they do some cut off sampling as well, meaning below a certain threshold you don't interview.

Attendee: When they actually report off-farm stocks, are they just reporting the physical stocks that they have? But when you talk to the farmer does he indicates what

stocks he may have already sold to the off-farm people separate from the ones that are unsold?

NASS: It's all physically on hand, both places so you shouldn't have any overlap. It's not about what their intentions are to do with it, it's what do they physically have on hand, as of, in this case, March the first. It should all be accounted for and it should not be duplicated.

Attendee: It would be interesting to know those stats.

NASS: That's something that we don't collect.

Attendee: Your question was about our cut off sample. For our surveys we try to minimize the response burden for the small players. We defined small players as being those that contribute to less than 10% of the revenue by different industry or type of production. It's a sample that we do and we do a rotation. For the crops survey for example, we have six occurrences during the year and a farm cannot be in the same sample more than twice to control the response burden.

Attendee: There's a lot of discussion about potential pork exports and beef exports to China. The last time we had a big pork export program to China they ran into problems with their refrigerated storage. We had complaints about them hanging on the refrigerated reefers for three or four months because they didn't have any place else to keep the product. Is ERS or someone else tracking or estimating Chinese cooler capacity? How much frozen pork could we actually send them that they can hold?

ERS: I don't know of any information we are collecting on that.

Attendee: I know there's a bit of a conflict between RMA, FSA and NASS between who is producing county level estimates. I've guessed that this is some of the idea behind producing more county level yields and doing away with districts. I would say that most people in this room that look at a sub state yield level are focusing more on districts than counties. By potentially changing the methodology where you would release fewer districts and more counties, I would say that most people in this room would be adversely impacted. I especially think it's interesting that NASS, who will admit that they're more focused on an aggregate number, national, regionally even over state would want to produce more disaggregated yields, that are probably less accurate from your sampling methodology to supplant a competing agency that is doing aggregated up yields that might have more accurate data at a smaller geographic location.

NASS: We've been in discussions within NASS about whether to eliminate district estimates at the end of the season and just go from state to county. We put an ASB notice out on that requesting input in December because this is one of those

topics where we're not 100% sure how heavily used those district level estimates are versus the county.

We're looking at it is because by eliminating the district boundaries we would be able to publish more counties. The reason for that is we have publication standards, if a county doesn't meet that standard, we have to not publish it. If you do that, then you've got to have a complementary county to not publish as well. If you're constrained by districts, then that means you're going to end up with more complementary suppressions. One of the ideas is that if you eliminate the district break, you would have less complementary suppressions and therefore publish more county estimates.

One of the questions around that is who uses those district estimates? Districts are geographic blocks but does that necessarily mean that a district 10 yield is more relevant than having a couple extra counties? That was our question. We got very little feedback, maybe that's because the message didn't get out. If what you're saying is true, and most folks in here would be adversely affected by that change, then we need to hear that.

Attendee: No offense at all but I've never trusted your county level estimates. When I can see the state line between Nebraska and Kansas every single year. It's impossible for me to believe that one tier of counties in Nebraska yields double the tier south of it in Kansas. You can see that anywhere that you have a significant difference in state level yields. Minnesota and North Dakota and Michigan and Ohio are great examples. But I also understand that there are more and more farm programs that are going towards county level.

Attendee: I don't know that enough people know about it. The people that I know that use districts, when I reached out to them, they were very against it but they didn't know about it until I told them.

NASS: That's one of our challenges whether it's this or with the program changes and some of these other topics, how do we get that message out? We've tried to expand our outreach. In the past, we communicated even less on some of these programs changes, but I'm not sure we've found that sweet spot where we're getting that message out to the right folks. Here's one opportunity we have. We are definitely interested in knowing sooner rather than later if you have a great need for those district level estimates.

NASS: It does bring in some consistency between how we go about publishing the Census and other data as well. That was another reason why we were thinking of making the change.

NASS: We got rid of district level estimates for livestock probably 15-20 years ago. At the time there was probably six people in the room who raised their hand, who were upset with that. Then within two years, nobody ever commented again, because they wanted more counties. We don't have to have consistency between the programs, we just want to make sure that we're getting out the data that you all want.

Attendee: So you would take written comments still?

NASS: Yes.

2019 USDA Data Users' Meeting

Breakout Session – National Agricultural Statistics Service (NASS) Programs

Presenters: Lance Honig – NASS, Travis Averill – NASS, Jody McDaniel – NASS

Note: The following write-up presents a full transcription of the session. It has been edited for clarity and readability.

Lance Honig

The session is fairly short, I didn't have a whole lot I wanted to say up front, because I want to make sure that we have plenty of time to answer any questions you have. I have just the one slide I want to talk about a little bit. A lot of this was already been touched on earlier in the large session. We do a program review every year, we're always looking at our programs, to see what we need to improve or what we might need to change to make sure that we stay relevant with the industry that we serve.

Following each Census of Agriculture, we do a very extensive review because we've effectively captured information on a much broader range than we would ever see otherwise. We collect information on commodities that we don't normally get on an annual basis. We will get data from states we don't normally get for certain commodities. That becomes the basis for our programs moving forward. We did that this year, just like we do every five years.

Couple of things that we did, that were a little bit unique this year. Number one, on October 31st, we put a request out for input or feedback on our program review. That was before we even did the review. We tried to give folks an opportunity to let us know some changes they would like to see before we went through the process.

On the backside of the process we not only put an ASB notice out announcing that we had made changes, but we posted all of those changes to our website. The links are there, you can still find them there today. Each of you should have gotten a book like this in the folder. These are the documents that are posted on the website, they're collected together into one document for the purpose of this meeting. Those are living documents out on the web, as we make changes in the future, we'll either update those documents or add additional ones, if there's programs that we didn't cover out there already. The way we designed them was not focused entirely on the changes that we made but we tried to lay them out in a way that you can see what the program actually looks like. Rather than just telling you we dropped these three states from crop X, we're showing you everything about our annual program for that crop with the column to the far right showing you the change that we made. We color coded things so you can see the difference between something that's in and something that got dropped out.

If you've got feedback on what you think would be better or more beneficial to get more focused on the changes we can think about that next time. We tried to be as transparent as we could, tried to get things out ahead of time. The changes have already begun. We wanted to do something so that you would know there are changes happening before you opened up the release on report day and saw that a certain crop was completely gone or maybe certain states didn't exist anymore. We can certainly talk more about the process we went through. Does anybody have any questions about the changes that we made?

Attendee: When you remove a state from the program, does that remove it from everything? It wouldn't be included in principal crops or the long term total or any of that?

NASS: Correct. If we're removing a state from winter wheat, that means we're not going to make any estimates for winter wheat for that state. We're not going to collect data for winter wheat for that state. It won't contribute to any of the totals. It's as if it doesn't exist for us in our annual program.

Attendee: Are you able to comment on the Ag Labor Survey or any information regarding the accuracy of the data and the type of information farmers may be sending in? There is some concern about the impact of that data on the Adverse Effect Wage Rate (AEWR). Will actual data be released? Any other information you could share?

NASS: Over the last year, we've done a lot of investigative work into the Ag Labor program, the sample size was expanded to just above 40,000, it used to sit around 14,000. We publish twice each year, we do that for four quarters, those quarters are set up based on a reference week. The reference week is the week that holds the 12th of the month in January, April, July and October.

We just concluded data collection for the January and April reference weeks, we are going to have a Labor Board on May 23rd, and we will be publishing on May 30th. We're going to be publishing a base wage rate. That data is going to be available in the November publication as well as new levels of granularity by the standard occupation classification (SOC) codes.

It does have direct impact on the AEWR because the Department of Labor uses our survey data to do that. We've been meeting with them over the last year to find ways to improve that data series. As far as a survey response rate, it holds somewhere around the 60% range, which is fairly consistent across survey work. The data quality is very high, there is the survey methods document that gives that information on the website as well.

Attendee: You said by dropping the district yields, you'd have more county estimates, would that be historical as well, or just going forward?

NASS: It would just be going forward. When something's published, it's published. The reason we would have more counties is because we have publication standards in place for county level estimates. If an individual county does not meet those standards, we don't publish it. And anytime you're not publishing a number, you've got to not publish at least one more because otherwise, if I give you the total, and I only take one county out, it doesn't take a rocket scientist to figure out what it is. You've got to hide at least two. As long as you've got district boundaries in there, if you only have one county that doesn't meet the standards in District 10, I've got to hide another one in District 10. We would call that a complementary suppression. If we take away the district boundaries, the likelihood of me needing to find extra counties that don't meet the standards is not as great. I'm probably going to have one that fails in 10 and one that fails in 30. I've got my two, but with district boundaries in place I would have to add two in that scenario.

Attendee: There's no chance of doing that historically?

NASS: No, because in order to do it historically, we would have to "unpublish" something we published previously. I'm pretty sure folks will be quick enough to figure out what that number was.

Attendee: Will the program changes lead to any alterations of the NASS Green Book? Will we ever see anything regarding how satellite imagery is used in the in the crop estimating process in the Green Book?

NASS: I don't think there are any immediate plans to change the Green Book. We've been talking more lately about how satellite data is used and I think we're fairly open with that. I don't know that we we've documented that as well as we could.

Right now we're still trying to not only finalize the changes but get them implemented. There's a lot of work that goes into those changes when they occur, not only getting the survey instruments updated, but you've got to track that all the way through the process to get the releases updated to reflect those changes as well. In the short term, that's where our focus is at. In the longer term, we'll work toward making any adjustments we need to the public documentation.

Attendee: I think there's some implications to potentially the markets in the short term, and I think it's not just a grain issue, but it's livestock as well. We've had some dramatic weather events across the country over the last several months. We know that there were losses on farm from grain storage. There were losses in grain elevators from grain storage, and grain that was stored on the ground. There were also significant livestock losses. Is there any intent to collect any of

that data to find out what type of real issue we're dealing with across the countryside and the impact of that to our farmers?

NASS: As of right now, we don't have any intentions of collecting anything specifically on grain that was lost. Where you're going to see that reflected is when we get a June 1 stocks number. Part of the change from March will be usage, and part of it will be loss that occurred in certain areas that were most dramatically impacted by the flooding and some of those other issues.

Attendee: For August you cut the objective yield (OY) data so you have satellite data and farmer survey data. How are you going to fill that gap? A third of the data was taken out with OY plots, are you going to move satellite up there are you going to put farmers on top, how is that going to work?

NASS: Historically, early in the season, the farmer reported data has always carried more weight for us than any of the other data. If you think about it, it makes sense. If you're talking about satellite data, or you're talking about objective yield data, you're effectively looking at a very, very immature crop. There's a lot of assumptions that have to get made when you're just looking at a very immature crop. A farmer is going to have better insight into how that's likely to translate into yield than a satellite is going to be able to determine or even what we're going to be able to determine by simply counting plants or in some cases, ears.

There's always this question about how the weighting works between these different data sources. It's not a finite number that I can give you but I can tell you that overall, the farmer surveys have always had the majority of the weight early in the season. We are removing one of the three sources but that doesn't necessarily imply that a third of the weight is going away.

Attendee: I always ask what your response rate is and I get the company line that 80,000 were surveyed. That means nothing to me as an analyst. To me I always take that percentage to see how much the farm community is engaged. I have only seen it once that you said we should focus more on the areas. I've seen where it shows state by state what the engagement rate was. If you want us to focus more on the state can we get that data? Because I think you're right, we have to focus more on the area of the survey and not necessarily the entire country. If I have a survey rate 50% in Illinois but we have 78% out Iowa, I am going to make some adjustments to my yield model. Is there any thoughts of publishing that?

NASS: The livestock quality measures, we publish them once a year, the hogs will have the data, the cattle for July and January will be there, Cattle on Feed and also Milk Production. The quality measures reports are on our website so you should

be able to access them. They have the state level response rates for the surveys in question.

NASS: Those are a work in progress on the crop side, we have some other challenges that we face, getting those together on the crop side because of the multiple sources of data that we use for the crop estimates. When you do hog estimates, you've got a hog survey, when you do crop estimates, you've typically got multiple survey sources. We have to do some work internally to be able to present the information that's in those quality reports. It's not just response rates, it's also CVs and things of that nature. We're working on that and we're getting close, at least on the major commodities.

NASS: I want to pick up on a thread of one item that you said about the response rate. If the response rate is higher in Illinois and lower in Iowa or vice versa, that you might adjust your model. One of the things to consider is that when we sample we're thinking about what their traditional response rate has been, and also what the CV performance is. In many ways if there is an area of the country for which the engagement has been a little bit lower, we're compensating for that.

Attendee: Let's say you have 150 OY plots for September in Illinois and only 80 for Indiana and I know what the response rate is. I can tell you that I will take that into account.

NASS: Oh, sure. If you're talking about it with objective yield yes.

Attendee: But both of them work hand in hand.

NASS: Response isn't much of an issue on objective yield.

Attendee: I understand that. But if you have a high response rate in Illinois and 150 OY plots, you can accept it and move on from there.

NASS: Three or four questions ago, we were talking about district estimates. One thing to think about is that, if you're in, say, northern Iowa, we're going to publish probably every one of those counties, and you're going to be able to create your own district estimate. Where this becomes more important is when you get on the fringe of the growing area and you've got a number of counties that you can't publish, and you're giving up a county that you would otherwise be able to publish in that district. It is a trade-off and that's why we're posing it front of folks.

Attendee: What determines the number of OY plots by state? Why are there 150 plots in Illinois, and only 80 in Indiana and then there's 100 in Kansas?

NASS: We have target CVs on all of these survey indications. Over time we review those and see how many samples it takes in different states to reach those targets CVs.

I think a lot of that's tied to the yield variability within those states, as to how many samples you need to reach the target CVs. Even in years where we don't change our total sample sizes for a crop, sometimes you'll see some shifting among the states, because we're always trying to balance those samples across the region, in the best way possible. You want as many samples as you can, but you also want to be as efficient with them as we can.

NASS: Usually we look at multiple years of performance when determining where to make sample size moves. You try to move it somewhat gently, because the CVs themselves have variability about them.

Attendee: I like looking at the executive briefing where you say how many samples there are. You say you have 80,000 for the March farmer survey but how many of those grow the different crops? You don't have 80,000 farmers that are growing corn. Would there be any way to break that out? I know it's going to vary from year to year and report to report.

NASS: Not likely. There's two ways folks will approach that question. Sometimes the question is, how many did you sample for corn? That's an entirely different question than how many grow corn. We don't necessarily sample someone just for corn but we draw the samples such that every crop that is of interest is properly represented in the sample. There's a lot of folks who grow corn and soybeans, we maintain not only a list of producers, but for each producer, we maintain information on the acreage of crops that they grow, or have grown. That's what we use to properly align our samples with what we need to collect. Right now, I would say I don't think there's anything coming anytime soon on that.

Attendee: For clarification, is that the number of surveys sent or the number of valid surveys received?

NASS: That's the total sample size. So that would be the number sent.

Attendee: I have a question about the Milk Production report. You're adding a 24th state, Georgia. Aggregate numbers also flow through on MARS and Quick Stats for the 23 states just like they used to for the 20 states. When we add the 24th state are we still going to see 23 and just have another row for 24 or does 24 replace 23?

NASS: For the 23, historic information will be there and then there will be another item for the 24 state total.

Attendee: As we look at June's report, it will have 23 and 24?

NASS: No, the June report will have the 24 state total for May. We'll go back and true up, less the previous year, so it will be a true comparison year to year. When we

do the annual next February, it will account for the months that we have not covered in 2019.

Attendee: If we need to track to compare to 2, 3, or 4 years ago, we'll just subtract.

NASS: Correct.

Attendee: The Census revisions will have Georgia for the back years?

NASS: No because that's effective going forward this year. The five year revisions were prior to that, so we would not go back and do five years worth of revisions for Georgia milk production.

NASS: That would be true of all these program changes, they're implemented now, on the crop side with the 2019 crop season moving forward, the same on the livestock side, we don't go back and make them retroactive.

Attendee: When is the milk production coming out this year with the 24 states?

NASS: The June report will include Georgia along with the May data too. We will do the previous month and current month.

Attendee: Can you talk a little bit about the NASS archives and ESMIS system with Cornell, I think you can get two years worth of publications on the NASS site. But then everything else is archived through Cornell. Is that correct?

NASS: It could be.

Attendee: Follow up question. We've talked about Quick Stats here a lot. One of the ways to bypass Quick Stats is to run a program through the archived system. Historically, that's been a very easy date format to program. If it's monthly milk production, you change the month, you set your system to do that. Everything that's moved to this ESMIS system has a totally different format that is not predictable. Maybe that's something you guys can comment on. It's very difficult then to go back and do it that way versus going through Quick Stats, which is very difficult to use in some cases. Do you have a recommendation of who we could talk to about some of those types of questions like how the links work, or how to get those archived reports more easily?

NASS: I think a better suggestion might be to get you in touch with someone that can help you work through the Quick Stats challenges. Longer term you would be better served to pull it from there. If it's just a matter of some struggles with working with that database, we do have a couple of folks who could work through those issues with you, that would probably be easier than dealing with all these links.

Attendee: I asked Cornell this question because I had the exact same problem. I reached out to them, and they were completely uncooperative in any way. The current report would be enough because when you're going back for an earlier report, you can go find it the hard way. For the current report to have a stagnant location where it would appear, so you could go to Cornell and get the most current one would be incredibly useful for us.

Attendee: It's literally a random set of characters that every time it populates you have to manually go find it every time.

Attendee: Are there any further discussions about streamlining collection of data from our farmers across the country. Many times I hear from my members that I work with that, "I get halfway through the Census and I'm confused, I feel like I've answered the question 20 times and I don't complete it." I get questions from folks that, say I'm 80 years old, and I don't understand it anymore why do they keep sending it to me? Others, that I'm just tired of filling out information. I'm sure those discussions happen. Is there any information that can be shared?

Have we talked about or thought about pulling a focus group together that might help to answer some of those questions? The data you receive is only as good as what our members and farmers send in, we fully realize that and we do everything we can to encourage them to fill that information out and send it in. But if they get frustrated by the survey, or the paperwork, they're just going to set it aside and that doesn't do anyone any good.

NASS: There are several things I can mention. One, we do have survey methodologists who specialize in the design of questions and things of that nature to go through and review some of that. Also, we typically do cognitive testing of the survey forms before they go out, which means we actually go out and sit and walk through them with individuals to find the areas where people struggle with the way it's worded or how we're collecting it, and try to work through those issues. We'll continue to certainly go through that process and try to make them as user friendly as possible.

NASS: The other thing is to mention that the Department as a whole is looking at how can we make it easier for producers to report. When a producer reports to FSA, for example, that's not going to get a monthly yield that NASS can use and publish. That's why you find producers being contacted more often.

On the other point about the Census, Jody is in charge of a group for Census content, and he's going to be looking at more towards the 2027 Census on how we can change the Census to make it easier using previously reported data and a few other things.

NASS: There is a working group at the Department, they're calling it Next Generation Precision Agriculture, looking at how to streamline the data reporting, not specifically for NASS, but also for the farm program agencies like RMA and FSA. It's in its infancy, there will be six months' worth of fact finding internally then we'll move forward with that.

As far as the Census of Agriculture goes we invested a lot into having an adaptive designed web based survey application. We saw a 10% spike in people's use of that. Part of it is finding that blend of technology, because there is a purpose for all of those questions all the way down to "Do you have a barn that was built before 1965?" which is on the Census questionnaire. It's helping people understand the use of that data and finding that mechanism that makes it the easiest for them to report.

Attendee: Early season rice production estimates don't have by class by state, there's a by class for the U.S. and there's by class for harvested and planted area by state. They don't seem to be consistent. You can try to figure out what those would be but the results you get back would be garbage. They would imply negative yields at times. Why is there not more consistency there?

NASS: We're trying to walk that fine line between giving you as much information as we can, but being realistic, it would be very difficult for us to estimate rice yields by class at that early part of the season. From an acreage perspective, early in the season we do have some other sources of data as well. We feel like we're able to do the acreage that early but not the yield. It's not consistent but we're giving you a little bit more information. The alternative would be you'd give up the acres by class early, we're trying to err on the side of more as opposed to less.

2019 USDA Data Users' Meeting

Breakout Session: Foreign Production, Trade, and Import/Export Data

Presenters: Patrick Packnett- Foreign Agricultural Service (FAS), Seth Meyer - World Agricultural Outlook Board (WAOB), Joseph DeCampo - U.S. Census Bureau

Note: The following write-up presents a full transcription of the session. It has been edited for clarity and readability.

Joseph DeCampo

I am Joe DeCampo from the U.S. Census Bureau. A little introduction to where our data comes from. Any export shipment that is valued at greater than \$2,500, per Schedule B, must be filed into the Automated Export System (AES), which is housed in the Automated Commercial Environment (ACE) that is maintained by Customs and Border Protection. Filers can file their shipments up to 120 days in advance. That pertains to everything except Canadian data, they collect U.S. exports as their imports and then give us that data set back after having applied the exchange rate. At Census we extract and analyze the data and publish monthly. We publish one annual revision in June of each year as people make updates to their records over the course of time or we do various data investigations and things change. Every year we publish three years' worth of revisions. You can find the data at <https://usatrade.census.gov>, you do have to create an account but it's free. The FT900 International indicator with all of the written up language is published, you can find that at <https://www.census.gov/trade>. A little bit more about what we do at Census is we deal with filings up front making sure filers actually have accounts and can file classification, maintaining compliance, updating foreign trade regulations, outreach, and also extensive coordination with Stats Canada because we have a joint release date because of the data exchange.

Seth Meyer

I am Seth Meyer Chairman of the World Agricultural Outlook Board. We are a collaborative agency, we have participants from ERS, FAS, FSA, and AMS that come and join us for the World Agricultural Supply and Demand Estimates (WASDE) Report. In some ways, you've got two partners up here who are doing the foreign side together. I would distinguish foreign from the U.S. in terms of we have NASS in order to provide us with a lot of domestic statistics. They are the gold standard so we pay a lot of attention to the data that they provide. We don't have the same quality of data in the rest of the world. Our colleagues at FAS along with us spend a lot of time looking at several different things when it comes to production and balances around the world. We look at satellite imagery as does FAS. We have meteorologists who are specialists in crop development at the World Board. We get a lot of information on meteorology and comparisons to previous year's and analysis comparing the meteorology to satellite imagery. We also have attaché reports from around the world from FAS who provide their information. We will take government data from foreign governments but we don't feel compelled to use it

if we have an issue with it for some reason or we may take it eventually but early on we may have noticed a pattern and therefore we behave differently early on. When it comes to world production and balance sheets, we will pull in all the information we can including up until the last moment. If there's a report due out from Brazil at 8:30 a.m., somebody stands outside of Lockup and carries it in as we're in Lockup to make sure we have information up to the last moment in order to do our analysis.

Patrick Packnett

Patrick Packnett Office of Global Analysis (OGA) at FAS. In OGA and FAS we have two primary functions. First, we are participants in the Interagency Commodity Estimates Committee (ICEC) meetings that produces the monthly WASDE. Within OGA, we have two primary divisions that do that work. The International Production Estimates Division uses the satellite imagery and all of the geospatial data, as well as travels to all of the foreign countries periodically to collect information firsthand to produce our estimates for the foreign crops. We take that information into our inter-agency process where it gets discussed, ERS has their views and the World Board meteorologists and so forth. We are heavily engaged in bringing that foreign component to the global supply and demand estimates process. We work closely with our attachés overseas, we establish the reporting requirements for the GAIN reports that are a key component for the WASDE process. All of the GAIN reports are stored in a database for our own use as well as for public use.

As part of our work, we maintain several databases. We are the official keepers of the Production, Supply & Distribution (PS&D) Database, which is the official USDA Global Supply and Demand Estimates. It gets created through the WASDE process, but we maintain the PS&D Database for our own use and as a public good. We developed a system called the Global Agricultural Trade System (GATS), we take the Census Bureau data and organize it in a way that we can use it more effectively for our own purposes. That happens to be a benefit for all of you who look at foreign trade data. We produce the commodity circulars that flow out from FAS after the WASDE process. The WASDE has the big picture numbers, we drill down into a lot more detail in our FAS commodity circulars.

Second part of what we do in OGA is to support FAS in terms of trade policy work. We advise our USDA officials on trade negotiations with different countries to try to maintain and increase market access for our agricultural goods going overseas. In a nutshell those are our two main areas.

Attendee: When I go to GATS, a wonderful place, I'm always a little uncertain because it says trade data, and then you select exports, then there are 11 categories I can pick from. I always take the default one and pray that I'm actually using the right one, because there's FATUS, HS codes, WTO, organics, processed food, harmonized HS, FAS, and Bulk, Intermediate, and Consumer-Oriented (BICO).

FAS: There are a lot of codes and they all have a different use for different audiences. If you use the HS codes or the FAS numbers I think you should be safe there and they should produce similar results for you. The BICO report is a refinement that we use internally. It's just different ways of consolidating and aggregating the numbers.

Attendee: What is the process of incorporating data from the attaché reports into the WASDE estimates? Also those boundaries are published on the official attaché reports, they can be different from the USDA for a long time. Thirdly, specific to China, we see their 2019/2020 balance will be very optimistic for meal consumption. To what extent will that affect the May number?

WAOB: The only number out there for the 2019/2020 crop year, currently for China would be the baseline that was done in October. If you are talking about the attaché reports, that is unofficial data.

Attendee: My question is to what extent will the balance influence your thought process?

WAOB: Here's a very NASS response, we will consider all the information. We use those attaché reports but they're called unofficial for a reason. They may have a limited view of things, we may have a larger global view about what's going on in the marketplace. We look at them but it doesn't mean that's what we're going to take they are unofficial data for a reason.

Attendee: If we pull those numbers or use those numbers for any reason should they be called USDA numbers or unofficial data?

WAOB: I think you should call it unofficial USDA data from the local attaché.

FAS: You could say FAS Beijing attaché.

Attendee: Would you attach the USDA name to that?

FAS: They are unofficial data. We are charging our attachés in country, to give us the best estimate of what they think is going on in that country from being on the ground there. Then we have this interagency process that's looking at the whole global view of that commodity. At the end of the day, we're coming up with a USDA number not to be confused with that unofficial first estimate. They're taking a first shot at it, not based on any other knowledge about what's happening in the soybean market or the pork market in other countries.

WAOB: In one way, it's really nice that you get the attaché report and they don't keep it as pre-decisional and deliberative and then don't share it with everyone. But you have to understand that this is one or two folks at post who are looking at this and you take it as that. We do a lot of pre-decisional and deliberative stuff that that doesn't get that same perspective. I think it's a real benefit that you all get to see that because we of course look at it.

Attendee: It would appear to me that the customs information is being transmitted in GATS but that's not the same trade information in GATS as I can find in the PS&D, because that's being reported in carcass weight equivalent. Is there a button in GATS where I can get carcass weight equivalent information? Why do I have to go get incomplete data sets from ERS? Why is there another agency involved in this? Is there any way to streamline this, increase transparency into carcass weight equivalent assumptions by HS code and to get all of this into one place?

FAS: Our *Livestock and Poultry: World Markets and Trade* report was published on April 9th and at the end of it there was a notice to readers. It talks about beef, pork, and poultry and the HS codes that were used to pull the trade statistics as well as the multipliers that were used.

Attendee: It varies by HS codes when you start getting into variety meats specific to Chapter 16.

FAS: Right so that's why we include the notice to readers so people know the HS codes we are using for our PS&D so we won't have all of those HS codes, we are not collecting all of them.

Attendee: For the rest of the world?

FAS: Exactly.

Attendee: But for the U.S. it's actually a different list of conversions as I understand.

FAS: Not for the world in the PS&D.

Attendee: Chapter 16 gets included in the WASDE?

ERS: ERS assigns a conversion factor to prepare products that may be in these Chapter 16 categories. That's why you can't compare FAS to ERS trade data in that regard. Because we aggregate an additional percentage or factor of those products that we assign to beef. We don't know what that sausage is made of but generally speaking, we assign a certain factor to that as beef and include that in the aggregate for beef and veal exports and imports.

WAOB: We use the conversion factor in the WASDE to get you back to what you see in the PS&D so that those numbers are the same.

Attendee: In wheat there's a published spreadsheet that lists all the conversions for all the HS codes. When we get the import data on wheat, I can tell what class it is and then the conversion of couscous and bulgur wheat and all that. Is it possible that ERS or somebody could publish those conversion factors?

ERS: If you go on the Livestock and Meat International Trade Data page, on the left hand side, there is a link to documentation. That next page has another set of hyperlinks, one is for conversion factors. If you click on conversion factors, it'll slide down to where that is on the page and there's a hyperlink that opens a spreadsheet that by commodity and by live animal, what HS codes we are aggregating.

Attendee: I was just checking the PS&D website and some of the forecasts get updated fairly frequently, on the grain side whenever the WASDE gets updated while some of the forecasts on the meat side get updated twice a year. But you really don't know. If somebody goes and queries it and looks at the forecast, they don't know when the forecast was made, it may have been made earlier back in October. Can you have something on the site that says when the forecast was made?

WAOB: There is a calendar on the site that tells you when it's updated.

Attendee: I know, but there are a lot of people that are just being directed to this site and just go grab the supply and demand table from the PS&D. They see that USDA is currently forecasting Chinese production for 2019 to be up but they don't know the forecast was done back in October and it doesn't say anywhere that this is an old forecast.

