# Farm Income and Financial Forecasts, February 2024 Update

Good afternoon, everyone, and welcome to today's *Farm Income and Financial Forecast, February 2024 Update* webinar. 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 you have any questions during the webinar, please enter them into the chat feature at the bottom left-hand corner of the screen for the questions and answers session at the end of today's presentation. We also have a couple links under the resources tab that will direct you to the *Highlights from the February 2024 Farm Income Forecast* web page on the ERS website as well as information about the upcoming Agricultural Outlook Forum which Carrie and I will share a little bit more about later in this 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. Thanks for joining us today, Carrie, the floor is yours.

Thank you, Liz, and to everyone online, thank you for joining me today as I present the latest USDA short-run forecasts on farm sector income and wealth for the United States. I do not have a crystal ball, unfortunately, and so these forecasts are based on expectations… are really expectations based on trends and current information with the goal and objective of providing useful information to policy makers, lenders, farmers, and others who are interested in the health of the farm economy. And that, in fact, is the goal of the USDA farm income- income and finance program which is to measure, forecast, and explain indicators of economic performance for the U.S farm sector. We release forecasts three times a year and with today's release we are putting out our first calendar year forecast for 2024 and we've updated our forecasts for 2023 to include some new and revised data as it has become available since our last release on November 30th.

So, what does our forecast cover? First, the data covers the farm sector as a whole, which is comprised of just slightly under two million farms and ranches who operate about 900 million acres of land. About 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- on their finances by type of farm and by region. Lastly, we'll take a quick look at the well-being of the over- or the nearly five million people who live in households that operate a farm.

Here's an overview of what we're forecasting for 2024 and what I'll be covering in today's webinar. Starting with profits for the farm sector as a whole, which are forecast to decline in 2024. Net cash farm income for calendar year 2024 is forecast to fall 24 percent relative to 2023, in nominal dollars. And net farm income is forecast to fall almost 26 percent. Many factors are

expected to contribute to declining income in 2024 including cash receipts from crop and animal product sales, which are expected to decrease $21 billion, or 4 percent, in 2024. Also, direct government payments are forecast to decrease almost $2 billion, or 16 percent. And total production expenses are forecast to increase almost $17 billion, or 4 percent. On the farm sector balance sheet, farm sector assets, debt, and equity are each forecast to increase with equity forecast to increase 4.7 percent. When we simulate how these changes in income and expenses might affect farm businesses on average, we're forecasting that average net cash farm income for farm businesses will decrease 27 percent, in 2024, to about $72,000. Now these farm businesses are larger farms and those where the operator's primary occupation is farming. Lastly, for those households that operate a farm, median total farm household income is forecast to hold relatively steady at $99,445, again that's at the median. Note that all the values in this slide are in nominal dollars, meaning I'm making no adjustment for inflation but many of the charts later on, especially charts where I look at a long time series, are going to be adjusted for inflation.

And that includes this very first chart here. So, this chart is in 2024 dollars, so we are adjusting inflation- prior years the data values for prior years to account for inflation.

Farm profits, or net income, reached a record high in 2022 and are forecast to continue to fall into 2024. We have two primary measures of farm sector income, or profits. First, the yellow line, that's net cash farm income, and that includes cash receipts from farming, or sales, as well as cash farm related income and government payments to farmers, less cash expenses, or the costs that farmers incur to produce their output. Net cash farm income in 2023 is forecast to have fallen 23 percent, or about $50 billion, from the record high in 2022. And in 2024, net cash farm income is forecast to decrease further about 26 percent or $42 billion. That would put net cash farm income in 2024 at its lowest level since 2016. 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. Net farm income is forecast to have decreased about 19 percent, or $37 billion, from 2022 to 2023. And in 2024 is forecast to fall 27 percent or $43 billion. This would put it above its 2020 level or keep it above its 2020 level. With these expected declines, both measures in 2024 are forecast to fall below their 20-year average. Net farm income, the blue line, is forecast to be just slightly below its- it's 20-year average at about $118 billion. While net cash farm income is forecast to be 14 percent below average.

