

Webinar Transcript: [Data Training Webinar: Agricultural Baseline Database - YouTube](#)

Good afternoon, everyone. My name is Ashley Murdie, your host for today's webinar. On behalf of USDA's Economic Research Service, welcome and thank you for joining us in the second of our data training webinar series. Today's webinar will feature ERS Economist Matthew Miller as he spotlights the agricultural baseline database, including how the projections are made and used, highlights from recent projections, and how to find the data on our website. As part of the data training webinar series, this webinar is meant to teach those interested in ERS data how to access and fully utilize our many data products and what better way to do so than connecting you directly with the experts. In the year ahead, this webinar series will continue to connect viewers with ERS specialists for a variety of data products. If interested, a full schedule of the series can be found on our webpage which we'll link to in the message center here shortly. Before I introduce our speaker, I'd like to remind you that 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 and our Economist will answer them during a Q&A session following the presentation. Now, it's a pleasure to introduce our speaker, Matthew Miller. Matthew is an Agricultural Economist in the agricultural policy and modeling branch of our Market and Trade Economics Division, where he's responsible for planning, conducting, and leading integrated studies, analysis, and data development projects on a variety of economic issues. Thanks so much for joining us today, Matthew, the floor is yours.

Thanks al- Ashley. Hello and good afternoon. My name is Matthew Miller and today's presentation is intended to provide an overview of the USDA's agricultural baseline projection data. Eric Dohlman and Jim Hansen have kindly volunteered their support and expertise to help answer any questions at the end of the presentation.

In order to best explain the long-term projection data, we will answer some basic, but key, questions: what, when, why, how, who, and where. During the presentation you may notice that I will refer to the USDA agricultural projection data as the baseline projection data, or just the baseline data. I want to be clear that there's no difference between these terms. Within ERS, we commonly use these terms when referring to the long-term agriculture projection data. Part of the reason we use the term baseline is because the long-term projections provide a foundation for further analysis which can focus on key, long-term underlying trends.

And before I start diving into what the baseline projections are. I'd like to emphasize that what is being covered is a projection and not a forecast. Many people will use these terms interchangeably, but there are important differences. A key difference between forecasts and projections is how assumptions are used in their development. A forecast will use current and past trends, in combination with assumptions that certain variables, such as weather policies, will change based- will change based on certain expectations, such as cyclical weather events caused by El Nino, or the expected makeup of a government's leadership. A projection, like the baseline, will use recent and historic data while assuming that variables such as weather and policies will

remain constant. A baseline projection is meant to represent underlying trends, such as economic growth, population growth, and dietary preferences.

Now let's get into what the baseline projections actually are. They are 10-year projections that cover both domestic and international major agricultural commodities, which include both crop and livestock products. They are prepared each year using data through the October World Agricultural Supply and Demand Estimates, commonly referred to as the WASDE. Except in the few instances where it is noted otherwise. The projections are formed using a dynamic partial equilibrium simulation model of agricultural commodities, production consumption, and trade. And are based on biologic and economic factors. Policies. and natural resource constraints. This simulation modeling system is similar to the ones used by the Food and Agriculture Policy Research Institute, the Organization for Economic Cooperation and Development, the Food and Agriculture Organization, and the E.U. Commission. There are 44 countries and regions modeled, which are used to capture the entire world. Equilibrium in global trade in world prices for all agriculture commodities, balances, and is solved for. Numerous policy instruments incorporate are- are incorporated in the country models. Some examples are tariffs, subsidies, tariff rate, quotas, export taxes, water constraints, just to name a few. The countries, commodities, and variables used in the models will be discussing greater detail in the coming slides.

Listed on this slide, are members of the USDA Interagency Agricultural Projections Committee. As you can see, it's a rather large group and, as a result, it requires a great deal of organization throughout the year by the ERS domestic and international baseline coordinators in order to incorporate expert judgments into the models. There are six international workshops that take place in September and six domestic workshop workshops that take place in October. This allows adequate time for the dozens of individual experts who contribute to the baseline to express and explain their understanding of the current agricultural environment and what they believe will occur in the future.