Attendee: It's not just China but globally. You know that the world uses your data?

WAOB: There's a further complication here, for instance, when the livestock circular went out, it went out at 3:00, as it was scheduled to, not at noon. I get emails that say, you didn't change Chinese numbers, and I have to say look at 3:00 o'clock, they'll be out there.

Attendee: But there should be a field that indicates the date of the forecast.

WAOB: I think it's a good point. It's something we need to deal with increasingly, as folks aren't even looking at our web page, they're just hitting it and pulling that information. I think it's incumbent upon us to think about how we handle that in terms of when that data was put up there.

Attendee: Have you thought about publishing your livestock data more than twice a year given the world we are in?

FAS: In the PS&D there is documentation as to when the data is updated. I think what you'd be looking for is on the results if you run a query there would be information that this was updated as of this date. I can take that back to see if it's something that's easy enough to implement, especially for the livestock. I think most people know the field crops are updated every month.

WAOB: I don't want to box you in Patrick, but I'd be supportive of something like a quarterly update that happens at noon on the same day. We're all dealing with limited resources too but I would pitch that as being something at least that would be helpful.

FSA: I think that is something that has been recently discussed. It's not out of the question but there is a lot of moving pieces and a lot of additional things that would have to happen for us to institute a quarterly, for example, livestock report. It's not something that we can just snap our fingers and do but we do recognize the need for more frequent updates and forecasts of the data.

Attendee: Maybe you could narrow it down to China pork.

WAOB: When you have a very small share that is exported it's less of a problem to do anything outside the U.S. balance. As that changes, it becomes more important.

FAS: Keep in mind we've got our overseas reporting schedules and having to get engaged attachés to get reports more frequently than what they're doing now. This work load would have to be balanced in the field because the office in China is the busiest reporting post that we have, they have all of the grains, livestock, and horticulture. It's something that we'll continue to look at.

Attendee: Would it be possible in GATS to get more drill down, more specifically about what cuts of meat are being exported where? Right now even if you go all the way down to HS10 it still goes only as far as one or two cuts and then "other". I am thinking about pork specifically. There's not a lot of information, either. I know that information has to exist, because you can go on comprehensive beef and see exactly what cut and how much was exported but not to where. In GATS you can see how much was exported at a higher level. It would be nice to have more specifics about what primals are going where, what cuts are going where.

FAS: As you drill into the more refined product, you're saying you don't get the country of destination?

Attendee: Yes, in GATS you can't drill down to very specific cuts.

Census: Cuts such as loin, chuck, rib?

Attendee: Yes.

Census: I think we have it on the import side.

Attendee: Yes you do.

Attendee: Canada, within the last year or two, added a lot more cut level detail. Over a lot of our import markets, it's very important data, I can see a lot of detail. I think it's a question of whether the Department of Commerce would specify what's in our HS codes. Because even to the 10 digit level there is no detail on what is in there.

Census: That's a big process involving a CBP, IPC, and someone would have to make a formal request.

Attendee: There is no other way to do it. The harmonized 6 digit codes don't tell us anything and that's all we have in the U.S. For other countries at the 10 digit level, they have much more detail.

Attendee: It's twofold, part of it's not necessarily knowing what you're looking at and part two the data is not necessarily there. People make a lot of assumptions about what they think is going where without any specific data to back it up.

Attendee: When you look at the animal numbers in China, especially hog herd, you are going to see wildly different numbers. The Minister of Agriculture (MOA) has very different numbers from the National Bureau of Statistics (NBS). That, in my mind, is the number one assumption we are going to have to make in determining foreign trade of soybeans. You don't need to tell me the specifics of what that assumption is but how do you think about it? I mean, at the end of the day, you have a cell in that spreadsheet that you have to fill.

WAOB: The data aren't good enough on any of the animals, you have pigs, but what about chickens? What about ducks? How many ducks are there in China? In order to count and add those things up and say okay, we're going to count the number of ducks and the number of pigs, even though we've got two divergent data sources, and that's what's going to drive absolute feed use in China and it's going to be a tight GCAU (Grain Consuming Animal Units) and HPAU (High Protein Animal Units).

Attendee: You have to make an assumption.

WAOB: The data are not good enough to do that.

Attendee: Could we do that in the US?

WAOB: We can't do that in the U.S. well, let alone counting up the number of ducks in China. It's not a matter of counting up the number of animals in China and that's what you're determining to be feed use.

WAOB: In China the distinction between the MOA and NBS is that NBS is the official data source. MOA puts out numbers but if you were to look across commodities on the grains and oilseeds side, MOA doesn't put out numbers for some of the minor grains and oilseeds, NBS however does. MOA is not an official number, it's another opinion.

Attendee: The NBS comes out more than 18 months delayed so we just use a trend.

WAOB: Analysts try to use all available data sources. MOA would be a data source. When you look at China, the most reliable number on the balance sheet is trade. If China customs says meat imports this month were X, you could look at data from the U.S. and get pretty close to that. The further you move down the balance sheet, the more error there is.

WAOB: If you look over the last 20 years, trade numbers for animals in our reports and in China, you would be able to come up with a meat import number.

WAOB: With China, you can see large adjustments or corrections to the numbers. We will take the official data and any other supplemental data available, but at the end of the day, we all come together and come up with the best possible number.

Attendee: I'm just thinking on a forward view what are we doing?

WAOB: The same thing we are doing now. I go and represent the U.S. at international forums where the Chinese statistical agencies appear and try to explain to them that this is important. You should do a stocks survey, don't try and do a feed survey. The Europeans want to do feed surveys, no, just do a better stocks survey in China. Even if you could just get some of the big commercials and estate traders and report that. Now you have some idea of stock movements. You already have trade, and then maybe you take their production number, and that gets you someplace. But until the Chinese start reporting better data, we're going to have to continue to do it the way we're doing it now.

Attendee: Everyone in this room thinks that China cares about data as a number. Everyone in here uses numbers because we think numbers don't lie. But China, it's a political thing for them. It's all about changing price when they want to change price, they can change stocks, they can push price, pull price down, go in and buy, and then restate their stock numbers again.

WAOB: There's not a benefit to the government to report stocks. But we'll still keep bugging them about it.

Attendee: We're never going to get that. We just know that China's numbers will always be wrong.

WAOB: At least you know in closing your world trade, you can look back and say the data says this and China says this. What's the most reliable and accurate data? It's a subjective answer. But I would argue over and over again, it's trade. If you were looking at the corn balance sheet a couple of years ago, would you have said China would be the largest importer of course grains for several years running? No. The price spreads told you.

Attendee: They are a currency manipulator, of course, they're manipulating the data.

WAOB: But they can't manipulate the U.S. The U.S. export data or the Brazilian export data or the Ukrainian export data, it's probably pretty good. At the end of the day, we know corn went to China from the Ukraine, we know beans from Brazil went to China.

Attendee: You guys use CONAB data. They usually put it out close to the time of the WASDE report. Do they give you a heads up on what they are doing?

WAOB: They don't give us a heads up and if they release it the day we're in lockup, somebody stands outside at 8:30 a.m. and brings it in and we consider it. We don't feel tied to it.

Attendee: That's what I am asking, how late until you will no longer accept it when they release it the same day as WASDE?

WAOB: We'll say, here's what we think we know, let's see what CONAB says and we'll consider that when it comes in.

WAOB: If something were to come in and we were off by say 10 million tons, we would probably push the line right up until 11:00 o'clock.

WAOB: We take it in until we've got to lock the database in order to get the WASDE out at noon. When I say bring it in at 8:30 a.m., that's the last moment because it doesn't take two minutes to make a change if you felt like making one.

Attendee: Is it possible to get a line in the PS&D data for World less China across all categories so we can bring that into our data and get farther back than three years?

FAS: It's something that we'd have to think about. In the PS&D database you've got countries and commodities. One of the things that might be easier if we don't already have is in our monthly commodity circulars, where we create these tables, and we have calculated fields in those already. I think that would be fairly easy in a commodity circular to create a line that says, World less China. The database itself would be more difficult and I'm not sure it would fit with the way the database is set up. But if that would be useful in the commodity circulars that might be more doable.

Attendee: I assume that you're going to realign the Russians, Ukrainians and the exporters. The things that just happened in our exports and imports in the WASDE, are going to be able to be put right into the circular. We all in this room know what these are, we've got to show the world, we've got to show our investors. We've got investors right now pounding corn into submission because we've got a huge world stock and there's never going to be a reason to ever think there's a problem out there. When you look at the trade statistics, I'm not talking about where they were just two months ago, but over the last year and a half, there's been a lot more flexibility in that trade total that has not been shown to the market.

We've got a problem here of being able to explain ourselves. I'm so glad that you're doing a Washington DC Data Users meeting, people in Washington DC at the trade associations, people from Connecticut will show up I hope and they get a sense of what this data is all about and understand what's important.

FAS: We'll take your suggestion under advisement, we are going to be adjusting to the extent we need to, to mirror what's going on with the WASDE changes. We will look at how much we can do a World less China in the commodity circulars. Also think about the PS&D database as well, I'm less optimistic we can really do anything with that, but we'll take a look.

2019 USDA Data Users' Meeting

Breakout Session – Market News Reporting Updates

Presenters: Jason Karwal – Agricultural Marketing Service (AMS), John Gallagher –Agricultural Marketing Service (AMS)

Note: The following write-up presents a full transcription of the session. It has been lightly edited for clarity and readability.

Mike Lynch

What I'd like to do to start here is I want to make a few introductions. We're going to have this discussion on My Market News and MARS, which is a very important topic for us. I have Jason Karwal here, who is the project lead on this for the agency right now. Also John Gallagher, he's our one of our agency project managers. He has been really instrumental in helping us lead to this. This isn't the only topic here, we only got one session for AMS Market News and we also want to give people the opportunity ask any questions they have about our reports. Taylor Cox oversees all of our Livestock Mandatory Reporting (LMR). If there's anything about any voluntary reporting work we do, please feel free to ask a question too. Butch Speth, beside him, is from Dairy Market News in Madison if there's any burning dairy questions you have.

Jason Karwal

I briefly want to go through some of the latest updates on the project, and then give you guys an opportunity to ask whatever questions you have on AMS data. We want to touch base on My Market News, which is our front end website, on how to access the data and also talk a little bit about the API that we have out now. In February we did an update to the API and Market News. We moved it up to version 1.1 which added several things. We have some new search filters on the homepage and on the data page. We have added a sub-report feature which is going to enable us to provide data a little more efficiently on some of those reports that have large data sets, and we added a lot of filters in the API as well. There's a lot of information on the site that relates to the API. On the homepage, the data and the reports can be filtered by several different drop-down menus to get to the reports. On the database page is where all the data can be accessed as well on My Market News.

One of the bigger features we're also doing is we're setting up a new feature to search previously released reports. We have been getting a lot of feedback because we have been rolling out a lot of our live auction reports recently. I know a lot of people have been using that data and accessing it as we push that out. State by state goes out as auctions are coming on live. It's been pretty smooth so far. We have a schedule for when that is coming out located at (<https://mymarketnews.ams.usda.gov/general-resources>). We also have references on some of the report identifiers that are changing in the new system. There's a cross reference page of all

the resources available on the website @ (<https://mymarketnews.ams.usda.gov/general-resources>).

Searching the previously released reports is one of the bigger updates that we've done. This is going to replace the old report search feature on the AMS homepage. This will give you the ability to search all of the previously released reports. If you know the unique MARS identifier you'll be able to bring the reports up there as well. For each release we are going to populate all of the old reports going back to 2000 if we can. Those will all be available through that search feature.

As far as the schedule goes, we have the live auction data rolling out. We have all the dairy data in the system, cotton quality is in the system and we have a few egg reports that will be coming through very soon. As we move down the road, we'll be seeing our hay auction and video auction reports. The direct livestock data should be in there by fall and then the grains and feedstuffs should be coming before the end of the calendar year into the system. We'll keep updates on the page as well. That's kind of in a nutshell of where the project is at.

Attendee: If you want to edit queries with the M language, do you have some documentation on the site for that?

AMS: API examples of the queries?

Attendee: Examples of how Excel does the interface with the API?

AMS: Our main focus would be on the user guide.

Attendee: That's a nice piece of work, I just want more.

AMS: It's a little kludgy when you do the data connection in Excel but once you get it set up, it's fire and forget it.

Attendee: I totally agree but I would love to see "q?" and the ability to enter a date range instead of just one date.

AMS: We give several API examples with date ranges, you may be better off using the API.

Attendee: I just want to program it in Excel and through VBA.

Attendee: [the question was not clearly picked up by the recording]

AMS: We have a sheet on the website that shows those correlations from the old to the new. The old slug IDs will be available through the API as well. We're working on an update to do that.

Attendee: They'd be available so you could use interchangeably?

AMS: That is our hope when we get it done, but we do have the page of everything that's getting updated with the new and old slug ID. On the report information page, it also shows the new slug IDs.

AMS: Your initial query string would include the new slug ID, you can filter using the old slug ID but you have to pull using the new slug ID.

Attendee: I want to know whether these are completely different?

AMS: They are different but we are providing that correlation so people know which report it is. It's also good to understand that because we are adding some new reports. Some of the data that used to be on one report might be split into two different reports now, because of the way we're pushing that out. We're putting new reports on that list and how that correlates to the data.

Attendee: If you could give me a heads up on maybe some Microsoft support stuff. On their website they've got a lot of educational stuff.

AMS: For Excel?

Attendee: You guys have really pushed me to discover Power Query.

AMS: It's pretty amazing.

AMS: We've actually got some even better Excel setups for that. We just need to document it and get it out there.

Attendee: It says here that you will announce dates for other data on the website. Can you give us any insight into what the timeline might be for specialty crops?

AMS: Specialty crops is going to be further down the road. There's some major updates we have to make on the front end before that will start coming through the system.

Attendee: Will this be in 2020 or after?

AMS: At the soonest.

AMS: Their data sets are pretty complex and they have some unique custom reporting requirements that they can't live without. We decided to pivot and do livestock first.

Attendee: When do you expect to put the mandatory reporting and the meat reports in MARS?

AMS: 2020 is what we're expecting right now but we haven't set a date yet.

AMS: Our focus right now is to get all of the voluntary stuff out of the legacy system. We do eventually want to get everything in one place.

Attendee: All of the fruit and vegetable will eventually go into MARS it's just a matter of time?

AMS: Yes.

Attendee: Changing over to these systems and making these reports accessible in a different system, how much are our farmers going to have to change their systems in order to access the information? Has that been thought about, considered, or talked about? The data is great but only if you can access it.

AMS: That's true. Our attempt with the website and API was to give access options. We've tried to do a lot of outreach and to get ahead of it, but people are going to have to switch, there's no way around that.

AMS: Technology is driving this solution. There's not a lot of software out there that generates text reports anymore, and we're having to pivot to industry standards. PDF is going to be the new standard. We will continue to populate the AMS website with the new reports, but the report name will change, unfortunately, but text is living on CPR right now.

Attendee: You can do a search using a slug ID, but I was asking about whether you can do a search using other search terms?

AMS: Yes, you can search for the report title, the slug name, and published date.

Attendee: The term needs to be in the title of the report to come up with a result?

AMS: The best thing would be to use that list of the four digit identifiers and search by the four digit code.

Attendee: He asked about the farmer and so a farmer knows that they want to look at slaughter numbers. How do they find that report?

AMS: The report is in the same spot you've got to get that new link. The report is still visible on the AMS site. On the Market News page, on the database page, you can search by all the criteria, commodity, report title, and all those. This piece here is to get the published report copies, not necessarily the data.

Attendee: What's going to be the protocol in the future if there's a correction to a report? Are you going to release it again? Would it replace the current report?

AMS: Right now the data is superseded by the corrected data. So you won't ever be able to search the old data. The report will be replaced, the data will be replaced. We're looking at some way to identify that it has been corrected.

We've got some options. We may reach out, to see what you guys would find useful because right now the only way we could do it is we could mark everything that came from that report as corrected but that doesn't necessarily identify which exact piece was corrected.

Attendee: How often should we be checking the API for the same report if there is a correction versus not?

AMS: That's why we want to come up with a solution that works the best to help make it so you guys don't have to do that. That's something we're working on.

AMS: But you raised an interesting question and that is, how do we from our system, notify your system that a report came out? You all have custom systems just like we do. I don't think an email would be sufficient, because that would get old pretty quick per report per day. We're looking for answers on some of that technically, too.

Attendee: You're right, I don't want to get an email every time there is any sort of correction to the database, or even on a species basis would be a lot in certain weeks, especially once you have things like estimated slaughter coming in through MARS. By the nature of the data when you're releasing estimated to actual that's a lot of information.

The other thing I would add along the same lines from a capacity standpoint is when you have a Monday holiday or a Friday, Good Friday, are you guys going to try and tighten up release times so that the industry knows that if I'm looking for this report, it's always going to be at this time. Whereas now, I think there's a little bit of variability around when those reports get released.

AMS: Outside of the auctions there are set release times for every report that we attempt to abide by. There's a lot of circumstances that can cause a report to be late. All we can do is try to strive to hit that time and do our best. Maybe we can be clearer about what those times are.

AMS: What if we have subscription services that we create, and you sign up for it. If it's late then you get notified, otherwise you run as it normally would be?

Attendee: Right now we have our data scraping start at say 9:11am to run every 15 minutes until it gets the data. If we and everyone in this room and all other users are doing it at the same time for that one report, is that an issue? If we all do it at say, 11:00, is there that same load problem?

AMS: I want to take this a little different direction. Mike brought up earlier about the blocking of abusive IPs. This is a log file where I took the IPs out, but this is what we're seeing, this is what we're taking action on. This is a query that a

particular user is running, it starts at midnight, and they're querying five different reports and they're doing it every five minutes for the next 24 hours. It doesn't change but twice a day, if that. We have multiple users doing this so we're having to take proactive steps to keep our servers up.

Attendee: This is much more frequently than I am talking about.

AMS: Right.

AMS: On the LMR side for the 600 series pork reports, we release at a three o'clock. We've asked people to pull that down at 3:30 and again at 6:00 or maybe four times a day. We had 7,000 hits on a beef report the other day. When people ask us why are you late? It's because our system went down, because it can't handle that. We thought this IP thing would be a one off and we blocked all the IPs in LMR but we find that it's glitches in code usually and it's the same company that will have a glitch again. I recommend on LMR you set up a schedule. It still doesn't answer your question as far as corrections go. I don't know what the solution would be on the LMR side. We're very prescribed in our release times for LMR, the only thing where we are late and correcting all the time are the swine reports, every day, five days a week, they are late and corrected due to issues.

Attendee: That was not meant as a criticism.

AMS: If it was a criticism, it was a fair one.

Attendee: I would like to see a subscription system that allows us to be notified of changes to the API or outages, or any kind of software upgrades if you're going to take the system down so we're not trying to ping the API while you're down.

AMS: That's was brought up the most recent time we took it down. We're trying to address it in the best way we can, as quickly as we can. We're planning on doing something that will give you a notice when a system is down for maintenance, and set more scheduled times for when that will happen.

Attendee: Is there a cost associated with getting access and using the API or is it free?

AMS: It's free. You can become a registered user on My Market News, which gives you a lot more options. There is a limit to the amount of data you can pull down as an unregistered user, that's greatly opened up to registered users and gives you a lot more ability to set filters and preferences and do some other things. That's also free.

Attendee: Is there a schedule for when other things are going to be moving over here, in particular, I'm thinking about poultry and eggs. Right now, the cage free report comes out in a PDF form monthly and I can't get any historical data unless I'm

going and pulling that manually. I'd love to be able to get that in an Excel file and pull it down.

AMS: We have the next set of reports we're doing this year and we're working on the one for next year. We're working through everything that we have on our legacy servers right now, that report is not on there, it's actually going to be last. If you want to talk to me afterwards, I can set you up with someone who does have those data sets and could provide them to you more easily, at least through email for now. So you don't have to pull them off the report.

Attendee: We all know the trends are shifting to more specialty data with consumer trends. I know that you're building those databases up but for organic data. Every day it seems like I'm getting more and more questions about that. More focus and more reporting around that would be great.

AMS: We're planning on doing everything, but it's going to take some time.

Attendee: Do you have a project backlog that would allow us to see how you're prioritizing? What are the next five, ten, hundred reports? You have a lot of reports, having a sense of when is the thing that interests me going to be available, I think is really a big part of why I'm here today.

AMS: This would be the list that we're working on for next year. We could put a cleaner version of that out. We can take that as a to-do and have it on the site.

AMS: It's not just our division we're working with. Throughout the year we're negotiating with the dairy program on things that they would like and cotton, they also have things very important to them and specialty crops. There are discussions that happen at a higher level than us as to what focus we're going to move to next. This whole project has been, like you can imagine any IT project is, like a highway project. It takes longer, it costs more, and it's run into delays or roadblocks and we've had to shift our priority over to different things.

They were working heavily on specialty crops, and they ran into a major roadblock. They didn't want to slow the rest of the world up so they were able to pivot over and dedicate a lot more time to our stuff right now. That's just a fraction of what we do that we're getting right now. I can sympathize with what you mean but if we were to put out something very granular, I think it would change within a couple of months.

AMS: On the LMR side, it's not on any of those schedules. It's going to live where it is in its own system and databases indefinitely. Realistically, that's years and years away. We already have a web services on that side, we're in year three of converting all of our LMR reports from text to PDF as well. MARS went text to

PDF, and is providing just the PDF, we had some feedback on the LMR side, we're doing both links for now.

Attendee: I am more interested in everything else.

AMS: Absolutely, I didn't want to intertwine that with all the voluntary because it's a big piece too. There's just no time frame.

Attendee: The last comments were about how do we communicate some desired changes and get some transparency around them? Have you ever looked at using GitHub. It gives everybody free ability to submit issues. Somebody can make a suggestion and you can say, no, we're not doing that and the whole world can see that. Or we are going to do that, it's in our backlog, we don't know when. It's a good place to both get feedback on what people think or problems or improvements, and a place for you to communicate.

AMS: We'd have to look into that we have some restrictions on what we can use, but we can try to. We have some frequently answered questions and some other things on there.

Attendee: The livestock mandatory reporting, is backburner at this point. Is that the same for milk marketing order statistics?

AMS: That would be separate from the market news. Right now we're just talking about the voluntary market news. The mandatory dairy is the same time as LMR. They reside on the same database so it'll move at the same time. They are enhancing the database on the market information so there will be some updates and cleaner data coming out of there.

Attendee: Michael Jeter put up a really nice link (<https://mymarketnews.ams.usda.gov/general-resources>) to the reports and has dates on them when they're going to be available. It's on your website, do you know where it is?

AMS: It's under the help. The transition schedule right?

Attendee: The transition schedule is nice but the one above it is really nice too. This shows all of the reports, their old codes, their new numbers, and approximately when they're available in MARS.

AMS: That's a really close timeframe. That's not looking at months, that's as we get to a two week period, we know these sales are going to be migrated. We're able to publish that information and show exactly what day those are going to move. The slide before that showed an overview of how we're going to move through these sales, these markets. We've already gotten through phase one, we just started on phase two.

AMS: We do have the MARS@usda.gov email address for any questions.

Attendee: I just want to say thank you guys, for putting that schedule out there. It's really helpful to know what the old slug number is and what the new slug number is in advance.

Attendee: Do you have slaughter information in here?

AMS: No, it's not on there yet. It would still be available under our old portal system.

AMS: We brought LMR pork on in 2013 so we're five, six years in now, about the same timeline as we did beef, we're starting a comprehensive pork report that we're releasing May 13th. It mirrors the comprehensive beef report, it's everything into a composite. It will come out every Monday. A month or two after we hope to follow with our specialty pork report which is still a moving target. With companies changing the specialty products, it's a hard target to hit.

Attendee: What is the specialty pork report.

AMS: Specialty pork would be an attribute report such as Paylean free, crate free.

Attendee: This would be subprimals?

AMS: We're talking about meat. We already do a non-carcass merit report on the live side, the premium. This will be related to that on the meat side. We have to lump a lot of that together. It's substantial price spreads given we're talking about specialty product.

Attendee: Similar to your grass fed report that has between \$8.00 and \$30.00?

AMS: It's not very tight price spreads. That's why we have weighted averages.

Attendee: There was a comment made about doubling down on compliance in regards to some of the pork export reporting. What are the tools to prod compliance or are there any penalties for the non-compliers?

AMS: The Foreign Ag Service are the ones that track that.

Attendee: In the statute there are civil penalties for not reporting.

Attendee: We've talked several times about trying to define a commodity hog so that packers can take the price premiums out of a specialty hog and leave them in this one report market formula category. Where do we stand on that?

AMS: We need to get the major stakeholders together and sit down and talk about it. What Steve's referring to is we have other purchase type. And in that purchase type if you read the prescribed language, if it doesn't fit the other three or four purchase types, you just put it as other.

Attendee: The advent of ractopamine free hogs threw a bunch of hogs over into it. Now they don't go into the swine pork market formula thus they don't go into the index.

AMS: In the 90's, when they drafted the language, all of these attributes weren't so prevalent, if at all, as they are today. There's not quite 100,000 pigs in there every day but you have to believe that a good portion of those are with a simple attribute.

Attendee: About 30 some percent of all the hogs are now in the index, we've lost a slug out of that. Can that be done without changing the law with reauthorization?

AMS: It should be able to.

Attendee: Well, then, we need to probably move on that.

AMS: I agree.

Attendee: Let me know and we'll see what we can get done.

AMS: One of the things we wanted was to get a meeting with the NPPC competitive markets committee and CME to discuss this. Understand there are other priorities that come up too.

Attendee: As long as we can do it without changing the law.

AMS: I don't know why you would have to unless you're changing a definition. There's a different way we just have talk about that.

Attendee: I agree with Steve, I think most people that I've spoken to would be in favor of that. If there were any concerns it would be how would that change the index price and some of the historical data. We're very supportive of looking at that and seeing if we can get that change done.

AMS: The biggest thing we want to discuss with stakeholders is what is a commodity hog? It's like preconditioned cattle that used to be special. In some places that's the standard. What is a commodity hog now? Well, it might be ractopamine free.

2019 USDA Data Users' Meeting

Breakout Session: Farm Income, the Feed Grains Database and the Food Availability Data System

Presenters: Carrie Litkowski – Economic Research Service (ERS), Tom Capehart – Economic Research Service (ERS), Janine Bentley – Economic Research Service (ERS)

Note: The following write-up presents a full transcription of the session, it has been edited for clarity and readability.

Carrie Litkowski

Thank you for coming to this session on ERS data products. The mission of the Economic Research Service is to conduct research regarding emerging issues in agriculture, food, the environment, and the economy. Today, we're going to feature three of the data products that we produce, farm income, the feed grades database, and the food availability data system. We are going to give a brief overview each of them and then we'll open it up to questions at the end. Any feedback you have for us that can improve the quality or the usability of the data we provide would be greatly appreciated.

Let's start with the Farm Sector Income and Wealth statistics. The purpose of this data product is to estimate, forecast, and explain the economic performance of the farm sector. It's big picture thinking, looking at the sector as a whole. The data is used by policymakers, lenders, commodity groups, farmers, academia, anybody who has an interest in the financial health of the farm sector. This is based on the 2017 Census of Agriculture, we're talking about 2 million farms, who operate nearly 900 million acres, and the roughly 6 million people who live in a household associated with a farm. This is crop and animal production, we're not talking about ag services.

We produce state and national estimates. Estimates are for periods that have already passed. We have U.S. data back to 1910 and state level back to 1949. Currently, our estimates go through 2017, both state and national. In addition to this, we also produce national forecasts. Currently we have forecasts for calendar years 2018 and 2019.

The link at the bottom takes you to our primary data products page. If you want to find out what we produce exactly, this is your best reference. If you go to the link before this, it will take you to all of our data files.

Our accounts center around two primary measures of farm income: Net Farm Income, which measures income returns, that is income minus expenses, for farm operators and people who have an interest in the farm or stake in the farm. We also have Net Cash Farm Income, which looks at cash income in the calendar year.

The links on the left hand side take you to other sections. At the top of the data topics page is a summary of data findings. With each release, in addition to providing all the tables on this link

we will also provide a detailed discussion of our forecasts that we are releasing in that period. We'll put some charts and tables as well as some analysis of the data that's being produced.

We derive net farm income and net cash income. It's a bottom up approach, meaning we're estimate the components of income in order to get at these aggregate measures of net income. We have a lot of detail available on farm income. For instance, at the top we have cash receipts, this is another name for market sales. We have cash receipt estimates for all states and the U.S. for over 100 different commodities that are sold by farmers. We also have detailed data on government farm program payments, these are direct payments to farmers from farm programs.

This table has the data for individual programs as well as categories of government payment programs. For instance, we have ARC/PLC payments, disaster assistance payments, cotton program payments, and more. We also produce production expenses, these are the costs that farmers incurred in order to produce their goods and services. These are things like feed, seed, fertilizer, taxes, and rent paid by the farmer. In addition to the income side, we also do measures on the U.S. farm balance sheet. This gives us information on the sector's assets, debt, and overall equity. We also have financial ratios that can tell us about the liquidity or the solvency or the profitability of the farm sector as a whole. The balance sheet is only at the U.S. level, and all the data that we're talking about here is annual.