When measuring or estimating and forecasting net farm income we start from the bottom up, meaning that we first me measure its component parts. And this allows us to identify what it's driving the change in income from 2023. Note, this chart is in nominal dollars. I know there's- fortunately there's a note at the bottom is wrong- it is not inflation adjusted, but it's nominal. And it shows that many factors are contributing to the forecast decline and net income in 2024. So, in this chart we have on the far left the farm income forecast for 2023 at $155.9 billion and at the far right we have the forecast for 2024 at $116.1 billion. The red bars would indicate which items are contributing to the forecast decline in net income, which is almost all of them. So, if we work our way from left to right, crop receipts or sales are forecast to decrease by $16.7 billion. When

combined with the adjustment for the change in inventories for crops, the value of crop production is forecast to decrease $18.6 billion in 2024. Note, this inventory adjustment is to account for changes in crop inventories as net farm income is a measure of the value of current production in that year. Animal and animal products, which are labeled here as livestock receipts, are forecast to decrease $4.6 billion. Further reducing income in 2024 are production expenses which are forecast to increase- sorry 16.7 billion dollars in 2024. Higher expenses would lower farm income hence that's why it's in red. Additionally, direct government payments to farm operations are forecast to decrease by $1.9 billion. So, in nominal dollars, net farm income is forecast to decrease almost $40 billion, or almost 26 percent.

Cash receipts are the largest source of income to the sector and often drive the trends in net income. This chart looks at the totals for cash receipts since 1970 in inflation adjusted dollars. In 2022, total cash receipts, that's the blue line, for all commodities reached an all-time high even when prior years are adjusted for inflation. In 2023, total cash receipts are forecast to have fallen 9 percent following similar declines in both aggregate crop and aggregate animal and animal product receipts. In 2024, total cash receipts are forecast to fall further by 6 percent, but despite these declines cash receipts, in aggregate, are expected to remain above the 2021 level. Crop receipts are forecast to fall 8 percent in 2024, while total animal and animal product receipts are forecast to fall less, at about 4 percent in 2024.

We can also look at cash receipts by commodity. Note, these are calendar year forecast so not a marketing year forecast or- or a crop year forecast. And the data here is also an inflation adjusted dollars. We forecast receipts for about 25 different crop commodities, or commodity group groupings, and this chart focuses on some of the major crops. Receipts for corn and soybeans are expected to drive most of the decline in total crop receipts in 2024 and this is following expectations for lower prices received by farmers for corn and soybeans. Corn receipts are forecast to decline 16 percent, or about 13 billion, and soybean receipts are forecasted to decline 12 percent, or about 7 billion dollars. Vegetable, melons, wheat, and cotton receipts are also forecast to fall in 2024 relative to 2023. The one outlier on this chart are receipts for fruits and nuts which are actually forecast to increase almost 1 percent in 2024 due to expectations of higher prices for fruits and nuts.

Cash receipts for all categories of animal and animal products are also forecast to decrease in 2024. Cattle and calf receipts, which have steadily increased in recent years, are forecast to see the largest dollar decline from 2023 at about $3 billion, or almost 4 percent. This decline follows expectations for lower quantities sold in 2024. Egg receipts are forecast to fall nearly 14 percent due to forecast lower prices. Receipts for dairy and broilers are forecast to continue to fall in 2022 after strong increases in 20- sorry they're supposed to fall in 2024 following strong increases in 2022.

The primary factors behind the expected decline in cash receipts in 2024 are lower price is received by farmers for their commodity production. Through a simulation, we can deconstruct

the change in cash receipts into a price effect and a quantity effect. In other words, we can identify whether changes in prices or quantities sold are driving the change in cash receipts. So, if we start from the left on this chart, in 2024 total crop receipts are forecast to fall $24.2 billion dollars due to lower prices, that's the red bar. If prices instead were held constant, higher quantities sold in 2024 would raise cash receipts $7 billion, that's the purple. When combined, these two effects result in total cash receipts being forecast to decrease $16.7 billion, that's the green bar. For animal and animal products, both lower prices and lower quantities sold are contributing to the forecast decline in cash- in receipts. And, in total, so both combined crops and animal product cash receipts are expected to be lower driven by lower prices.