This graph depicts the most current example of the real Gross Domestic Product assumptions used in the development of the projection. The blue columns indicate the past 10 years average annual percentage change. While the orange columns indicate the projected average annual percentage change in real GDP. Assumptions about real GDP growth can have significant impact on the models since populations consumption preferences can change with their respective income level. Which, in turn, can impact trade. Plainly put GDP growth is a significant variable in projection outcomes.

The graph on this slide provides an example of one of the projections. This is show- this is showing us U.S. corn demand and the shaded region on the right side of the line graph indicates the 10-year projection period. One of the more interest- interesting features of this one- of this graph is the increase in ethanol production from 2005 to 2010. This increase was the result of the renewable fuel standard. But, as you can see from the shaded projection period, ethanol

production is expected to remain relatively flat. The baseline projections often have relatively constant slopes with only slight variations due to their long-term disposition. This graph, and the previously presented graph, along with many more, can be located in the *USDA Agricultural Projections to 2031* report which was made available on February 16th of this year.

Okay, so now we've covered the experts who have input into the projections, some of the assumptions that affect the projections, and an example of projections that are used in the baseline report. Let's now look into the models which are used to produce the projections. The table on this slide represents the 44 countries and regions modeled. You may notice that there are aggregated regions, such as the European Union, or Other Middle East. These regions are aggregated in some cases due to the countries in the area being relatively agriculturally insignificant. Or because the countries in the area produce, or trade, a limited number of agriculture commodities. This is best reflected in Africa where there are three aggregated regions.

The prior slide showed the 44 countries and regions modeled. This table represents the complete list of commodities that are included in those 44 models. I will note, that not all models include each of these commodities and the baseline report and data that are released do not include information on all of these commodities. The major commodities that are included in the releases are barley, beef, corn, cotton, pork, poultry, rice, sorghum, soybeans, soybean meal, soybean oil, and wheat. Like the aggregated regions there are some commodities that are aggregated in the models. For example, other coarse grains, other oils, and other meals. In the bottom left hand side of the table, in the oil seed section, you can see that other oil seeds is an aggregate of copra, cotton seed, ground nuts, and palm kernel.

There is a long list of variables that are utilized in the baseline country and regional models. Some of these key variables have been selected for this particular table and these variables have been categorized into groups, such as, supply variables, demand- demand variables, macroeconomic variables, and so on. Examining the supply variables we can start to see why there are too many variables to list in their entirety. For example, area harvested would apply to crop commodities within a model. While birth rate would it effect- will be applicable to livestock commodities. It is not uncommon for a variable to influence a particular type of commodity, or even an individual commodity.

Now that we've covered what the USDA agricultural baseline projections are. It's time to tell you when you can access the report and data. Domestic data is first made available in November. These early release tables include U.S. farm sector projections and U.S. and global macroeconomic assumptions. The early release tables are then followed by the full release of the baseline projections report and its corresponding data, which is released annually in February. This year, the report and data became available on February 16th. Next the international baseline projections data set which indicate long run supply demand and trade for major agricultural

commodities and major exporting and importing countries and regions is received annually in spring. The location of the discuss report and data will be covered later in this presentation.

Now, we've reached the part of the presentation where we get to explain why the baseline projections matter. One of the most important things that the baseline can impact or support are budgetary outlays. The baseline supports the Farm Service Agency's budgetary outlay estimates on the Farm Act Title 1 Program Crop Payments which are submitted to the Office of Management and Budget annually for the president's budget and are updated through a mid-session review. Examples include the agriculture risk coverage and price loss coverage which were authorized by the 2014 and 2018 Farm Bills. In addition to budgetary outlays, the baseline projection data supports special studies and research. The baseline is particularly useful when doing scenario analysis. An example of a scenario analysis, that could be performed using the baseline, is the impact on crop prices if a major producer and exporter of a particular crop commodity were to have its eight harvested acres severely reduced due to weather events. Because the baseline data is publicly available, the studies and research conducted using the baseline data can be beneficial to government and private industry, both domestically and internationally.

