EU FARMING GETTING SMARTER

SPECIAL REPORT | 20 - 24 MAR 2017
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Smart farming hinges on e-skills and rural internet access

Hogan: Data ownership should not weaken farmers’ position

Smart farming seeks role in post-2020 CAP

French farmers seek expert advice on going digital

Commission: Technology will make farming more transparent to consumers
The digitisation of agriculture could help Europe address food security and environmental issues at the same time. But realising this vision will require e-skills, proper broadband infrastructure and big data management, experts warn.

The discussion on the post-2020 Common Agricultural Policy (CAP) has already begun and it seems digital farming will take centre stage in the new framework.

Rising pressure to increase yields, combined with the need to protect the environment, has led farmers to explore “innovative” practices in order to produce more with less input.

In Europe, the number of holdings has declined steadily, linked to increasing urbanisation and the harsh economic and social conditions with which farmers are faced.

The European Commission now wants to motivate young people to return to the farm and contribute to a wider rural transformation, with their enhanced e-skills.

But the European farming sector is still faced with a number of challenges before it can enter the digital era. These range from the cost of technological equipment, lack of broadband infrastructure in rural areas, the inter-generational “e-transition” and, last but not least, the collection and management of big data.

INTERNET ACCESS AND E-SKILLS

Policymakers and farmer organisations have acknowledged the “digital divide” between rural and urban areas.

From the 300 million EU citizens living in rural areas, only 25% are covered by fast or ultra-fast broadband, compared to around 70% coverage in urban areas. The EU objective is to ensure that every company and household has broadband access at a speed of at least 30MB/s by 2020.

Adequate rural broadband

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infrastructure across the entire EU was an essential precondition to achieving a successful and inclusive digital transformation in agriculture, according to the European Agricultural Machinery Industry Association (CEMA).

“Broadband access is still lagging behind dramatically in many rural and less densely populated areas of the EU,” CEMA Secretary General Ulrich Adam told EURACTIV.com.

Daniel Azevedo, a senior policy advisor at the association of European farmers and agri-cooperatives (Copa-Cogeca), stressed that the main concern for farmers was access to training and broadband infrastructure.

“The point is to seek solutions that apply to all farmers, no matter the size of the farm, the region or the sector,” he said, wondering how the EU could actually apply precision farming policies without training and above all, access to the Internet.

The European Commission, for its par, says it is “unacceptable” that there are still white spots in rural areas where no broadband connection exists.

“We are already trying to solve this issue by working closely with our colleagues from the digital single market and regional and urban policy departments,” EU Agriculture and Rural Development Commissioner Phil Hogan told EURACTIV, adding, however, that each country and region is responsible for its own timetable for broadband roll-out.

A report by the Scientific and Technological Options Assessment (STOA) committee of the European Parliament emphasised the need for a strong “educational push” focused on high-tech skills in farming, saying this was a prerequisite for the adoption of smart farming in the EU.

Paulo Gouveia, a chief policy advisor at Copa Cogeca, noted that another important element was integration among different policies.

“For instance, vocational training can be achieved through the European Social Fund, while there are other policy departments that need to be activated to speed up broadband communications.”

**DIGITAL FARMING FOR ALL**

The Parliament report also warned that many smallholders will struggle to keep up with new technologies because of lack of knowledge or investment capital as well as the “large digital divide” between big and small farms.

This is a matter of particular concern, considering that for instance the cost of an average drone or a GPS device could be unaffordable for a smallholder.

For Adam, Europe needs to think from a small farm perspective otherwise, it will fail to maximise the benefits of digital technology.

“Yes, it is true that, in practice, the uptake of precision farming in Europe tends to be considerably higher among larger farms. But this means the untapped potential of precision farming is still enormous for smaller farms,” he noted, saying this is where CAP support could play a positive role.

For the president of the European Council of Young Farmers (CEJA), Alan Jagoe, precision farming should be cost-effective. “If it’s not available at a cost where the farmers can actually purchase this equipment, they won’t do it,” he told EURACTIV.

Jagoe said the introduction of digital technology into farming would attract young people who will view it as a business.