We also produce data on farm businesses, which is an important subsection of all farms because they produce the most agricultural production in the U.S. For those farm businesses, we can produce data by sales class, by region, and by commodity specialization. For instance, we could compare the net farm income on average of corn farms with hog farms or we can look at one region versus another region. For those, we have estimates as well as forecasts. We do not forecast at the state level, just to clarify.

We have some data visualizations, these guide you through the data product, where you can see maps, charts, graphs, and comparisons. It's using all the data that you saw on the on the previous page. For instance with, *"Get To Know Your State"*, you can pick a state, and it will give you some key quick facts about that state such as cash receipts, government payments, and so forth. Then we also have tailored financial reports. On the prior page, if you click any one of those reports, you would get this table that's tailored where you can select what time period you want to see. For example you can select if you want to see data from the last ten years, or for the entire series. You can also decide if you want to look at the data in nominal or inflation adjusted dollars. We also have comprehensive data sets. We have a CSV file that has absolutely everything in it. For some of your real data junkies who want all the data in the quickest possible way, the CSV file is usually the way to go.

We release data three times a year, February, August, and November. Due to the government shutdown, we did have to delay this February's release to March. The March 6 release represents our current data release, this is where we had our first forecast for 2019. In August,

this is a big release because we're going to produce our first estimates from 2018, this includes producing estimates at the state level. We will also update our forecast for 2019. Then in November, we will update our estimates and our forecast for 2019 again.

One last thing I wanted to make you aware of is our ARMS data tool. ARMS is the Agricultural Resource Management Survey, which is a joint survey done by NASS and ERS. It is the primary source of data on farm businesses' financial health, production practices, resource use and farm households. Last December we came out with a new data tool. The idea behind this data tool was to have a more interactive experience working with the data. It also provides charts which the old tool did not really have. You can interact with the ARMS data with other ERS datasets. We have an API now for the ARMS database. My colleague Christine Witt, she's been downstairs in front of that big TV, she's available to give demonstrations of working with this new data tool, or with using the API. With that, I will turn it over to Tom, to talk about the feed grains.

Tom Capehart

Hello, my name is Tom Capehart, I'm the feed grains analyst for the Economic Research Service. My first question is, how many people have used the feed grains database? That's good! Some of this will be review. I'd like to talk about the main parts of the feed grain database and the best ways to get the data out of the database into useful form.

The database is full of domestic and international data. We use data from many different sources both within the government and outside of the government. It's based on the WASDE, it's updated every month at noon, on the day after the WASDE is released. Not every piece of data is updated but we do release a new issue every month. There are about 8.6 million data points in this database. We have our own ERS originated data in it. The main parts of that are the feed grains, grain consuming animal units (GCAU) and the feed and residual calculations on a quarterly basis, and the feed price ratios that come from the Animal Products Branch. We have data going far back in some cases to the mid-1800s for the major commodities. We have supply and use core data going back to 1975 on a quarterly basis for all of the feed grains. The database has prices for grains and prices for feeds. It includes animal unit indexes, byproduct feed use of all types, energy feed, feed price ratios, grain protein feed uses and oilseed meal feed use. When I say feed use, I mean feed and residual.

The best way to get to the feed grains database is to search on Google for feed grains database. When you go there, you'll come to the main page. On the left, you have links to other databases, and to the feed grains topic page, which has a lot of information on it as well. You can click over on the left to get to the yearbook tables and there's also a documentation file.

To go to the feed grains database, go to the bottom of the page and click the "Enter the App" button. The feed grains database has two main components: the Custom Query database feature and the Yearbook Tables. Yearbook Tables are a bit of a misnomer, they are actually updated every month. From the Custom Query database, you can get different types of

outputs, Excel files, XML files, PDFs and charts. On the Yearbook Tables, you can get a zip CSV file, which contains all of the data in the Custom Query database. There are also Excel and PDF files with about 31-32 different tables that are in the Yearbook Tables. These can be had in either a short term version, which ranges from about five years to ten years or a long term version, which is all of the data that's available.

In the organization of the database, the first selection menu is the group, which is the commodities and data types. We have all of the major commodities and we have all of the major feed products. We also have items such as supply and use, feed and residual, and other data types that you can select. Tier two has eighty-four selections, which goes further down. It includes corn, brewers grits, and wheat millfeeds, for example. The third tier is geographic location. At the end, we have data attributes, which includes balance sheet components, prices, feed and residual, and then items such as rail car loadings and byproduct features.

When you come to the database, it looks like this. In this case, we're doing a search for number two yellow corn price in Central Illinois. Before you make the selection, there will be all sorts of different classifications of corn from corn grain, just corn, number two white, number two yellow, among others. Then pick geography, this is when you pull down all the markets that we track using data provided by AMS and the last item is data attribute which is price per bushel for this example. We also have a choice of monthly prices, quarterly prices, or annual prices, and a selection for a year. Next select the units. And that's it, hit the "Run Query" button at the bottom, and you'll get a screen like this. This screen is important because there are a lot of options for downloading the data in the format that's most convenient for you. The first option on the left is a chart that provides a screen chart of the data very quickly. We have Excel files, XML files and you can download the data as a PDF. Or you can scroll down the window here and look at the data visually and not save it at all. All of the data is available at the bottom of the screen.

There are a number of related links that are important including the Feed Grains Yearbook Tables and the Corn and Other Feed Grains topics page. There's the Feed Outlook Report, which comes out monthly two days after the WASDE and has its own set of tables. In addition, there's the U.S. Bio-Energy Statistics Data product, which comes out around the fifth of the month. It contains data on agricultural feed stocks being used for biofuel production, and also has a lot of supply and demand table based on marketing years and quarters from the Energy Information Administration.

I'll be glad to answer any questions during the question period. Thank you.

Janine Bentley

Good afternoon, my name is Janine Bentley and I'm a social science analyst in the Food Economics Division at USDA's Economic Research Service. The Food Availability Per Capita Data System is a historical time series data system that calculates the amount of food that's available for consumption in the U.S. It also looks at food consumption and food trends over time. The

system is three separate but related data series: the Food Availability data, the Loss-Adjusted Food Availability data and the Nutrient Availability data.

The core series of the Food Availability data is calculated by taking supply, which is beginning stocks, plus anything that's been produced plus imports, and we subtract out anything that's not going to be consumed by the U.S. population. That includes exports, farm use, feed, seed and ending stocks to get the domestic availability. In order to get the per capita availability, we divide it by the U.S. population for that year from the U.S. Census Bureau.

The Loss-Adjusted Food Availability data is derived from the Food Availability data by subtracting out losses at the farm, retail, and consumer level to more closely approximate actual intake. With that we can look at quantities for a year that people are consuming. We also look at calories per day and per serving. We can compare that to the Dietary Guidelines and see how well we are meeting those recommendations.

The third series is our Nutrient Availability data is calculated by our sister agency, the Center for Nutrition Policy and Promotion. This is also derived from the Food Availability data and it looks at nutrients and dietary components that are available to be consumed. Due to discontinuation of certain data, we no longer update the Nutrient Availability data, so that's archived. Today, I'm just going to be talking about the Food Availability data and the Loss-Adjusted Food Availability data.

The Food Availability data calculates the amount of food available for consumption in the United States. We measure the basic commodities for food products. We'll look at wheat, we will calculate the amount of wheat that's available, this does not include fully processed food such as bread, crackers or cookies. Some of the major sources of our data are USDA's National Agricultural Statistics Service, the U.S. Census Bureau, the USDA's Agricultural Marketing Service and our own Economic Research Service, in particular, the Market and Trade Economics Division. That's a lot of components going into calculating these data.

One of the things we do is look at food trends over time. As an example, consider this chart with the U.S. per capita availability of beef, pork, and chicken from 1910 to 2016. You can see how chicken has increased dramatically over the years, that's something you can't look at in a ten year span or a one year span. You can also see that beef availability has declined whereas pork has remained relatively in the middle.

The Loss-Adjusted Food Availability data is derived from the Food Availability data by adjusting for losses at three levels to more closely approximate actual intake. The primary level is any food that's left in the field or a farmer doesn't pack it and ship it to a processing plant. At the retail level you have dented cans or maybe mangoes that didn't sell so they went bad so the supermarket throws it out. We try to factor that in as well. Consumer level is at the home, so whatever you may have discarded at home this also includes cooking loss. For example, you might have a child that is a picky eater doesn't want to eat broccoli so then you wind up throwing it out for that dinner. We try to factor that in as well.

This data series provides per capita consumption, amount of calories and food patterns and also food loss estimates. This series is considered preliminary as there are initiatives underway to improve the data series. One of the things we can look at is comparing what people are consuming to the Dietary Guidelines. Here we have what people were eating in 1970, which is the blue bar, versus 2016, which is the red bar. You see the black bar is meeting the dietary guideline recommendations 100%. As you can see, the average American isn't meeting the Dietary Guidelines for vegetables, dairy, or fruit but they are exceeding the recommendations for meat, eggs, and nuts and grains.

There is a lot of interest in these data. We get numerous inquiries from media and academics and other agencies to figure out what people are eating. For example, what was the beef consumption this year, and things like that. From 2016 to 2017, there were 68,000 web visits. We've been cited in dozens of external publications. Our food loss estimates are also used in the Food Waste Challenge.

Some of the common questions we get from stakeholders are how much of a food commodity is consumed or available first in the U.S.? Do you have data available for that current year? Another question we often get, what's the differences between availability consumption? Availability is the amount of food available to be consumed, but may not necessarily be consumed. Whereas consumption is how much people are eating. Most of the time people will be looking at the Food Availability data numbers and assume this must be what people are eating. I try to direct them to the loss-adjusted numbers, because that's more approximated intake.

Another question we often get is do you have data consumption at home and away from home? And is state level data available? With the Food Availability data system, we only have national data. We can't look at food at home versus away from home for any state. How much food is lost each year, total by commodity? We are no longer able to update the total, the last year we had available was 2010 and that was 33%.

We have a lot of challenges that we face and I'm always welcome to any suggestions as well. One of the things is adding commodities. We have a lot of commodities, but some commodities that are in high demand aren't being tracked. We struggled with trying to figure out how to capture that and we also have a problem with only being able to capture commercially produced fruits and vegetables, and not from small growers. We also run into discontinued data. This was a big thing for us in 2011, the Census Bureau discontinued the Current Industrial Reports, which provided data for added fats and oils. That prevented us from doing a lot of total estimates and looking at calories, and some other estimates as well. That was a big data gap in our data system. Rice estimates were also unavailable beyond 2010 and that was due to the way it was being calculated, we weren't confident in the number, so we decided to discontinue that as well.

Some of the issues with the Food Availability data bleed into the Loss-Adjusted Food Availability data. Due to discontinuation of the Current Industrial Reports, certain summary estimates for quarterly loss-adjusted food availability data cannot be calculated beyond 2010 including per capita daily amount of calories, which was very popular, food pattern equivalents, and food loss at retail and consumer levels. For that we can look at certain food groups, but we can't look at the total amount for all the groups to combine.

Another issue is providing updated farm to retail loss assumptions. One of the things that we run into is a farmer may deliberately not pick their crops or maybe let them decompose to nurture the ground. We have to take into account those kind of losses and that fluctuation in loss. We're having that issue. We have our updated retail loss assumptions for commodities other than fresh fruits and vegetables. We have those updated loss assumptions, but for canned fruit, dried fruit, and canned vegetables, we're trying to figure out how to get updated loss assumptions for those.

We also have initiatives to improve the Loss-Adjusted Food Availability data. We've updated the food loss assumptions at the retail level for fresh fruits and vegetables and at the consumer levels for all commodities. We recently had an expert panel on technical questions and data gaps. We had seven technical questions and seven data gaps that we gave to them. They researched them and gave us the best solution to those. Now we're going through all those solutions and trying to tackle and address them.

That was a really quick condensed overview of the Food Availability Data System. It's very important, and it's not just our thing it's everybody. We include estimates from all of our sister agencies. If you have any questions feel free to ask me now or you can contact me. So thank you.

Attendee: You were talking about not having any data for losses of canned fruits and vegetables. Would that be insignificant due to the storability of an item like that?

ERS: We do have loss assumptions for canned fruits and vegetables but they're not updated. They're very, very dated. We want some updated ones to factor in updated technologies and other innovations. They are pretty small compared to all fruits and vegetables but that is one of the things that we want to keep improving so it's useful, instead of just being there.

Attendee: If you add up all of the proteins consumed in the U.S. it's about 220 lbs on the food availability side side of things. Which of those proteins between beef, pork, and chicken waste the most? Are they increasing or decreasing?

ERS: If I recall correctly beef has the highest loss estimate but I'm not 100% sure.

Attendee: If you look at food availability and loss data you can figure that out?

ERS: Yes.

Attendee: Will ERS be creating any other similar databases for other commodities besides grains like oilseeds or livestock products?

ERS: That's been under discussions but I don't think we have any current plans for those things under way, they are still in the investigative stage. The feed grains database was developed over 10 years ago. If we did do a similar thing for those other commodities, we would probably use a completely different type of platform.

Attendee: ERS does a great job at the bottom of some of their webpages of listing the contact information of the researcher who did the work and of providing the ability to download high resolution images. Is there an opportunity to get the data as well? I often reach out to the researcher who is more than happy to send the data but could that link to the data be added consistently across all ERS platforms?

ERS: I don't really know the solution for that. It might be a good idea for the documentation for the feed grains database to include the most recently released data.

ERS: Now, I remember we had some issues when we upgraded our website about 1.5 -2 years ago, including issues with some of those CSV files. I'll make that note.

Attendee: It's not consistent.

ERS: We're also transitioning from an older system for those charts with the data into a newer Tableau system.



United States Department of Agriculture

Farm Sector Income and Wealth Data Product: A Brief Overview

2019 USDA Data Users' Meeting

Carrie Litkowski

4/23/2019



Farm sector summary

2

million farms

900

million acres

6+

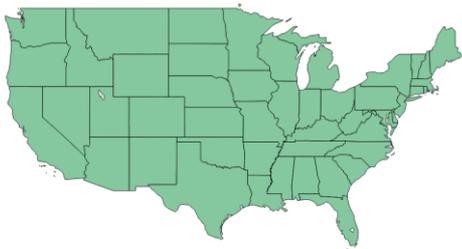
million people living in farm households

Source: Farm Income and Wealth Statistics Data Product & Agricultural Census



Data and Analysis

Farm Sector Income and Wealth Statistics



Historical State Estimates



Historical National Estimates



National Forecasts

Reports: <http://www.ers.usda.gov/data-products/farm-income-and-wealth-statistics>





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Farm Income and Wealth Statistics

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[Charts and Maps of U.S. Farm Balance Sheet Data](#)

[Charts and Maps of U.S. Farm Income Statement Data](#)

[Update and Revision History](#)

[General Documentation](#)

[Documentation for the Farm Sector Cash Receipts Estimation](#)

[Documentation for the Farm Sector Balance Sheet](#)

[Documentation for the Farm Sector Financial Ratios](#)

Data Files: U.S. and State-Level Farm Income and Wealth Statistics

These are the latest data concerning the farm income forecast, including the forecasts for the income statement for the U.S. farm sector, value added, cash receipts and value of production, government payments, farm production expenses, and the balance sheet. Included are historical U.S. and State-level farm income and wealth statistics. Historical/State data cover the topics of net value added and net farm income, net cash income, cash receipts and value of production, government payments, farm production expenses, and the balance sheet.

These data are released three times a year: in February, August, and November. The U.S.-level calendar-year forecast is first provided in February, and is updated in August and November. The August release converts the prior year's farm income and balance sheet forecasts to estimates, adds State-level farm income estimates, and revises previous years' estimates. The November release updates the current year's forecast.

The data below are as of February 7, 2018, except where noted. The next scheduled forecast release is August 30, 2018. These tables cover the full history of data through 2018F, where available.

Summary of U.S. Farm Income Financial Indicators

- [U.S. farm sector financial indicators, 2011-2018F](#) 
Includes the U.S. income statement and balance sheet summary.
- [Farm sector financial indicators, State rankings](#)

Farm Income Statements, U.S. and States

- [Value added by U.S. agriculture \(includes net farm income\)](#)
- [Net cash income](#)
- [Returns to operators](#)

Cash Receipts

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[Dairy](#)

[Farm Sector Income & Finances](#)

[Farm Structure and Organization](#)

[Land Use, Land Value & Tenure](#)

[Farm Economy](#)

Cash Receipts

- [Annual cash receipts by commodity, U.S. and States, 2008-2018F](#)
- [Annual cash receipts by commodity \(condensed\), U.S. and States, 1910-2018F](#)
- [Ranking tables: Choose a State to get ranked commodities](#)
- [Ranking tables: Choose a commodity to get ranked States](#)

Government Farm Program Payments

- [Federal government direct farm payments by program, U.S. and States](#)

Production Expenses

- [Production expenses, U.S. and States](#)
- [Production expenses by type, State ranking](#)
- [Gross capital expenditures, U.S.](#)

Farm Balance Sheet and Financial Ratios, U.S.

- [Farm sector balance sheet and selected financial ratios](#)
- [Farm sector financial ratios](#)
- [Current and noncurrent farm sector balance sheet \(includes current and working capital ratios\)](#)

Average (Farm-level) Net Cash Income, U.S.

- [Farm-level average net cash income by farm typology and sales class](#)
- [Farm business average net cash income by commodity specialization and region](#)

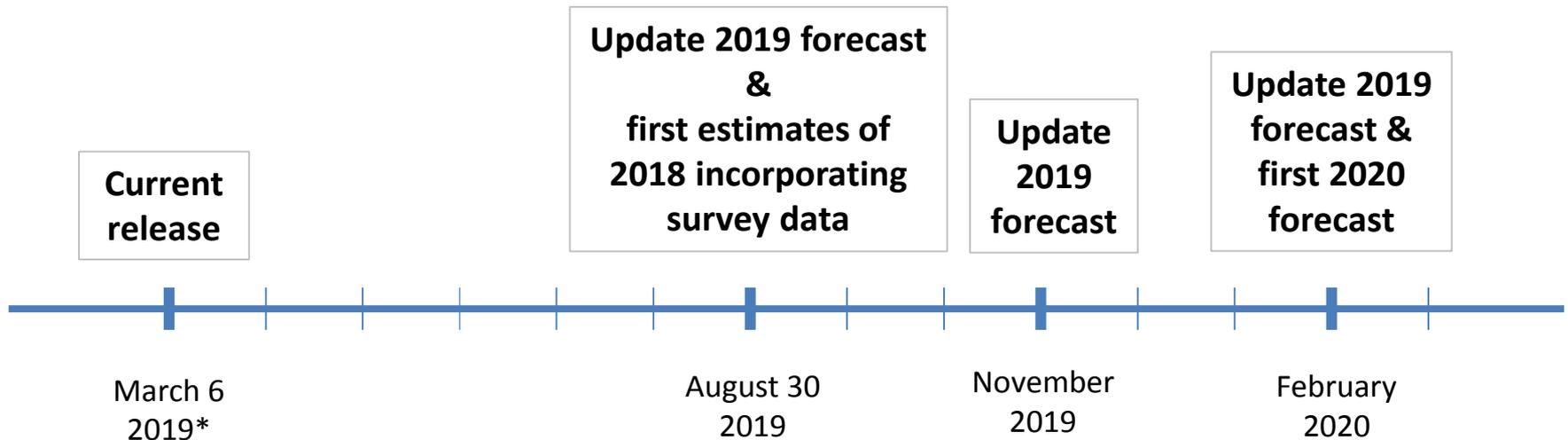
Charts and Maps Data Visualizations

- [Charts and Maps About Your State](#)
- [Charts and Maps of U.S. Farm Sector Balance Sheet Data](#)
- [Charts and Maps of U.S. Farm Income Statement Data](#)

Download All Data in CSV File Format

- [February 7, 2018 release](#) 
- [November 29, 2017 release](#)  Page 61 of 131
- [August 30, 2017 release](#) 
- [February 7, 2017 release](#) 

Farm Sector Income and Wealth Statistics Timeline



Data product updated 3 times per year.

Current Release: **February 7, 2018**

Next Release: **August 30, 2018**

**Due to the lapse in federal funding, the February 6, 2019 release was postponed to March 6, 2019*



ARMS Data Tool

<https://www.ers.usda.gov/data-products/arms-farm-financial-and-crop-production-practices/>

ARMS Farm Financial and Crop Production Practices / Tailored Reports: Farm Structure and Finance

Tailored Reports

RESET

REPORT
Farm Business Balance Sheet

SUBJECT
All Farms

FILTER BY
Economic Class

ECONOMIC CLASS
\$250,000 to \$499,999

Tailored Reports

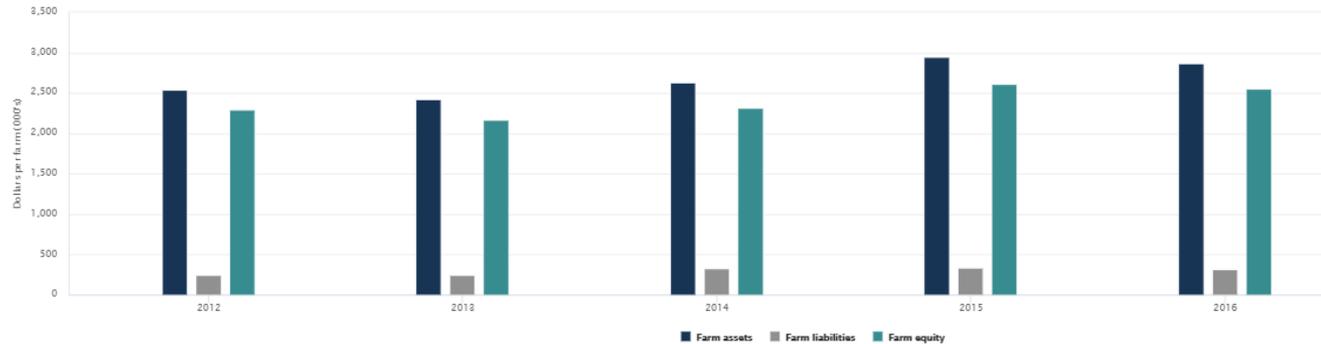
Years: 2017, 2016, 2015, 2014, 2013, 2012

FILTERED BY REGION

Regions: All survey states

Farm Business Balance Sheet - All survey states

Subject: All Farms, Filter - Economic Class: \$250,000 to \$499,999



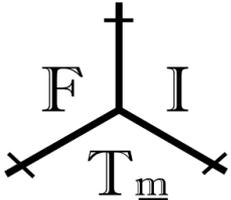
Source: USDA, Economic Research Service and National Agricultural Statistics Service, Agricultural Resource Management Survey. Data as of December 12, 2018.

CHART TYPE: Bar Line

SHOW DATA: Relative Standard Error Median

	2012	2013	2014	2015	2016	2017
	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate
Tailored Report - Report: Farm Business						
Farms (Number)	93,577	95,198	98,558	97,493	97,071	97,198
Farm assets	2,543,188	2,419,327	2,834,850	2,944,780	2,885,441	2,920,417
Assets: Current	340,899	282,745	274,682	241,676	233,790	282,834
Assets: Livestock inventory	29,137	33,854	32,323	33,124	25,579	34,542
Assets: Crop inventory	88,784	80,810	74,003	71,382	83,446	79,720

Your comments and suggestions?



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United States Department of Agriculture

The Food Availability (Per Capita) Data System

Jeanine T. Bentley

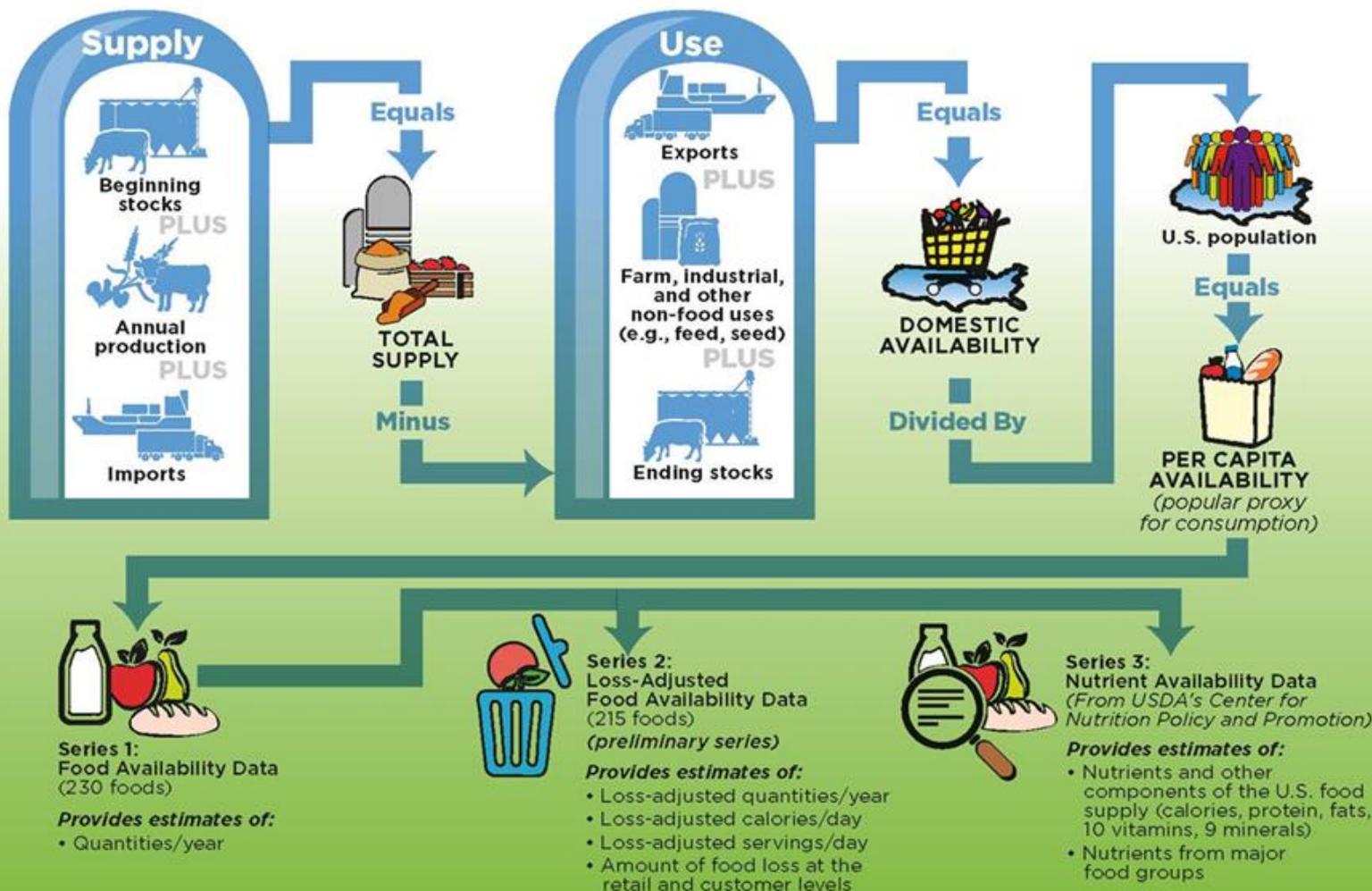
Economic Research Service, U.S. Department of Agriculture

USDA Data Users' Meeting
University of Chicago – Gleacher Center
Chicago, IL, April 23, 2019

The Findings and Conclusions in This Preliminary Presentation Have Not Been Formally Disseminated by the U. S. Department of Agriculture and Should Not Be Construed to Represent Any Agency Determination or Policy. This research was supported by the intramural research program of the U.S. Department of Agriculture, Economic Research Service.