On the previous slide, special studies were listed as a reason why the projections matter. Here we have an example of an ERS *Amber Waves* feature which was written using baseline data. *Amber Waves* is an online magazine that is published monthly on the ERS website. The online magazine showcases the full range of ERS research and analysis on economic and policy issues related to agriculture, food, the environment, and rural America. The topic covered in the example discussed” how crop prices for soybeans wheat corn and cotton could decline over the next 10 years.

Now that we've covered the what, when, and why, let's shift the focus on to answering where the data can be located. The ERS has gone to great lengths to make this data available through a variety of different mediums. There is an ERS publications webpage, agriculture database webpage, the international data webpage, domestic custom query tool, and the domestic visualization tool. First, I'm going to cover the ERS publications webpage. The full baseline projection report, which is typically around 100 pages long, can be located on the publications page. To reach the publication section, the user will first go to the ERS homepage at www.ers.usda.gov. Then, the user will select the publications tab on the ERS homepage. The user will select publications from the drop-down and be directed to a page where there is a filter that allows a user to sort all the publications in a manner that just displays the annual reports, chronologically. The filter that must be applied is the USDA agriculture projections, indicated here with the blue star. Once the desired report has been located, it can be downloaded as a PDF.

If a user would like the full report and the corresponding data. A user will go to the ERS home page and select the data products drop down. From the data products page, the user will scroll until the internal link for the agricultural baseline data-database is located. Once on the

agricultural baseline database overview page, the user will select the link titled ERS website, which has a blue star next to it in the picture. The user will be prompted to download a zip file which contains the full report and pdf format along with 30 excel spreadsheets. The excel spreadsheets- the excel tables have titles which are intended to make it clear what data is contained.

I think it is important to discuss how the data in the excel spreadsheets is presented. The example included on this slide is from table six located in the excel spreadsheets titled “U.S. Feed Grading Projections”. We will be focusing on the corn section of the excel spreadsheet. The full baseline report has a table of contents which makes it much easier to navigate the 30 excel spreadsheets in the zip file. The cells highlighted in yellow represent historic data, while the area in purple represents the projection period. Color is not included in the spreadsheets but has been added here to help explain.

The data included in each spreadsheet demonstrates how models reach an equilibrium of supply equaling demand at the country level, and then at the world level. To explain how this works I will start by covering how supply is calculated. The first step is to determine what the country, in this case the United States, corn production is. Production is calculated by multiplying harvested acres by yield. Once we have calculated production, we can sum beginning stocks production and imports to determine the U.S. supply of corn for a given year. In the example, we can see that supply for the crop year 2022-23, is projected to be 16,765 million barrels- or bushels. Now that we have calculated supply it is time to verify that demand also equals the same amount. We will start by calculating total use. Total use is calculated by summing domestic use with exports. After calculating total use, we can calculate demand. Demand is determined by summing the total use with ending stocks. And that summation, for the crop year 2022-23, is projected to be 16,765 million bushels. Now that we've calculated supply and demand we can see that they do, in fact, equal each other for U.S. corn. We can then utilize the import and export figures to find equilibrium in global trade of corn, which will then be used to project corn prices.

Now, that we've given a quick overview of how the data is data is presented and the math behind the models. Let's discuss some of the tools the ERS provides to collect and visualize the data. One great tool provided for domestic data, is the custom queries tool located in the aggro-agricultural baseline database. It is indicated with a pink star on this slide.

Once you've accessed the custom queries tool, the user can filter the domestic baseline data to the desired results using the drop downs above the table on this slide. In this example, the commodity corn was selected and the attribute is domestic use. The years of the projection data are 2022 and 2021. The report is for format is rows with charts. From the example, you can see that the chart only illustrates projection data, there is no historic data included. If the user would like to download the data, they would select the save button next to the red star on this page. The data can be saved in Excel or PDF format and the chart will appear as seen in the saved file. If a user would like to visualize the domestic data and the historic data the user could select the

visual- visualization tool titled “Visualization U.S. Agricultural Baseline Projections”, indicated with the orange star on this page.