“If we don’t run it as a business, if we don’t make a profit, we won’t be farming. Technology is going to make this more appealing to a whole new generation of farmers that never even considered farming before, or considered us but didn’t think that it was, you know, a sexy career choice,” the Irish farmer said.

He warned, though, about a divide between generations. “It will make that divide bigger between our generation and my parents’ generation,” he said, noting that in some countries there are as many farmers aged over the age of 80 as there are under 35.

“So you can imagine these guys trying to operate a mobile phone, trying to operate the latest new technology of a tractor or a machine— they just can’t do it, and they will actually be left behind,” he said.

**DATA OWNERSHIP**

The collection and management of big data is another key issue, according to the Parliament’s STOA report, which highlighted data ownership and control as the main area of concern.

Several scenarios are being envisaged in the report, including the data being controlled by national governments or big companies. Alternatively, local government could have access to data but not own. Under another scenario, people and businesses own their data but share it easily.

Marco Contiero, EU agriculture policy director at Greenpeace, told EURACTIV the concentration of data in the hands of multinationals would further cement their position in the food chain.

“Allowing multinationals that already control the vast majority of the seed and pesticide markets to collect and manage farming data will further tighten their stranglehold on farmers and their autonomy,” he warned.

Farmers’ organisations fear that, if big companies control the

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data, monopolies risk being created and production will be focused on economic gain at the expense of other objectives.

But most agree that the EU farming sector has a competitive starting point, including highly skilled farmers, a leading specialised machinery industry and diversified farming with high-quality products.

“The pressure from developments in Silicon Valley or other leading high-tech regions means that a strong effort is needed in order to ensure that control over data from the European agricultural sector does not lie increasingly outside of Europe,” the STOA report warned.

Copa Cogeca claims that data needs to flow in order to create value, but also help a farmer get a return out of it when he shares it with others.

“We should focus on the proper analysis of the data that will benefit all the actors in the food chain,” Paulo Gouveia said.

“There are also business and job opportunities that we don't foresee as we don't know the power of sharing this data,” Azevedo added and stressed the importance of interoperability so that farmers can bring data from one platform to another according to their needs.

“Instead of depending on a multinational company they have to able to bring their data from one service to another and benefit more. Any farmer, no matter the size,” the expert said.
Data ownership and access should be organised in such a way that farmers’ competitiveness is improved, EU Agriculture Commissioner Phil Hogan told EURACTIV.com in an exclusive interview.

Phil Hogan is the European Commissioner for Agriculture and Rural Development.

He spoke to EURACTIV’s Sarantis Michalopoulos.

I know that we are in a consultation period regarding the post-2020 Common Agricultural Policy (CAP) but what role do you see for precision farming? Are you in contact with other relevant Commission DGs to make it a reality for EU farming?

Precision farming is fundamentally about using the right amount of inputs in the right place at the right time. It is one part of a wider digitisation of agriculture. By capturing and combining data on soils, climate, crop varieties, farm management, etc., we can propose new solutions to old problems and develop new products and services to create growth and jobs in the agricultural sector.

Digitisation offers enormous promise for agriculture. To make sure this promise is realised, policy intervention is necessary, through EU farm and research policies, for example, but also other policies like the digital single market.

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The biggest stumbling blocks we currently face are issues related to data ownership or access to data, issues related to interoperability of different systems – i.e. can you use data collected by your spraying machine in a smartphone application that runs under a farm management system – and issues related to a lack of proper cost/benefit information – so will it be worthwhile to buy a given application.

Current policies already address these issues: for example, the testing of costs and benefits of certain applications is carried out through the European Innovation Partnerships, the European Commission’s new approach to research and innovation. Research projects funded jointly by the Commission’s agriculture and digital single market departments are designing platforms to solve interoperability issues and look into the possibilities of linked machines via the internet. Data access and re-use is also the subject of a public consultation run by the digital single market department, and in April we will run a workshop to discuss access to data and ownership specifically with regard to the agriculture sector.

Do you fear that the introduction of digital technologies in EU farming might create two-speed agriculture? What could be the role of the agri-food industry in this?

