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Good afternoon, everyone and welcome to our webinar: *Farm Income and Financial Forecast, September 2022 Update*. My name is Liz Hills, and I will be your host today. As a reminder, this webinar is being recorded and will be posted on the ERS website next week. If at any time during the webinar you have questions, please enter them into the chat feature at the bottom left-hand corner of the screen and our speaker will answer them at the end of today's presentation. Today our presenter is Carrie Litkowski. Carrie is a senior economist and Farm Income team leader at the USDA's Economic Research Service. She is responsible for developing sector-wide measures of farm income, value-added, and the aggregate farm sector balance sheet. Previously, Carrie served as an economist at the Bureau of Economic Analysis where she was responsible for the production of farm income and employment statistics nationwide. Thank you for joining us today, Carrie, the floor is yours.

Thank you, Liz. Well, yesterday I decided to count how many times I have done a webinar on the Farm Income and Financial Forecasts. And it was a whopping- this is my 17th time. You might think it's getting old, or could be getting old for me, but it's not. There always seems to be something interesting going on in agriculture or the farm economy. And your attendance today, I think, demonstrates that there's a real value to the data and the information that we put out so, thank you. And thank you for joining me today as I present the latest USDA data on U.S. Farm Sector Income and Wealth. The ERS farm income and finance program measures, forecasts, and explains indicators of economic performance for the U.S. farm sector. It can be used to gauge the financial health of the sector. We release forecasts three times a year and with today's forecast we are releasing our updated U.S. level calendar year forecast for 2022, which includes some new and updated information, or data, as it has become available since February. Including some survey-based data on 2022 crop planting, production prices, and also the latest forecasts from the August World Agricultural Supply and Demand Estimates report, the WASDE report. With this release we're also converting our 2021 forecast into an estimate and we have our first state level farm income estimates for 2021.

So, what does our forecast cover? First, our data covers the farm sector as a whole. Which is comprised of two million farms who operate about 900 million acres of land. About 1 million, or half, of those farms are what we consider farm businesses. Which are defined as larger farms and those where the principal occupation of the operator is farming. These farms account for about 90 percent of the total value of agricultural production in the U.S. And we have some additional data and forecasts on their finances. Lastly, we'll look at the well-being of the nearly five million people who live in households attached to a farm.

We're forecasting farm sector income to remain high in 2022 because of strong commodity cash receipt growth. This slide gives us overview, or summary, of what we're forecasting for 2022 and covers the major topics I'll be going over today, as well as the order in which I'll be discussing them. First, net cash farm income for calendar year 2022 is forecast to increase nearly 15 percent relative to 2021. And net farm income is forecast to increase 5 percent. Note on this slide all of the values are in nominal dollars, so I'm not making any sort of adjustment for inflation, yet. But I'll have slides later on that do adjust for inflation. As I said at the beginning, a lot of this growth is from cash receipts from both crop and animal products which are forecast to increase 21 percent in 2022. Moderating this growth, somewhat, are direct government payments to farm operators which are forecast to decline about 13 percent- I mean billion or nearly 50 percent

from 2021. Also, total production expenses are forecast to increase almost 18 percent. On the farm sector balance sheet assets, debt, and equity, are all forecast to increase. Looking at these farm businesses, which I talked about just a little bit ago, average net cash farm income for them is forecast to decline three percent. We're able to do a simulation that kind of stimulates how these sector level forecasts for cash receipts, government payments, and expenses, might affect farms on average. Lastly, for those households that operate a farm, or are attached to a farm, median total farm household income is forecast to increase 1.5 percent in 2022.