Once the visualization tool has been accessed, the user will be given the option to filter to their desired results. Unlike the custom query tool, the data visualization tool only allows users to see the most recent projection data. Historic projection data, for example, projections made in 2016, are not available. This tool is great for seeing trends in commodities, or commodity attributes, over long periods of time. When a user is using the tool, they can hover their mouse over a particular line and see the reported figure for a given year. And because the visualization tool is related to the domestic baseline, it is updated annually in November.

Let's now shift gears from the domestic data to the international data. The international baseline data sets can be accessed by going to the home pages, selecting data products- the data products web page, and then scrolling to the international baseline link. At the bottom of the overview page, the international baseline datasets can be downloaded via a zip file. The data includes the most recent projection data, and historic projection data going back to 20- to the year 2002.

This slide shows a projection table for Canadian corn from the latest available international baseline Excel file. Color has been added to show that there that some historic information is included, along with the projection data. Although it has many of the same variables that the domestic data does, it does not contain certain variables such as farm price or variable cost. Despite the differences, supply still equals demand.

Recently, the international baseline added a visualization tool like the one found on the domestic database. The subpage for the visualization tool is indicated on this slide with the green star and the title of the subpage is “Visualization International Baseline Projections”. This visualization tool, like the domestic tool, is only uses the most recent projection data in combination with historic data.

On the right hand side of this page is a picture of the top of the visualization tool. A user can filter the projections using the drop downs above the map by commodity, continent, and/or aggregated region or country. This visualization tool first defaults to the commodity rice because it is one of the most globally involved agricultural commodities. For example, if the commodity pork were selected as the commodity filtered, areas of the map would appear white, indicating that there isn't projection data available for that region or country.

The international visualization tool presents the baseline variables using line graphs, like the domestic visualization tool does. In this example, the commodity rice was selected as the commodity filter. The continent Asia was selected. And then the country India was also selected. The line graphs below the map of India are interactive. This means that if a user were on the web page and hovered their mouse over a point on the line graph, the value in year would appear next to the user's mouse. The projection data is indicated by the shaded region on the right hand side of the line graph. The baseline variables that appear in the line graphs are dependent on the

commodity selected. The baseline variables listed on the last bullet point of this slide are related to rice. Had a livestock commodity been selected, area harvested would not have been presented in the graphs.

Thank you for your time and attention during this presentation. I'd like to now shift to any questions that may have been brought up.

Thanks Matt, that's right we'll go ahead and open the floor for questions now. As a reminder, questions can be submitted through the chat feature located at the bottom left-hand corner of your screen. Before we begin, though, I'd like to introduce two additional Economists from our agricultural baseline team, who have joined us to help answer questions. Here with us today we have Eric Dohlman, our domestic baseline coordinator, and Jim Hansen, our international baseline coordinator. Thank you both for joining us today.

All right, let's go ahead and see, let's see here. For our first question: do you develop projections for every country?

Thank you for the question. Every country does not have its own individual model, some countries are aggregated. In total there was the 44 models. But the short answer to the question is no, not every country has its own individual model. And, as a result, does not get its own individual projections.

Great, thanks. All right, the next question: in reference to the world ending stocks, why does the ending stock calculation include exports and imports for soybeans, but doesn't include export and imports for corn?

Oh, this is a question that I think that our international baseline coordinator, Jim Hansen, would be perfect to answer. Jim, if you wouldn't mind sharing your thoughts.

Thanks, Matt. Could you read that question again?

Certainly, in reference to the world ending stocks, why does the ending stock calculation include exports and imports for soybeans but does not include exports and imports for corn?