Digitisation offers possibilities for all farmers willing to jump in. But we should not expect or oblige all EU farmers to become fully digital. We should aim to develop open systems that allow those willing to make use of new technologies to do so in a way that best matches their needs. That is why we are so attentive to interoperability. Of course, the roll-out of the latest generation of broadband in rural areas is an essential precondition for this to be possible.

Digitisation will not only benefit farming. The entire food chain will be able to benefit as it allows an integrated flow of information both upstream and downstream. It is certainly possible to imagine integrated data flows throughout the whole food chain, from downstream suppliers in the feed sector via farmers to upstream food processors.

But this integration comes with potential challenges as well as benefits: farmers are already squeezed by the greater market power of their upstream and downstream partners, so many may be wary of sharing too much information with their strong commercial rivals. It is all a matter of how we organise data ownership and access so that the position of farmers is improved and not weakened by the new technology.

I think farmer organisations have a greater role to play in encouraging the take-up of technology that supports their members. In the end, we know that the best way to do this is by allowing peer-to-peer – in other words, farmer-to-farmer – exchanges. This is what we try to encourage under European Innovation Partnership and Horizon 2020, the EU’s common research programme.

We are talking about innovation in farming and, at the same time, the EU and its member states have not ensured yet that all rural areas have access to the internet. Isn’t it a paradox? Will the new CAP address this issue?

The fact that we still have white spots in rural areas where no broadband connection exists is unacceptable. We are already trying...
to solve this issue by working closely with our colleagues from the digital single market and regional and urban policy departments. We even have set up a specific Broadband Competence Office to help EU countries and regions to roll out broadband more rapidly. However, it’s important to remember that each country and region is responsible for its own timetable for broadband roll-out, so there is only so much we can do at the EU level.

According to you, what could be the main difficulty for smart farming in the post-2020 EU?

I sincerely hope that there will be so many new possibilities, that the biggest problem for farmers will be deciding what to invest in! But seriously, we constantly have to remind ourselves that we should focus on practical steps that will result in immediate, tangible improvements. The biggest problem is really keeping the entire sector informed about the many new possibilities and supporting decision-making in the most practical, hands-on way.

Affordability is a key question for the adoption of smart farming practices. Many believe that smallholders won’t be able to adjust to the new reality. How can the Commission address that?

Smart farming practices do not necessarily mean heavy investments. Applications will run on smartphones – like disease diagnosis applications for example. You do not need big machines or expensive computer systems. In fact, machines, tractors, for example, are expected to become smaller again as a result of new technologies.

And in cases where there is a specific big machine a farmer might need, it is likely that special service providers will be able to fulfill this need, in much the same way they do now for other expensive pieces of machinery. There are few farmers that want to buy their own combine harvester, for example, and the same will be true for expensive precision farming equipment. I certainly do not believe that smart farming is or should be limited to a certain size of a farm.

Could Brexit, which will result in less national contributions to the CAP, derail precision farming ambitions?

It is not possible now to predict what budgets will be available in the future, but whatever the budget, we need to make the best possible use of the money available. That is the case with or without Brexit. In addition, the digitisation of agriculture will be driven by market forces as much as by policy intervention, and the core question, therefore, will be how to best ensure that the digitisation process evolves in such a way that it can benefit every interested farmer.
Smart farming seeks role in post-2020 CAP

Precision farming could play a leading role in making EU agriculture more sustainable. But green NGOs claim that the concentration of food production in the hands of the agri-food industry will have catastrophic consequences.

EU lawmakers have already launched the consultation for the CAP after 2020.

Smart farming takes centre stage in the discussion, but the precise regime under which it will be included in the post-2020 CAP still divides stakeholders.

**FARMERS NEED TO SEE THE VALUE**

Copa-Cogeca, the association of European farmers and agri-cooperatives, believes that the new CAP should be modernised, otherwise EU farmers won’t be able to compete in a dynamic global market.

Daniel Azevedo, a senior policy advisor for Copa-Cogeca, noted that farmers are not going to invest in technology for public funding, but on the contrary, will do so if they see the value coming out of the use of technology.