We have two primary measures of farm sector income, or profits. The yellow line, on the top, is net cash farm income which includes cash receipts from farming, or sales of farm commodities, as well as cash formulated income and government payments to farm operators, less cash expenses, or the costs that farmers incur. Now this chart is in inflation-adjusted dollars so I'm taking prior years and adjusting them to be in 2022. So, that we can better compare the data over time. So, looking again at net cash farm income. After increasing 20 percent in 2021 net cash farm income is forecast to increase nearly nine percent in 2022. Putting it at its highest level since 2012. Net farm income, the blue line, is a broader measure of income that also incorporates non-cash items, like economic depreciation and it accounts for changes in inventories. In 2021, net farm income increased nearly 43 percent to its highest level since 2013 and it is forecast to increase another 5 in 2022 in nominal dollars but fall almost one percent when adjusted for inflation.

We derive net farm income by first measuring its component parts are from the bottom up, which allows us to identify what is driving the change in income from 2021. In this chart, we have on the far left the net farm income first estimate for 2021 at 140 billion dollars. Next, we have crop cash receipts, which are forecast to increase 36 billion dollars, however, we're also forecasting about a 14 billion dollar increase in crop sales from inventories, or from the crop inventory adjustment. We remove sales from inventories in net farm income because that measure is intended to represent income from current production only. So, instead of recording those sales that happened in 2022, but really came from the 2021 harvest, they're not going to be captured in 2022 income but back in 2021 income when they were produced. But when you combine this crop cash receipts and this inventory adjustment it gives you a measure of the value of crop production, which is forecast to be up 22 billion dollars in 2022. Next, animal and animal product receipts, or here I have it labeled livestock, are forecast to increase 55 billion dollars. But, what is nearly offsetting this growth in the value of production? Are production expenses, which are forecast to increase 66 billion dollars? Which is shown as a negative here because higher expenses lower income, because they're subtracted out. Additionally, direct government payments to farm operators are forecast to decrease by 12.8 billion dollars. We have a positive contribution coming from all other changes, which represents the increase in farm related income. But when you add all those changes up you get to the net farm income forecast for 2022, at almost 148 billion dollars.

So, in the previous chart we saw that cash receipts are forecast to increase in 2022 relative to 2021. In this chart, we look at the drivers behind that growth. Through a simulation we can deconstruct the change in cash receipts into a price effect and into a quantity effect. In other words, we can identify whether changes in prices or quantities sold are driving the changing cash receipts. But there is a portion of tax receipts for which we can't do this simulation, but it's a very small portion. So, starting from the far left, in 2022 total cash receipts are forecast to increase 80 billion dollars due to higher prices. That's the orange bar. And then another 9 billion dollars due

to higher quantity sold, the blue bar. In total, cash receipts are forecast to increase 92 billion dollars, the purple bar. That increase would put them at their highest level ever in 2022, even after adjusting for inflation. For crops, higher prices and quantities sold are contributing to that forecasted increase. For livestock, or animal and animal products, higher prices are driving all of the increase in 2022, on net.

We can also look at cash receipts by commodity. This chart shows just the major cat groupings, or commodities, but we do produce forecasts of receipts for about 25 different crop commodities. After increasing 14 percent in 2021, total crop receipts are forecast to increase 9 percent in 2022. Receipts for corn, soybean, wheat, vegetables, and melons are all forecast to increase in 2022. Please note, that this chart is in inflation-adjusted dollars. The largest dollar increase is being forecast for soybeans with a 12 billion dollar increase. And wheat is forecast to see the largest percentage increase at 26 percent in 2022. Receipts for fruits, nuts, and cotton, are forecast to decline in 2022 after increasing in 2021.

Now, you may see these corn and soybean bars going way up in 2022, but I wanted to give you a little more historical perspective on corn and soybean receipts in particular. This truck goes back to 2002. Corn receipts in 2022 are forecast to be at their highest level since their peak in 2012. Our 2022 forecast for soybean receipts would put them at their highest level ever. For both corn and soybeans, production quantities increased in crop year 2021 and are forecast to increase again in crop year 2022. Same with prices. Prices by received by farmers increased in 2021 and are forecast to continue increasing in 2022, on average. Thus, resulting in the strong increase in corn and soybean receipts that we're seeing here in the last few years.