Direct government payments are another source of income to farmers. We define government payments as payments made directly to farm operations by the federal government, generally from farm programs. And we record them in the year in which they were received by farmers. Government payments reached a record high in 2020 because of COVID Pandemic Assistance to Farmers, that's the purple- the two purple bars. And in each year since, total government payments have declined. Note that this this chart is an inflation adjusted dollars. In 2022, more than half of government payments were from non-pandemic supplemental and ad hoc disaster assistance, which is shown by the gray bar. This includes payments from farm programs such as the Emergency Relief Program, the Livestock Forage Program, and the Wildfire Hurricane and Indemnity program. These supplemental and ad hoc payments totaled $12 billion in 2022, about $7 billion in 2023, and are forecast to decrease to a little under $6 billion in 2024. Still, these payments are expected to account for more than half of total direct government payments in 2024. Payments that are a function of commodity prices, as represented by the orange bar segment, are expected to decrease further in 2024. In recent years, this category largely represents payments from the Agriculture Risk Coverage, Price Loss Coverage, and Dairy Margin Coverage programs. Conservation payments, the green bar, are forecast to increase about 10 percent, or $4 billion, in 2024. In total, government payment are forecast at $10 billion for 2024 and that would put them below average for the past 20 years.

This chart looks at government payments relative to the rest of net farm income. It also includes another source of income to farmers which are commodity insurance indemnities, or payments to farmers, for losses that are covered by insurance. This chart is an inflation adjusted dollars. The top peach bar shows indemnity payments to farmers less premiums paid by the farmer for federal commodity insurance. Or you- I like to call this net insurance payments. Net insurance payments are forecast to decrease about 4 percent in 2024. The darker orange bar segment shows direct government payments, which I talked about in the previous slide, which when adjusted for inflation are forecast to decline almost 18 percent. The gray bar represents net income excluding these net insurance and direct government payments. In 2024, net farm income less net Insurance and government payments is forecast to fall almost 30 percent, yet remain above the 2015 through 2020 levels, and near the average next.

Let's next look at production expenses which are the costs incurred by farmers to produce their agricultural output. These include items such as feed, fertilizer, hired labor. This chart shows total expenditures, both cash and non-cash, in nominal and inflation adjusted dollars. In 2022, total expenses increased significantly, $56 billion or 15 percent in nominal terms, or 8 percent when adjusted for inflation. In 2023, total expenses stabilized with them increasing in nominal dollars, but at less than rate- the rate of inflation. So, their forecast to have decreased in inflation adjusted dollars, about 2 percent decrease. In 2024, expenses are forecast to increase almost $4 billion nominally, or $1.6 billion when adjusted for inflation.

When we look at expenditures by category, most expenses are forecast to increase in 2024. Now, I'm switching to nominal dollars and this chart compares expenditures by category in 2022, 2023, and 2024. Items above the dotted line are those where we expect spending to increase. Livestock and poultry purchases are forecast to see the largest dollar and percent increase from 2023 to 2024 at eight percent. This follows prices for cattle and calves, in particular, which are expected to continue to increase in 2024. Labor expenses are also forecast to continue to increase in 2024 as wage rates have been trending upward. Spending on feed, fertilizer, and pesticides is forecast to increase in 2024, but remain below the 2022 levels. Below the dotted line, spending on fuels and oils is forecast to fall following the Energy Information Agency's short-run energy outlook for lower diesel and gasoline prices. And net rent is also forecast to decline in 2024.