USDA Economic Research Service's Food Availability Data System (FADS)



Source: USDA, Economic Research Service
[http://www.ers.usda.gov/data-products/food-availability-\(per-capita\)-data-system.aspx](http://www.ers.usda.gov/data-products/food-availability-(per-capita)-data-system.aspx)



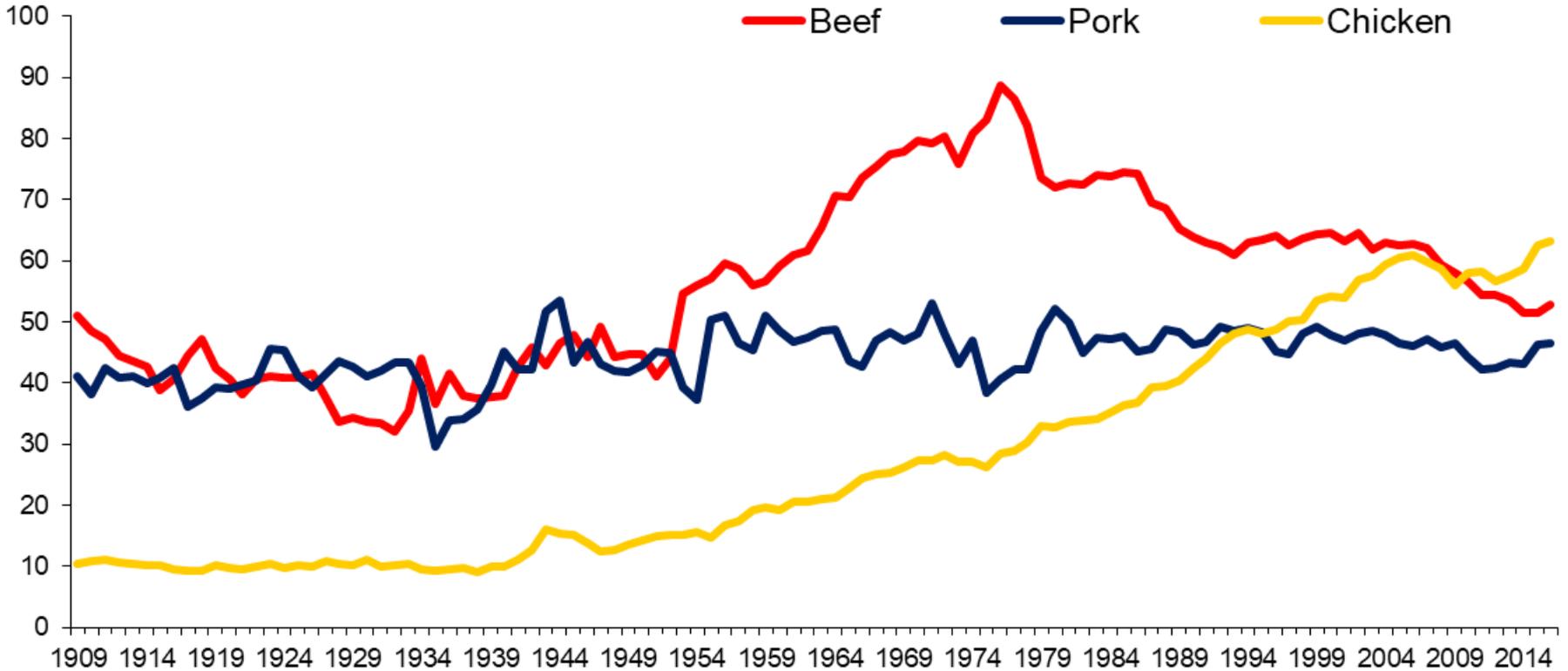
Food Availability Data

- Calculates the amount of food available for consumption in the United States
- Measures basic commodities for food products at the farm level or an early stage of processing
- Major sources of data
 - USDA's National Agricultural Statistics Service
 - U.S. Census Bureau
 - USDA's Agricultural Marketing Service
 - Economic Research Service



U.S. per capita availability of beef, pork, and chicken, 1910-2016

Pounds per person¹



¹Calculated on the basis of raw and edible meat in boneless, trimmed (edible) weight. Excludes edible offals, bones, viscera, and game from red meat. Includes skin, neck, and giblets from chicken. Excludes use of chicken for commercially prepared pet food.

Source: USDA, Economic Research Service, Food Availability Data.



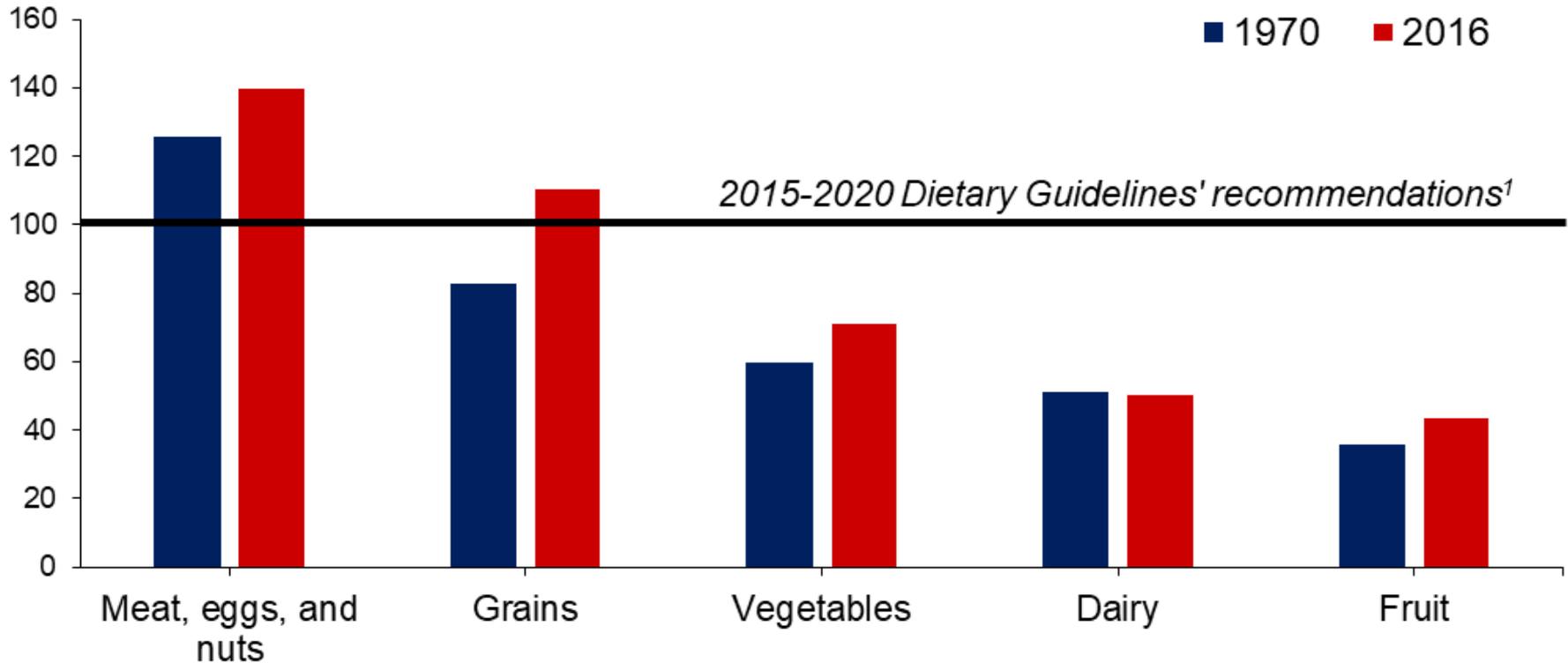
Loss-Adjusted Food Availability Data

- Derived from the Food Availability data by adjusting for spoilage and other losses at three levels to more closely approximate actual intake:
 - Primary (farm)
 - Retail
 - Consumer
- Provides per capita consumption (amount, calories, food pattern equivalents) and food loss estimates
- The series is considered to be preliminary as there are initiatives underway to improve the data series



Estimated average U.S. consumption compared to recommendations, 1970 and 2016

Percent of *2015-2020 Dietary Guidelines'* recommendations¹



¹Based on a 2,000-calorie diet.

Rice data were discontinued and thus are not included in the grains group.

Source: USDA, Economic Research Service, Loss-Adjusted Food Availability Data and *2015-2020 Dietary Guidelines*.



Interest in the Food Availability Data System

- Hundreds of inquiries from consumers, the media, Universities, private sector, associations, organizations, and Federal and state agencies each year
- From 2016 to 2017, there were 68,842 web visits
- Cited in dozens of external publications
- Use food loss estimates in models and applications



Common Stakeholder Questions About the Data

- How much of a food commodity is consumed or available per person in the U.S.? Do you have data available for the current year?
- What's the difference between availability and consumption?
- Do you have data on consumption at home and away from home? Is state-level data available?
- How much food is lost each year (total, by commodity)?



Challenges Producing the Food Availability Data

- Adding commodities (e.g., kale) to the system
- Captures only commercially produced fruits and vegetables, not from small growers
- Discontinued data
 - In 2011, the Census Bureau discontinued the Current Industrial Reports, which provided data for added fats & oils (except butter)
 - Estimates for rice are unavailable beyond 2010



Challenges Faced in Producing the LAFA Data

- Due to the discontinuation of CIR, certain LAFA summary estimates cannot be calculated beyond 2010
 - Per capita daily amounts of calories
 - Food pattern equivalents (or servings)
 - Food loss at the retail and consumer levels
- Providing updated farm-to-retail loss assumptions
- Updated retail-level loss assumptions for commodities other than fresh fruit and vegetables



Initiatives to Improve the LAFA Data

- Updating the food loss assumptions at the retail level and consumer level
- Expert Panel on Technical Questions and Data Gaps
 - Develop recommendations to improve the integrity, transparency, and validity of the LAFA data series
 - Seven research questions and seven data gaps





United States Department of Agriculture

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2019 USDA Data Users' Meeting

Breakout Session – 2018 Farm Bill

Presenter: Sean O'Neill – Farm Service Agency (FSA)

Note: The following write-up presents a full transcription of the session, it been lightly edited for clarity and readability.

Sean O'Neill

I'll go back over ARC/PLC for just a second. I presume that most in this room that are interested in ARC/PLC already know what ARC/PLC is about from the 2014 Farm Bill, it basically replaced the old DCP/ACRE program. Where the ACRE program is a lot like what we've got for ARC. ARC has two different types, one of them is ARC county where you're paid based on whether or not there's a loss of revenue, which is based on both yield and price in a county based on benchmark and actual. PLC is a lot like the old counter cyclical portion of the DCP. It's going to pay based on a difference in price. Some changes in the farm bill is we're going to be using an effective reference price instead of reference price. There's a formula in the statute and regulation that talks about that, it's going to beef that up just a little bit.

Other changes are going to come with the 2018 Farm Bill. We administered the 2014 Farm Bill for ARC/PLC based on the administrative county. When producers had seen that their farm was located in one county, but it was being administered in another, they weren't getting the payment rate for the county where the farm was actually residing. That was not a big surprise to a lot of us in FSA because we've been doing farm numbers by administrative county for a very long time. We got a lot of pushback on it so in 2016, we ran an optional program where people could elect to have their 2015 and 2014 payments calculated based on physical location if they wanted to waive the administrative county for their farm. When they got to make that choice, they already had the answer for 2015 so they knew which was better but they didn't know the answer for 2016. We ran that sign up in the spring of 2016. The stakeholders and the Hill, they witnessed that unfold and made a decision that we should be paying our ARC-CO benefits based on where the base acres physically reside.

We will implement the 2018 Farm Bill provisions beginning with the 2019 crop year based on physical location of the base acres on a farm. If you recall from the 2014 Farm Bill, we put out a lot of payment rates for a lot of the commodities. The payment rates were based on the difference between benchmark and actual yield. It took into account revenue, which was based on yield and price. Those payment rates are still going to be published and we're going to put them on the ARC/PLC landing page. If your farm has tracks that have base acres that are located in more than one county, those payment rates won't mean anything because we're going to weight up all of the revenue by physical location. Each farm based on its own ingredients at the

farm level is going to have its own unique payment rate calculated. You might be able to get there if you know exactly how many base acres you have in each physical location county.

Another change for the 2018 Farm Bill for ARC/PLC is we had a rule under the 2014 farm bill that if a county had more than 25% of its crop acreage irrigated and more than 25% of its acreage reported as non-irrigated, we would come up with both irrigated non-irrigated yields instead of a blended yield for the commodity. They thought that was too high a threshold and they wanted us to establish more irrigated and non-irrigated yields. When we discussed this with them before they enacted the Farm Bill, we said what number would you have us do it at, they said as low a number as possible. We have to have data that says so if you've only got one irrigated grower in the county or one non-irrigated grower in the county, it's likely not to have any non-irrigated data for that covered commodity anywhere, either reported to FSA, RMA or NASS. Even if it's RMA, they doesn't want to release that kind of data because they don't want to divulge who you are and violate your privacy. If we've got acres being reported for irrigated and non-irrigated, we're going to do our best to come up with the yields.

The other thing that was in the ARC/PLC statute was a provision that if a farm has not been planted to an annual crop but it was in grass, or fallow or idle for the a 10 year period 2009 through the end of 2017, those farm's base acres will be maintained, however, those base acres are ineligible for payment under this farm bill. Letters are going to go out to operators and owners of farms telling them we have identified in our system of records farms that don't have any of this history, and they potentially would be ineligible base acre farms. If they have information to show that they do have a crop that was planted in the base period, it can be 1/10th of an acre, then those farm acres are eligible, we're going to entertain them bringing us that information now. Bringing us that information means that if they had reported it to RMA in, let's say 2014 or 2013 we will accept that. But they can't report 2013 or 2012 crop acreage to us now, and have us verify it. There is a presumption in the rules for this program, that if it's not reported as something that it's idle or fallow, and it is therefore going to get that designation.

Under the 2014 Farm Bill and the 2008 Farm Bill, there was a 10 acre rule provision. If a farm did not have more than 10 base acres that farm's base acres were ineligible for payment unless the farmer on the land was a socially disadvantaged (SDA) or limited resource (LR) farmer. The difference now, with the 2018 Farm Bill is that farm is ineligible and the producers on that farm are ineligible for payment except if that producer also has an interest in other farms that have base acres and when you combine them the base acres are in excess of 10 acres. For example, if I'm on a farm, and the farm has five base acres, I and that farmer and ineligible for payment. But if I'm on another farm that has 50 base acres, and I have a share interest in those 50 base acres then I'm also eligible on the five acre farm.

Some things that remained the same, you have to report all cropland on the farm. The programs pretty much run like they were before, there's some trend adjusted yield legislation that we're going to be implementing in this farm bill, it's on the ARC County option. We're

going to use the same methodology that federal crop insurance uses or RMA uses for trend adjusted yield. We're going to be doing trend adjusted yield on actual yield, and not on the benchmark. If there's a trend, we're going to make the adjustment there and the adjustments are always in the producer or the covered commodities favor.

Similar to the 2014 Farm Bill, there will be an opportunity for owners on a farm to update the PLC payment yield beginning with the 2020 crop year. We're going to have program election again, we're going to have enrollment. We're shooting for a regulation publication of September 1st and enrollment beginning September 1st but we would prefer that enrollment not actually occur until after October 1st. The enrollment for 2019 is going to extend into 2020 like enrollment did in 2015. The 2019 enrollment will be stopped before the 2020 enrollment stops. Part of that is because we're going to run election and enrollment at the same time. We didn't do that under the 2014 Farm Bill. We're going to allow people to come in and elect and enroll at the same time. It's the 2019 producers on the farm that are going to do the election. That has to take place before you can enroll 2020 because if they change their mind on the election, they're affecting what's elected for 2020. So 2020's enrollment deadline has to be after the election deadline for 2019.

The bottom line is the 2019 producers on the farm are the ones who are going to decide the program election, PLC or ARC-CO or ARC-IC, and they also can enroll. A 2020 farmer is going to be able to enroll or not based on that 2019 election, so the 2019 election period has to end before the 2020 enrollment period ends. If somebody enrolls for 2020 the election has been made, and then somebody comes in and changes the 2019 election, we're going to have to bring the 2020 person back in. Hopefully they're going to be the same people and we're not going to have problems. We have approximately 1.6 million contracts and I think 75% of those were ARC-CO. When you say 1% of ARC-CO, or ARC/PLC that's 16,000 farms.

Attendee: You said you're going to trend adjust the actual yields?

FSA: We're going to trend adjust, I believe it's the actual yields.

Attendee: How do you trend adjust the actual, like the current year, I'm assuming for determining if there's a payment?

FSA: I may be mistaken, we're going to do it the same way that RMA does it.

Attendee: I believe they apply it to the Actual Production History (APH) which would be the equivalent of applying it to the benchmark.

FSA: APH is a benchmark so that's what goes into your expected yield or approved yield.

Attendee: If you have base acres in different counties, will you have a benchmark that's a weighted average of the benchmark of those counties? Or how is that going to

be applied because you said the payment rate that's published for each county won't apply to yield.

FSA: What's going to happen is if you've got five base acres in three different counties, each of those counties has a benchmark yield, that base acre is going to weight to that benchmark yield and it's going to go up to the farm level before you look at the difference between benchmark and actual. The reason is that the payments under ARC-CO are limited to 10% of benchmark. If you didn't do it that way, you would be applying the limitation to the difference between benchmark and actual at the tract level within a farm, which is not really a farm summary.

Attendee: Will the actual be a weighted average of those counties too?

FSA: It will be a weighted average of the base acres in each of those counties and of the irrigated and non-irrigated of those counties.

Attendee: For determining the actual yield, then, since the benchmark is average of counties, will the actual yield be a weighted average?

FSA: The actual will be done on the same basis, also on practice. If you've got a historical marketing percentage, which is how we did irrigated and non-irrigated yields under the 2014 Farm Bill, those two will be weighted all the way up to the farm level for the commodity.

Attendee: In 2012 in this country, everybody had a bad deal. In one section of Iowa, one of them being my home county, they ended up having a secondary drought the second year, and that brought the county yield down and that ultimately impacted the average as it went through time. We got penalized more for a longer period of time, because 2013 was just as bad or worse than 2012. As time goes on those years fall out but we get to have it in there still with a 10 year average?

FSA: The benchmarks right now are five years.

Attendee: Oh, it's only five years.

FSA: Yes, and they are Olympic. We drop low and high and use the remaining three and that sets your benchmark.

I'm glad you brought this up because there is a difference between the 2018 Farm Bill and the 2014 Farm Bill. We're going to have a lag year under the 2018 Farm Bill that we did not have under 2014. The reason we're going to do a lag year is because we think it's important that before farmers do their election for 2019, they at least have an idea of benchmark. They'll have 80% of it but they won't have the yield data. They didn't do election until 2015 under the 2014 Farm Bill, and it was the 2015 farmers who did the election, and the 2014

farmers had to live with it. If you remember, similar to this farm bill, if election doesn't happen, there's no payment eligibility for the first year of the farm bill, which under the 2014 Farm Bill was 2014. For example, you're farming this place in 2014, you left it and I'm farming it in 2015 you're tethered to whatever I elect or don't elect. If I didn't elect, you are payment ineligible.

Under the 2018 Farm Bill, it's the 2019 farmers who are going to be doing the election for the farm. But they'll have the yield information because we're not going to use the 2018 year as part of benchmarking, they're going to cut off at 2017

Attendee: I have a question on the farm loan programs. I was wondering what the rationale was for raising the credit for a bunch of these loans. Are farms getting bigger? Is farming getting more expensive? What do you look at to raise that?

FSA: I'll give you my answer not necessarily FSA's. If you look at the other programs that we've got, we've done away with the payment limitation on the price support commodity loans. We've raised the payment limitation for specialty crops under non-insured crop disaster assistance for buy up. I think you hit the nail right on the head. I think a lot of our loan limits were established based on farming revenues from long ago, and I think the revenues have got to increase, and the loan limits have to increase correspondingly because farming has become more expensive. These loan limits are \$50,000 for farm ownership, \$50,000 for operating. It's no longer limited to a combined total of \$50,000 for both the micro loans, \$50,000 won't buy you a pickup, much less a piece of equipment that you're going to use.

Attendee: I'd like to respond to that question if I could. We also need to understand what the farm economy is truly like across the countryside and the challenge that's out there in terms of credit on farms during this challenging farm economy. When we look at the fact that farm prices and income have dropped 50% over the last half a dozen or so years, you know that income has had a direct impact on the amount of credits folks are able to get to put a crop in the field or potentially borrow money for livestock purchases. It is a real issue across the countryside. Some of this is in response to that. It is getting more expensive. Farm prices have dropped in terms of income to farmers but those input costs have not gone down accordingly. In fact, in most cases they've gone up.

FSA: Absolutely. I'll add another thing because I'm from a farm family. Most of the farmers in this country are about my age, and I'm not a young guy. How do you get a young person into farming? You want to encourage that because we have a generational situation in agriculture in this country. Most of the generation here have got the assets, they have the land, the younger folks don't. Not only is

it costing more to farm, but they also don't have the assets. We are the lender of last resort, they have to come to us for the loan. You can't leave the loan limit down below \$400,000 and expect anybody to be able to conduct a farming operation. You can't on one hand encourage young people to get into farming and then not extend them any credit, it just doesn't work.

Attendee: I've got another question for you on general CRP signups. Will there be anything opening up prior to September?

FSA: I'm not sure but I don't think we're going to have the regulation published before that.

Attendee: With that said, I come from the Pacific Northwest, we had a lot of growers that had to do one year extension contracts, whether it was general or even the buffer program. If they miss out on a fall sign up, they won't be getting a payment in 2020 even if there was an enrollment in early 2020 because it's always about a year behind.

FSA: The 2020 payment will be made in 2021 because they're made in arrears so the 2020 year will have to be complete. The 2019 year will be paid in October of 2020.

Attendee: Can we switch gears and go over to dairyland?

FSA: As you can see from the handout the Dairy Margin Coverage Program is going to replace the Margin Protection Program (MPP). Operations are going to make a one-time election to participate in it through 2023. They're also eligible to receive a discount under existing margin coverage rates and they can decide how they want to get that discount. They can take it as a credit or they can be paid for it. If they do elect for the credit, that is an irrevocable decision and if the credit isn't used it's forfeited. The credit is transferable if the interest in the dairy transfers, either to other owners or to heirs.

The maximum level for operations with covered production history less than 5 million pounds has increased to \$9.50. Dairy operations enrolled in the Margin Protection Program for any year can be eligible to receive the refund. Producers who enrolled in Livestock Gross Margin (LGM) for dairy cattle in 2018, they can enroll in 2018 Margin Protection Program retroactively.

Stakeholders had a lot to do with what ended up in the Dairy Margin Coverage Program. They were not satisfied with MPP. I think they had a lot to do with how MPP was written but I think there were a lot of unforeseen events. It's been tough in dairy for a lot of the country. We're excited about this program, we think it's going to be more responsive, we think we're going to have more activity. I think it's also more farmer friendly than MPP was.

Attendee: One of the other issues or challenges with dairy is the production history on that farm. It's my understanding that goes back to 2014 numbers and there was not any opportunity to update those based upon current production history on the farm. We've seen lots of structural changes in the dairy industry over the last half dozen years. If there was an opportunity to go back and allow those farmers to adjust those numbers, to current production history, to bring them even with where they're at, that would allow for more coverage, and a more appropriate safety net on those farms from a dairy program standpoint.

FSA: I'll make a note of that. Thank you. Does anybody have any questions on NAP (Noninsured Crop Disaster Assistance Program)? The Farm Bill was enacted on December 20th, there wasn't any buy up for 2019 NAP, we had already passed a lot of the 2019 and 2020 application closing dates. All of the 2019 dates are passed by March 15th and we are soon approaching 2020 application closing dates as well, which is well in advance of the coverage period but that's when you make your election to the level of coverage. NAP coverage is free, it's basic 50/55 coverage. There's a service fee that you pay but it doesn't pay for any coverage. However, you do have to pay for buy up, buy up is a 5.25% premium on the expected dollars you would get out of your coverage. Or in value loss crops, the maximum dollar value that you have set.

We put out a notice advising 2019 and 2020 NAP coverage participants and those who have not gotten coverage yet that they can apply for retroactive buy up coverage through May 24th. Some people may already know they have losses and they didn't have NAP coverage. They can come and apply for coverage now. Provided they meet all the other requirements, they can be paid for those losses. Ordinarily, you have to get your coverage in advance of the coverage period. Service fees went up but they only went up \$75 for each level and that doesn't pay for coverage.

Disaster programs, not a whole lot of changes. Most of the changes made in the livestock disaster programs were made by the Bipartisan Budget Act. There were some changes to livestock indemnity and to the Emergency Assistance for Livestock, Honeybees, and Farm-Raised Fish program (ELAP). They moved all the death losses of livestock over to the Livestock Indemnity Program (LIP), which makes it much simpler because there wasn't really any advantage to applying under the separate programs. ELAP was a safety net program that was supposed to catch all the other things that SHORE, LIP, LFP and TAP didn't cover. ELAP began with a \$100 hundred million dollar limit per year. It was reduced to \$60 million then down to \$20 million. We ended up having to factor payments every year, we couldn't make ELAP payments until the end of the year was over. If you had a feed loss or grazing loss under ELAP, or a viral loss for livestock deaths or

honey bee colonies, let's say in 2017, FSA could not pay you for that loss until probably April 2018 because we didn't know how much money we had to pay claims and we were factoring payments of about 52%.

The funding limit for ELAP was removed. They've also taken away the payment limitation on ELAP and on LIP. We went from a program that had limited funding and limited payments per personal legal entity to a program that has no payment limitation and no funding limitation. It's going to enable us to pay losses in a more timely fashion, closer to when the losses have been sustained. ELAP feed losses and grazing losses are still limited to grazing animals. We have been asked about feed losses for other types, usually it's drought feed losses or other perils such as flood, or snow, or they want to pay for snow removal and that sort of thing. These things are not currently being covered by ELAP. If we do have to cover them, they're PAYGO issues that we have to get back with the Hill and OMB about.

The other thing they did with LIP, they legislated that extreme cold is considered an eligible loss for unweaned livestock without regard to any management practice protocol, vaccination, etc. for those young livestock. What it's also caused us to do is to issue in regulation, some clear policy of what is weaned and unweaned livestock. This is mostly ruminants that we're talking about but it could also be equine. We're going to go ahead and make those changes with these regulations, it should come out later this year. Most of the regulatory changes that we're going to make as a result of the 2018 Farm Bill to the livestock programs are going to be effective in 2020. These programs are up and running and we're paying losses right now for 2019 and we're not holding up payments.



Farm Service Agency

What's New: FSA and the 2018 Farm Bill

Agriculture Risk Coverage (ARC) and Price Loss Coverage (PLC) Programs

- Producers may make a new election to obtain either ARC or PLC for the 2019 crop year, which also will apply for the 2020 crop year.
- Producers may change elections annually during the 2021 through 2023 crop years.
- Producers on farms where the cropland was planted to grass or pasture (including cropland that was idle or fallow) from January 1, 2009, through December 31, 2017, are ineligible for ARC/PLC payments from 2019 through 2023.
- Owners can update the farm's PLC payment yield beginning with the 2020 crop year.

Dairy Margin Coverage (DMC) Program

- Replaces the Margin Protection Program for Dairy (MPP).
- Operations making a one-time election to participate in DMC through 2023 are eligible to receive a 25 percent discount on the existing margin coverage rates.
- The maximum level for operations with covered production history less than five million pounds is increased to \$9.50.
- A dairy operation enrolled in MPP any year from 2014-2017 may be eligible to receive a refund of premiums if the premium paid exceeds the MPP payments received.
- Producers who enrolled in the Livestock Gross Margin for Dairy Cattle program (LGM) in 2018 may enroll in 2018 MPP retroactively.

Conservation Reserve Program (CRP)

- The CRP acreage cap gradually increases to 27 million acres by 2023.
- At least 8.6 million acres devoted to continuous practices and 2 million acres to grassland.
- Two pilot programs are authorized: Clean Lakes, Estuaries, and Rivers Initiative (CLEAR 30) and the Soil Health and Income Protection Pilot Program (SHIPP).
- The annual rental payment is limited to 85% of the estimated average county rental rate for general enrollment and 90% of the estimated county rental rate for continuous enrollment.

Marketing Assistance Loan Programs (Commodity Loans)

- Extends loan authority through 2023 for wheat, corn, grain sorghum, barley, oats, upland cotton, extra-long staple (ELS) cotton, rice, soybean, other oilseeds, dry peas, lentils, chickpeas, graded and nongraded wool, mohair, honey, peanuts, and sugars (beet and cane).
- Marketing loan gains (MLGs) and loan deficiency payments (LDPs) are no longer subject to payment limitations, actively engaged in farming and cash-rent tenant rules.
- Loan rates increased for all commodities except minor oilseeds, wool, mohair, honey, peanuts, and upland cotton.



The 2018 Farm Bill – FSA: What Is New and What Has Changed

Noninsured Crop Disaster Assistance Program (NAP)

- Buy-up NAP coverage is now part of permanent program authorization.
- Basic coverage has a payment limitation of \$125,000 per person and legal entity, while the payment limitation for buy-up coverage is a separate \$300,000.
- Service fees for applications for coverage have increased, while the premium amounts for buy-up NAP coverage are unchanged.

Farm Loan Programs

- A farmer or rancher may receive both a \$50,000 Farm Ownership Microloan and a \$50,000 Operating Microloan. No longer limited to a combined total of \$50,000 for both microloans.
- The Direct Operating Loan limit increases to \$400,000 and the Guaranteed Operating loan limit increases to \$1,750,000.
- The Direct Farm Ownership Loan 3-year-experience requirement includes more allowable experiences to qualify.
- The Direct Farm Ownership Loan limit increases to \$600,000, and the Guaranteed Farm Ownership loan limit increases to \$1,750,000.
- Equitable relief may be granted on direct farm ownership, operating, or emergency loans to certain farmers or ranchers who failed to comply with the terms of the loan due to an action of, or the advice of, an FSA employee.
- Socially disadvantaged and beginning farmers will receive a guarantee equal to 95 percent, up from 90 percent.
- Allows borrowers who have received a debt write down or restructuring of a farm loan to be eligible for an Emergency Loan.

Disaster Programs

- The Livestock Indemnity Program (LIP), the Emergency Assistance for Livestock, Honeybees, and Farm-Raised Fish program (ELAP), the Livestock Forage Disaster Program (LFP), and the Tree Assistance Program (TAP) remain authorized and have minimal changes.
- “Cold” is now considered a LIP covered eligible loss for unweaned livestock without regard to any management practice, vaccination protocol, or lack of vaccination.
- LIP now covers diseases that are caused or transmitted by a vector and are not controlled by vaccination or an acceptable management practice. These diseases were previously covered under ELAP.
- ELAP payments are no longer subject to payment limitation.
- For beginning or veteran farmers or ranchers, the reimbursement costs for TAP increased from 65 percent to 75 percent for replanting lost trees, bushes, and vines; and from 50 percent to 75 percent for the cost of pruning, removal, and other costs incurred for salvaging existing trees, bushes, and vines.