Copa analyst Paulo Gouveia shares the same view. “A farmer needs to see in order to believe, [...] wants to see the results before engaging,” he said.

But both experts warned that the new CAP should remove and not create new barriers to innovation.

“What the CAP can do is, for instance, not create regulatory problems like with the new breeding techniques so that farmers can use the same technology that every other farmer in the world can use,” Azevedo said, adding that the post-2020 CAP needs to give room for entrepreneurship for farmers.

**ADAPTING THE CAP’S PILLARS**

For Luc Vernet, who is an agriculture analyst at the Farm Europe think tank, there is no need to create a third pillar on precision farming nor fully reshuffle the CAP. According to Vernet, just a few adaptations of both the first and the second pillars would be necessary.

“The main point today is to acknowledge the positive role of these new techniques and to take into account the deliverables they can provide to increase both environmental sustainability and...
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economic growth altogether in Europe,” Vernet told EURACTIV.com. He added that both direct payments and rural development pillars have a role to play.

Vernet said that precision farming had huge potential in terms of simplifying the greening of direct payments as “it will allow the legislator to switch from a prescriptive and bureaucratic approach to a results-oriented approach”.

“Such an approach will be much more pragmatic and efficient as it will leave farmers the possibility to find the most relevant agronomic path to improve agricultural practices,” he stressed.

He added that taking into account the family farm model in the EU, and the difficulty in investing, it would be necessary to help investments and incentivise an accelerated transition. “The second pillar has an important role to play in order to boost investments in precision farming and lift the bottlenecks,” Vernet said.

AGGRESSIVE INVESTMENTS

EURACTIV also contacted MEPs to see how they view precision farming in the next CAP.

Italian Partito Democratic MEP Paolo de Castro (S&D group), who is vice-chair of the AGRI committee, stressed that in order to allow the safe and efficient use of technology, EU policymakers should introduce a sensible and proportional regulation.

“This legal framework should be simpler and more flexible, ensuring timely and effective decision-making,” he said.

He added that this process would also promote the exchange of knowledge and the use of resource integration in accordance with the so-called ‘interdisciplinary collaboration’, which considers creative ideas as a result of the combination of a variety of different sources.

“Aggressive investments in the further development of smart agricultural technologies and their widespread adoption in an integrated way that encompasses climate, energy, agricultural and digital policies would also be required,” he pointed out.

For De Castro, the greatest challenge is the involvement of farmers in the process, since they are supposed to be the main demanders of innovative solutions.

“What we need to achieve is the model of an educated and emancipated farmer who can negotiate his personal position in all the food production system or supply chains; otherwise he risks remaining a passive receiver of technology, without being a constitutive part of the process that affects the switch to a more sustainable and digital agricultural sector,” the Italian lawmaker said.

REINFORCING INDUSTRIALISED FOOD

Lidia Senra, a Spanish Alternativa Galega (GUE/NGL group) lawmaker and coordinator in the AGRI Committee, claims that precision farming will help dismantle an already difficult situation.

Senra told EURACTIV that innovation and technology could indeed bring added value to the fight against climate change, the right to food and employment.

“However, they are being used to encourage further concentration of wealth and to make the vast majority of society more precarious and poorer,” she said, adding that smart agriculture has this same logic.

“It is another step forward in the continued deepening of the industrialisation of food production and the disappearance of peasant farming in favour of large industrial farms, which have the economic capacity to access so-called smart or precision agriculture,” the Spanish leftist said.

The MEP believes that EU farmers will face a greater dependency on corporation farms, even running the risk that a single corporation could eventually control the agricultural system.

“It is clear that only large agricultural companies will have the economic capacity to access this agriculture,” she noted, adding that the new CAP should focus on a new agricultural and food policy based in agroecology and within the framework of food sovereignty.

“The point is to maintain food production in the hands of farmers and peasants all over the territory,” she concluded.

SUSTAINABLE PRODUCTIVITY BONUS

The European Agricultural Machinery Industry Association (CEMA) suggests the introduction of an agricultural sustainable productivity bonus (ASPB) in the CAP to support green technology investments like smart farming.

