

Eurostat podcast: Stats in a wrap

What does the agricultural census tell us about European farms?

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SPEAKERS

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Jonathan Elliott

Welcome to another episode of Stats in a wrap, the podcast series from Eurostat, the statistical office of the European Union. Now if you've been listening to our podcasts, you'll know that we think data are delicious. And we like nothing better than to slice dice and wrap them into bite sized morsels while enjoying the intriguing stories, the fascinating conversations and startling truths about the everyday and not so everyday stats that surround us. So come on into the wrap cafe. I'm Jonathan Elliot, your host for this episode. We've got some great guests who will be introducing shortly. One of our favorite pastimes in the wrap Cafe is talking about food. But today, we're not just talking about food we're talking about where it comes from. Europe's 9 million farms are hugely diverse: from the apple orchards of Austria from the beef herds of Bulgaria to the spinach growers of Spain. And they come in all shapes and sizes, small family outfits in remote mountain regions, mega wheat farms extending to 10s of 1000s of hectares. To help the EU's farmers do the best possible job in a coordinated and efficient way, you need stats, lots and lots of stats. Gathering in depth information on every single one of those 9 million farms is an enormous undertaking. It is so big it is only done once every 10 years. But the findings are critically important. They could answer questions like: Is organic farming growing? Is the aging of farmers changing? Are family owned farms declining? How are farming practices changing? What might it mean for our food security? To tell us more about the huge task of the EU's Agricultural Census we're lucky enough to have with us Helena Ramos, team leader on farm statistics at Eurostat. Hello Helena.

Helena Ramos

Hello, nice to be on the show.

Jonathan Elliott

And next to her in the wrap Cafe is Johanna Slaets, who heads up the agricultural and forestry statistics section at Statistics Austria. Hello, Johanna.

Johanna Slaets

Hi, Jonathan, thank you so much for having us today.

Jonathan Elliott

Wonderful. Well, thank you very much for both joining us here. We always like to kick off the show by asking our data scientists to tell us a little bit about themselves, and about how they ended up doing the work they specialize in. You're both in fascinating areas of stats. So Johanna, let me just ask you first, just tell me a little bit about your career journey about Statistics Austria and how you came to be involved in the Agricultural Census.

Johanna Slaets

So I've been with Statistics Austria for about three years. I'm actually not Austrian. I'm from Belgium, which is also where I studied my master's. I studied agricultural sciences. During my studies, I focused more on Tropical Agriculture, on sustainability. I had this whole, you know, feed the world idea at that time. And I moved to Austria about seven years ago, which is when I started working for UN division on sustainable agriculture. That was a joint division of the FAO and the IAEA, the International Atomic Energy Agency. The research I was doing there was really oriented towards research for development and that really sparked my interest in sort of agricultural policy.

Jonathan Elliott

Helena, you have a background in forestry and more recently studying land use with satellite images. How did that lead to this enormous job of the Agricultural Census?

Helena Ramos

I came to Eurostat as a national expert. 10 years ago, I came to work for a wonderful project on land use and land cover called the Lucas project. At that time, I was an expert in the Portuguese paying agency, I was using satellite images for control with remote sensing. In fact, control of the payment of agricultural subsidies. By training, I am a forest engineer and have a master in geographic information systems. And this was my world for 15 years. Before that, I had worked in plant protection. I worked in the forest owners association, at that time already working with digital maps, 25 years ago. And when I became an official five years ago, I got the opportunity to work in the farm structure statistics team, and I didn't hesitate. So it was really nice to join the team.

Jonathan Elliott

What's so satisfying about looking at agriculture through the perspective of statistics?

Helena Ramos

Right now, I'm really excited that statistics and maps are coming closer together. I also have a wonderful team, international team. For me who had only worked in Portugal before, it's really interesting to work with people from all over Europe. We also collaborate with people in other units in Eurostat, so there is a lot of support.

Jonathan Elliott

Johanna, you come from a background in rural development and climate science. What is it that you particularly enjoy about looking at farming and agriculture, through the lens of statistics?

Johanna Slaets

I'm really passionate about agriculture. It's a topic that has so much impact on people's lives in so many different ways. Everybody needs food to live, we all eat, and the importance of food security in Europe, it has only been highlighted by the past few years by the pandemic and by the impact of the situation in Ukraine. But agriculture also plays such an important role in our environmental health and in our landscape. And that's really important to me. And what I specifically like about agricultural statistics is we provide the data that make it possible for policymakers to make evidence based decisions. And so we are the ones that provide the number with a harmonized method, with common definitions, with a harmonized timeline that then can be used for evidence based decision making, and that is something that I find really, really rewarding.