Despite expectations that income will continue to fall in 2024, the farm sector balance sheet is forecast to remain strong. The balance sheet provides information on the value of assets, both physical and financial, and the level of debt in the U.S. agriculture sector over time. And it's another tool that we can use to gauge the health of the farm sector. Farm sector equity, that's the value of assets less debt, is shown by the green area and it has increased every year after 2019. But its growth is expected to slow some, from three percent in 2022 and 2023 to two percent in 2024. This forecast growth in equity largely reflects increases in the value of farm sector real estate assets, which represent about 80 percent of total farm assets. Real estate assets are the value of land and buildings are forecast to increase four percent in 2024, in inflation adjusted dollars. The amount of debt held by the farm sector, which is shown by the blue area at the bottom of this chart, has generally been increasing in inflation adjusted dollars. But in 2022, debt fell two percent that was the first decline since 2012. It is forecast to have grown one percent in 2023 and to increase nearly three percent in 2024 following higher real estate debt levels.

Another way to look at the balance sheet is by looking at the amount of debts relative to assets and relative to equity, as a percentage. These are solvency ratios which provide a measure of the sector's ability to repay financial liabilities, that's debts or loans, through the sale of assets. And it can be an indicator of financial stress. These ratios started to improve in 2021, as indicated by a declining value. In 2024, the forecast has remained relatively stable, putting them nearly at their 10-year average. It is important to note that these solvency ratios are for the sector as a whole. There is a lot of variation in the amount of debt held by individual farms. Additional financial ratios including liquidity measures, the profitability measures, are available on our website.

But I'm going to give you just a couple more to look at that may indicate financial stress, or the level of financial stress in the sector. And that is the bankruptcy rate and debt service ratio. In recent years, the farm bankruptcy rate has trended down. In 2021, chapter 12 bankruptcies fell about 50 percent and have continued to fall according to data from the U.S. courts. In 2022 and 2023, the bankruptcy rate was less than one per 10,000 farms. The debt service ratio, as shown by the line on this chart, describes the share of production income, or gross income, needed for debt payments and is one measure of liquidity, or the amount of capital readily available as cash to the farm operation. This ratio has been trending down in recent years, and lower is better, suggesting improved in liquidity. But it is forecast to rise in 2023 and 2024 as the value of agricultural production, or production income, is forecast to decline and interest rates are forecast to rise. Meaning that more income is needing to going- is needed to go towards making debt payments.

So far, we've been discussing forecasts for the farm sector as a whole. Now let's look at farm businesses which I think are an important subset of all farms. Farm businesses are defined as all farms where the primary occupation of the operators of the operator is farming plus those farms that had $350,000 or more in gross cash farm income. So, that's income before expenses. According to data from the 2022 Agricultural Resource Management Survey (ARMS), just under half of all farms meet this definition as represented by the blue and orange segments for intermediate and commercial farms. While residence farms, that's gray, and are those farms where the operators retired or whose primary occupation is not farming make up 52 percent of all farms. However, commercial and intermediate farms account for over 90 percent of agricultural production and they most- they hold most of the sector's assets and debt, which is why think it's important to look at them in isolation. Using farm level data from the 2022 ARMS we are able to do a microsimulation and project how average income levels in 2023 and 2024 may change based on the forecast for the sector as a whole. And we can break down these forecasts for farm businesses by income specialization and geographic region. So, we're sifting perspective here and looking only at farm businesses plus 48 percent of all farms and at average net cash farm income levels.

Let's start by looking at farms that specialize in crops, this is inflation adjusted. On average, farm businesses regardless of their specialization or geographic region are expected to see cash receipts and government payments decline and production expenses to rise in 2024 relative to 2023. This is following the sector forecasts. Using ARMS, we can categorize farms by commodity specialization meaning at least 50 percent of the value of production come from a particular commodity. Average net cash income for all types of crop businesses specializing in- to all types of farm businesses specializing in crops is forecast to be lower in 2024. Farm businesses specializing in wheat are forecast to see the largest percent decline at nearly 52 percent. And note, that wheat farms are the only farm businesses where we're forecasting average net cash farm income to have increased in 2023. Farm businesses specializing in specialty crops that includes fruits, nuts, vegetables, nursery, are projected to see the smallest decrease in 2024,

net cash farm income, on average. And this reflects the expectation that fruit, and nut cash receipts may- will increase slightly in 2024 which would help to reduce the decline in average net cash farm income.