Other Farm Bill Changes

- The definition of “family member” for farming operation has expanded to include first cousin, niece, and nephew; (great-grandparent or grandparent, parent, child [including legally adopted children and stepchildren] grandchild, great grandchild, sibling of the family members in the farming operation, and spouses of family members). This term is used to identify joint operations that are comprised entirely of family members, which are not subject to the restriction on the number of members that may qualify as actively engaged in farming.

2019 USDA Data Users' Meeting

Breakout Session: 2017 Census of Agriculture

Presenters: Jody McDaniel – National Agricultural Statistics Service (NASS)

Note: The following write-up presents a full transcription of the session. It has been edited for clarity and readability.

Jody McDaniel

Welcome to the last breakout session today. As I mentioned earlier, in the main session, I'm Jody McDaniel, Chief of the Environmental, Economic, and Demographics Branch (EEDB). I have the opportunity to coordinate all of our resources in Statistic Division that focus on the Census of Agriculture. I have staff that are focused on demographics, as well as crops and livestock items. We take the lead on a number of Census projects as well as the Census follow on studies and we do a few other things like ARMS data, which our friends at ERS enjoy as well. I will cover some of the highlights for the Census of Agriculture. Then what I'd like to do is learn more about what data you need from the Census and how you use the Census data and how we can form a better process for the 2022 Census of Agriculture.

If you go to slide number three, it gives you a little history on the Census of Ag. The Census of Ag has been occurring since 1840, about 175 years later, they just finished the 29th census. It's done every fifth year to coincide with the Economic Census. We're starting to plan for the 2022 Census of Agriculture. The Census came over to NASS in 1997 until then it's was with the Department of Commerce at the Census Bureau. This is the fifth full census for NASS.

The Census is an amazing data product that looks across farm structure, it looks across the demographic profiling of agriculture, it picks up some of the production items for smaller commodities that you don't typically see in our annual program, as well as some economic indicators to supplement what ERS does on a regular basis.

If you go to slide four, it's going to show you our data collection efforts for the 2017 Census of Ag. The U.S. had a response rate of roughly 71.8% that was a reduction of approximately 3% from 2012. One of our large investments in 2017 was for an adaptive design web data collection instrument. If you look at the right hand side, you'll see return rates by mode, it's predominantly a mail return survey but we did see a 10% increase up to about 24% for the internet response. Illinois lead the pack as far as response rate.

A few things to keep in mind as we talk about the Census of Ag. In 1974, there was a statute put in place that a farm is defined as any place that has \$1,000 or more of agricultural products produced or sold, or normally would have been sold during the Census year. Keep in mind on nominal dollars a \$1,000 was considerably more in 1974.

If you go to slide six, we're going to take a look at the number of farms, and land in farms over a 20 year span from 1997 to 2017. It's been fairly consistent and stable. We started out at 2.22

million farms in 1997 and over the course of the last 20 years, we are roughly at 2.04 million farms in 2017. If you look at the percent change over time, it's roughly a 3% change over the last five year period. Also notice that land in farms decreased by about 14 million acres. Consistency held in the average farm size, we were at 434 acres in 2012, we're holding at 441 acres for the 2017 Census of Ag.

Now we look at number of farms, I don't think it would be a surprise to anyone that when you look from the Mississippi River straight up and down, go a state over each direction you're going to find the density of farms are much higher. Our leading state is Texas with 248,000 farms, virtually unchanged from five years ago. Followed by Missouri, Iowa, Oklahoma, Ohio, Kentucky, Illinois, California, Tennessee and Minnesota. One thing to note here is that California and Minnesota had sizable declines from 2012 to 2017.

Looking forward to slide number eight, the choropleth map on your highlights the strength of the Census of Agriculture and that is the comprehensive county level data. You can see the density of the amount of land encompassed by farms. Again running straight down the middle parts of the country. There's a total of 900 million acres, of that about 401 million acres were permanent pasture, followed by about 396 million acres of cropland of which about 320 million acres were harvested. Woodland and other uses made up another 103 million.

On slide nine, you'll see the dispersion of that land use. If you look in the west and southwest, you'll see the majority of the permanent pasture. The cropland is going to be in the corn belt. Woodland, if you get it close and look, you can see some in the southeast. Any land that is used on an animal unit basis is not going to be reflected in this map. This is only going to be permanent pasture, cropland, woodland, and any other commodities, or any other land uses.

Now let's get into farms by size categories, which really speaks to what you're seeing as far as agriculture. If you look to the far left of slide 10, what you'll see is farms with one to nine acres have seen an increase of roughly 50,000 farms from 2012 to 2017. You're seeing a lot more small farms come in. You're also seeing an increase in those farms with 2,000 or more acres.

Slide 11 highlights those farms with over 2,000 acres, they encompass 520 million of the acres involved in agriculture. Although they're a small subsection, they take up a considerable amount of the land. In fact the 2,000 plus acre category takes up about 58% of all the land in farms.

If we jump to slide 13, what we're going to do is look at sales categories. We see that almost 800,000 farms have sales of less than \$2,000 dollars, as you move across, you're going to see some collapsing in the center and as you get to the far right side, we actually saw 1,000 more farms with over \$5 million in sales in 2017 compared to 2012. There were some crop price changes that happened from 2012 to 2017. Those sales class changes could have occurred based off the price as well as just in general.

On slide 14, you're going to find that those 9,000 farms with over \$5 million in sales are accounting for \$135 billion dollars of the agricultural production and the 792,000 farms with less than \$2,500 in sales account for \$0.4 billion.

Slide 16 will highlight the ag production by location. California leads the country in total value of agricultural production. In seven of the top 10 largest counties, the highest value of production was from fruits, tree nuts and berries. The three exceptions are Merced County, California where it's dairy, in Bell County, Colorado, it was cattle and in Monterey, California it was vegetables.

The most notable thing off of slide 17 is in 2012, we saw a blip where livestock represented a smaller proportion of the total value of production as compared to crops. In 2017 about half of ag production came from livestock and half from crops. It's the most comparable back to 1997, that's the last time it was a 50/50 split. For all census years since 1982 with the exception of 2012 livestock value of sales has always exceeded crop sales, so 2012 was a bit of an anomaly.

Slide 18 we're going to take a look at what made up those different categories of value of crop production. Grains and oil seeds lead the way followed by fruits, tree nuts and berries, vegetables, nursery greenhouse, horticulture and sod, other crops and hay, cotton, tobacco and then Christmas trees and woody crops. Iowa led with 13% of the total U.S. production for grains and oil seeds. California led fruit, tree nuts and berries with 69% of the total value of production for the United States.

If you move forward a slide, you'll find the same breakouts for livestock items. Texas takes first place for cattle and calves, they account for about 16% of the \$77.2 billion in total value production. Poultry and eggs comes in second, Georgia took the lead with about 11%, milk production was led out of California with 18% of the \$36.7 billion. Iowa came in as the leader of hogs and pigs, out of the \$26.3 billion, Iowa accounted for 30%. Followed up the rest way down with aquaculture, horses and ponies, other animals and animal products, and then the final would be sheep, goats, wool and mohair.

Slide 20 shows the value of production by top 10 commodities. The chart shows the change from 2012 to 2017. The largest change came from feed grains. Corn showed a major reduction in the value of sales, it decreased by \$16 billion. Overall there wasn't a large decrease from 2012 to 2017 but as you'll note here, wheat, corn and other commodities were the driving force to bring things down.

The other side of that picture is production expenses. We saw an increase in the labor expense item but we saw a reduction in feed which is directly related to the price change between 2012 and 2017. We also saw a slight reduction in fertilizer as well as fuels.

The next slide is the farm income statement based on the 2012 and 2017 Census of Ag. If you go down to the bottom line, the per farm average net income held fairly consistent around a 2% change, \$43,750 in 2012 as compared to \$43,053 in 2017.

We're going to transition over to the farmers with internet access. We saw an increase up to 75% of producers that reported having internet access. We saw a sharp increase in mobile technology and an increase, almost doubling, in the fiber optic category. DSL showed a decrease, as well as dial-up.

Now we're going to talk about the demographics. One of the main items out of the Census of Agriculture is the measurement of the average age of producers. In 2012, the average age of all producers was roughly 56 years old. It came in around 57.5 for 2017. We're seeing about a one to one and a half year increase every five years in the age of a producer. So the producer community is aging over time.

For this census, as you'll see on slide 26, we've actually transitioned, we've always collected age, what we hadn't done is do a specific series of publications around young producers. As defined for the Census of Agriculture, a young producer is any producer age 35 or younger. There were about 321,000 farms that had a young producer, the average age of those young producers was just under 30 years old. Farms that can support a younger producer are a little larger than the average farm. They came in with an average TVP of around \$273,000 as compared to about \$190,000 for all farms.

We also have a new series of tables on new and beginning producers. A new or beginning producer is anyone who has operated any farm for 10 years or less. We picked up about 900,000 new and beginning producers, those folks were on just under 600,000 farms. Their average farm size was about 120 acres smaller than the overall average farm size or about 324 acres. Those farms with new and beginning producers, they did have an average TVP about \$45,000 less than all other farms combined.

When we finished the 2012 Census of Agriculture, we asked folks to give us feedback on any problems or questions they have with the data. One of the items identified was people didn't feel that all producers that were engaged in agriculture were represented in the Census findings in 2012. There was a series of panels with producers, people from the academic community, as well as people from across the Department of Agriculture to look at ways to make sure that we capture all producers involved.

If you go to the top right hand side of slide, we added a fourth producer column. Out of that fourth producer column we saw an increase of about 7% in all producers. We also found a substantial increase in the involvement of female producers, about a 26% increase in the total number of female producers reported in 2017 as compared to 2012. As you look at the bar chart, the number of farms only showing one producer decreased whereas those farms with two producers showed an increase.

Next we have another choropleth showing producers by sex at the county level on the left. About 1.23 million female producers were involved in agriculture, about 2.2 million males. The average age held right around 57 to 58 for both males and females. We did find that the average TVP for those operations with a female producer was lower than the average for all

farms, it came at about \$129,000 as compared to the farm for the male producer which came in around \$204,000.

The next slide I've got is producer decision making. We've got this split by sex and age. It was another opportunity to get a better understanding of how people were involved in agriculture. We had a series of decision making questions and what we found is females are actively involved in the record keeping and the financial management of operations. They're also actively involved in the day to day decisions and they had the same level of engagement in estate planning as their male counterparts. If you go to the right hand side, we've split it out by three age groups, under 35, that's what we consider to be young producers, 35 to 64 years of age and then over 65. Estate planning is predominantly a lead for the age 65 and older. We did find that young producers had a large proportion of people involved in the livestock part of the operation.

The next slide is producers with military service. That was another item added to the 2017 Census of Agriculture. One of the interesting findings was that the number of farms with military service came in around 355,000. The average age for those producers is closer to 68 years old, so roughly a decade older than the average for all producers. Roughly 11% of all producers had some type of military service.

Some final key points, farm numbers and land and farms both have ongoing small percentage declines. There continued to be more of the largest and smallest operations. Fewer farms account for the majority of the ag products sold. We did have the new questions, which show that multiple people frequently have decision making roles on the farm. The average age of farmers and ranchers continues to rise and there's an increase in internet access, especially when you look at mobile or fiber optic. We will have a lot more data products coming from the Census as we move through the year.

Attendee: I do have question, is the data you put here in the database?

NASS: Yes, it's in Quick Stats. We also have the Census Data Query Tool. If you go to our website, and you click on the 2017 Census of Ag, when you pull up the tables, you're going to have the option to open the PDF or to go into the Census Data Query Tool. The Census Data Query Tool lets you drill down to a specific state or county for any one of the given tables. It's the same data that's in Quick Stats just a little friendlier to use.

Attendee: The other question that goes along with that. Does that only cover from 1997 forward, what about the link to the older data that's housed at the Census Bureau to make it a long seamless data series?

NASS: We have historical data out there in PDF form. Migrating that into an electronic format that can be queried would be a monstrous undertaking. We are

publishing 6.4 million unique data items from this release and we will publish several million more as we go through the summer.

Attendee: If I go out in the hall and ask Dan and Lance what harvested acreage was in 2017 for corn, wheat, and soybeans, I know the answer they're going to give. If I ask you and Joe, what harvested acreage was in 2017 for wheat, corn and soybeans, you're going to tell me that wheat was 1.2 million higher, corn was 2 million higher, and soybeans were 0.6 million higher. Are these irreconcilable differences? Or will you go back and revise history? Or will we just live with two realities in our world?

NASS: The advantage of being a statistician is that there's a level of precision around any point estimate. What you're highlighting is that the point estimate from the Census of Agriculture is not the exact same as the point estimate off of our annual program. But if you look at the level of precision around both of them, they're statistically the same number.

Attendee: Two million acres in corn is about \$0.20 cents a bushel, it's a big difference in our world.

Attendee: Are you talking about silage harvest or are you talking about grain harvest?

Attendee: Harvested for grain.

NASS: I would recommend for corn production that you use our annual program. If you want to know about corn in some of the counties we can't publish on an annual basis then absolutely the Census is going to give you more information. My recommendation is that for items that are in our annual program every year, that's where I would look. You're going to have consistency year in and year out when you look at the data. Statistically, there's no difference, realistically, 2 million acres is a lot of acres. We have already gone through a reconciliation process that's what the five year review process is all about. We published all of those revisions. Based on what we learned from the Census if we thought any adjustments needed to be made to what we previously estimated for 2017, we made them. That's our way of saying we think those estimates are still good.

NASS: One thing to remember about the Census is that most of these numbers in the Census for which there is a number in our annual estimates program are in pretty high agreement, not perfect agreement and we didn't try to force them into perfect agreement. We looked at both of them and are certainly aware of the difference.

The power of the Census of Agriculture is the ability to drill down to the county level, not just for an item but also across size and type, etc. The power from the

Census is that ability to look across cuts. We've already estimated the number of acres of corn and wheat, they are not going to match up perfectly to the Census.

Attendee: Is it fair to say that if I was doing my statistical analysis, I would use the annual program, but if I was going to build an elevator in Stephenson County, Illinois, I might look at the Census because this gives me a pretty good idea of how many acres are there.

NASS: Moreover, it would tell me something about counts of operations of the folks that have corn between this amount and that amount in the distribution that I wouldn't otherwise have and that's where I really have power. If I just wanted the total acres of corn in Illinois or the total number of bushels, use the annual estimates program which has long been published, but if I want to look at the distributional stuff and understand some things, that's when I am going to go to the Census. Like any picture when you get down to the pixels there may be a little bit of a blur but the picture itself looks pretty good.

Attendee: Primary focus, at least in Illinois, is consolidation rates and farm structure. Yet every five years in the Census, the cap seems to be awfully low. Two thousand acres and up for farm size and on sales, \$1,000,000 and up. What can you tell me about the agency's reasoning on that given that the primary focus of Farm Associations is wanting to know above those levels what's the structure, what's the consolidation?

NASS: Following the 2012 Census of Agriculture, we started adding size groups above the \$500,000 and above, we've gone all the way up to the \$5 million and above now. I think that is what you're looking for, \$5 million is the high point as compared to \$500,000 previously, so you do get some of those additional breaks. What you're seeing is that consolidation into the top sales category, and I would assume here in Illinois, this is purely subjective, I don't have the data in front of me, that's what you would find.

Attendee: Maybe because it's such a pure grain state, acreage size is probably the single biggest thing. We would love to see 3,000 or 5,000 acre categories.

NASS: When we are thinking about the table we are going to create, we can do special tabulations, but when you start slicing the data and you want to know about what kind of crops are those with 2,000 or more acres, if you move it up 3,000 or 4,000 then all of sudden you start getting (D)'s all over the place.

NASS: When you start changing the tables, you can't compare to previous.

NASS: When you change a table, adding a category, for instance, going from \$500,000 to \$1 million to \$2.5 million to \$5 million, you didn't disintegrate the granularity below it.

The other thing I grew up in Illinois, so I get it. Around Champaign County, you can hop in the combine, you can hop in the tractor, and you can drive for days and basically barely cross the road until you get a section. You go to Pennsylvania, a large farm has about 2,500 acres, and they're moving around about 100 different fields to get that. It's all perspective on where you are. The Census does give you that county level data but it also needs to be reflective of all American agriculture, not just one individual state.

Attendee: We want those numbers. Would we better off coming back with a request?

NASS: Yes. We do special tabulations, there is a spot on the website where you can request that data.

Attendee: Thank you.

Attendee: I appreciate the info on the granularity too. I have a question on slide 9 about the 320 million acres of harvested cropland. USDA does a great job in the June report of telling us about non-GMO acres. Maybe this is more for the 2022 Census but a lot of the corporations out there are using their own definition of sustainable and they are putting in big acre numbers, 2 million, 3 million acres. Has any thought been given to putting that into the 2022 or 2027 Census? A lot of the fortune 500 companies goals have stated X number and if you go through a few of those companies you find that's a lot of acres.

NASS: The upside is what we released is statistically defensible. Now the other part of that is we do have an Organic Census follow-on and we also have a Local Food Marketing Practices survey. So we have supplemental data items that are rolling out over the next five years that speak to sustainable agriculture. But you're right the definitions vary.

Attendee: Yes, that's what I mean. If NASS would put out a definition, that might help. You add up all of these numbers and it comes up to a couple of million acres, that's a category in itself.

NASS: We could look at doing a definition for sustainable agriculture in relation to the Census of Agriculture but as far as a policy driven definition of sustainable agriculture that's outside the spectrum of what NASS does.

Attendee: On slide 22, there's a line item for other, it's a 6.9% increase, it's the biggest. Can you elucidate what other means?

NASS: The best thing I can offer is if you want to reach out to my staff, they're going to give you that different level of granularity.

NASS: The question about the 2,000 acres and the cuts from earlier. There is a concentration of market value by ag production from the Census, at the national

level it's Table 41 and there is a corresponding table for states. Rather than going at a major cut it will say how many farms you need to get to 10% of the value of sales, etc.

NASS: If it's not a special tabulation, if it's something that's already published in the Census, I'm more than happy if you all reach out, I'll partner you with my staff that have the specific knowledge. I'm fortunate I have one person who is the walking encyclopedia of the Census of Ag.

Attendee: We are very lucky, we have Mark Schleusener in our state office, he is wonderful.

Attendee: I'm kind of amazed, the number of farms with 2,000 acres or more, there are 85,000 and they operate 520 million acres, that's an average of 6,000 acres each?

NASS: Keep in mind that is inclusive of livestock and crop operations.



2017 Census of Agriculture Data Release

April 11, 2019

Citation Request

The data and images in this presentation may be quoted, excerpted, or reproduced using the following citation when space allows:

USDA National Agricultural Statistics Service, *2017 Census of Agriculture*. Complete data available at www.nass.usda.gov/AgCensus.

If space is limited, use:

USDA NASS, 2017 Census of Agriculture.

Agenda

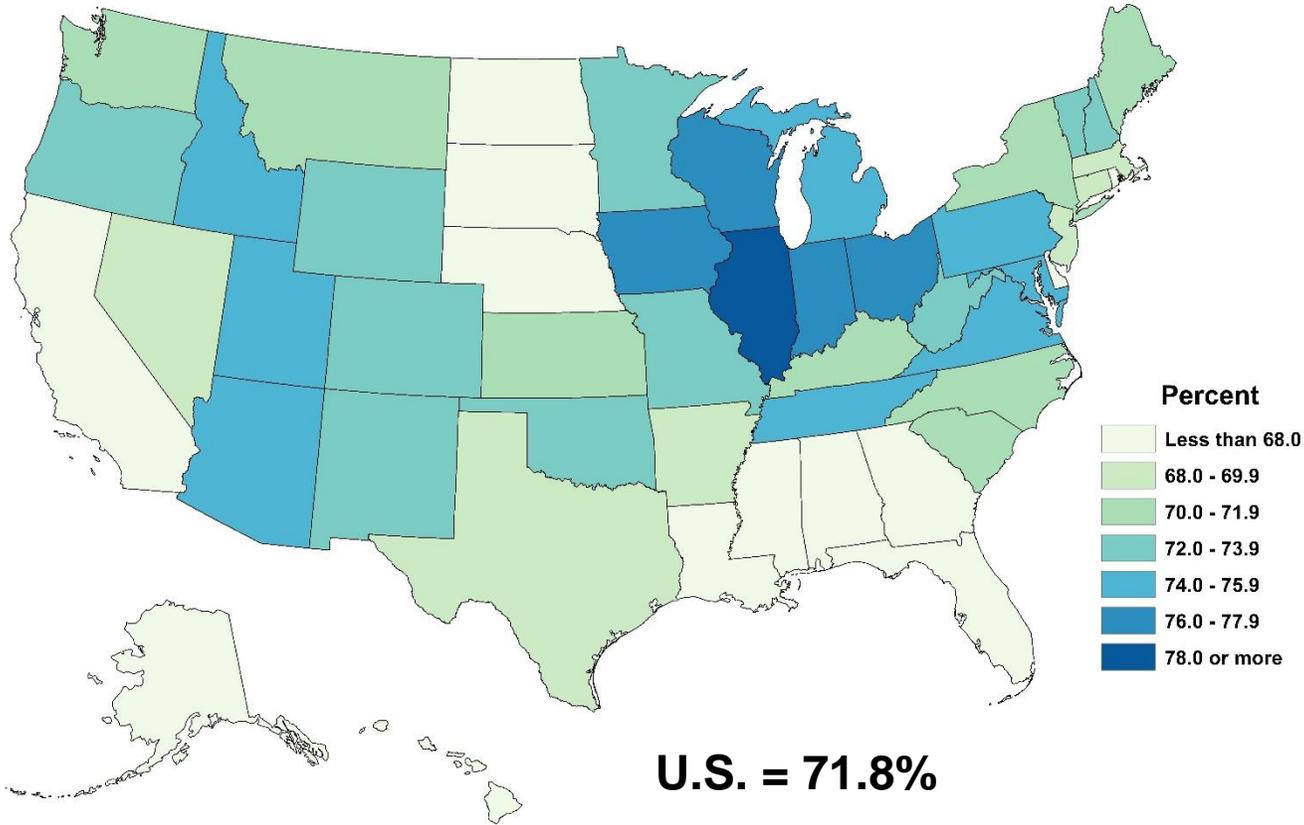
- Census Data Collection
- Farms and Ranches
- Economics
- Demographics
- Future Census Products

History of the Census of Agriculture

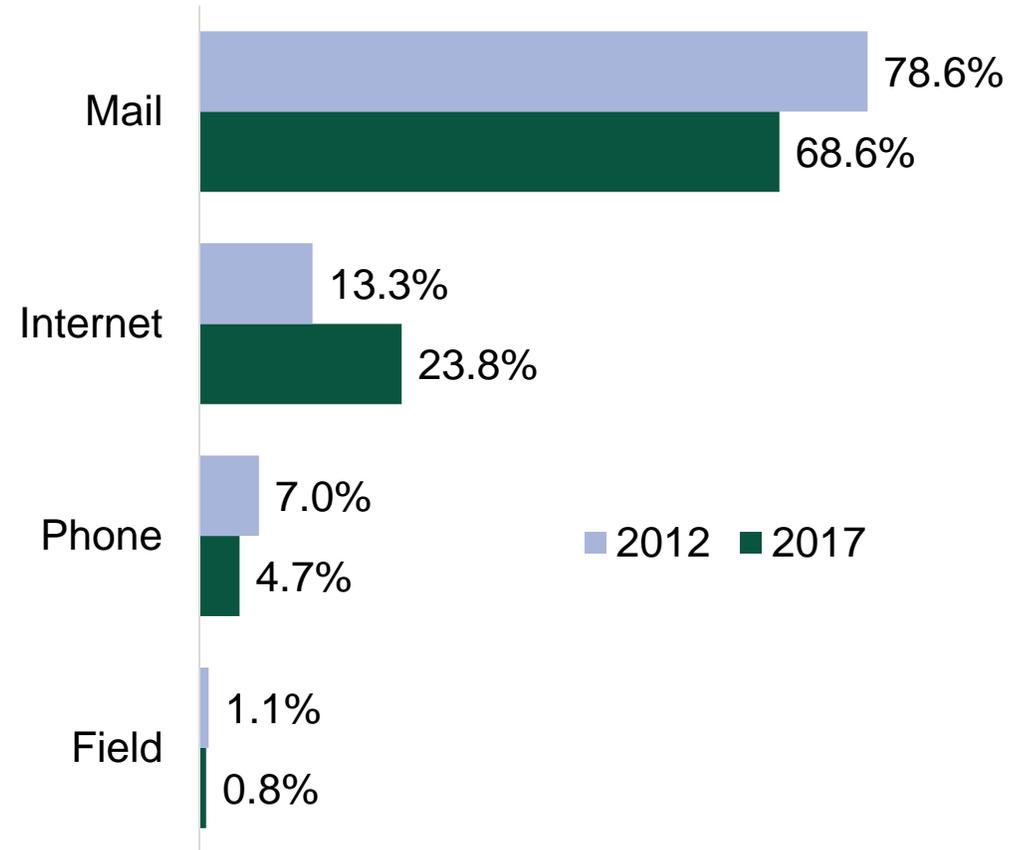
- The first Census of Agriculture was conducted in 1840 in 26 states and the District of Columbia
- 175 years later:
 - The 2017 Census of Agriculture is the 29th in the series, and the 5th conducted by NASS
 - In 1997 the Census was transferred from the Census Bureau to NASS
 - The Census encompasses 50 states, Puerto Rico, and outlying areas
- Data are available for:
 - National, state, and county levels
 - Congressional districts, watersheds, and zip codes

Census Data Collection

Response Rate by State, 2017



Return Rate by Mode, 2012 and 2017 (percent of returns)



Farms and Land in Farms

Since 1974, the Census of Agriculture has defined a farm as

“any place from which \$1,000 or more of agricultural products were produced and sold, or normally would have been sold, during the census year.”