“Farmers who are able to increase their productivity while strictly following the cross-compliance requirements should be rewarded,” CEMA said in a policy paper published earlier this month (10 March).

Practically speaking, EU farmers who invest a given percentage of their revenue in certified sustainable technologies will automatically be eligible for the greening direct CAP payments, while farmers who do not reach a specific percentage could still use the traditional CAP greening scheme.

Precision farming technologies that could be funded by this new scheme include devices such as smartphones, tablets, global navigation satellite systems (GNSS), sensors, applications,
embarked computers and unmanned systems like drones and robots.

The machinery industry believes that this way will facilitate the uptake of new technologies by EU farmers, mainly smallholders, as only 25% of them currently have access to precision farming tools.

“It will make sustainability and productivity compatible, two concepts very often described as incompatible,” the paper reads.

**PAYMENTS AND SUSTAINABILITY**

But environmental NGOs do not share this view.

The Nature And Biodiversity Conservation Union (NABU), one of the oldest and largest environment associations in Germany, recently published a policy paper claiming that the current CAP neither addresses the unprofitability of small-scale farming nor meets the challenges of climate change and biodiversity loss.

NABU recommends a new model based on much higher payments to those farmers who manage their land in a sustainable way and who implement specific measures for biodiversity.

“Holdings that choose only to meet the basic legal requirements would no longer receive public money,” the paper reads.

The German Association for Landcare (DVL) claims that environmental services as part of agricultural production do not have a direct market value.

It says, therefore, that a “public good bonus” as part of an EU payments system should be introduced after 2020. “All types of land management aimed at preserving general biodiversity and climate and water protection would be included,” DVL noted.

Commenting on these new approaches, CEMA’s Secretary-General Ulrich Adam stressed that they indeed reflect the common objective in the current CAP debate of boosting sustainability in farming.

“However, the aspect of food production in farming and the inherent optimisation of such primary food production processes is strangely absent from these concepts, which focus almost exclusively on reward schemes for biodiversity, climate, and water protection services,” Adam remarked.
France’s farming community has already started introducing new technologies but it’s still concerned about the cost as well as the lack of information on the “right choices” of equipment.

Over the past five years, precision farming in France has made significant progress with a growing number of farmers willing to be part of the new promising trend.

Broadband infrastructure might not be a problem for the country; however, French farmers are faced with a number of challenges before they prepare for an innovation-driven future.

INNOVATION UNDER THREAT

Luc Vernet, senior adviser at Farm Europe, a think tank specialising in EU agricultural affairs, told EURACTIV.com that the capacity of the EU farming sector to invest and innovate was “under threat”.

Referring to the main challenge French farmers are faced with, he said that is to find new drivers to prepare the future and precision farming is one of them.

But Vernet admitted that at this stage, the pace of implementation on the ground of precision farming in Europe is lagging behind when compared with other places in the world.

Vernet noted that between 2010 and 2014 there were more than 5,000 new patent registrations worldwide in the field. 70% of those new agriculture patents were assigned to North America and only 15% in Europe.

“The EU needs to support the development of these techniques which allows both strengthening the profitability of farmers and reducing the environmental footprint,” the French analyst emphasised.

MAKING THE RIGHT CHOICE

Sébastien Windsor is a French precision farmer. He has already introduced new technology practices in his everyday farming, such as drones and sensors to seed sugar beet and corn.

“With the use of technology, I spray...”
only one-third of the surface [of the farm] and use a mechanical system to remove the bad plants in between the rows,” he told EURACTIV.

Referring to the main challenges he is facing as a farmer, he prioritised access to affordable technologies.

“The cost to get digitalised is an issue for French farmers,” he noted, adding that the adoption of precision farming, which will result in less pesticides’ use, is a consumer demand.

“We should deliver this demand. But in order to do so, we need an affordable cost that will help us maintain our income,” he said.

Regarding internet access in France’s rural areas, he said that it was a problem but only for a few regions.