I'm a little bit confused about the question. When we put out the data, I thought we did have- I'm looking at the world corn data right now- we have imports and exports we have ending stocks. So, am I misunderstanding the question? And for soybeans, we also have imports exports, world imports exports, and also world ending stocks. Is Jim- is this something that could be seen by going to the zip file on the international baseline overview page and downloading that zip file, is that where we would see?

Well, I would perhaps- I mean we wouldn't do that right now but I'd recommend the person to do that and then perhaps individually he could email me that, or and I could work with him on it.

Okay, great. All right um another question: could you share a bit about the accuracy of the projections? Are some countries and commodities easier to develop accurate projections for than others?

I'll start and then pass this off to the coordinators but, short- the simple answer is yes, some countries are very easy. They have very stable economies which makes making projections much easier, while other countries have weather events, such as drought, that can make the projections change dramatically from year to year. Jim, if you wouldn't mind giving some examples of an easy country to create projections for, and maybe a hard one too?

Okay, thanks Matt. Some of the easiest countries would be the ones where they're only importing a commodity and you have a stable population growth there's stable GDP and they're going to import that commodity. It could be Saudi Arabia on perhaps wheat, Hong Kong importing different commodities, Singapore, but those are the most easy. And then, the most difficult ones are the really large countries. I mean, just because any small change within the country can have a very large impact on trade. That could be China, E.U., even Brazil. But, having said that, over the years I am quite surprised how consistent the projections are with respect to most regions and countries of the world. It seems, these big, stylized facts and trends, whether it's increasing GDP, increasing household, increasing urbanization, the population growth rates. They're relatively stable and increasing throughout the world. And we see this and it's consistent and that's why we have growing imports and exports, well mostly imports, throughout the world and their imports are fairly stable. I don't know if that answers the question but, I'll turn it back to you, Matt.

No, I thought that was a great, great answer, Jim. Ashley, is there another question?

Yes, we have several. Let's see here the next one is: is forestry included in the modeling efforts?

I'm gonna reach out to Eric for this one because forestry would- if it was it would be on the domestic side, but I'm not entirely sure if it is. Eric, is forestry included on the domestic side of the baseline?

Yeah, hi this is Eric Dohlman. No, forestry is not included in the baseline and one of the main reasons for that is, you know, one of the primary purposes of the baseline projections is to help USDA project its budgetary outlays on farm programs that are contained in title one of the Farm Bill. And so, forestry, there are programs that are related to forestry in the Farm Bill, but we don't include that in these projections.

All right, let's see here. The next question, are their domestic baseline projection data at the state level?

Thank you for the question. Unfortunately, there is not domestic baseline projection level at the state, or projections at the state level, but Eric, I'm sure has some resources he can suggest that do have state level data.

Well, with a baseline no, we don't drill down to the state level. It's sort of a little bit like, well it is very much like, the monthly World Agricultural Supply and Demand Estimates, where it's the projections- the short-term projections, that they do are only at a national level. People who are interested in certain variables such as corn yields, as an example, they could look at historical data by state and try to draw some connections between historical patterns and relationships between the states and the national average and then maybe apply that. If they were interested in doing that on their own. I'm not aware of any other source that would have state level projections.

All right, next question. What types of poultry are included in poultry, you know, layers, broilers, turkeys, etc. Is there a more detailed review available?

Jim, do you, can you feel this one?

Well, on the international side, I'm not sure about the domestic side. It does get a little bit complicated. We include broilers, chickens, and turkeys. So, it's an aggregate on the international side. We do not include ducks and geese, that's not considered part of it, although in some countries it's actually quite important for ducks. And, on the domestic, I'd let Eric go ahead and answer it.

Okay, thanks Jim, this is Eric. So, there is a domestic a standalone domestic livestock model and I am not intimately familiar with it. It's run by others in ERS and on the world board. But I'm somewhat familiar with it and I do know that they have broilers, for example, mature chickens. I don't recall that they break it out by- by layers or not. And then there's a separate category of turkeys. But I'd be happy to look further into this if someone has to would like to contact me, I can put them in touch with our livestock modelers. Thank you.