Person on street

I'm afraid at the moment, I think food is too cheap. In general, I think most supermarket foods are not worth even the money they're sold for. And we have to, unfortunately, probably up the prices for fair prices for the farmers so that they can make a living and that we can invest into higher quality of food.

Jonathan Elliott

Well, this podcast is about the Agricultural Census, it happens every 10 years. So let's just jump right in and get started with a simple question: Helena tell us what is the Agricultural Census?

Helena Ramos

The Agricultural Census is a statistical exercise that happens every 10 years in Europe, where we collect information from every single agricultural holding - a farm - on their structural data. We inquire them on their land, animals, labour force. And by doing this repeatedly, in every 10 years, we can compare the data from late 1960s until now.

Jonathan Elliott

Johanna, what's particularly valuable is the fact that the Census is a longitudinal one, isn't it? It goes on every 10 years for decades, going back to the 1960s. Can you just tell us why that is so important?

Johanna Slaets

Well, the use of having longitudinal survey with the same variables, with the same definitions behind those variables is that you can really see how things change over time. This is really critical if you want to be able to compare across the member states.

Person on street

I think that people from city think that farming is something like from older times, and it's like old fashioned and doesn't really like think about it, they just want the best quality food and, and all this stuff. So, I think they, the people in the city think, that farmers are old fashioned, and they live just on a farm with few animals, right?

Jonathan Elliott

Let's just talk about the Agricultural Census. Helena, it is an enormous undertaking, as we've mentioned, huge number of individual farms are questioned on a wide range of topics. Can you just give us an idea about what's involved?

Helena Ramos

There are 9 million farms in Europe that were surveyed under this census. And people normally ask us: do you contact each one of them? And the answer is, well, mostly Yes. In some countries, the survey is still collected door to door. Even if this time, we could see this tendency to use more already existing data from registers. But yes, it's a lot of questions that we have to collect data on more than 350 variables. And to collect the perfect data, the surveyors may need to ask many more than these 350 questions. These are very costly exercises, very time consuming. And that's one of the reasons that they are not done every year.

Jonathan Elliott

Absolutely. It's not only not every year, it's every 10 years. And perhaps it is worth pointing out here, that it's not just in Europe that the Census is carried out. Eurostat works hand in hand with the Food and Agriculture Organization, the FAO, and that does a global survey of farming at the same time. Can you just tell us a bit more about that?

Helena Ramos

FAO organizes the world's Census of Agriculture. And let's say that Eurostat is responsible for the European part of it. And the idea is that we have comparable data that can be used also under the world census of agriculture.

Jonathan Elliott

Now, a lot of the census is carried out through online questionnaires, phone calls, and physical paper forms. But there are still face to face interviews. I can picture them now: The fearless statisticians walking down lonely farm tracks, clipboards in hand, fending off dogs and climbing over fences to knock on farm doors and ask the farmers loads of questions about their farms. Johanna, I know that was once how it was done in Austria. Is that still the case?

Johanna Slaets

So in Austria, the census no longer happens door to door. Since 2005, we exclusively use electronic questionnaires. So if a farmer could not complete the electronic questionnaire independently from their own device at home, they could go to their local agricultural chamber in their district to submit a questionnaire there with the help of a local staff member.

Person on street

Personally, no, it seems like it is a lot more work than I am capable of. Farming is really difficult. You're up from dawn till dusk. And I'm personally too tired.

Jonathan Elliott

The farmers that I know are busy people, they work very long hours, they get up very early, and they have very full days. Did you find any reluctance to participate in this survey? I'm guessing that some farmers were not that interested in hearing from very well intentioned civil servants, but civil servants nonetheless, in Vienna, telling them to answer questions about their farms.

Johanna Slaets

Of course, farmers have very long working days, and they are confronted with plenty of administrative tasks. Aside from our questionnaire. And therefore, it's really important that we explain the context of the census to farmers. And one very important way that we do this is our collaboration with the Austrian agricultural chambers. The chambers, they are a farmers' interest group, so many of them are farmers themselves. And that's why they are the perfect supporter of our message of the importance of the census. And so what we did for the 2020 census, together with the agricultural chambers is a sort of roadshow prior to the Agricultural Census, where two of our team members held local events with the agricultural chambers to explain to them why these data are needed and what they will be used for. And that was a really beneficial thing that helped to persuade a lot of people.

Person on street

I think there are probably less female farmers traditionally, it's sort of the typical role that the man is rather the farmer. And it's hard work, and probably also the encouragement, the education is more designed for men.