Looking next at animal and animal product cash receipts, which are forecast to increase 21 percent in 2022 after increasing 14 percent in 2021. On this chart, receipts for every commodity category are forecast to increase in 2022. The largest dollar increase is forecast for broilers with a 16 billion dollar increase, relative to 2021, putting them at their highest level ever. Receipts for hogs, after a large increase in 2021, are expected to see the lowest percent increase in 2022, at three percent. But they're still relatively high - stay high.

Next, government payments are another source of income to farmers. We define government payments as: payments made directly to farm operations by the federal government, without any intermediaries, generally from farm programs. We record them in the year in which they were received by farmers, the calendar year. Government payments reached a record high in 2020 at 45.5 billion dollars in nominal dollars. In 2021, government payments fell to 25.8 billion dollars and our forecast to fall again in 2022 to nearly 13 billion dollars. These declines follow lower amounts of COVID-19 related aid to farm operations after 2020. On this chart, the COVID related aid is shown at the top of the bars in the purple textured bar segments, which represent USDA and non-USDA pandemic assistance or pandemic aid. This includes payments from the Corona Food Assistance Program, and other USDA pandemic assistance, paid directly to operations adversely affected by COVID-19. USDA pandemic assistance received in calendar year 2022 is forecast at just under 1 billion dollars. Additionally, in 2022 we're assuming no new loans from the Paycheck Protection Program administered by the Small Business Administration, which we classify as non-USDA pandemic assistance. And with this release we have updated our 2020 and 2021 totals for PPP loans to reflect only the forgiven loan amounts and to record these amounts in the year in which the loan was made. But, by far, the majority of loans were forgiven for farm operators. Next, we are forecasting a 4.7 billion dollar increase in supplemental and ad-

hoc disaster assistance in 2022, which is represented by the solid purple bar. This increase largely reflects anticipated payments from the Emergency Relief Program and the Emergency Livestock Relief Program, which were created by the extending government funding and delivering the Emergency Assistance Act. Next, payments that are a function of commodity prices, as represented by the orange bar segments, are expected to be minimal in 2022. In recent years, this category largely represents payments from the agricultural risk coverage, price loss coverage, and dairy margin coverage programs. The gray line in the chart shows inflation-adjusted total direct government payments. Payments across 2002 to 2021, so the past 20 years, have averaged just under 20 billion dollars in inflation-adjusted dollars. In 2022, government payments would be below that 20-year average but near the levels that we saw prior to 2019.

This chart looks at government payments relative to the rest of net farm income. It also includes another source of income to farmers, commodity insurance indemnities, which are payments to farmers for losses covered by insurance. This chart is in inflation-adjusted dollars. The top peach bar shows indemnity payments paid to farmers less premiums paid by farmers for federal commodity insurance, or what I'll call net insurance payments. Net insurance payments are forecast to increase in 2022. The darker orange bar segment shows direct government payments, which we talked about in the previous slide. The gray bar represents net farm income excluding these net insurance and direct government payments. So, in 2022 net farm income excluding these payments is forecast to rise eight percent. But with lower government payments in 2022 net farm income including these federal payments is forecast to be near 2021 levels.

Now, let's look at production expenses which are the costs incurred by farmers to produce their agricultural output. This includes items such as feed, fertilizer, and hired labor. This chart shows total expenditures in both nominal and inflation-adjusted dollars. Production expenses in 2021 remained nearly unchanged from 2020 when adjusted for inflation. For 2022, we're forecasting expenses to increase nearly 18 percent, or 66 billion dollars, in nominal terms. This would represent the largest year-to-year dollar increase on record. But when economy-wide inflation is factored in, or when we adjust these numbers for inflation, the increase in production expenses is lowered to 11 percent or 44 billion dollars. Still, forecast at 437 billion dollars in 2022, expenses would be at their highest level ever since the peak in 2014, in the inflation adjustment series.