Alright, thanks. Next question: do the estimates data include international logistic costs, like to Mexico?

Jim would- I would assume it's some is incorporated in transportation costs, but Jim, do you have any more detail on how the- what goes into transportation costs?

For the individual model, it kind of depends upon the current research we're doing. Some of the models do have some transportation and costs within it, and sometimes we have like a price wedge within the cost to account for domestic and international prices. But it's not consistent throughout all- all the country models, it just kind of depends which ones we're looking at, what is the most important issues we're addressing. And so, for more- to be more specific I'd have to go back in and look at the individual country models.

Thanks, Matt.

Okay, let's see here. Next question, could you please explain a little bit more how baseline is used besides policy discussions? They're meaning, you know, who are the users of USDA baseline and how they are used.

Well, in the presentation we use an example of the ERS *Amber Waves* magazine which, in that, case the baseline was used to look at domestic crop prices. So that would maybe fall under a special studies or report. It can be used, because it's public, it can be used for a variety different research being conducted by universities. Eric or Jim do you have any good examples other than the budgetary outlays that the baseline supports?

Do you want to go first, Eric?

Yeah, okay, I'll just say one quick thing is, you know, lots of institutions around the world are interested in what USDA anticipates or projects on production, trade by country, and so, you know, agribusiness would be a good example of a group of companies that would be interested in the projections. Where they might be interested in understanding dairy trends and then making investment decisions on soybean crushing facilities, for example. That's just one specific example. But Jim, would also have- I think some ideas on other research projects that we've done in the past.

Yeah, with respect to the people who use it, Eric is- that's my similar experience many agribusiness companies especially overseas when they're setting up plants or they're looking long-term they want to talk to us, they ask questions. A number of different types of banks have contacted and actually visit us here in D.C. And then, when I travel international, I visit different governments. They look very closely at our projections to see how competitiveness is changing within the world. Who's the major importers, exporters, and the countries they also have to compete with. So, there is actually a lot of people use it and then another thing that's interesting we can see who downloads our database from our website. So, people are interested in actually security around the world also look at it. I know the CIA download our database each year. And one that still confuses me someone in Walt Disney downloaded it and I have no idea what they're going to do with our long-term projections. But we do have that information it's quite detailed because we- we know who- who downloads it and what- what they're looking at. Thanks, Matt.

Wow! Interesting indeed. Let's see, next question: as you mentioned, baseline projections are not forecast, what cautions should users need to consider, or think about, before using projections in decision making.

Well, one of the first things that comes to mind is the long run aspect of our projections. If, for example, we construct these using data from the October WASDE, the most recent one being the 2021, so if there was an event that happened, let's say, in December of 2021, our projections wouldn't have incorporated that. Whereas a forecast, that's a shorter term, uh would maybe be more accurate for if there was a major change that happened because it is maybe using more recent data. Jim or Eric, do you have another good example of the projection versus forecast question?

Well, I can go and address a little bit of this. With respect to the projections, when I look at- I think it's important to look at the stylized facts or the long-term trends that is driving production

and consumption and trade within the world. Again, it's increasing household income, urbanization, and you know, southeast Asia has been increasing poultry consumption a lot. Therefore, they have to increase their feed demand. Some, at first, they start out importing just soybean meal but then it's cheaper to actually build the crushing plants. So then, we see them began to expand soybean crushing plants, so they're importing more soybeans. So, you see these- these factors that really contribute to consistency in a long-term projection. But then, you have these other issues that come in, African Swine Fever decimated China, the current problems in Europe, so there's always issues that come up that disrupt the market for a few years and sometimes actually a number of years. Or they might actually shift down our GDP, such as the great recession, around the world. The trend came back but everything is shifted down currently with COVID, most likely, we're going to see the population growth rate still be the same but it's going to be a shift down because, unfortunately, because of the loss of the population within the world. So, there's two different issues. One, the stylized facts they're current, they're going on, they're going to stay there, and then the other one is these short-term interruptions. Does that make sense?