Jonathan Elliott

Johanna, can you give us an idea of the sheer range and diversity of questions the survey covers, it really is very extensive, isn't it?

Johanna Slaets

This is a census that collects data on the structure of the farms, which includes, for example, the ownership, who owns the farm and who manages it and who works on it, the labor, but also what is the size of the area, which crops they grow, how many animals they have, what types of animals. In between the 10 years we have two surveys, so it's a smaller sample survey. So there is a set of data that is collected every year and then there are the modules, which change and where the idea is more to take a snapshot of a specific thing that is of interest than there were we don't need data every time but maybe Helena can also further comment on those.

Helena Ramos

We try to collect as much information that is needed for also some other aspects like monitoring policies, climate change, things that are interesting also for modelling, like the manure management or the animal housing that are important also, for example, for climate change. In different years, we go into different aspects of structure. We have covered rural development, animal housing and manure management in 2020 in the census, but now we will collect data on irrigation, machinery. In fact, we have some new questions on precision farming, which are really the first time we're going to ask them in 2023. We also deal with aspects that are important for the environmental impact of agriculture under the module on management practices. And then we have more detailed information on permanent

crops like orchards in 2023, and vineyards in 2026. And this goes into the details of the age classes of the orchards, which species is this in the country, or their density they are planted. So it's really more details.

Person on street

I do think that it's important that the EU supports farmers, predominantly, because a lot of farms need a lot of help in changing the way that they are currently farming, to make it more sustainable. Regardless of what we're doing with climate, we're gonna keep needing food. So producing food in the most sustainable way possible, is really important. And I think that in order to make those changes, it's going to cost a lot of money. And farmers generally don't have that capital to, to create those changes on their own.

Jonathan Elliott

It's easy to forget that farms are businesses, I suppose. And they're often in competition with other farms. Just tell us a little bit about how you won the trust of all those farmers and that they knew that giving you that information wouldn't be of use to one of their competitors.

Helena Ramos

I really hope that nobody, not even the farmer himself can identify his farm because that would be going against our policies.

Johanna Slaets

Exactly, exactly, exactly! This is not possible!

Helena Ramos

So it is very important for us to guarantee that individual units cannot be identified when we publish the data. Even if at Eurostat, we receive one record in a database for each individual farm in Europe, in the census year, this detailed data is very safely kept in a secure database, which is only accessed by authorized team members. So sometimes even some of the team members don't have access to that data. And when we publish the tables, this data is aggregated, rounded, flagged, in order that nobody can identify individuals from it. And when I say individuals is not the person, it's really the agricultural holding.

Jonathan Elliott

Absolutely. Johanna, did you find in Austria that, you know, confidentiality and trust was flagged up? Was it something that needed to be taken very seriously, by the people asking the questions, can you just tell us a bit about the Austrian context.

Johanna Slaets

It is very, very important to them and it is also very, very important to us, it really is our highest good. And if we don't uphold this, then we will not get data anymore, even if it is mandatory. And even if there are fines if you don't fill it out. This is really important to us. And we are always at this tension field as an organization between confidentiality and other actors, scientists, policymakers who want to have all the data. But you know, we only give, as Helena said, aggregated data and where you cannot identify,

not even, so there is directed identification, where you identify someone because there's a name or an address. But there's also indirect identification, where you have deleted the name and the address, but you can still identify someone because you know a bit of information - that might be the largest farmer there with that type of crop in that town, right. But even this, it's, it's our task to make sure that this is not possible.

Jonathan Elliott

That's an important point to make sure our audience hear about, but there's one question that was burning in my mind, and I think a lot of listeners will be wondering, too, is what is this information used for? The census is extremely extensive: 9 million farms, as we've mentioned, 350 variables, 28 indicators, there's a lot of information gathering going on out there. Johanna, if somebody asked you why go to all this effort to interview all these farmers. And what is all this information going to be used for? What would you say?

Johanna Slaets

You can't manage what you don't understand. The idea of having data to make decisions is very central to policymaking nowadays, and especially at the EU level. There is so much money going to agriculture. So it's very important that they know what is happening with this. What kind of farms are these? What are they producing? Who is managing these farms, how many people are working in these farms? Now, these are all really important baseline data to be able to make informed decisions and to understand also, how the landscape is changing, what these subsidies are doing. And this is definitely one really critical aspect of, of the results from the census.

Person on street

Organic farming is important, it's better for the soil, it's better for the animals that we farm. It's also better then for the, the fruit and the vegetables and everything that we're consuming generally. And it's just better to have for the ecosystem as a whole if what we're putting into the earth is as natural as possible.