When we look at expenses by category, we forecast spending for all categories to increase in 2022. Now this chart is just looking at nominal dollars, so no inflation adjustment, and it compares expenditures by category in 2021 and 2022. Now usually there's a dotted line on this chart, which separates those items for which expenses are forecast to increase and those items where expenses are forecast to decrease. But with this release we're forecasting all categories of spending to increase in 2022. Prices paid for many production inputs have been trending upwards since 2021 and into 2022 based on monthly indexes of prices paid from the National Agricultural Statistics Service of USDA, NASS. The largest dollar increases in 2022 are expected for feed and fertilizer with spending on fertilizer forecasts to increase 52 percent. Spending on fuel and oils is forecast to increase 42 percent. Spending on seed goes at the bottom of the list as is forecast to remain relatively unchanged in 2022, increasing less than one percent.

Another tool we can use to measure or gauge the health of the farm sector is a balance sheet, which provides information on the value of assets, both physical and financial, and the level of debt in the U.S. agriculture sector. The balance sector- balance sheet is forecast to improve or strengthen in 2022. Farm sector equity, the green area, has increased every year after 2019 and is

forecast to continue to increase in 2022. Equity in 2022 is forecast to be up four percent from 2021 or 13 percent from 2019 when inflation adjusted. This largely reflects increases in the value of farm sector assets. In particular, the value of real estate assets which represent about 80 percent of total farm sector assets. Real estate assets increased five percent in 2021 and are forecast to increase another four percent in 2022.

At the same time, the amount debt- of debt held by the farm sector, which is shown by the blue area at the bottom of the chart, is forecast to decline one percent when adjusted for inflation. This would mark the first decline in total debt since 2012. Most of the expected decline is a non-real estate debt, which has been falling since 2018 and its forecast to fall almost 3 percent in 2022.

Changes in the balance sheet have implications for farm sector solvency and other measures of financial performance and stress. This chart looks at the amount of debt, relative to assets, and relative to equity shown as percentages. Oh, I skipped a slide line. I'm sorry this one shows the debt to equity and debt to asset ratios. These are what we call solvency ratios which provide a measure of the sector's ability to repay financial liabilities, debts, and loans, through the sale of assets. Both ratios have increased every year from 2013 to 2020. In 2021, the ratios fell indicating improved solvency for the sector. And they are forecast to continue to improve in 2022. Yet still be slightly above the average for the past 10 years. It's important to know that these solvency ratios are for the sector as a whole and there's a lot of variation in the amount of debt held by individual farms.

Two other indicators of financial stress in the sector are bankruptcy rates and the debt to service ratio. After 2019, the farm bankruptcy rate- rate has trended down. In 2021, chapter 12 bankruptcies fell about 50 percent from 2020, according to data from the U.S. courts. In 2022, we're projecting bankruptcies to fall further based on filings through June. The debt to service ratio, which is the line shown on this chart, describes the share of production income or gross income needed for debt payments. And it can be a measure of liquidity or the amount of capital readily available as cash. This ratio has also been trending down and is forecast to continue declining as the value of agricultural production increases.

Up to this point, we've been discussing the forecast for the farm sector as a whole. Now let's look at farm businesses, an important subset of all farms. Farm businesses are defined as all farms where the primary occupation of the operator is farming plus those farms that had 350,000 dollars, or more, in gross cash farm income before expenses. There are roughly 965,000 farms that meet this definition, or they did in 2020, and they are represented by the blue and orange segments for commercial and intermediate farms on this chart. According to the 2022 ARMS, residence farms, which are those farms where the operator is retired or whose primary occupation is not farming, they account for about half of all farms. But it's commercial and intermediate farms, these farm businesses, that account for over 90 percent of all agricultural production and hold most of the sector's assets in debt. Using preliminary data from the 2021 ARMS, we're able to do what I'd call a micro simulation and project how farm businesses may fare in 2022, based on the forecasts for the sector as a whole. And we can break down the forecast for farm business income by commodity specialization and geographic region. So, we're shifting perspective here a bit. I'm going to be only looking at farm businesses and at average net cash farm income levels, not aggregate.