I thought so, yeah, I thought that was a great explanation, Jim.

This is Eric. I'll just add that, yeah exactly, it's really trying to represent underlying trend, you know, it's not going to capture these various fluctuations that will inevitably occur each year, due to weather, or some other policy change, or any other event that disrupts markets. So, yeah again, capturing underlying trends sort of a primary purpose.

All right, thanks. Next question, is the underlying data available to the public to find specific information for a user or organization?

Well, I wonder what they mean by underlying data, like the- if it's referring to the data we use in our models, yes, much of it is available. We have the PSD and the FAO data that was previously mentioned by Jim. On the domestic side, I know we have- we use some of the ERS international, or sorry, I guess this is still international side we use some of the international macro-economic data. Eric, on the domestic side, can you think of some other sources of data that would be publicly available that we then use in our models?

Well, we use data from lots of different government sources and private, you know, proprietary services. For example, we'll use energy projections from the Department of Energy. We would use labor market projections from Department of Labor, interest rate projections, or oil price projections from some of these you know behavior analytics and IHS market and you know, the IMF. And so, some of the data are proprietary and some of them are public you know specifically the government projections. Department of Energy, Department of Labor would, and the Federal Reserve would all have, you know, information that data- that's available to the public. Those are just some examples. So, thanks, Matt.

Okay, let's see. Another question: do the projections factor into the shock of the Ukraine war?

Is Matt there?

Apologies, I was on mute. Good catch, too, talking to myself over here. So, we somewhat touched on this earlier. The projections do the most recent publicly available projections do not include the shock of the events in Europe right now. Primarily because the data was finalized in October of 2021, but our next set of projections will include those shocks.

And I could add in, if that's okay, this is Eric, again. So, you know, Matthew- Matt did have a slide earlier on where they he showed the timeline and, as we mentioned, we sort of stopped the clock after the October WASDE. And we do release domestic data and macro data in early November. So, that's capturing, you know, essentially what the situation was as of October mid-October 2021. We don't update the baseline until this coming October and then release that data in November and then the full report next February. And then there's also, you know, the shorter term projections by the World Agricultural Supply and Demand Estimates. In May, they'll be coming out with their new projections for their first projections of the 2022-2023 marketing years. So, those will be incorporating more recent events. Okay, thanks for the time.

Thank you, all right. Another question, let's see here: what are the most important issues and factors driving the projections?

On the macroeconomic side, it would be GDP growth, population growth, there's also policies, trade policies, that can really impact the projections. And certainly, weather can impact the projections. Jim or Eric, do you have more factors that are significant effect, or impacts, to the projections?

Hi Matt, this is Jim. I would say the biggest contributing factor is changing household consumption in middle-income countries, low-income emerging markets. As these countries household incomes increases, they're consuming more meat products, pork and especially poultry, poultry is the largest one, and then that contributes to increasing feed demand throughout the world. And then, also around the world, we look we don't model, but we look at increasing access to retail outlets more modern types of outlets for food and that also has huge impacts on consumption behaviors. So those, to me, those are the big issues really driving the world market. You look at it, and we have increasing exports of corn, soybean, soybean meal, and also, we're seeing changes in consumption patterns. For example, West Africa, predominantly the staple commodities there have been corn or maize, sorghum, millet, but as families move toward the cities it's much easier and quicker to cook and consume rice. So now, this region has become the largest rice importer region within the world. So, those types of behaviors are changing. Anyway, that- hopefully I answered your question.

Thanks, Matt, of course. And Eric, on the domestic side, is there anything big driving the U.S. model?

Well, I um I think just in general, you know, just things that you've already mentioned which, trade policies, domestic policies, that affect incentives to produce or consume agricultural

commodities. Those are, you know, pretty- quite important in determining you know both production, consumption, and trade, and those are reflected in many of the models, I'm sure. And you have certain countries that are quite active in their policy environments and regimes, regarding agriculture. So, I think that's what I would highlight. That's all I have to say to this on the subject.