Jonathan Elliott

Yeah, I mean, there are some very big policy areas here, I guess, which are impacted. I mean, I mean, there's things like agriculture and the environment. Let's just touch on that for a moment, the European Green Deal, and Farm to Fork strategy that sits within that, can you just sort of explain a little bit about how the census can inform those policies, and the debates that go around them? Johanna, you have a particular interest in organic farming. So perhaps you could just sort of explain to us a little bit about environmental impact and agriculture. And the policies that go with that.

Johanna Slaets

The foundational idea of the EU was food security. But over time, people sort of expect more. And we'd want not only an agriculture that ensures that but also one that is more environmentally friendly, and so these are all things in these strategies you mentioned the Farm to Fork strategy, which is part of the EU Green Deal, which sets specific targets for all these aspects of EU agriculture, the food security aspect, the sustainability aspect, environmental aspects. And so it sets specific numbers to be reached by certain date. And one of the targets from the Farm to Fork strategy is that there should be 25% of

agricultural land under organic agriculture in the EU by 2030. What is very nice in Austria, is that the results from our census from 2020 can show that we already have this: 22% of the farms and 26% of the agricultural land in Austria is already organic. So that's one very concrete example of how data from the census can show us which policy targets have already been reached, still require work, what is the breakdown in the countries. That's one very concrete example, organic agriculture.

Jonathan Elliott

This is a very interesting, the Austrian case. I think Austria is the EU leader in organic farming at the moment, it's just slightly ahead of Estonia. But it's also I mean, this is what is an important thing to do environmentally, it has also come to the aid of Austrian farmers. From a business perspective, can you sort of explain to us the virtue of going organic in your context? And Johanna, why has that been so useful and so important for the farmers of Austria?

Johanna Slaets

Austrians were a sort of early pioneers in organic farming. Of course, it was a combination of several factors. But one decisive reason was that early on, there were joint efforts between the retailers, that's the grocery stores and the farmers, which was a key factor in the success. So what happened was the retailers, the grocery stores, they helped to create the market. And then it becomes a self-enforcing circle where the market is available so the farmers can produce and deliver to it and they reinforce each other and it supports each other. Another important factor in Austria is that we have different regions. In the east there are plains, a more flat area, there is more cereal farming and arable land there. And in the west, of course, we have the Alps. Now, everyone immediately has this mental image of the Alps, there is a lot of grassland with animal husbandry, and it is probably easier to convert a grassland, farm or forage farm into an organic farm than an arable farm. And so the organic story also started there with those areas with the mountain farms. Now these mountain farms from a natural perspective, they're sort of in a disadvantaged area, it's more difficult there to do large scale intensive farming. And so farmers there, if they wanted to be more competitive or increase their income, they couldn't intensify or increase the scale. So they needed alternative paths. And so one way they could increase their income was to provide these higher quality products and to go with organic certification.

Jonathan Elliott

Everyone's got, knows the film The Sound of Music with Julie Andrews singing in that Alpine meadow with the Austrian Alps behind her, looks terribly romantic. It's extremely tough farming, and it produces very, very, it's very, it can be very low income, mountain farming is a very, very tough thing to be doing. And if the Agricultural Censuses have shown us that organic farming has helped these particular farms, move up the value chain. And that's that's fantastically revealing and useful statistics, which presumably can be rolled out to other countries so that they can show that look of subsidies to farmers so that they can invest in organic farming can produce a richer, more productive business model for them.

Person on street

Think organic farming is super important because it's the future of the world. Organic is the future for me of the world. Because we have to start to change our way of thinking. We cannot like produce, as

we are producing in the last years. It helps the ecosystem, and you know, to the sustainable movement of the world.

Jonathan Elliott

I just want to touch on the timeline of the work here, because although all the data has been collected, all the farmers have given their answers, that all had to happen within a particular time window, but that huge, huge job is just the start of the process, wasn't it?

Helena Ramos

It starts roughly seven years before with the preparation of the legal act. Then when countries start to get the data, they do the large part of the work, they do the data collection, they do processing, they validate. They model or impute if they couldn't get some responses from their farmers. So, when the data arrives to us, there is already a lot of work from the National statistical offices. When we get the data at Eurostat, we still have to validate that the files have a correct structure, they are the correct content. Only after all this complex procedure, can we publish the aggregated tables which are made available on Eurobase, that is the Eurostat's database.