So, let's start by looking at farm businesses that specialize in crops. These charts are in inflation-adjusted dollars. Using ARMS, we can categorize farms by commodity specialization, meaning

at least 50 percent of the value of production comes from a particular commodity. All farm businesses, regardless of specialization or geographic region, are expected to see government payments decline and production expenses rise in 2022. And this is expected to result in lower average net cash farm income for all types of farm businesses specializing in crops, once inflation adjusted. The largest dollar decline is forecast for farm businesses specializing in cotton, as cotton cash receipts are forecast to fall in 2020. But average net cash income for cotton farm businesses is still relatively high in 2021. Farm businesses specializing in specialty crops, that would be crops such as fruits, nuts, vegetables, and nursery, are forecast to see the largest percent decline as fruit and nut receipts are forecast to fall in 2022.

For farm businesses specializing in livestock, or animal products, the outlook is a bit mixed. Dairy farm businesses are forecast to see the largest increase in average net cash farm income in 2022. The forecast increase in milk receipts is expected to be more than enough to offset higher expenses in lower government payments in 2022, on average. Average net cash farm income for cattle and calves and hog farm businesses is forecast to fall in 2022. But, for hog farm businesses, the average net cash farm income would still be relatively high in 2022.

By looking at how agricultural production is distributed geographically, we can project how average net cash farm income for farm businesses might be expected to change in 2022 by resource region. Six out of the nine resource regions are expected to see lower average net cash farm income in 2022, in nominal dollars. Farm businesses in the Northern Crescent are projected to see the largest increase at 12 percent. This region has a higher, or larger, concentration of dairy farms and leads the nation in milk production. On the flip side farm businesses in the Eastern Uplands are expected to see the largest decrease in average net cash farm income following the forecasted declines in government payments and higher expenses. This region has a lot of smaller farms and leads the country in equine and equine product production.

Up to this point, we've discussed the financial performance of farm operations, but this may not give an accurate or complete picture of the well-being of households that own and operate at farms. Farm profits are often shared with other stakeholders, like landlords and contractors, and the well-being of farm operator households is determined by a combination of on-farm and off-farm activities. So, now we're going to shift perspective a little bit again and look at all family farms, which account for 98 percent of the 2 million farms in the U.S. And we're going to look at the households of the farm operators.

Nearly 5 million people live in households attached to a farm. One measure of their well-being is household income. Farm households typically receive income from both farm and off farm sources. This chart looks at median farm income, off-farm income, and total household income. You know, the median represents the income level at which half of all households have lower incomes and half have higher incomes. Note that this chart is in inflation-adjusted dollars. At the median, income earned on the farm is low and is forecast to fall to a negative 986 dollars in 2022. Now if this seems low, or surprising, recall that half of all farms are residential farms which are small farms where the primary occupation of the operator is not farming. So this results in low, and usually negative, farm income at the median. Therefore, many farm households rely on off-farm income. Off-farm income sources include off-farm wage income, non-farm business earnings, dividends, and transfers. Median off-farm income is estimated to have increased 15 percent in 2021 and is forecast to remain relatively stable when inflation adjusted at 88,034 dollars in 2022. Total farm household income, at the median, increased about

11 percent in 2022 and is forecast to decrease four percent to 93,663 dollars in 2022, when inflation adjusted.