“Lots of systems are now available, you can get the internet with satellites and mobile phones. This is a problem for specific areas but not the main one currently,” he said.

Another important challenge for him is to make the right choices regarding the technologies that can be used on his farm.

“The capacity of selecting the good equipment is an issue because lots of people are getting to that market and very often are a bit lost in their choice […] many farmers wonder where they can get some good advice on choosing the most appropriate system for them and their tractors,” Windsor emphasised.

Last but not least for French farmers, is how they can connect their devices together.

“We may have a device on the tractor, another device in a computer that records what we are doing and a device for the satellite photo […] we need to be able to connect the data of these devices in order to avoid entering the same data several times a day,” he stated.

**EMBRACING TECHNOLOGY**

The role of cooperatives in precision farming is crucial, experts say, claiming that they could help farmers embrace the new technologies by sharing the costs.

In January, French farming cooperative InVivo, together with other 30 cooperatives, created a website aiming to accompany farmers in their transition to precision farming.

Through this website, French farmers describe their farm needs and then they are directed accordingly, towards the most relevant precision agriculture technologies.

The site proposes for example to verify the suitability of the equipment of the farm that needs to be converted, simplify the mapping etc.

**PRECISION FARMING IN PRACTICE**

Over the last five years, French farmers have increasingly found themselves using precision farming technologies in their fields.

An example is the French drone manufacturer AIRINOV, whose precision fertilising had a positive impact on farmers’ income and the environment.

A three-year study showed that thanks to fertilisation advice on wheat by drone, French farmers increased their gains by €69 per hectare.

A partnership between OCEALIA cooperative and AIRINOV helped farmers make more money by saving fertiliser and improving its yields, and thus, protecting the environment.

Another tool widely used in 2016, was fertiliser company Yara’s tool N-Tester.

According to the company, it helped approximately 21,000 French farmers to measure the nitrogen status of 710,000 hectares of wheat, which resulted in €19 million in additional income.

N-Tester is a hand-held leaf nitrogen measurement tool which enables quick and easy readings to be taken in a growing crop to establish its exact nitrogen status.

With that tool, French farmers managed to adjust to the needs of the crop with a positive direct effect on yield, fertilisation cost, and the environment.

Yara claims that 85,000 tonnes of wheat additional production were generated which could feed 310,000 people.

Regarding the environmental impact, this practice contributed to lower greenhouse gas emissions by 71,000 tonnes of CO2.
Commission: Technology will make farming more transparent to consumers

Technologies can enhance “transparent farming” and, as a result, better inform European consumers about the food they eat, a European Commission spokesperson told EURACTIV.com.

The main concept of precision farming is optimisation, meaning precise application of inputs, such as fertilisers, pesticides and irrigation water, which results in a positive environmental impact.

Analysts suggest that consumers are also benefited through smart agriculture, as the food quality is improved.

But green NGOs claim that precision farming’s role should remain limited, as the future does not solely lie in technology.

**THE ENVIRONMENTAL FOOTPRINT**

A recent report by the Scientific and Technological Options Assessment (STOA) committee of the European Parliament emphasised the environmental benefits of smart farming practices in the EU.

The experts stressed that the environmental impact of agriculture becomes measurable and verifiable by the digitisation of agriculture.

The report showed that the use of high-tech tools such as GPS systems, devices controlling sprayers and fertiliser distribution, and censors would have a positive environmental impact as they will contribute to a more sustainable and measurable production.

Among others, precision farming will be able to reduce or avoid excessive chemical input in soil and risk of water pollution; it will reduce soil compaction as well as the carbon footprint (10% reduced fuel

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consumption in field operations); and will also see an improvement in nitrogen-use efficiency.

“Precision farming technologies allow the production of ‘more with less’. The use of natural resources, agrochemicals, antibiotics and energy will be reduced to the benefit of both farmers and the environment, thus in turn society,” the report noted.

Neupublic, an IT company, explained that new technologies would help farmers increase their production by applying precise quantities of inputs at the most appropriate time, while at the same time protecting the environment.

They can also be more profitable and competitive, by both reducing production costs and increasing yields.