For farm businesses specializing in animal and animal products, we're also projecting that farm businesses across all specializations will see average net cash farm income drop in 2024. Dairy farm businesses are forecast to see the largest decrease in average net cash farm income in 2024. This reflects in part lower forecast government payments and higher expenses in 2024. For farm businesses specializing in cattle, average net cash farm income is forecast to have increase slightly in 2023 but then to fall in 2024 and this is following the forecast for cattle and calf cash receipts.

We can project how average net cash farm income for farm businesses can be expected to change in 2024 by resource region. We can do this by looking at how agriculture production is distributed geographically and also you know the differences in, you know, regional differences in farm size. Across all farm businesses, average net cash farm income is forecast to decrease 27 percent from 2023 to 2024. Again, this is this following the sector. All nine resource regions are projected to see lower average net cash farm income in 2024, in nominal dollars. So, I've gone back to nominal here. Farm businesses in the Northern Great Plains and Prairie Gateway are projected to see the largest decline at 34 percent, but really that's not that much more than what we're seeing for all of the other regions. In the Eastern Uplands, average net cash farm income is forecast to have the smallest increase at 14 percent. Now this region has a lot of smaller farms and has the lowest average net cash farm income of all of the regions.

Up to this point, we've discussed the financial performance of farm operations. But this may not give us a complete picture of the well-being of households that own and operate farms. Farm profits are often shared with other stakeholders, like landlords and contractors, and the well-being of farm operator household is determined by a combination of on farm and off farm activities with the majority of household income generally coming from off the farm.

So, now we're going to look at all family farms which accounted for about 97 percent of all farms and the households that operate them. There are nearly 5 million people who live in household attached to a farm and one measure of their well-being is household income. This- farm households, I said, typically receive income from both on and off farm sources and this chart looks at median farm income, off farm income, and total income. The median represents the income level at which half of all households have lower incomes and half have higher incomes. At the median, income earned on this farm- on the farm is low and is forecast at minus $1,198 in 2024. Meaning that the median farm household operating a farm is operating at a loss, they're losing money from the farm. But recall that 52 percent of all farms are residential farms which means it's not their primary occupation and there are small farms. So, this results in low and usually negative farm income at the median. Therefore, many farm households rely primarily on off-farm income. Off-farm income sources include off-farm wages, or jobs, non-

farm business earnings, dividends, and transfers. Median off-farm income is forecast to remain relatively stable in 2023 and in 2024. With adjusted for inflation it's forecast to increase less than 1 percent in 2024. Total farm household income, at the median, is forecast to decrease in 2024. It it's a decrease of 0.1 percent in nominal dollars or 2.2 percent when adjusted for inflation.

This chart looks at farm household income by the type of farm that the household operates. For households attached to a residential or intermediate farm, median total household income, as shown by the grey line, tracks very closely with off-farm income, that's the orange line, and it is forecast to decrease slightly in 2024. Off-farm income accounts for essentially all of the household's income at the median for residential and intermediate farms. For households attached to commercial farms, on farm income is more important to the household's total income. Farm income, that's the blue line, for commercial farms is expected to decrease 31 percent in 2024 and it's driving the forecast 20 percent decrease in total household income for farms- for households operating a commercial farm.

The information I presented today, and more, is available on our website now. We have data tables, charts, maps, and written summary of our findings. We also have state level estimates through 2022. Our next release is scheduled for September 5th, at which time we will update our 2024 forecast and we will release U.S. and state level estimates through 2023.

Also, I think this month is particularly exciting due to a couple of upcoming events. On February 13th, the National Agricultural Statistics Service (NASS) will be releasing data from the 2002 Census of Agriculture, which to me is an invaluable source of information on farms in the U.S. Then on February 15th and 16th, USDA will be hosting the 100th Agricultural Outlook Forum. There are more than 30 sessions discussing hot topics in agriculture including the Farm Income Outlook. It's not too late to register and registration is free if you're attending virtually. And lastly, you might also be interested in the ERS report on Socially Disadvantaged Women- Socially Disadvantaged Women and Limited Resource Farmers and Ranchers which was just released on February 1st.