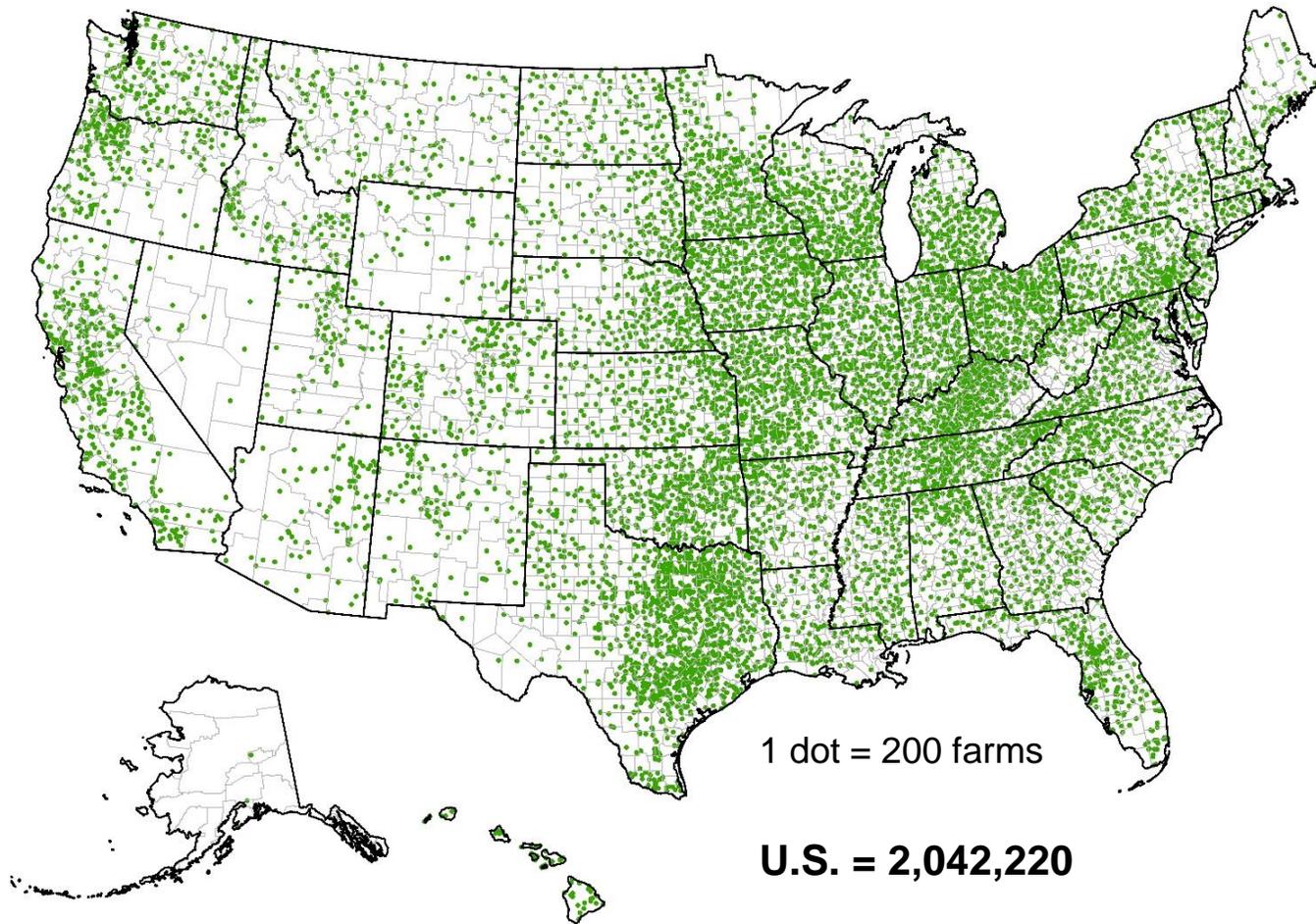
Number of Farms and Land in Farms, 1997-2017



	2012	2017	% change
Number of farms			
	2,109,303	2,042,220	-3.2
Land in farms (acres)			
	914,527,657	900,217,576	-1.6
Average farm size (acres)			
	434	441	+1.6

Number of Farms, 2017

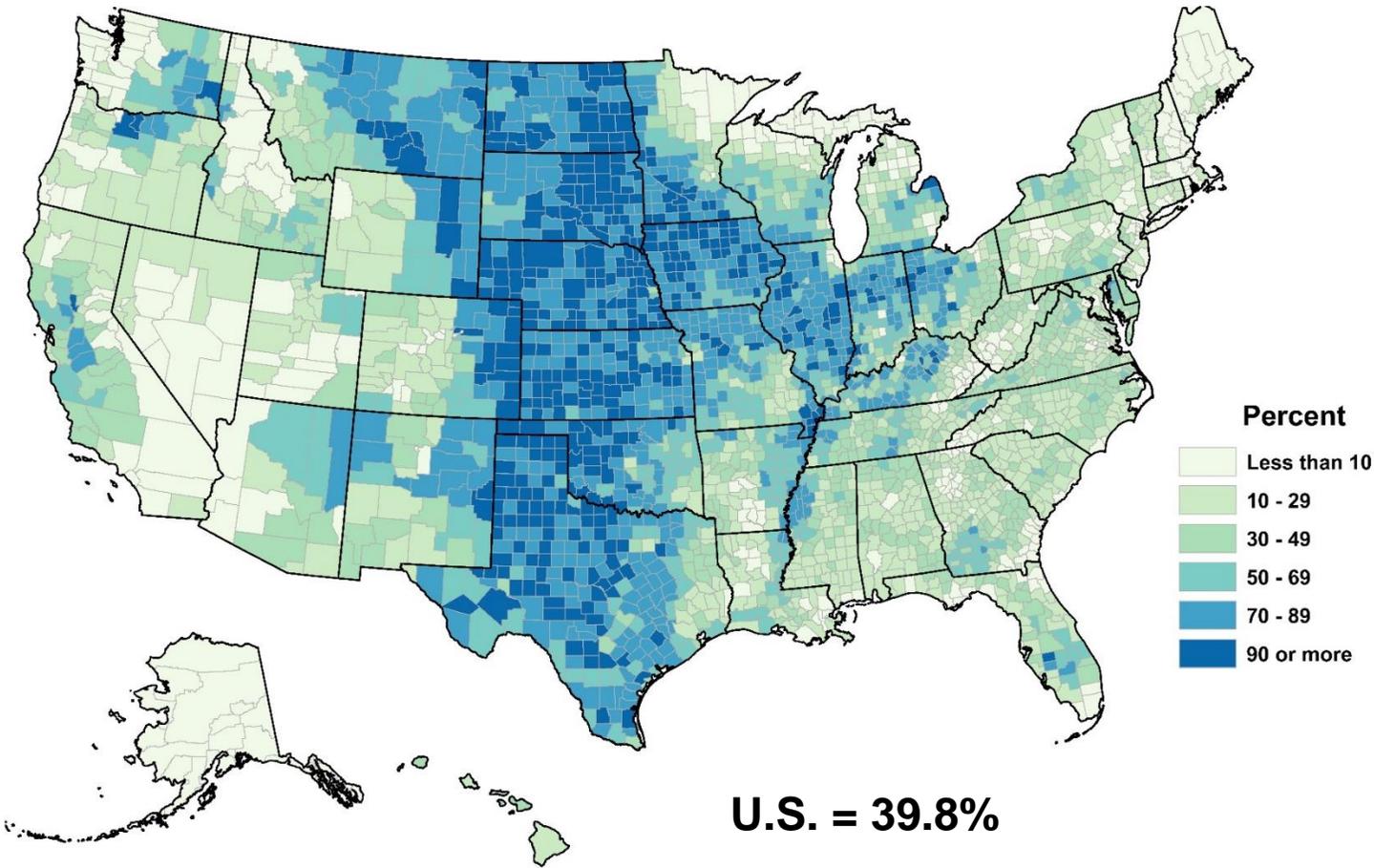
By County



Top 10 States	2017
Texas	248,416
Missouri	95,320
Iowa	86,104
Oklahoma	78,531
Ohio	77,805
Kentucky	75,966
Illinois	72,651
California	70,521
Tennessee	69,983
Minnesota	68,822

Land in Farms, 2017

As a Percent of Total, by County

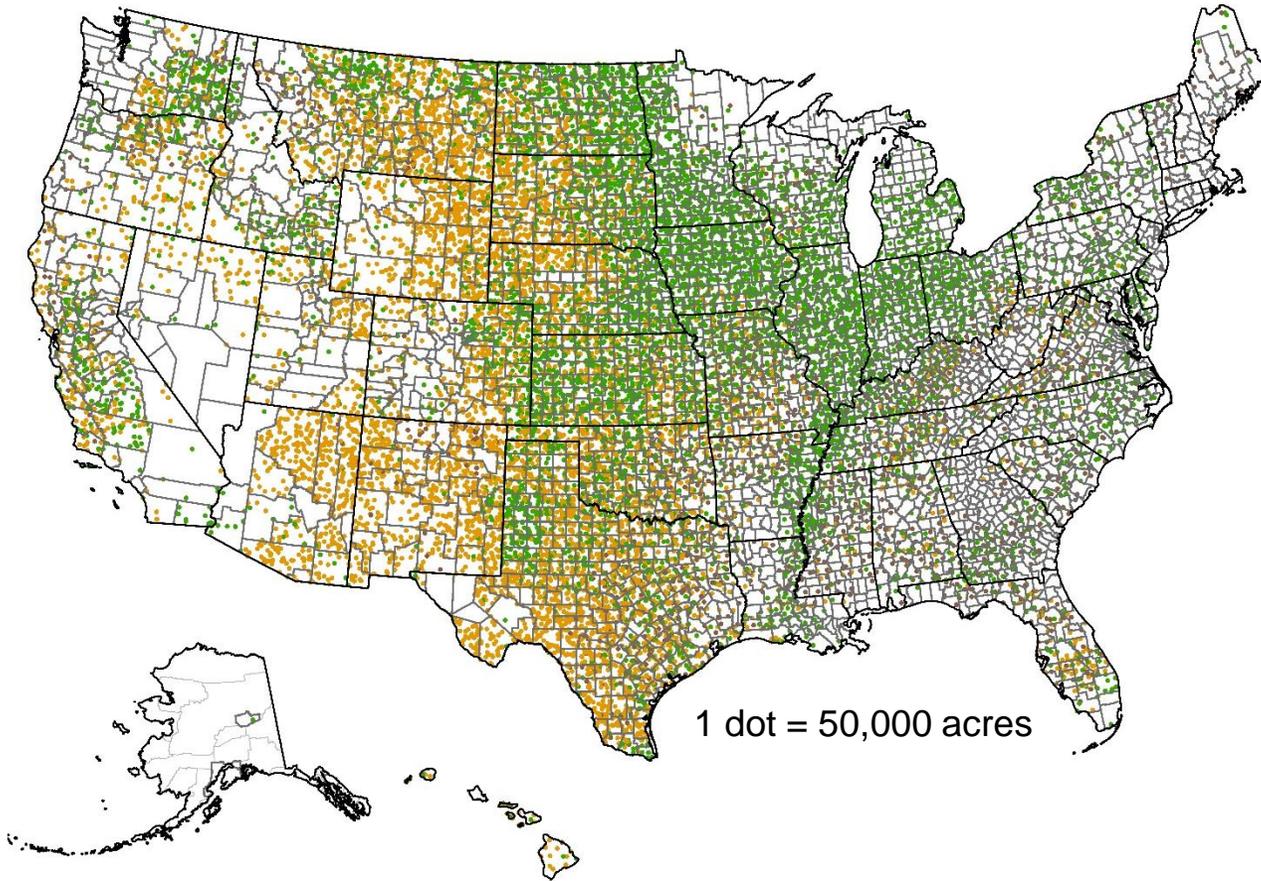


Type of Use	Acres (<i>millions</i>)
Total	900
Permanent Pasture	401
Cropland	396
<i>Harvested Cropland</i>	320
Woodland	73
Other*	30

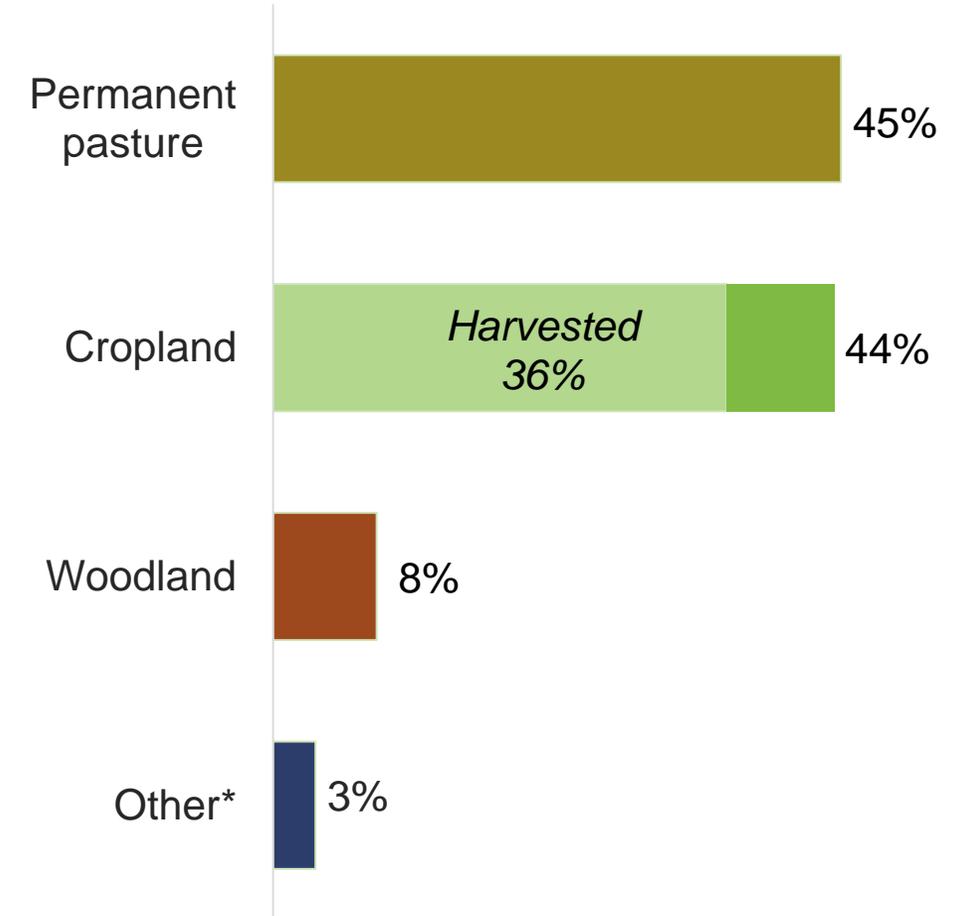
* Statistically significant difference from 2012

Land in Farms, 2017

Agricultural Land Use by Location

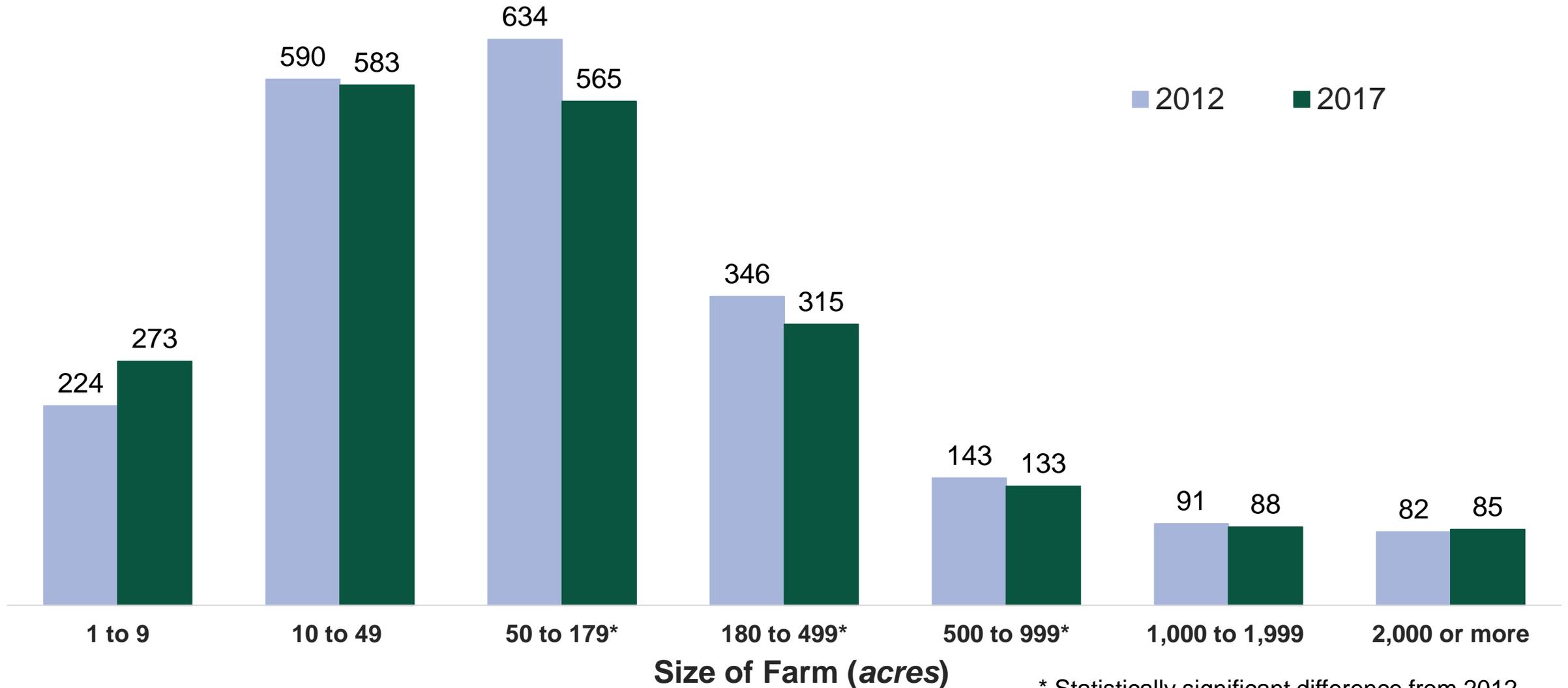


Land Use as Percent of Land in Farms



* Statistically significant difference from 2012

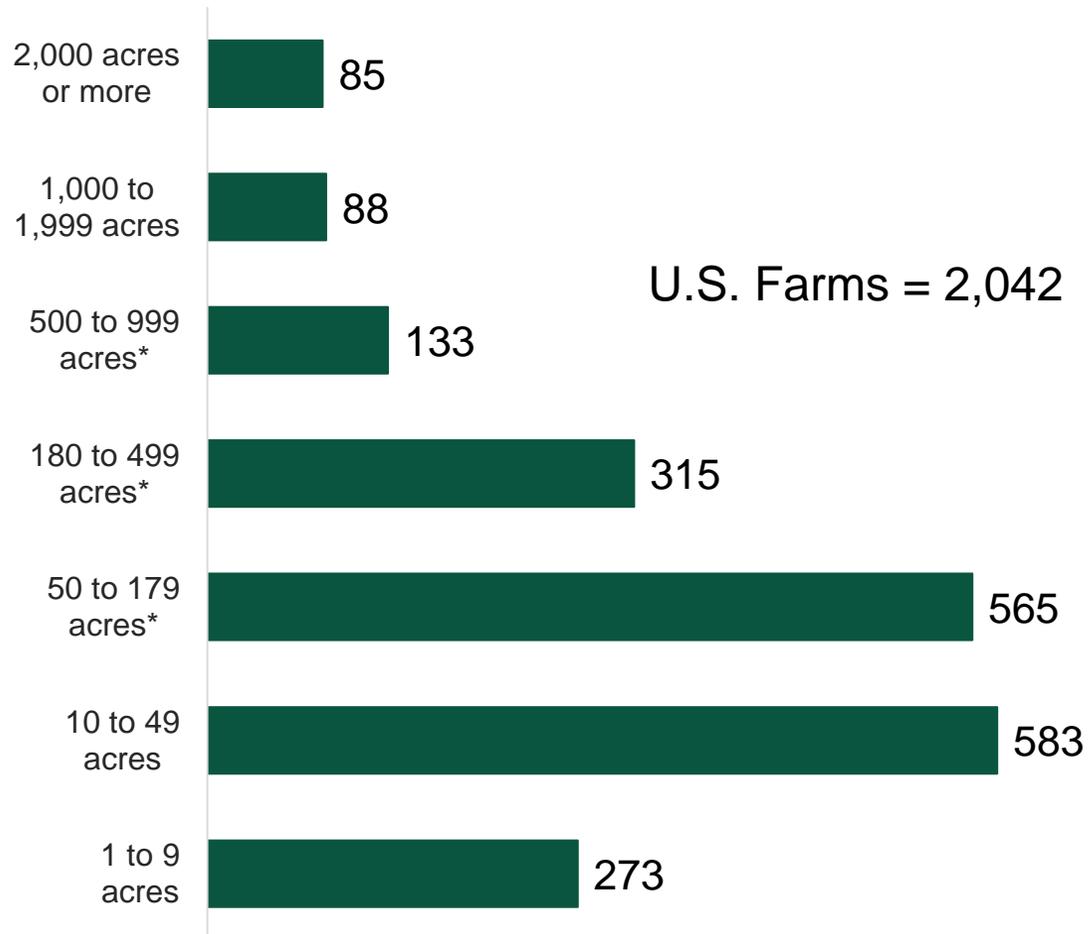
Number of Farms, by Size Category, 2012 and 2017 (*thousands*)



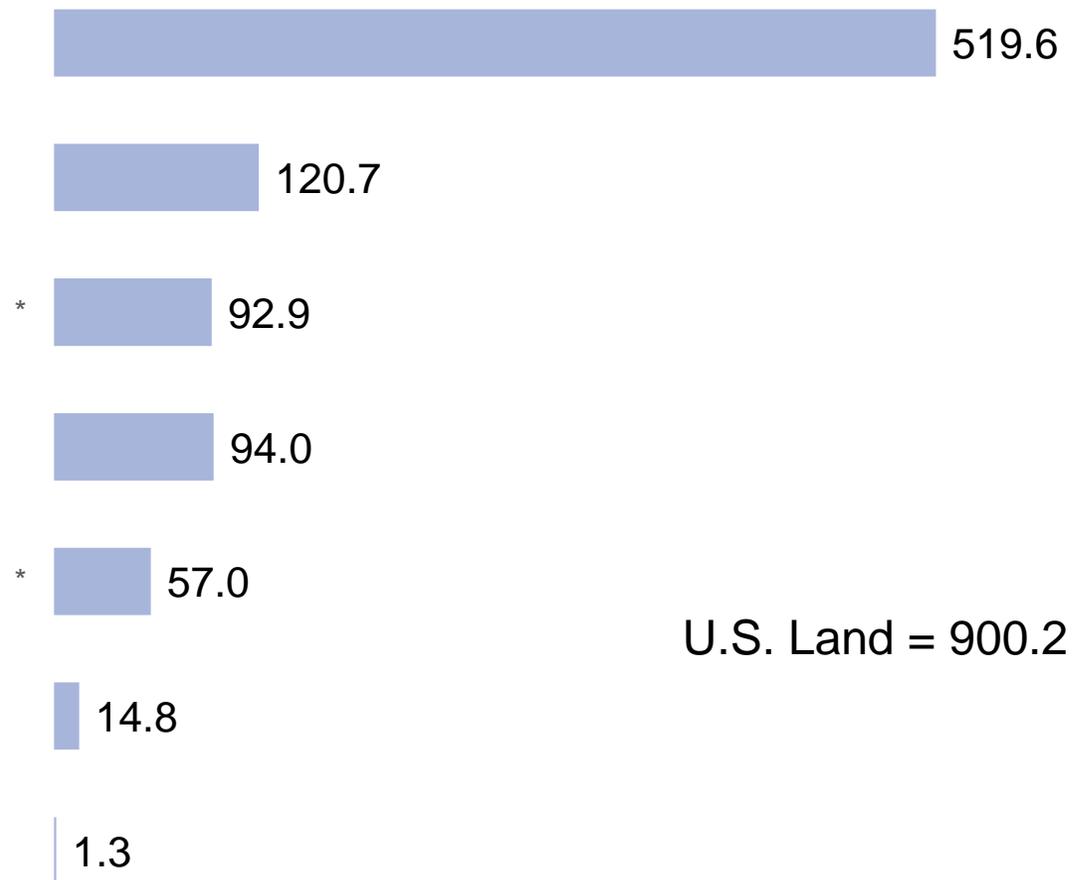
* Statistically significant difference from 2012

Number of Farms and Land in Farms, by Size Category, 2017

Number of Farms (*thousands*)



Land in Farms (*million acres*)



* Statistically significant difference from 2012

Economics

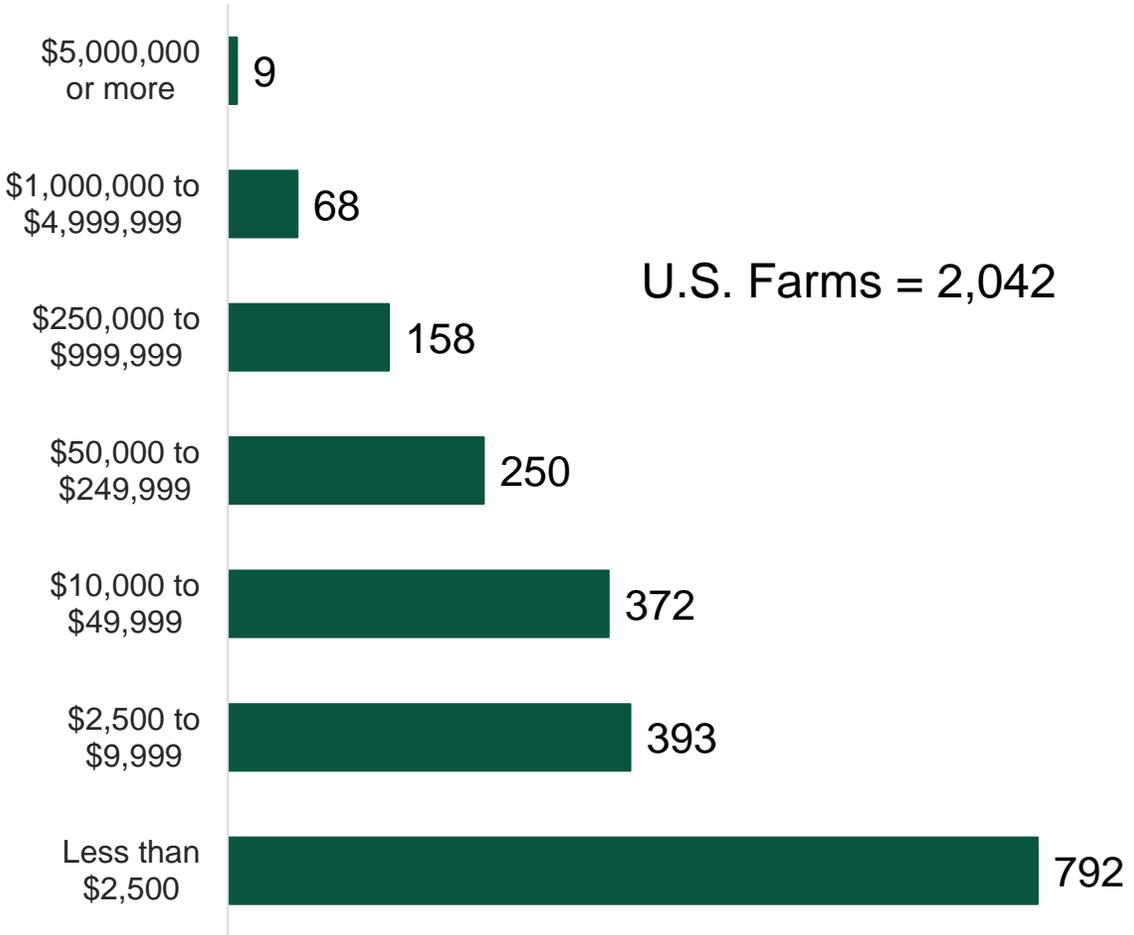
- Total Value of Agricultural Production
- Crop and Livestock Sales
- Farm Income

Number of Farms, by Sales Category, 2012 and 2017 (thousands)

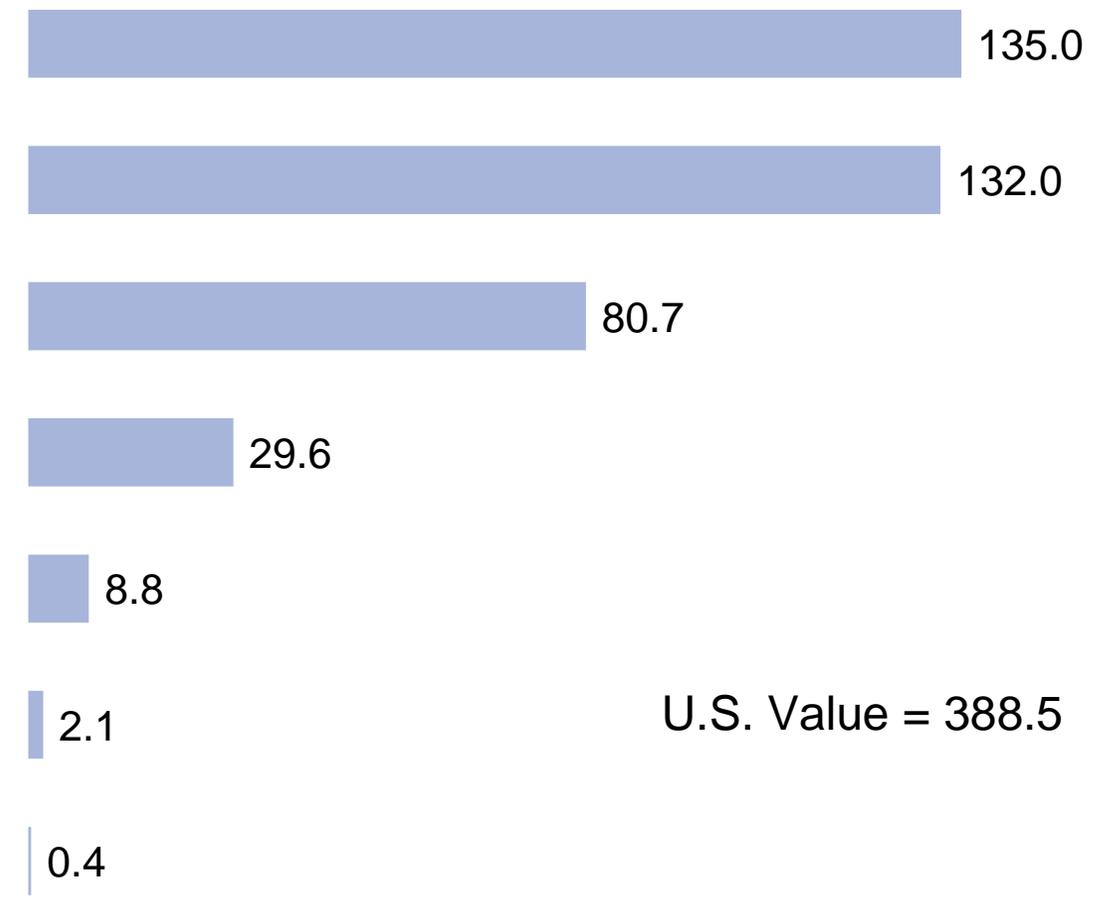


Farms and Value of Production, by Sales Category, 2017

Number of Farms (*thousands*)