“Precision farming is a safe way to measure the environmental footprint of farming: a farmer will be able to know what environmental impact his production has [...] it’s not about punishment, it’s about enhancing farmers’ role as public goods providers and guaranteeing a fair remuneration for their efforts,” Neuropublic’s Panagiotis Ilias told EURACTIV, adding that at the same time, it would be an opportunity to bring all the relevant food chain actors on the same page to jointly face future challenges.

The expert also stressed that precision farming practices would inevitably contribute to better food quality, considering that precise amounts of agrochemicals will be used (thus avoiding excess) as well as the exact proportion of other natural resources (e.g. water) will be applied, always based on the precise needs of the crops.

Neupublic’s smart farming services focus on the optimisation of cultivation practices, such as fertilisation, plant protection and irrigation. The expert cited an example of an olive grower, saying that he used to over irrigate his olive groves.

After mapping the olive trees’ active root system allocation in the soil and the needs of the trees in terms of water in that specific location and weather conditions, now he is using an optimised irrigation system.

“It uses fewer natural resources as less water is wasted and the organoleptic characteristics of the product are much better, allowing for a premium price with lower production costs,” he explained.

**FOOD QUALITY**

The STOA report also noted that food safety sensor-based monitoring systems would provide farmers, processors and other stakeholders with better information and early warning on the quality of food products.

“Precision farming will contribute more and more to food safety [...] it will make farming more transparent by improving tracking, tracing and documenting,” the report stressed, underlining that crop and livestock monitoring will give better predictions on the quality of agricultural products and the food chain will be easier to monitor for producers, retailers, and customers.

Contacted by EURACTIV, a European Commission spokesperson said that precision farming technologies can help farmers meet marketing standards by better control over different attributes required by food markets.

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“Technologies can enhance a ‘transparent farming’ better informing European consumers about food attributes,” the EU official added.

A LIMITED ROLE

The UN estimates that the global population will rise to more than 9.7 billion in 2050 and exceed 11.2 billion by 2100, and it has called for a dramatic increase in food production.

This is the main argument of the agri-food industry, which has reached out to niche agricultural markets and is pushing for the digitisation of the farming sector.

However, green NGOs do not share this approach. Referring to data by the UN’s Food and Agriculture Organisation (FAO), Greenpeace argues that the world already produces more than one-and-a-half times more food than is needed to feed everyone on the planet.

The agency notes that for the past two decades, the rate of global food production has increased faster than the rate of global population growth and attributes high hunger levels to poverty and inequality, not scarcity.

There are people who earn less than $2 a day and cannot afford to buy this food, Greenpeace points out.

Faustine Bas-Defossez, policy manager for Agriculture and Bioenergy at the European Environmental Bureau (EEB), has a similar view.

“It’s time to move away from the ‘we need to feed the world’ narrative as justification for increasing food production,” she told EURACTIV, adding that, in fact, at current levels of food production there is enough food to feed 12 billion people.

She also stressed that food poverty was a result of other societal problems such as unfair distribution, inequality, and food waste.

Bas-Defossez admitted that to some extent precision farming could help reduce artificial inputs and use them in a more targeted way to avoid runoff which pollutes the environment.

“But precision farming is associated with the use of expensive heavy machinery which represents significant up-front investment costs for farmers, this comes with the risk of locking them into a single overproduction model of farming as they need to sell more to pay off the debts they incurred buying the pricey equipment,” Bas-Defossez stated, adding that if the future CAP is to promote this model of farming as the predominant one there is “a risk that other alternatives are underfunded and undermined”.

The EEB claims that precision farming’s role should remain limited and public money should instead be used to help farmers work in harmony with nature and protect the natural resources they rely on to produce safe and healthy food.

“The future does not solely lie in technology […] The best machinery in the world cannot be used if your soil is dead and you’ve got no more water – you simply cannot produce food,” the activist said.

“Trying to find solutions in nature is not a step backward; it is smart innovation. Techniques such as natural pest control mechanisms, smart crop rotation systems, and ecological focus areas are the first steps towards food security,” Bas-Defossez concluded.