With that, I am going to turn it back over to Liz who can lead us in some questions and answers.

Thank you so much for that great presentation, Carrie. Let's 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.

For our first question: why is the data for 2023 still considered a forecast?

Yes, you're correct. It is still considered a forecast even though the year is over and done with and that is because we don't yet have complete data for 2023. And much of the data we are using for this forecast are still projections, like the commodity price and production- production forecast for the 2024 marketing year. With our next release, we're going to turn this forecast into an estimate because we'll be able to incorporate survey level data for 2023. In particular, we'll incorporate data- preliminary data from the 2023 Agricultural Resource Management Survey,

which provides us with solid data on production expenses much- among other things and we'll also incorporate NASS data from the upcoming crop values report and other NASS data, which will become available later in this year. So, until you know, we'll have more survey-based data or observe data to allow us to change the forecast into a projection with our next release.

Thanks, Carrie. For our next question: do you expect transportation expenses to rise in 2024?

We do not forecast transportation expenses separately from other expenses, but we do forecast that aggregate marketing storage and transportation expenses combined will increase in 2024 as we project prices for these items are have been generally increasing. But like I said, we don't forecast out separately transportation costs but they're part of this total that we do expect to see increased expenses for.

Got it, thanks Carrie. For our next question: is the predicted decline in net farm income the largest year-over-year decline in history? Can you give us a sense as to how big this drop is compared to other years?

I'm going to put this chart back up here. I'm looking- I haven't done the math recently so I can't remember for sure if it is actually the largest dollar decline or if it's even maybe perhaps the largest two-year decline. We certainly saw large declines, especially in net farm income after 2023- sorry 2013 across through 2016 and I think that was the previous record for the largest multi-year decline. But without doing the math, ultimately yes, the decline- these are pretty large declines over our two-year period. But I can't for certain say if they're the largest on record. But we do have all of the historical data on our website we have farm income going back to 1929.

Wonderful, thank you Carrie. Our next question is: do you know what the primary drivers of decreased crop prices are?

That's a little beyond my expertise. I'm not a commodity analyst so I can't really get into the factors on what are driving these lower prices. For, you know, the information we get largely comes from the World Agricultural Supply and Demand Estimate report and also internal analysts here at the Economic Research Service who are commodity experts. And we regularly put out Outlook reports, so if you're interested in price, you know, declines for the different commodities I suggest you check out those Outlook reports to give, you know, a better idea of what is really pushing down prices or expected to push down prices in 2024.

Thanks Carrie our next question is: is the decline in quantity cattle sales due to an increase retention of heifers?

Yeah. You're right, it is you know we think cattle sales will fall because of a lower quantity of sales, but again, this is a little beyond my expertise we have cattle experts here at ERS who can probably better answer that question or, you know, even data from the WASDE might provide some insight. But, you know, recent reports did come out that inventories for cattle are quite low right now which is it's kind of furthering the expectation that sale quantities will be low.

Got it, thanks Carrie. Our next question is: why is net cash farm income in 2024 forecast to be so much below its average while net farm income is forecast to be very near its average?

Yeah, this is the right chart to be looking at for that question, I think. And there are a lot of factors here, but I was interested in this as well and when I looked at when I looked back into it, you know, it ultimately came down to- I thought to the fact that the net farm income measure in recent years, so like in the past three or four years, has been boosted by noncash income. At least that's part of it, meaning- you know, because the net farm income includes non-cash income so, in particular, it's the main item non-cash income is what we call the gross imputed rental value of farm dwellings. So, that's the value that farmers get from living on the farm rather than having to pay separate rent or have a separate mortgage on a farm dwelling. And that imputed value or, you know, implied value has increased in recent years which has boosted farm income and has made that gap between farm income and net cash income quite a bit smaller. And another factor kind of making that gap smaller is that capital consumption or, you know, that's sort of a measure of depreciation or how much the value of capital assets that are used up. That's included in the net farm income measure and that also has declined, well I say also, it declined but when it's smaller it means that it's raising income because we subtracted out. But that's a non-cash expense that changes in that expense have kind of boosted farm income in recent years putting it farther above its average than, you know, what net cash income has been, if that makes sense. So, just to kind of simplify it again, I think the reason farm income- net farm income is forecast to be nearly at the average rather than below it is because these non-cash items have been boosting farm income in recent years, so it's gotten further above the average relative to what we're seeing with net cash farm income.