This is the last chart on household income, and it looks at the income by type of farm using the definitions that we talked about earlier. For households attached to residential and intermediate farms median household income, as shown by the blue line, tracks very closely with off farm income, which is the orange line, at the median. And off-farm income accounts for essentially all of the household income at the median. For households attached to commercial farms, so those- that's the far right, on-farm income is more important and tends to drive the trends in median household income. On-farm income- income for commercial farms is expected to increase nine percent in 2022 and drive most of the- sorry, I said increase, but decrease nine percent. Actually, it's close for ten. And drive most of the decline in total household income in 2022. For all types of farms median household income is expected to fall in 2022. With the median for households operating a commercial farm seeing the largest decline. So, hopefully I said it correctly there.

But all the information I presented today, and more is available on our website including a written description- description, or summary, of our findings. We also have data tables, charts, maps, and please check out our website for our new state level estimates for 2021. Also, in April we posted a new archive with historical data from prior farm income releases which can be useful in evaluating the reliability of our forecasts. Our next release is scheduled for December 1st, at which time we will update our 2022 forecast again.

Also, I'd like to just mention a new working paper that we released last week that provides information and analysis on the 19 financial ratios that we put out with each farm income release. And then, if you want to know- oops, just have one more. If you want to know more about accessing and using our farm income or ARMS data, there will be a data training webinar on September 27th. You can follow this link for more information about that webinar.

So, with that I'm going to close and I would be happy to take any questions.

Thank you, Carrie, we'll go ahead and open the floor up for questions now. As a reminder, questions can be submitted through the chat feature located at the bottom left-hand corner of your screen. So, for our first question: Carrie, why is net farm income decreasing while net cash farm income is increasing?

Right, um it can be- they don't always follow each other exactly because of their- their different conceptual basis. And, I think for this, for the 2022 the primary difference is coming down to this inventory adjustment. So, like I said earlier in the presentation, in the net farm income measure we're trying to record production and the value of production in the year in which it occurred. Not necessarily the year in which it was sold. Whereas the cash income measure just cares about when it was sold not when it was produced. So, in the net farm income measure we're making an adjustment for sales from inventories. And, in 2022 we're forecasting a largest- a large or about I think it's about a 12 or 13 billion dollar adjustment for sales from inventories. And so that's going to reduce the income in net farm income in that measure. Because instead those- that production which was harvested in 2021 but sold in 2022 was captured in our 2021 estimate for our- for farm income. So, if you kind of recall the very first chart I showed, I think I can bring it up here, net farm income had a much steeper increase in 2021. Whereas, and so, then it kind of leveled off in 2022. Whereas net cash farm income had a less steep increase, or dramatic increase, in 2021 but more of an increase in 2022 because of how we're shifting a recording income when it

was produced versus when it was sold. So, I don't think they're really contradicting each other but just kind of representing the different accounting principles behind the two measures. So, thank you for the question.

Thank you, Carrie. For our next question: why are farms specializing in dairy forecast to see such large gains?

Yeah, that struck me as well because when I talked about farm sector cash receipts there was a much stronger increase in farm sector cash receipts for broilers in particular than there was for milk. But both broilers and milk are forecast to see receipts increase quite a bit. So, what I think it came down to- comes down to it with the difference in that is that poultry farm businesses tend to be smaller than your dairy farm businesses. And, I think, farm but now- dairy farm businesses are generally on average are larger. And also- so that's a kind of contributing factor, it suggests that the average dairy farm is much larger than the poultry farm- I guess I'm repeating that a couple of times. But, you know, it resulted in a larger increase when we applied the sector forecast on top of it. And perhaps they- they were able to have a bigger margin a profit margin than these smaller poultry farms. Also, poultry farm businesses tend to have a higher share of expenses coming from items that we are forecasting to see the largest increase in 2022. Particularly items like this fuel and interest. Whereas dairy farms have a smaller share of their production expenses coming from fuel- from fuel and interest. So, I think those two things their relative size and the makeup of their expenses are contributing to the larger increase in average net cash income for dairy farms, relative to poultry farms.