Okay. Another question: what is the link between the baseline projections and the WASDE, also, the full name of that World Agricultural Supply and Demand Estimates, known as the WASDE. You know, what's the link between the baseline projections and the WASDE, or is there such a link?

Well, I'm being interested in like- to use the word link. Like, so the baselines are coming out annually, whereas the WASDE is not. So, is- is that more than what the question is? Is like what is the calendar release schedule for the two? Or is it the projection period? Jim or Eric, can- can you touch on either of those parts of it? Like the how quickly the WASDE is coming out and how forward-looking it is? So, I- I can quickly try that. This is Eric. So, they're very similar in many ways, I mean, the WASDE is produced under the auspices of the World Agricultural Outlook Board and the baseline is also, it's actually a publication of Office of the Chief Economist but involving many of the same agencies as are involved in the WASDE. So, we're looking at generally the same commodities, and the same countries, so this the main real difference. The WASDE is a shorter-term forecast, no more than one year out, going forward whereas the baseline is an annual projection going out ten years. But again, the process of developing these projections is fairly similar but, I'd say, in the baseline it's quite a bit more involved, involving a greater number of personnel from different agencies. I hope that answers the question.

And I might add that the final data we use comes out in October. And so, PS&D, WASDE data, it's all the same data, it's not different. The projections are then different. We create projections, we don't create one year- one year forecast, is similar to what WASDE does. But so, it is the same data coming out that we use for historical data.

Okay, and I can't quite remember if we've covered this one not- or not, but: where does the data come from and how frequently is the data updated?

So, I think we've touched a little bit on this. Is it's updated annually, the early release tables for the domestic side come out in November with then the full report being published and released in February. And then the international baseline data set will come out in Spring, and then the sources of the data on the international side with PS&D and FAO, and Eric previously mentioned some of the sources of data, like the Department of Labor, Department of Energy, the Federal Reserve. So, but there- but there are more on the domestic side than I would say the international side. Jim, am I correct in saying that?

Yes, I think you are.

Great, thank you. And let's see next question. If possible, can you please repeat how to calculate total use? This user missed that before you changed the slides earlier.

Oh, absolutely I'm actually gonna try and find our slide, um hopefully it is appearing for everybody to see. Total use equals domestic use plus exports. And this is on the- this is the domestic baseline data example, so this is a spreadsheet you'd find from the full domestic baseline report.

And I can just add very quickly, this is Eric again, you know. So, in both the WASDE and then the baseline, domestic use, so that would be, let's say you're talking about corn, there can be sub-categories. So, you know, the use of corn for ethanol would be one sub-category that goes into total domestic use and then there could be food seed and industrial use for corn and that would be another element of domestic use for corn. So, they're- but yeah, what boils down to total use is the sum of domestic use and exports.

Alright, thanks. Okay, all right, well that's all the time we have for today. Matt, thanks so much for a great presentation um on the agricultural baseline database. Many thanks to Eric and Jim for your assistance during the Q&A session, as well. And finally, thank you to our listeners for taking time out of your day to join us. We hope this has been helpful. If you have questions moving forward, please don't hesitate to reach out. You know, members of the agricultural baseline team can be reached directly at the emails listed here on the screen.

Before closing, we'd like to invite you to the next segment of our data training webinar series, during the week of May 23rd. This webinar will spotlight our Food Access Research Atlas and Food Environment Atlas. Both are web-based mapping tools that allow users to analyze food access by location and demographic information, as well as investigate and compare multiple indicators of the food environment. So, visit our website for more details and registration information will be available soon.

Also, if you haven't already, be sure to check out our new ERS Charts of Note Mobile App. With this app available free of cost on Apple and Android devices, you can receive digital snapshots of ERS research delivered straight to your mobile device. You can also search ERS's full library of charts, mark your favorites, and share them on social media.

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