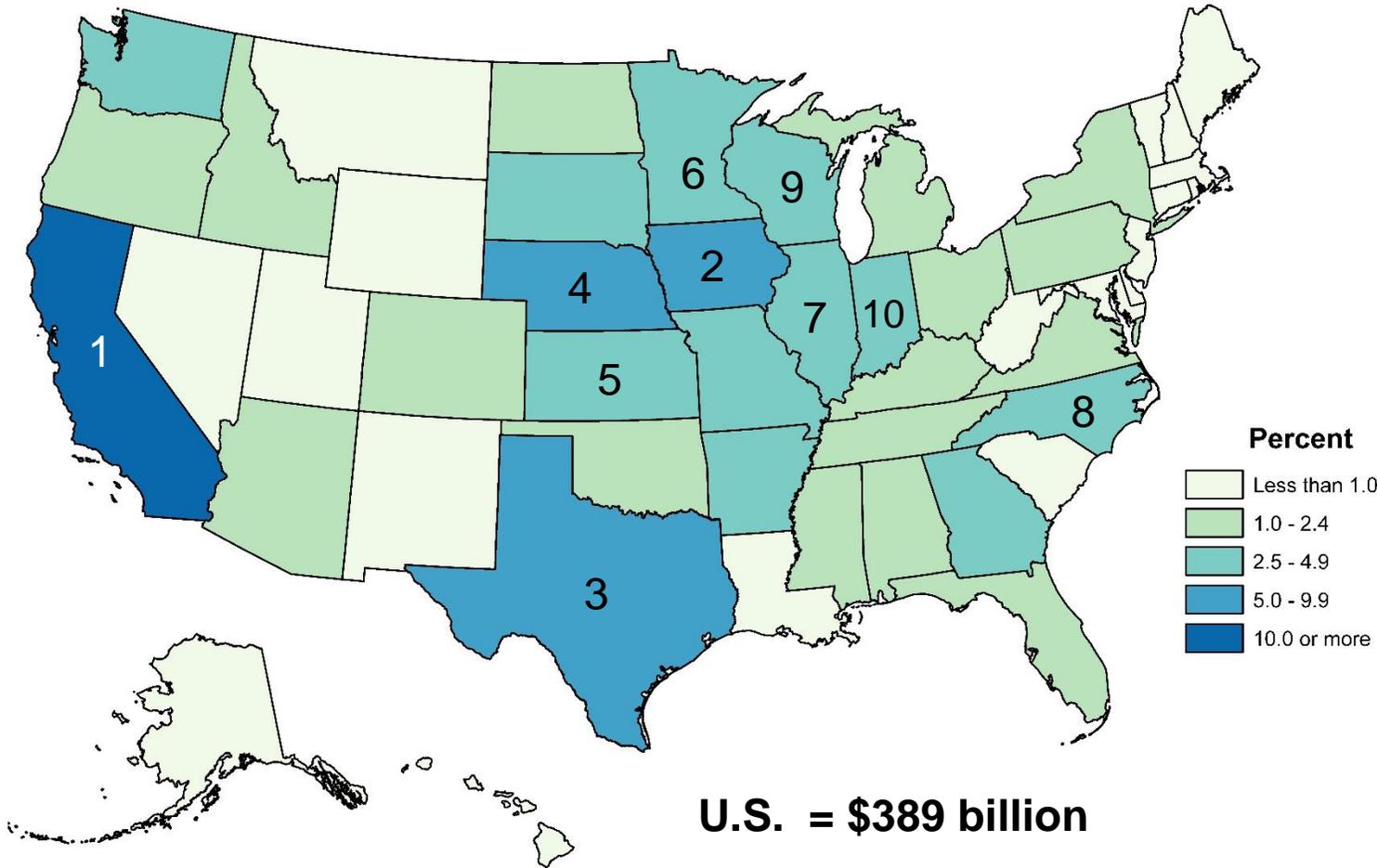


Value of Production (*\$ billions*)



Total Value of Agricultural Production by Location, 2017

TVP by State as Percent of U.S. Total

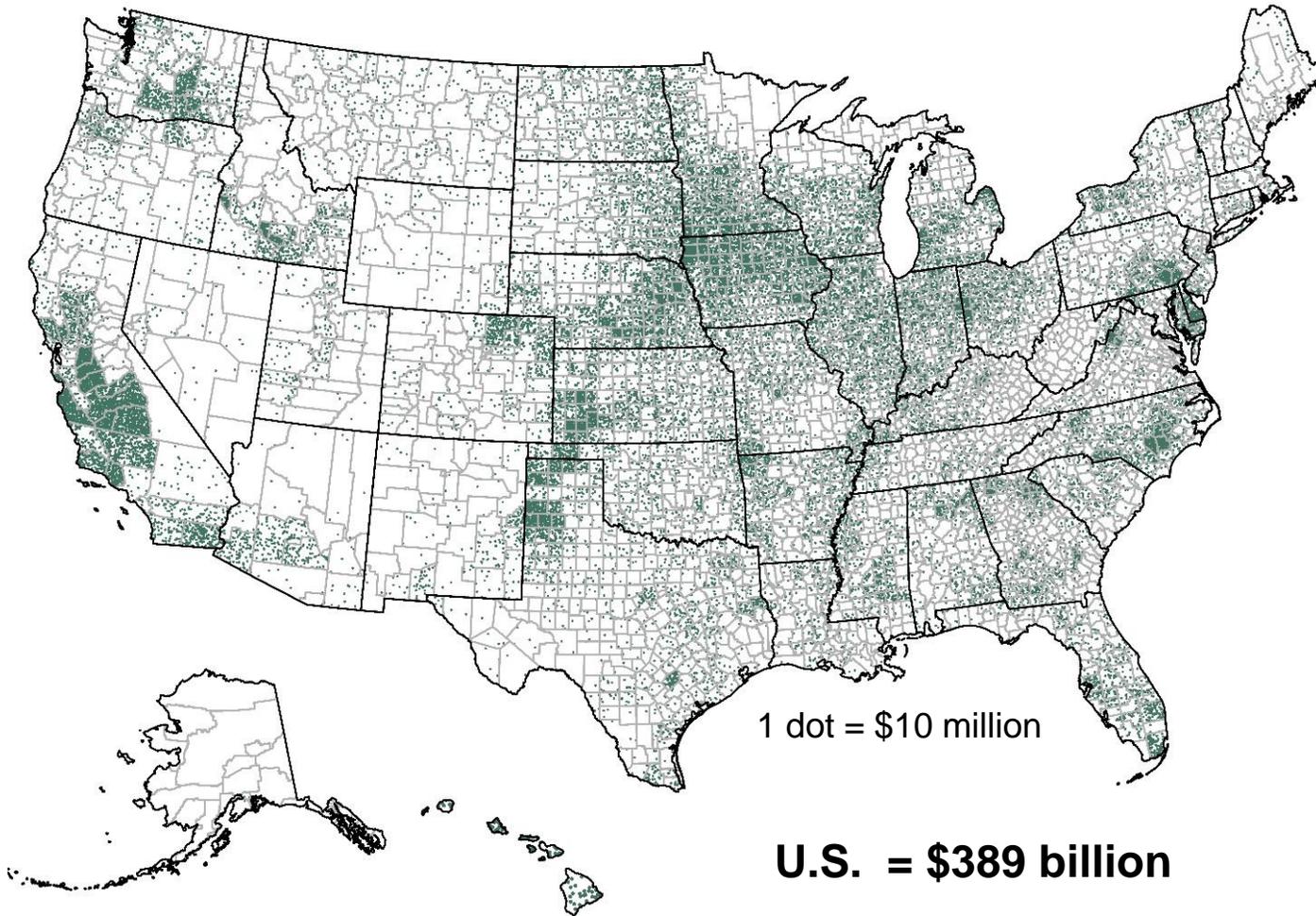


Top 10 States	TVP (\$ billions)
California	45.2
Iowa*	29.0
Texas	24.9
Nebraska	22.0
Kansas	18.8
Minnesota*	18.4
Illinois	17.0
North Carolina	12.9
Wisconsin	11.4
Indiana	11.1

* Statistically significant difference from 2012

Total Value of Agricultural Production by Location, 2017

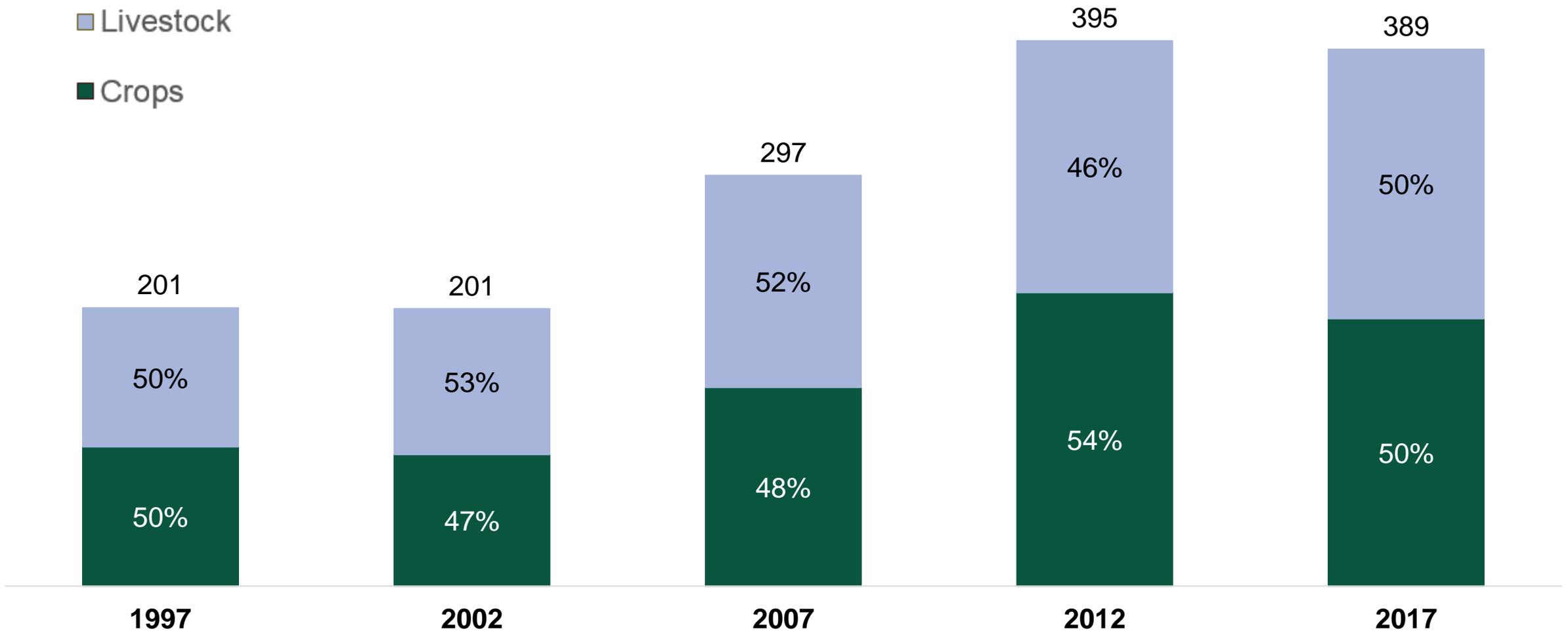
TVP by County



Top 10 Counties	TVP (\$ billions)
Fresno, CA	5.7
Tulare, CA	4.5
Monterey, CA*	4.1
Kern, CA	4.1
Merced, CA	2.9
Stanislaus, CA	2.5
San Joaquin, CA	2.2
Weld, CO	2.0
Yakima, WA	2.0
Grant, WA	1.9

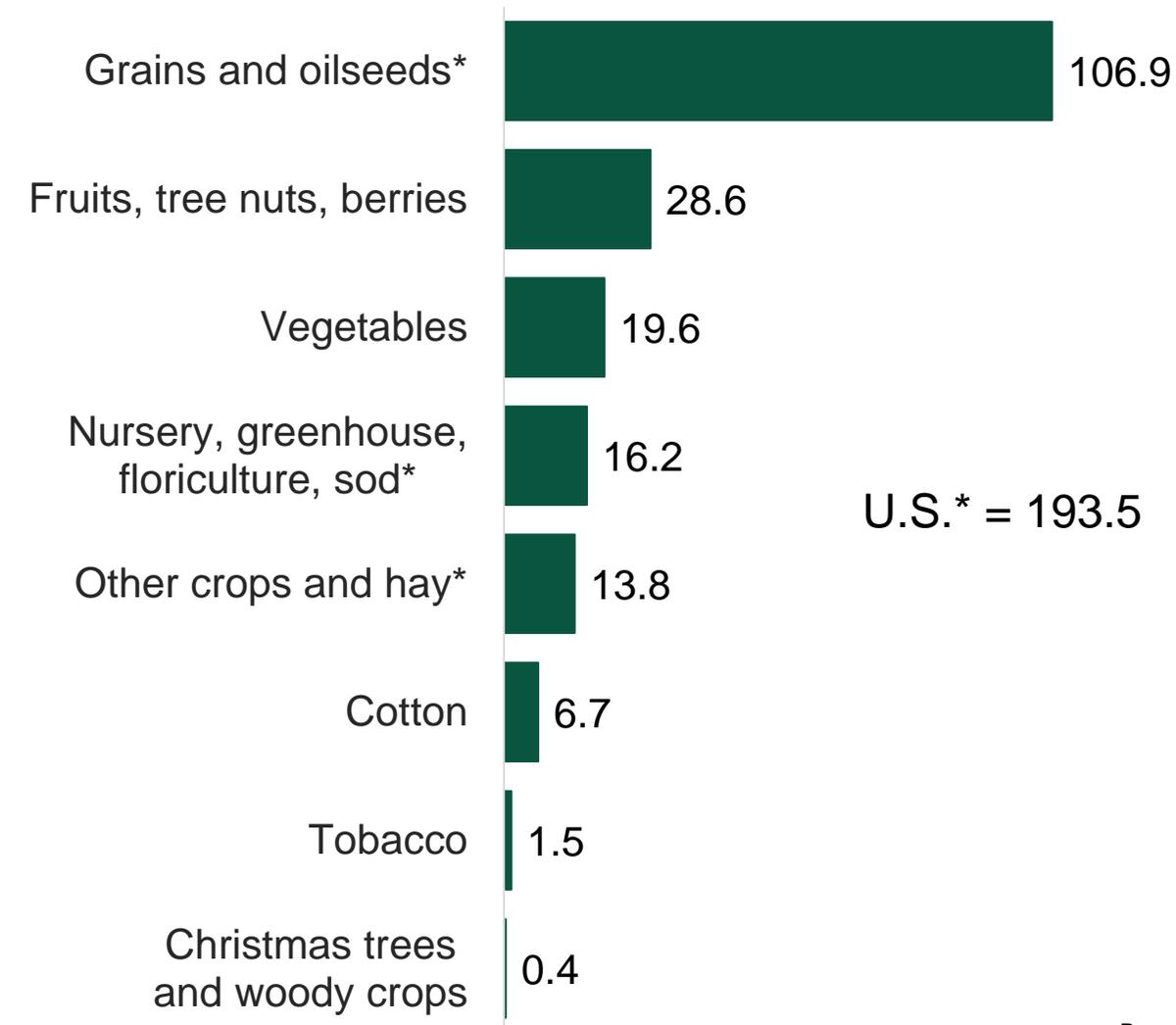
* Statistically significant difference from 2012

Value of Production, Crops and Livestock, 1997 - 2017 (\$ billions)



Value of Crop Production by Category, 2017

Value (\$ billions)



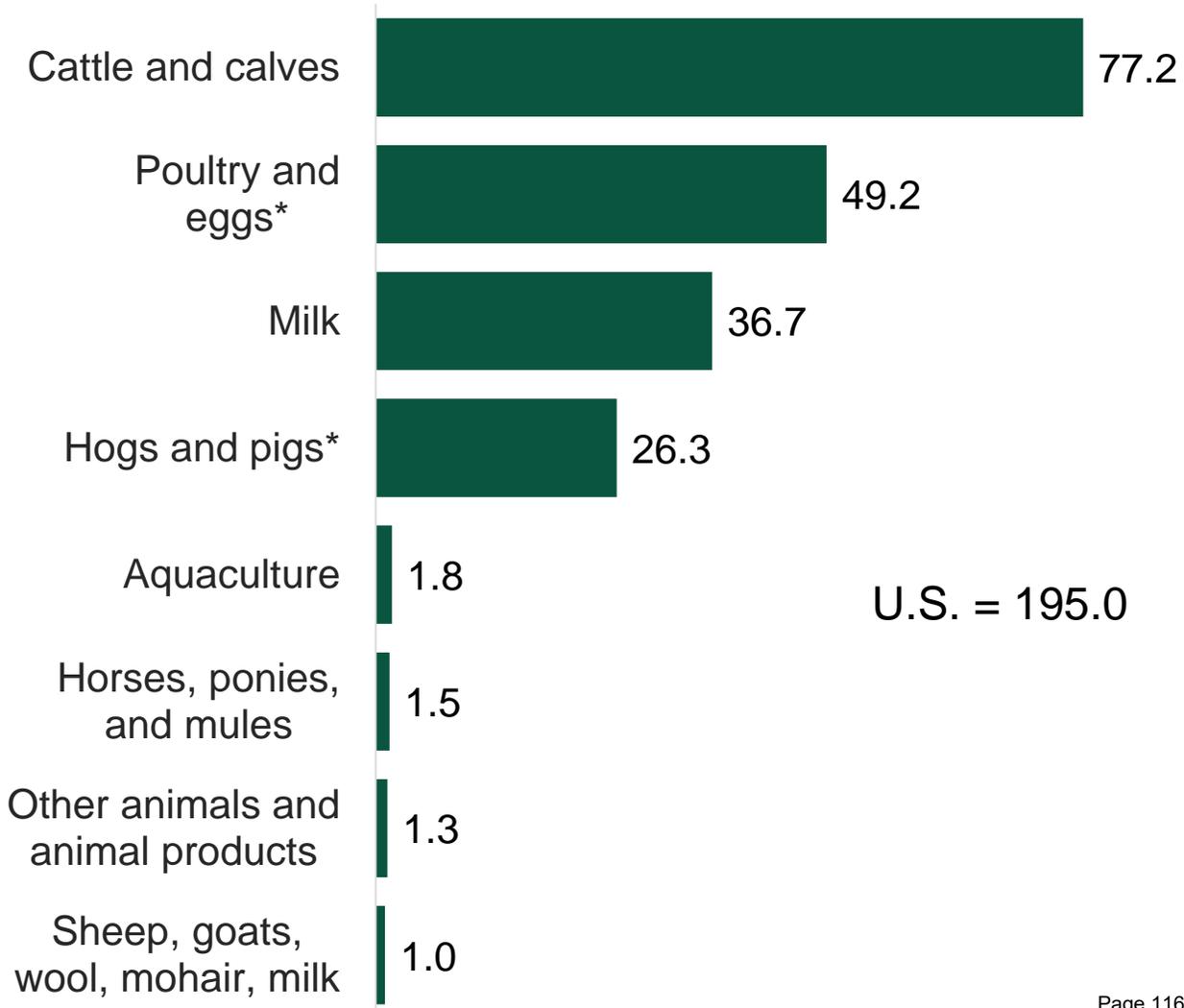
* Statistically significant difference from 2012

	Top State	% of U.S.
Grains and oilseeds	Iowa*	13
Fruits, tree nuts, berries	California	69
Vegetables	California	42
Nursery, greenhouse, floriculture, sod	California	18
Other crops and hay	California*	7
Cotton	Texas*	40
Tobacco	North Carolina	50
Christmas trees and woody crops	Oregon	31

Value of Livestock Production by Category, 2017

Value (\$ billions)

* Statistically significant difference from 2012



	Top State	% of U.S.
Cattle and calves	Texas	16
Poultry and eggs	Georgia	11
Milk	California	18
Hogs and pigs	Iowa*	30
Aquaculture	Mississippi*	13
Horses, ponies, mules	Kentucky*	31
Other animals and animal products	Texas	10
Sheep, goats, wool, mohair, milk	Colorado*	14

Value of Production, Top 10 Commodities, 2017 (\$ billions)

Change in Value, 2012 to 2017

* Statistically significant difference from 2012

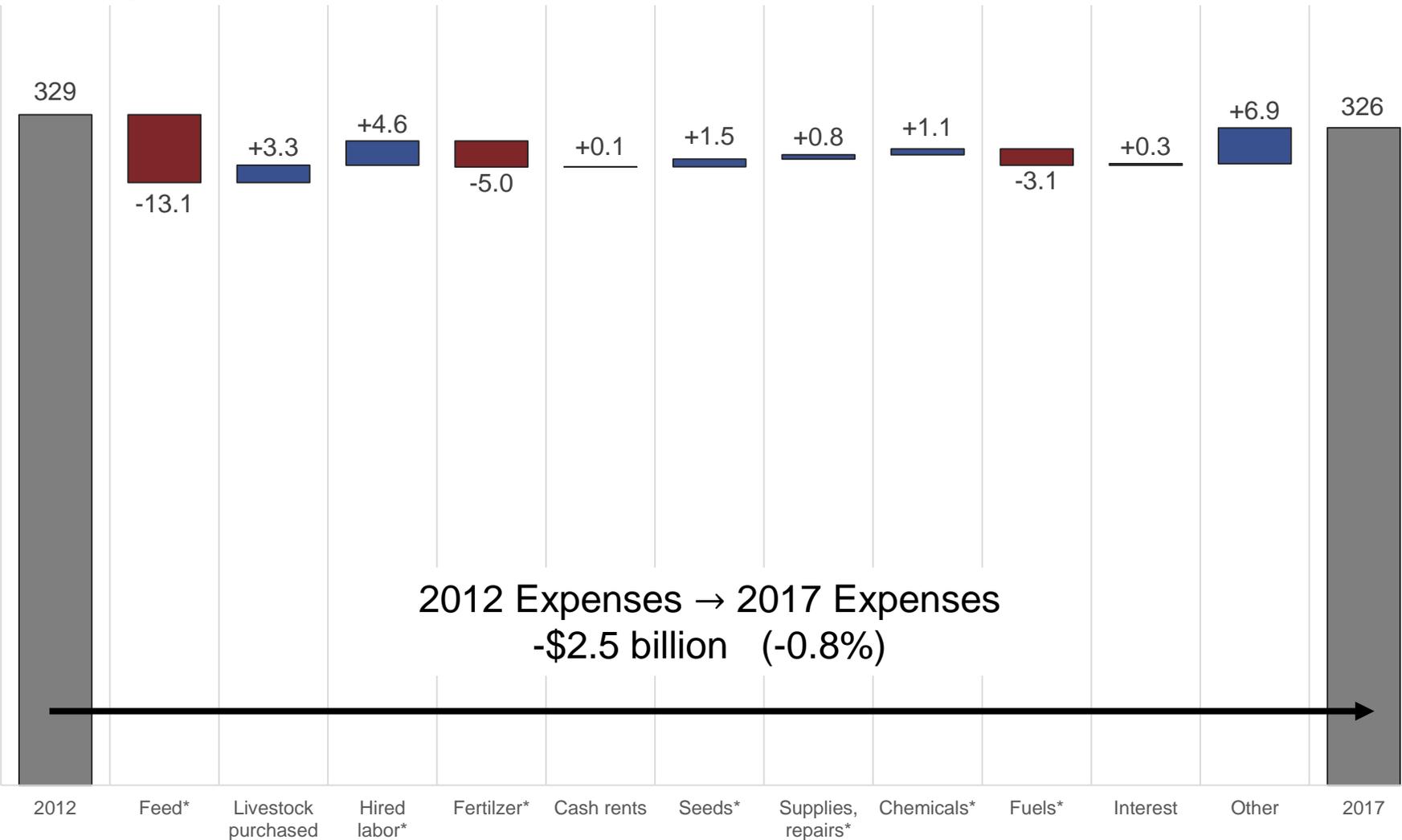


Commodity	TVP
Cattle and calves	77.2
Corn*	51.2
Poultry and eggs*	49.2
Soybeans	40.3
Milk	36.7
Fruits, tree nuts, berries	28.6
Hogs and pigs*	26.3
Vegetables	19.6
Nursery, greenhouse, floriculture, sod*	16.2
Wheat*	7.9
Other	35.4

Farm Production Expenses, 2017 (\$ billions)

Change in Value, 2012 to 2017

* Statistically significant difference from 2012



Farm Expenses

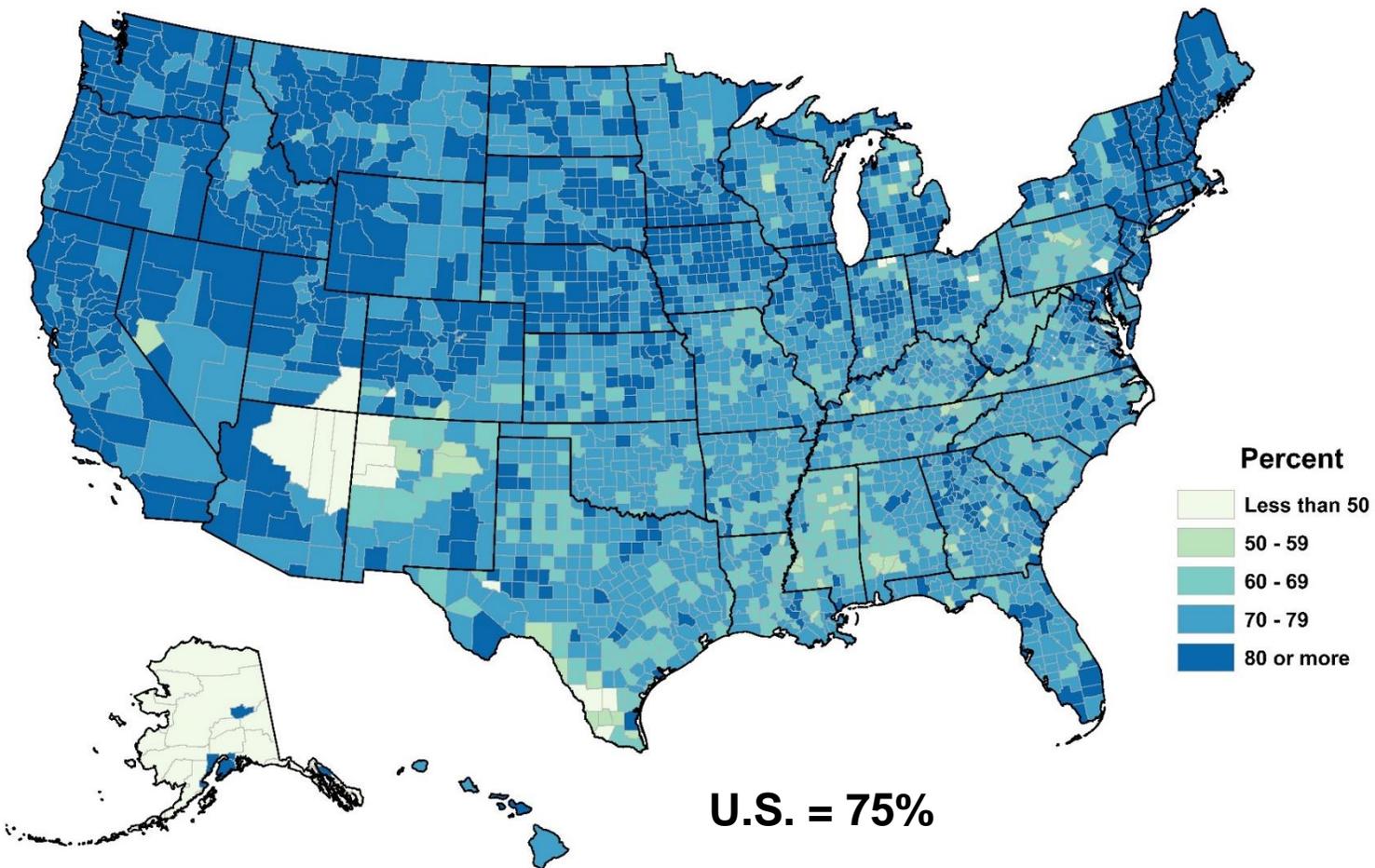
Feed*	62.6
Livestock purchased	44.9
Hired labor*	31.6
Fertilizer*	23.5
Cash rents	21.1
Seeds*	21.0
Supplies and repairs*	19.7
Chemicals*	17.6
Fuels*	13.5
Interest	12.4
Other	58.5

Farm Income and Expenses, 2012 and 2017 (\$ billions)

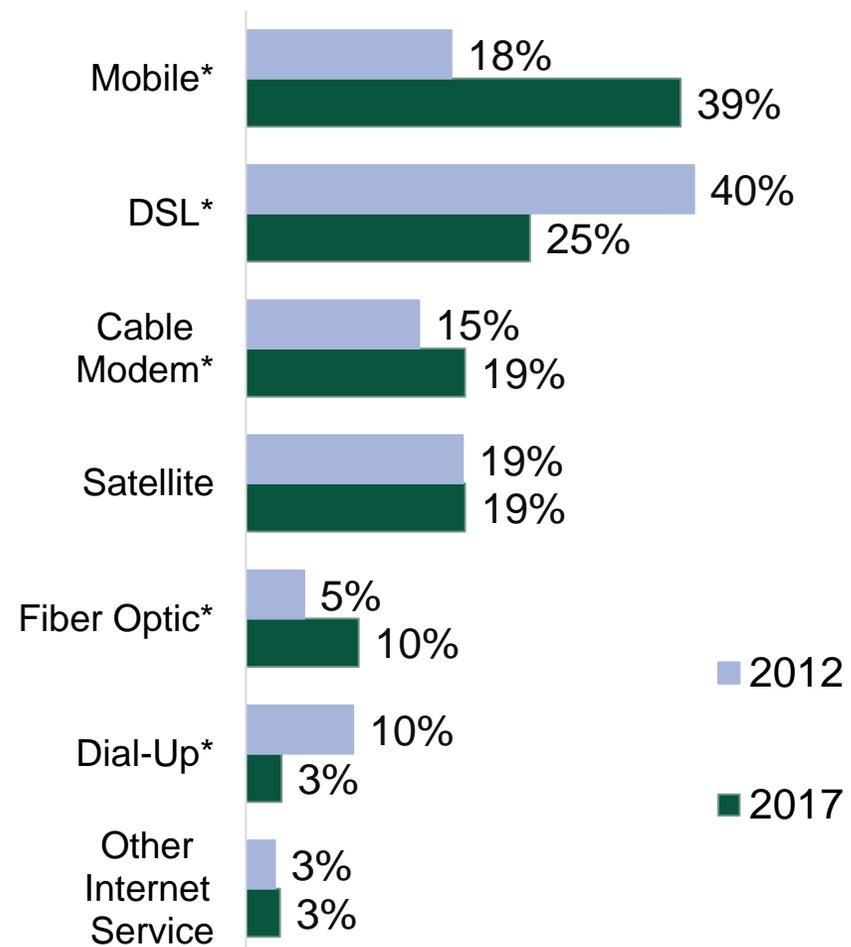
	2012	2017	% change
Value of ag products sold	394.6	388.5	-2
Government payments*	8.1	8.9	+11
Farm-related income	18.5	16.8	-9
Production expenses	328.9	326.4	-1
Net income	92.3	87.9	-5
Per farm average net income (dollars)	\$43,750	\$43,053	-2