Thanks, Carrie. Our next question is: with respect to fertilizer growth of 50 percent year over year, how much is price and how much is volume?

Yeah, thank you for the question. Unfortunately, with cash receipts we cannot separate the increase in production expenses into a price and quantity effect. Our forecast model does use indicators for both prices and quantities in forecasting out. So, we are forecasting our price indicator for forecasting fertilizer and line expenses are the NASS prices paid index. Which through June, had fertilizer prices in aggregate increasing 40 to 50 percent, I don't have a number right in front of me, so I think it is largely a price story for fertilizer. But we also consider in fertilizer our quantity indicator in our forecast I believe is the information on planted acres and production quantities. And, but ultimately, I do think it's strongly the higher prices that are contributing to the higher fertilizer expenses and less so any quantity increases, or any thought that the farmers are buying more fertilizer, at least on net for the sector as a whole.

Great. So, for our next question: what is the inflation rate used in the analysis?

Yeah, inflation's a big story right in 2022. On this slide uh I- I note that we're using an inflation forecast for calendar year 2022 of 5.9 percent. So, that is a factor- an inflation rate that we calculate using data from Oxford Economics which also considers the BEA GDP price index through the first half of the year.

Thanks, Carrie. For our next question: what is driving production expenses at a record high? Or which expenses are the biggest and which increases are the biggest contributors?

Yeah, that is- I should just not go through them so fast for you. On this chart, we itemize the increase and pretty much they're all going up so all types of spending categories are going up it's largely prices that are going up we look specifically at the commodities fertilizer expenses are

forecast to see the largest dollar and percentage increase relative to 2021. And then, I think, the next one is feed, because feed it has a large a smaller percentage increase, but it is the single largest category of spending for the farm sector. So, that's a pretty large dollar increase. And then, these are in order by percent change so if you wanted to rank them you would say fertilizer, fuels, and interest, are the top three based on their percentage increase, with kind of feed at the very bottom, being relatively unchanged. And, you know, ultimately what I think is contributing them to reaching this record high is the higher prices that farmers are facing for their production inputs generally across the board.

Thanks, Carrie. Next question: are any payments from the recent Inflation Reduction Act included in your forecast?

Yeah, thank you for that question. No, the IRA, or Inflation Reduction Act, was just what signed into law a week or two ago, so it was rather late for us to consider it into our forecast for today. But, at the same time, we did look into it, and we noted that a lot of the provisions in the IRA relating to farm operations were for in the future. They're kind of a longer term plan and not a lot of payments that we could anticipate are expected to go out in this calendar year. Certainly payments might start going out, um and I think that's starting before marking for the fiscal year, but for the calendar year um we think any payments are going to be small for calendar year 2022 and we just didn't have time to kind of get down into, you know, we started reaching out to our other agencies in USDA and it was just all too new for them to have any sort of projection on how much they might spend or make in payments in the last half of 2022. So, we are not factoring those in. But, come December if we think there will be payments in 2000- in calendar year 2022 then we'll incorporate them at that time.

Thanks, Carrie. We have a few more questions. The next one is: how is the forecast for fuel and oil expenses developed? There have been there's been volatility in the gas prices recently. Which prices are used in the forecast?

Yeah, I think it's no surprise to anybody that ERS is forecasting fuel and oil expenses to increase in 2022 given what we're all seeing at the gas pump. But, in particular, the forecasts that we use to make our forecasts are the short-term energy outlook forecasts that are put out by the Energy Information Agency, the EIA, and in particular we're looking at their 2022 forecast for gasoline, diesel, natural gas, and electricity, although electricity is a separate line item from fuel and oil. But those, yeah, those are what we are looking at and for all- for diesel, gasoline, and natural gas, the EIA is forecasting strong increases in 2022 for all three of them.

Thanks, Carrie. Next question: what are the main factors driving the differences in forecasted 2022 income across the resource regions?