Thanks, Carrie. Our next question is: are the federal commodity insurance indemnities the same as the payments to the farmers from the insurance guarantee floor prices?

I don't know if I quite understand the last part of that question but, Federal Insurance Indemnity payments are the payments that farmers receive for losses that are covered by insurance. So, different insurance products out there but any insurance payments that they get that's what's included in the gross indemnities, you know, so how much they receive.

Got it, thanks Carrie. One second. All right for our next question: how is the cost for feed expected to increase when cash receipts from major feed grains and hay are declining so dramatically?

Yeah, in forecasting feed we look at both expected changes in the amount of cattle on feed and or all animals not just cattle. But most importantly in this case, the price of feed. And we- to forecast out the price in feed we're largely relying, at this point, on historical trends. I mean and we're talking kind you know kind of longer historical trends. Because right now we have data on prices paid for feed through November, or at least we did the forecast I believe the December data just came out like a week ago from NASS, but we're looking at prices paid through 2023 and then projecting that forward using historical trends. And those trends have generally been

upward even though they did decline in 2023. You know, that's really kind of the explanation using our usual models is, you know, forecasting that feed costs will increase and that thus feed expenses will increase. But, you know, we'll just kind of have to wait and see if that actually happens and yes, we are expecting like corn prices to fall in 2024, particularly for the 2024 crop that hasn't yet even been harvested. So, that also kind of factors into it that even though we're expecting prices for corn to drop further in 2024, that isn't until it's already been harvested in 2024.

Thanks, Carrie. Our next question is: are farmer still allowed bonus capital expenditure depreciation as a tax offset?

I am not the tax expert here at ERS, but we do have some people who could better answer that question. But I would say, in relation to what I work on the farm income and wealth statistics, we don't look at tax data in estimating or forecasting farm income. And so, that really isn't a question that is pertains to our forecasts right at this period. And I would just have to refer you to the ERS website, if you just kind of type in taxes on the website page I'm sure it would direct you to the topic page and the contact for understanding what the current tax policy might be regarding farmers.

Thanks, Carrie. This question is a little bit of a follow up: but what do you expect farm equipment capital expenditure to do?

Yeah, we didn't- I didn't talk about capital expenditures at all remember report today but that is something that we do estimate and forecast. Because when we measure- when we calculate net farm income and net cash farm income, we're not including in that like tractor expenses or, you know, machinery expenses because those are capital expenditures that, you know, generally only happen, you know, not every year so those aren't in the farm income measures except for when we calculate capital consumption for the net farm income measure. But I'm probably getting off a little bit. But for capital expenditures for machinery and vehicles we are forecasting that those expenditures will continue to increase into 2024.

Thanks, Carrie. Our next question is: is this slight increase in feed costs due to an increase in quantity purchased or prices?

I think it's primarily prices. I think that's where it mostly is at, because as I talked about earlier a lot of inventories for animals, particularly cattle, are particularly low right now. But, you know we- they- you know, but there is expectations that they may start to increase which would then put some pressure, you know, upward pressure on feed but I think mostly at this point for this forecast and the way that we did it it's mostly an expectation of kind of prices trending back upwards after they declined in 2023.

Thanks, Carrie. Our next question is: for livestock cash receipts both prices and quantities are projected to decrease. Do you have a breakdown of which commodity is driving down the prices?