Person on street

I think many more small farms are a much better concept. But we probably need a balance between the two, we can't forget that we have to feed more and more people around the globe. So some industrial components in farming, I'm afraid, will be necessary, I believe.

Jonathan Elliott

Gradually the statistics are being published, you're beginning to get a picture of this incredible survey. This incredible detailed interrogation of the farm world of the European Union. What can you tell us about what you found so far?

Helena Ramos

So we know that we have less and less farms in Europe, we know that the utilised agricultural area remains stable. We know that the number of women in farming is now slightly increasing. It's still a man dominated universe, especially farm managers are mostly male. People have this tendency to think that farming is becoming a big business. But still 95% of the farms are family farms. That's a huge proportion of the number of farms. They are small, they are not dominating the majority of the area, but it's still a lot of people that depend on farming for their livelihood.

Person on street

The average age of the farmers in Ireland is definitely older. I think that it veers 60 plus, there's a big push to get younger farmers in Ireland. I know that. So I would think across the EU, it's probably 50's?

Jonathan Elliott

So 1/3 of all EU farmers are over the age of 65, which does make you wonder what we're heading for the next 20 years. Farmers are just getting older and older. Helena, are we looking at a demographic time bomb here?

Helena Ramos

It's very evident that the age pyramid is very heavy on the top. It poses a lot of policy questions on how to bring younger people into farming. There are specific subsidies that are paid to new entrants in the, in the activity. And of course, this is done with the view of trying to bring in people that are open to for example, organic farming, we know that younger people are more likely to adopt organic farming than older farmers.

Jonathan Elliott

So how will Eurostat be showcasing these statistics? And what are your users going to be seeing from the Agricultural Census in the months and years ahead?

Helena Ramos

We have started to publish our tables in the autumn. And we will continue through next year because we have more than 200 tables to consolidate. We will be doing further presence on social media. And we try to do more visualizations. Next year, we plan to provide an interactive platform with country facts where we will show some indicators. We will focus on farms and farmland, labour force, family farming, and an aspect we haven't spoken yet about today, which is specialization, where we sort of categorise the farms, are they crop specialists, are they producing animals, or are they mixed farms? This is quite an interesting indicator.

Jonathan Elliott

Wonderful. So what do you when do you think all the stats will be out? When will you've processed all the data that's been sent to you by the all the individual countries?

Helena Ramos

Producing the tables is a lengthy exercise. And we expect that by the end of next year, everything will be out.

Jonathan Elliott

Wow! And then it will probably be just in time to start planning for the next one. You don't get a day off, do you there's no rest for you? You have to go and get stuck into the next survey. Can you tell us about what comes up next?

Johanna Slaets

What comes up next is a sample survey in 2023. So we've talked about the Agricultural Census, which is every 10 years 2020/2030. But in between the two, we have two additional smaller sample surveys where we don't ask every single farm, but we take a smaller sample and we do the core variables. And so we're of course already in the process of starting to prepare for next year sample survey.

Helena Ramos

And while countries collect the data for the sample survey, we prepare the legislation for the upcoming 2026.

Jonathan Elliott

So you've got 2026 and presumably you've got 2030 Agricultural Census, the big decennial one. I mean you won't be thinking about that one quite yet. I guess?

Helena Ramos

We will start quite soon, next year is when we start thinking about it.

Jonathan Elliott

Well, it seems like the famous task of painting the Forth Bridge in Scotland, no sooner do you reach the end that it's time to turn around and start painting it again. The monumental task of the Agricultural Census, thank heavens is only ever 10 years. Well, we are out of time, unfortunately. And we must now wrap the wrap. It only remains for me to say thank you very much to our amazing contributors for a very wide ranging and wonderful discussion. Helena Ramos, team leader on farm statistics at Eurostat. Thank you Helena.

Helena Ramos

Thank you very much for the opportunity of having us. It's really nice to discuss these issues.

Jonathan Elliott

Thank you very much, and to Johanna Slaets. Who is head of agricultural and forestry statistics at Statistics Austria.

Johanna Slaets

Thanks so much for having us Jonathan. It was our pleasure to discuss agricultural statistics here today.

Jonathan Elliott

If you've enjoyed the show, don't forget to share with friends and colleagues where Stats in a wrap can be found on Spotify, Apple, Google and all the usual places. And if you'd like to know more about the subjects discussed today, just search Stats in a wrap, Eurostat. And of course, join us for the next episode when the wrap cafe will be dishing up more flavours and insights. This time about what happens when the solid dependable world of official statistics mixes it up a little bit with some innovation. We're talking about the intriguing oddities of experimental statistics. Join us then to find out more but for now, goodbye.