The main factors, yeah, I'll get that map back up for you. Ultimately, it comes down to what commodities have yeah what- what is the concentration of commodities in these regions and then what is the forecast for those commodities um for the sector. Because all farm businesses we we're forecasting will have higher expenses and lower government payments. So, it just then becomes a question of whether- will their increase in cash receipts be high enough to offset those higher expenses and lower government payments. So, regions like that have like a lot of dairy, like the Northern Crescent, we think will have increases high enough in receipts to make average net cash income be growth, or you know, income on average growth in 2022. Whereas like kind of on the other side, the Fruitful Rim, that's a lot of well by its name it's a lot of fruit fruits and

nuts and we're forecasting cash receipts for fruits and nuts to decline in 2022. So that wouldn't be able to offset higher expenses and lower government payments. Yeah there's also some scale kind of going on whether a region has a lot of big farms or small farms can factor into this as well, but primarily, it comes down to what is the predominant type of farm, or commodity produced, within that- for types of commodities produced within that region that influences the trends that we see across the different regions.

Thanks, Carrie. Next question: when will you be forecasting the 2023 farm income?

We will be putting out our first forecast for 2023 in February. It's going to be very early February. I don't think we've actually set the date yet, but usually it's the first week or so in February and that will be our first forecast for 2023.

Great. Next question: how much are farmers benefiting from increased commodity prices versus impacted by higher input prices?

Well that to me is- is kind of the farm income forecast in a nutshell, that's what we're trying to get at with our net cash farm income and net farm income forecast is, you know, we have- we know we have these effects we know that, well we don't know, we're forecasting cash receipts will increase, pretty large increase, and we're forecasting that expenses will increase. So, with these forecasts for net income what they're telling me here is that we think that the benefits, or the gains, due to higher commodity prices that will result in higher cash receipts are going to be larger than the higher production, a higher production expenses due to higher input costs. So, that, you know, so that's kind of that's where I think this forecast comes out as, is saying on net profitability is going to increase, even factoring in higher commodity prices and higher input prices.

Thanks, Carrie. We have a couple more questions. Next question is: why do at least half of all farms earn negative income while farming?

Yeah, that's comes down to um the type of farm, right? Half of farms are what we call residential farms, meaning that their primary occupation is not farming. So, I think, under that circumstance it's not too surprising to me that your median farm is going to have negative farm income, because your median farm is probably a residential farm, so they have other income coming from other sources and they do not rely on the farm for their household living expenses, for example, or they may be a retirement farm. But I also don't want to dismiss the fact that even an income- a measure of farm household income or even a measure of farm income may not fully capture all the benefits, let's say, of living on a farm. Right? There's a quality of life for some people, there may be tax incentives for maintaining a farm even though it doesn't earn a profit, or you just want to keep the land because, you know, hoping that the land appreciates. So, I- but the primary reason I think it's negative, you know, for I'm not saying 50 percent of farms have negative income necessarily, but the median farm, the middle farm is likely a residential farm, so likely they're not relying on farm income for their household expenses.

Thank you, Carrie. And that is all that we have time for today. I wanted to thank you for giving a great presentation on the *Farm Income and Financial Forecasts, September 2022* update and thank you to all of our listeners for taking time out of your day to join us, we hope that this has been helpful.

As Carrie mentioned if you would like to learn more about ERS's farm income and wealth statistics please join us for our next data training webinar which will spotlight this topic as well as the agricultural survey data dissemination too. Carrie will be hosting this webinar alongside fellow economist Dipak Subedi on September 27th. Stay tuned for registration details on the ERS website.

Lastly, if you have not already done so we'd like to invite you all to download the new ERS charts of note mobile app. Available free of charge on Apple and Android devices, you can receive digital snapshots of ERS research delivered straight to your mobile device. In addition to our website and charts of note app you can find more ERS content on our social media sites including Twitter and LinkedIn. Again, thank you all for joining us today and this concludes our webinar.