I am going off my memory here. It's not cattle and calf, I can tell you that because we actually expect cattle and calf receipts the prices for them to increase in 2024. So, then I think it likely and largely comes down to the other commodities, milk is one that I'm- I that stands out for me that, you know, we think milk prices will fall a little bit based on the WASDE data in 2024. And we- and yeah, so I think it's most of the other livestock or animal and animal product categories where we're expecting prices to fall. But there's a little more discussion I keep sending everybody to the website, but on our website, we have a little more detailed discussion of the price and quantity effects or, you know, particularly when we talk about the individual cash receipt commodities that might give you the insight, you're looking for there on our farming commonwealth statistics topic page.

Thanks, Carrie. We have a few more questions for you today. Our next one is: should we expect an increase in bankruptcies in 2024 given the expected reduction in net income and another increase in interest expenses?

Well, we don't forecast out- well we're not forecasting out farm bankruptcies yet for 2024, which is why it's kind of left blank on this chart. We will start forecasting it once we get at least the first quarter's worth of data from the U.S. Courts. But certainly, I think there are some indications that it could fall lower as you- as was mentioned in the question farm income declining. I talked about the debt service ratio that is forecast to worsen, in this case rise, and back, you know, in earlier time period I think it was around 2000- well trying to think, I've seen it in the past that as- actually I think, I tried to pick it out in the chart which I probably shouldn't do this this quickly but, sometimes a rise in the debt service ratio precedes a rise in the bankruptcy rate and then with some of our other financial ratios that we have available on our website, like work- well working capital. It's not a ratio, but we are forecasting working capital to decline in 2024. So, that could possibly increase bankruptcies but we're not putting out a forecast at this time, not quite yet.

Thanks, Carrie. Our next question is: wheat's average net cash farm income is forecast to decline by over 50 percent, why is that?

Yeah, so this is the chart where we looked at average net cash farm income for farm businesses. And what I have noticed in the data is that farms primarily engaged in growing wheat tend to have higher expenses, on average, when compared to the average for all farm businesses. So, the forecast increase in expenses in 2024, particularly for like expenses like fertilizer and pesticides which would affect wheat farms you know notably, is expected to affect these wheat farms more than maybe some other types of farms. Also, among crop farms, wheat farms tend to have the highest share of income coming from government payments. That was shown in the 2022 ARMS data. So, this forecast decline in government payments might affect wheat farms more as well. But then, I do want to know as- as I said in the presentation. Wheat farms were the only category of farm businesses where we projected an increase in 2023. So, this is kind of a fall back after that increase.

Thanks, Carrie. We have one more question for you today which is: why has dairy average net cash farm income declined so much since 2022?

Yeah, so that's on this chart and it is pretty striking that we had such a high level of average net cash farm income in 2022. And that is based on the ARMS data so that's reported and observed information. And in 2023 and 2024 we're expecting that average net cash farm income to decline and that is primarily, you know, or largely due to lower cash receipts in 2023 and 2024 for milk. And also, you know, we talked a little bit about, you know, if feed costs go as, you know, increase as we expect that would also produce or pressure or lower average net cash farm income for dairy. But, you know, these are all projections so it's just kind of a simulation here so it doesn't really take into account how farmers might behave differently with these with, you know, as prices go down for like their commodities, or how expenses go up. But yeah, that- that is among the animal products or animal farms that's- that is the category of the type of farm we're expecting the largest decrease.

All right, I think that's all that we have time for today. Carrie, thank you so much for a great presentation and thank you to all of our listeners who took time out of your day to join us. We hope that this has been helpful. As Carrie mentioned, the Agricultural Outlook Forum is next week in Arlington, Virginia. At this forum you can hear again from Carrie who will be presenting alongside several other ERS economists on different data, ERS data and research. This forum is free to attend virtually, and you can learn more about it by clicking under the resources tab under your screen. Before closing I'd like to share a few to stay up to date on ERS Research. In addition to our website, we also have our charts of note mobile app which delivers digital snapshots of ERS research straight to your mobile device. ERS is also on social media, and you can follow our account on LinkedIn and X, formally known as Twitter. Thank you all for joining us today and this concludes our webinar.