Farms with Internet Access

As a Percent of Total, by County, 2017



By Type, 2012 and 2017 (percent)



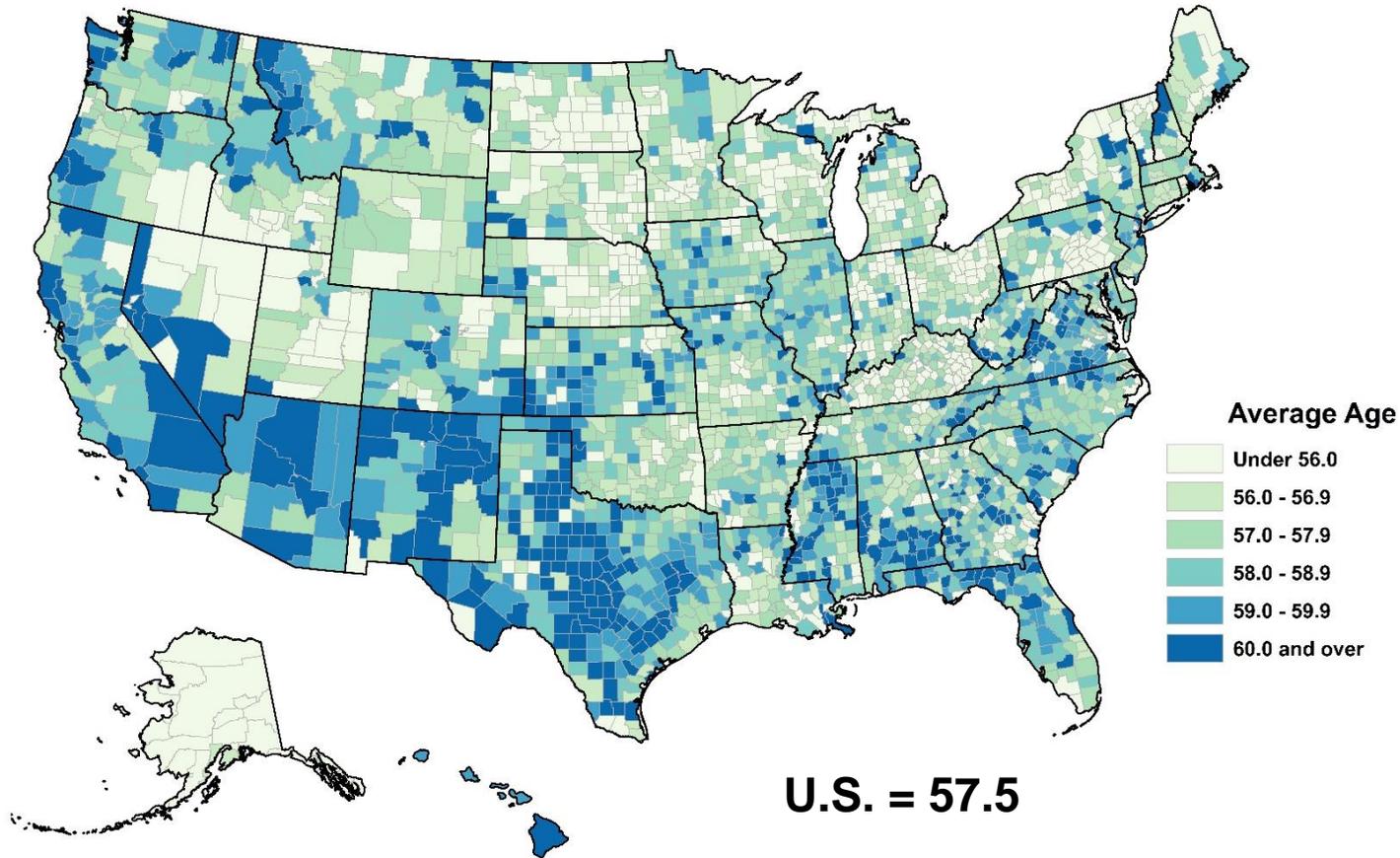
* Statistically significant difference from 2012

Demographics of Farm Producers

- Average Age of Producers
- Young Producers
- New and Beginning Producers
- Farm and Producer Characteristics by Sex/Race/Ethnicity
- Producers with Military Service

Average Age of Producers

All Producers, by County, 2017

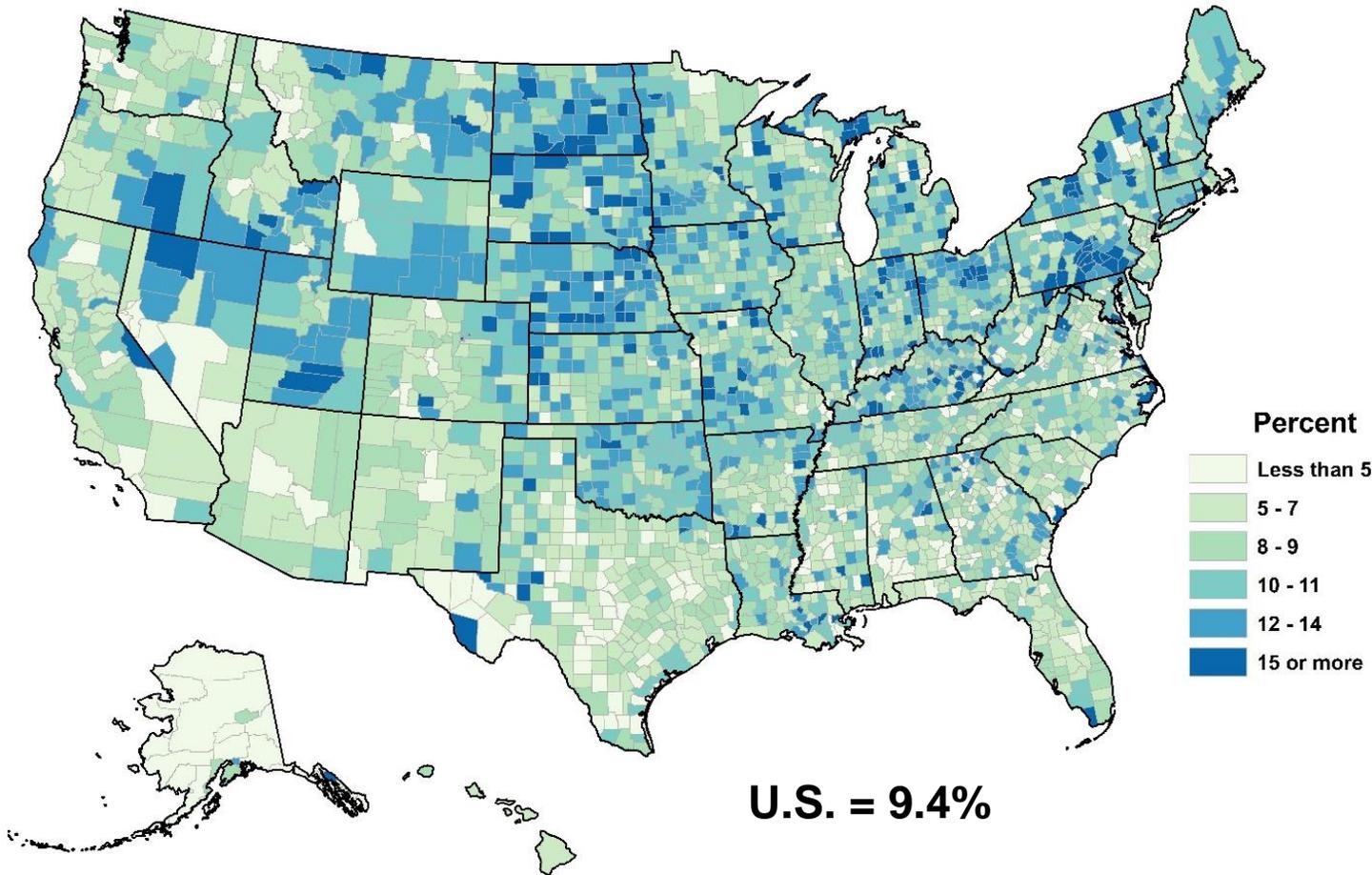


All and Primary Producers, 2002 - 2017

	All	Primary
2002	53.2	55.3
2007	54.9	57.1
2012	56.3	58.3
2017	57.5	59.4

Young Producers (Age 35 years or less), 2017

As a Percent of All, by County



Producers

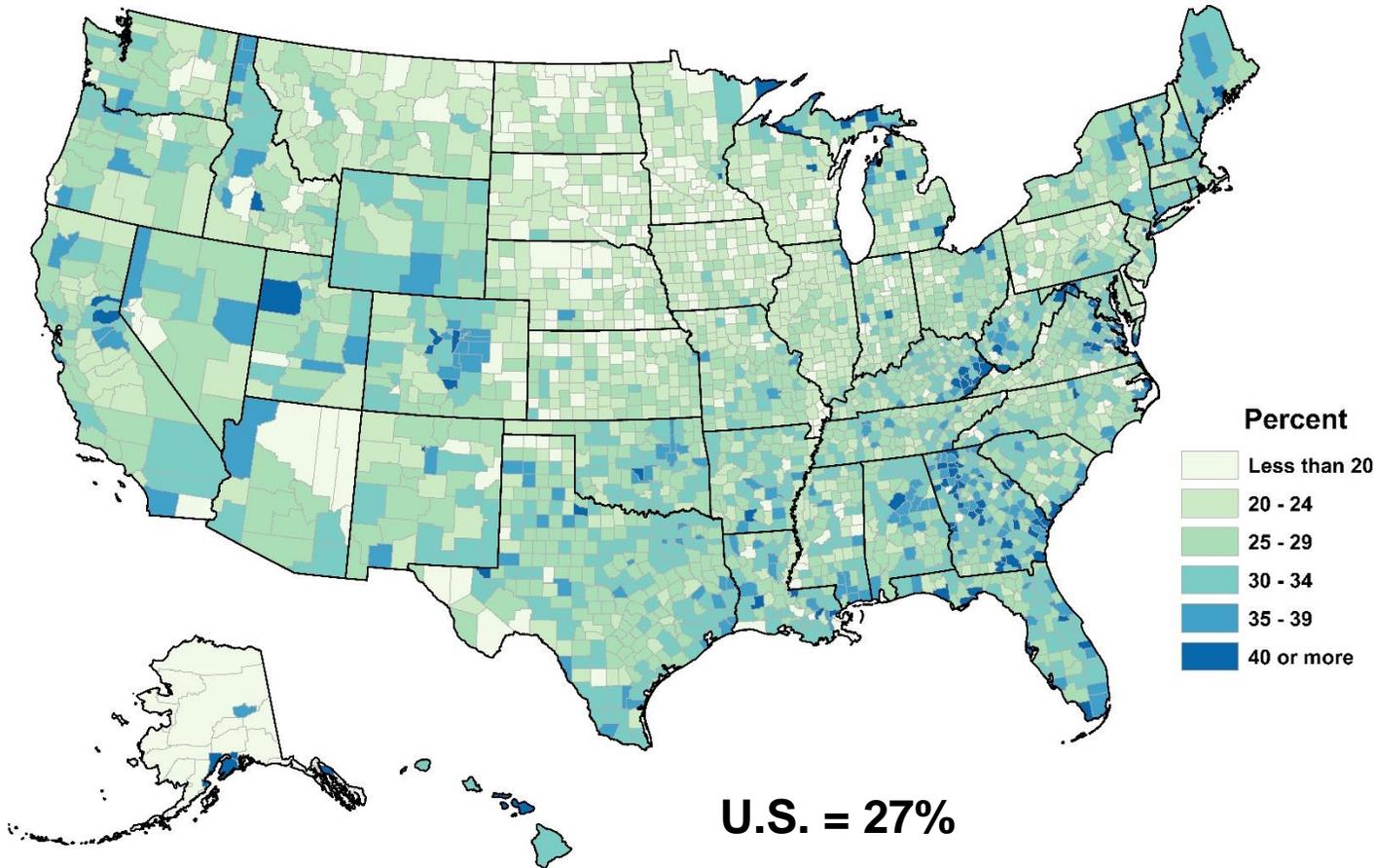
	Young	All
Number	321,261	3,399,834
Average age	29.4	57.5

Farms

Number	240,121	2,042,220
Average farm size (acres)	477	441
Average TVP	\$273,522	\$190,245

New and Beginning Producers (10 years or less on any farm), 2017

As a Percent of All, by County



Producers

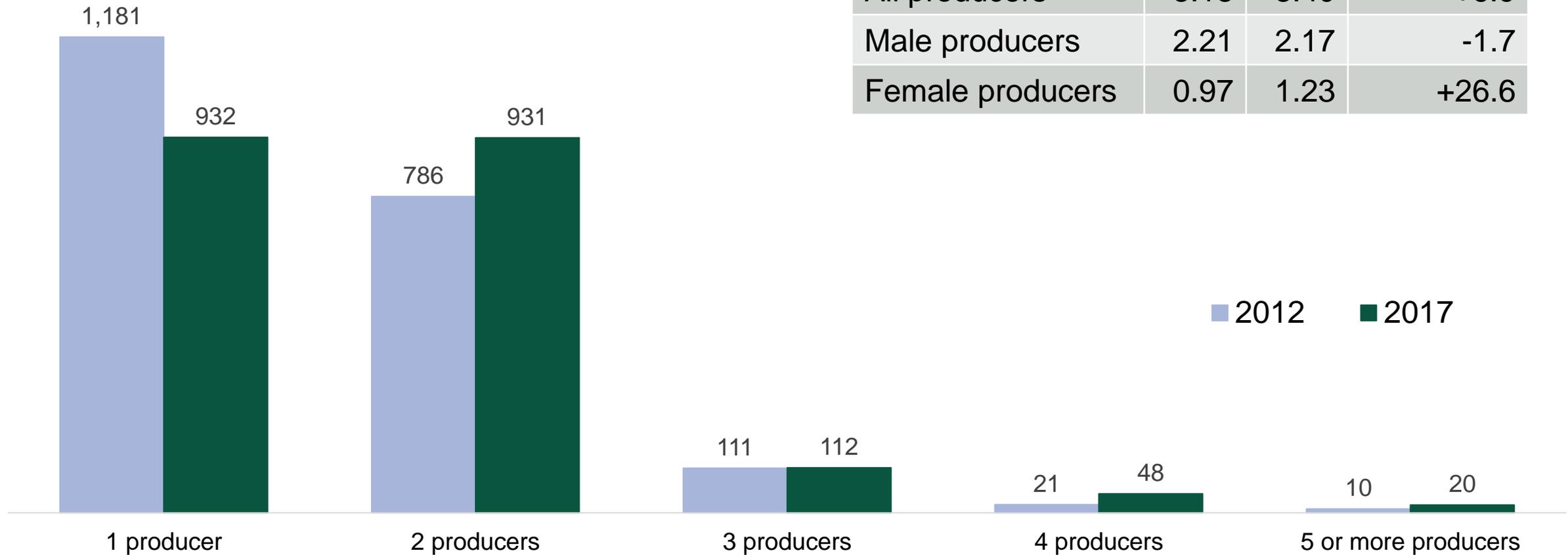
	New and Beginning	All
Number	908,274	3,399,834
Average age	46.3	57.5

Farms

Number	597,377	2,042,220
Average farm size (acres)	324	441
Average TVP	\$147,408	\$190,245

Farm Structure, 2012 and 2017

Farms by Number of Producers (*thousands*)

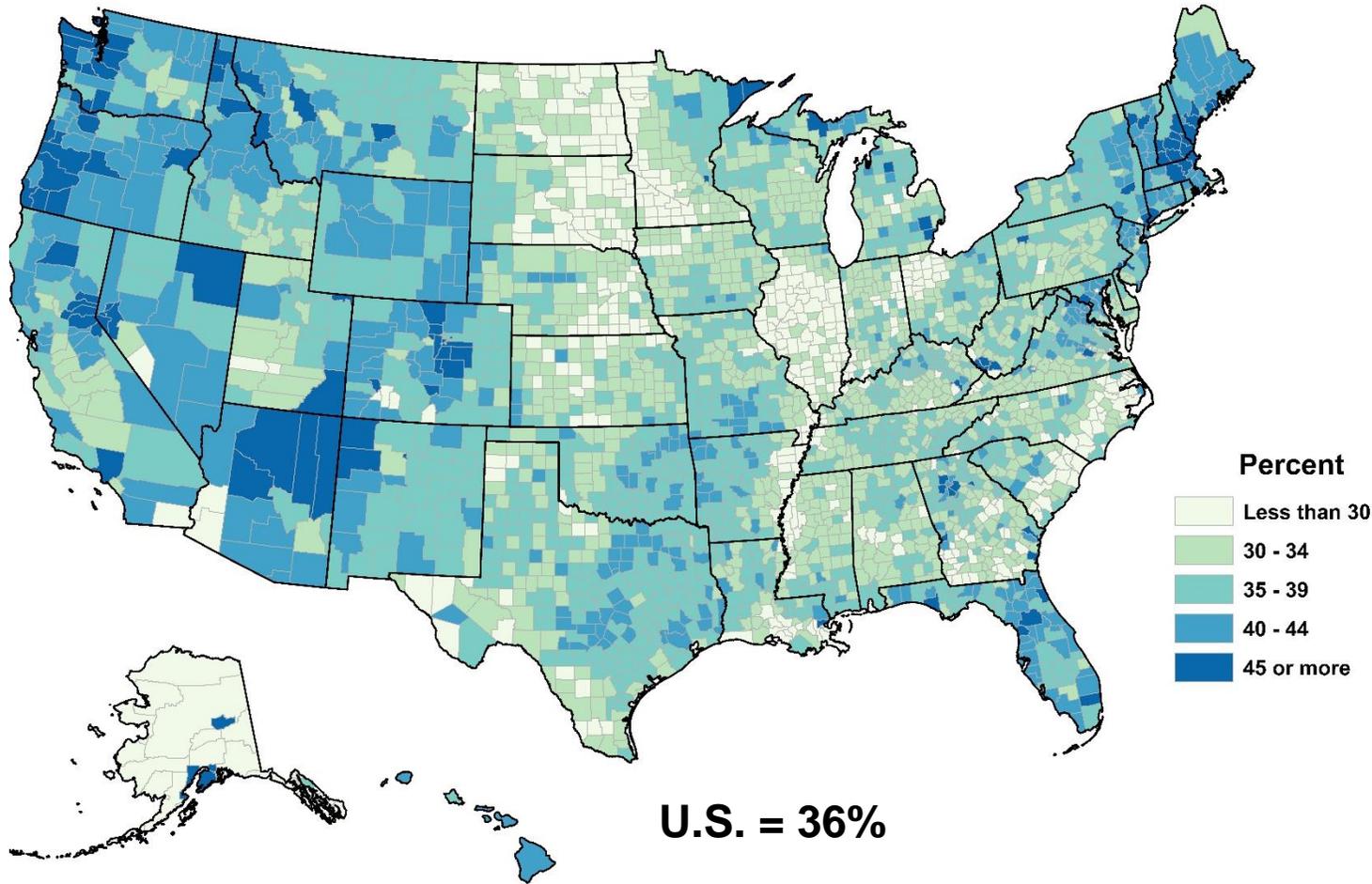


Producers by Sex (*millions*)

	2012	2017	% change
All producers	3.18	3.40	+6.9
Male producers	2.21	2.17	-1.7
Female producers	0.97	1.23	+26.6

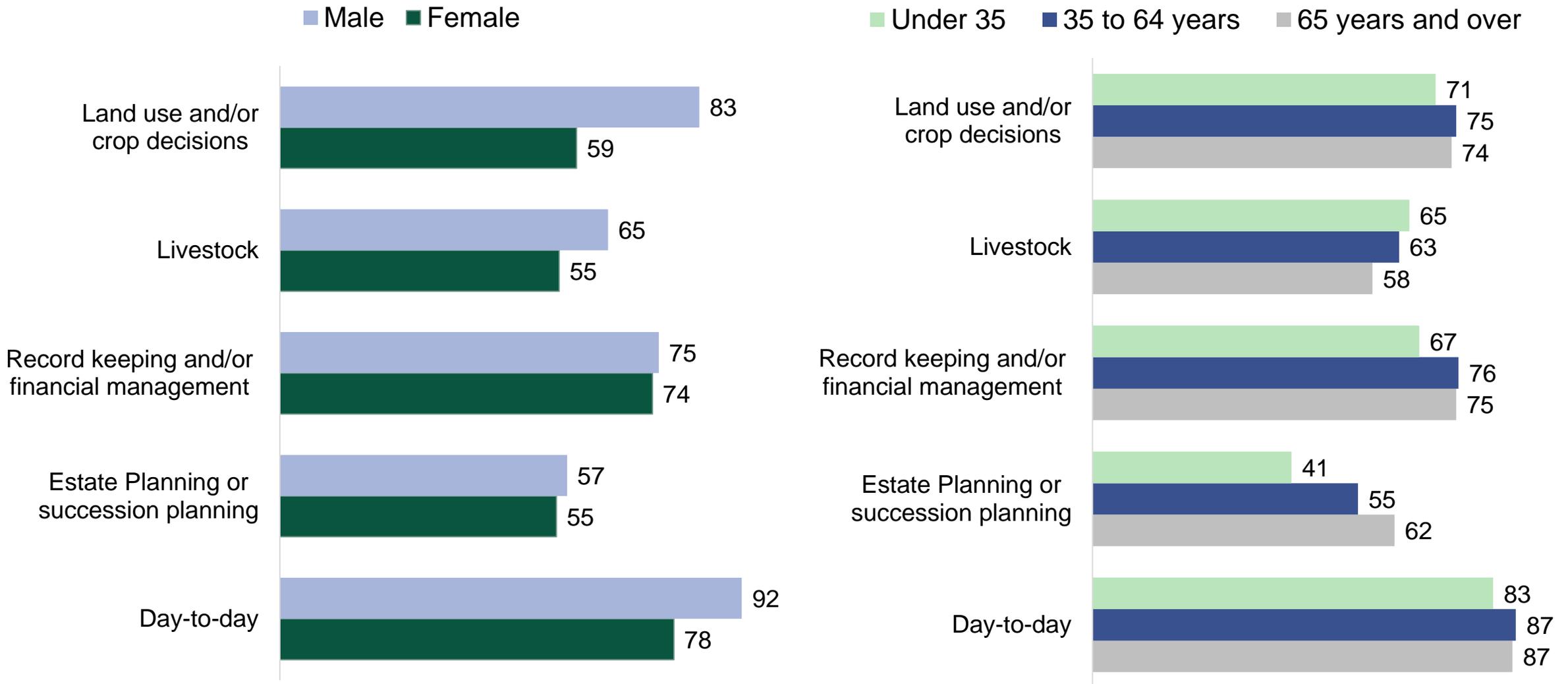
Producers by Sex, 2017

Female Producers as a Percent of Total



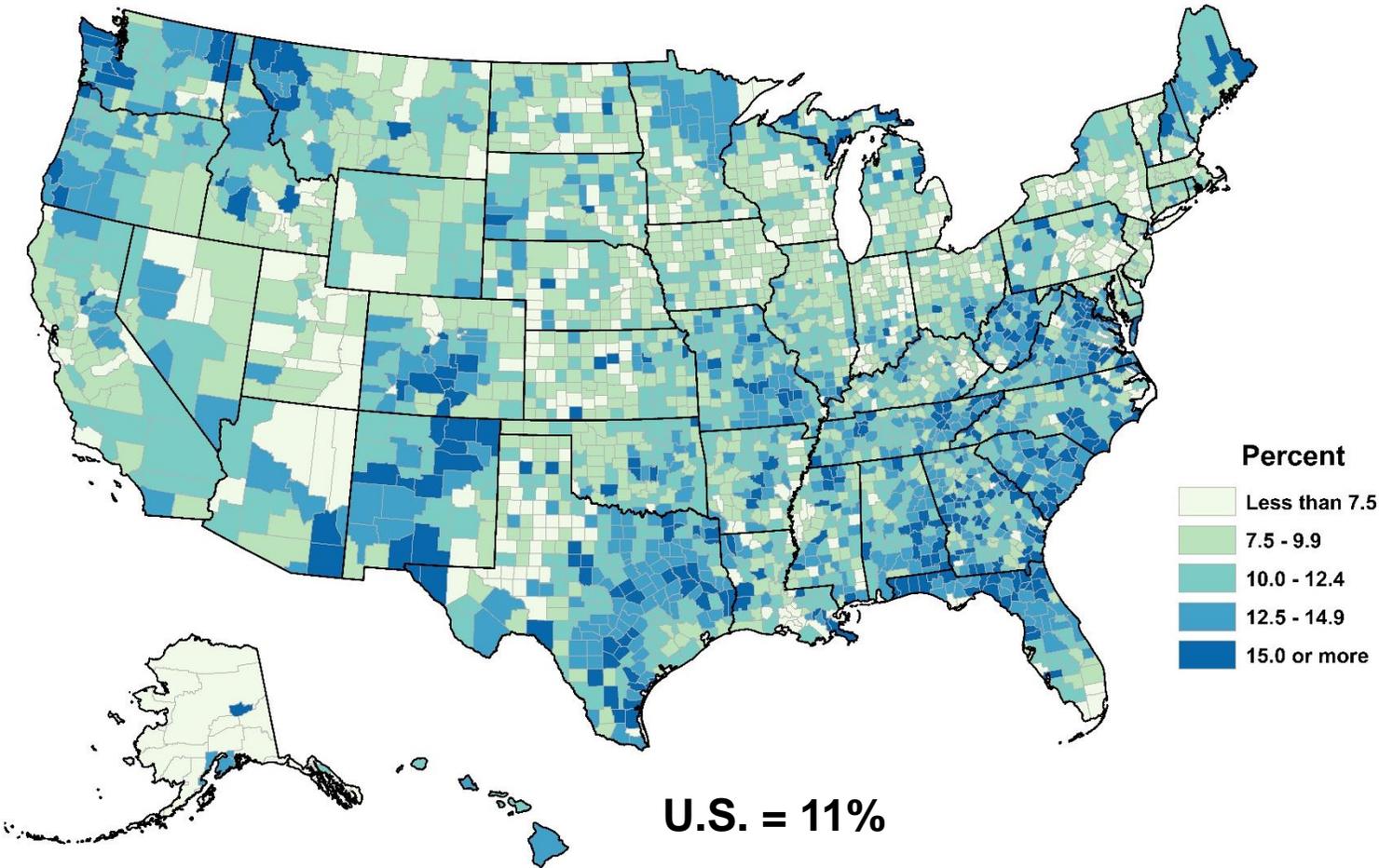
Producers		
	Female	Male
Number	1,227,461	2,172,373
Average age	57.1	57.7
Farms		
Number	1,139,675	1,867,308
Average farm size (acres)	340	463
Average TVP	\$129,792	\$204,513

Producer Decision Making, by Sex and Age, 2017 (percent)



Producers with Military Service, 2017

As a Percent of All, by County



Producers		
	With Military Service	All
Number	370,619	3,399,834
Average age	67.9	57.5
Farms		
Number	355,393	2,042,220
Average farm size (acres)	363	441
Average TVP	\$114,876	\$190,245

Key Summary Points

- Farm numbers and land in farms both have ongoing small percentage declines.
- There continue to be more of the largest and smallest operations and fewer middle-sized farms.
- Fewer farms account for the majority of ag products sold.
- New questions show that multiple people frequently have decision-making roles on farms.
- The average age of farmers and ranchers continues to rise
- There is an increase in internet access, especially via mobile and fiber optic.

Upcoming Census Releases

Release Date	Release Title
April 11	Market Value of Ag Products Sold Rankings
May 30	State & County Profiles
June 26	Congressional District Profiles
June 26	Congressional District Rankings
July 25	Watersheds
August 26	American Indian Reservations
September 18	Zip Code Tabulations
October 1	Race, Ethnicity & Gender Profiles
November 13	2018 Irrigation and Water Management Survey
December 5	Specialty Crops
December 19	2018 Census of Aquaculture



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