

# Agricultural education and lifelong training in the EU

#### **SUMMARY**

European farmers fulfil a vital role in providing safe and affordable food to nearly 500 million European citizens, and maintaining their countries' landscapes. However, the farming population is ageing and generational renewal has become a crucial issue. The farming sector needs to attract a new generation of farmers with the necessary skills to live and work in a challenging context. They will have to produce more efficiently while protecting the environment; contribute to the fight against climate change; meet society's demands regarding healthy and balanced diets; and keep up with increasingly rapid scientific and technological progress.

It is therefore essential that farmers benefit from adequate agricultural education and training and acquire the various skills needed to adapt to a changing environment. On average, only 8.5 % of the present generation of European farmers have received full agricultural training, and 70 % have only practical experience. Initial training is a national competence and agricultural education systems vary widely throughout the EU. They provide the path to a wide range of careers in agriculture and forestry and deliver degrees in a number of disciplines, from diploma courses with a vocational orientation to bachelor degrees or doctorates in applied sciences.

The current common agricultural policy places strong emphasis on knowledge sharing and innovation. It provides for specific measures to help farmers access advice and training throughout their working lives. Support is also provided for innovation via the European innovation partnership network for agricultural productivity and sustainability (EIP-Agri). In several recent resolutions, the European Parliament has stressed the importance of education and training for farmers, in particular as a way to foster their ability to work in an ever-evolving sector.



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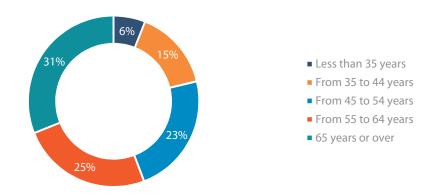
# **Background**

## The need for young farmers

Agriculture plays a vital role in many regards. By producing sufficient safe, affordable and high quality food, European farmers ensure food security for the more than 500 million European inhabitants. Farmers also provide many public services and goods, such as maintaining landscapes, producing renewable energy, protecting biodiversity, and generally keeping rural communities alive.

However, in Europe today, the farming population is ageing steadily. The majority are aged above 55 years, and only 6.9 % are younger than 35 years. Moreover, nearly one third of all farmers are older than the normal retirement age of 65 years. The proportion of young people in agriculture is <u>lower</u> than in any other economic sector and their number is declining faster than the older farming population.

Figure 1 – Farming population by age, 2013



Data source: European Commission.

Several factors may explain why young people are reluctant to enter the farming sector. The difficulties often associated with a farmer's job: hard working conditions, low incomes, long hours, and the many risks and uncertainties in an economic environment where the globalisation of markets and the concentration in retail chains put strong pressure on producer prices are deterrents. The limited access to land and credit for the investments they need to make when they begin their careers is another hurdle.

With decreasing numbers of young farmers, the sector will not be able to fulfil its vital functions for society. Ensuring generational renewal is therefore essential. The EU, through its common agricultural policy (CAP), supports young farmers through various measures to help them in their jobs and encourage potential candidates to enter the farming sector. Farmers also need further training and to upskill throughout their careers, which is why the CAP also provides funds for training and the operation of farm advisory systems.

#### **Education and training needs**

However, while the aim of CAP measures is to ensure continuity from one generation of farmers to the next, it is essential that newcomers are adequately trained to be able to adapt to evolving and increasingly specialised agricultural techniques. They also need to cope with a challenging economic context and meet society's new requirements on environmental protection, the fight against climate change, and healthy and balanced diets. More experienced farmers also need to adapt constantly to economic and

technological developments and to new consumer trends. Well-trained farmers are better equipped to succeed in the daily management of their farms and adapt more easily to new economic circumstances or environmental considerations. <u>Agricultural information</u>, knowledge, and the ability to learn are preconditions to coping successfully with change.

The reformed 2013 CAP emphasises knowledge and information sharing. Specific measures help farmers to constantly update their knowledge. They respond to the need for new skills for all those who are already engaged in agricultural activities. Initial agricultural training remains a **national competence** and is provided within national education systems.

# **Overview of European farming education**

#### The EU farming population

Around <u>22.2 million</u> people work regularly in agriculture (or 8.7 million full-time equivalent workers), and 58.2 % of this labour force is <u>male</u>. The countries with the highest proportion of female farmers are Lithuania (48.2 %), followed by Romania, Latvia, Hungary and Poland. The farming population is ageing: for each farmer in Europe younger than 35 years, there are <u>9 farmers</u> older than 55 years, a ratio even less favourable in the 15 'older' Member States, where it is 11 to 1.

A large majority of European farmers have not received any formal training in agriculture.

#### Agricultural training levels in the EU

The European Union statistical office, Eurostat, defines three levels of agricultural training:

- **Practical agricultural experience**: experience acquired through work on a farm.
- **Basic agricultural training**: any courses completed at a general agricultural college or an institution specialising in certain subjects (horticulture, viticulture, sylviculture, pisciculture, veterinary science, agricultural technology); a completed agricultural apprenticeship is considered basic training.
- **Full agricultural training**: any course continuing for the equivalent of at least two years full-time training after the end of compulsory education, completed at an agricultural college or at university, in agriculture, horticulture, viticulture, sylviculture, pisciculture, veterinary science, agricultural technology.

Eurostat <u>data</u> from 2013 show that the vast majority of European farmers (69.8 %) learned their skills through practical experience alone, whilst 8.5 % received full agricultural training, and 28.7 % followed some kind of agricultural training. Countries with the highest shares of fully-trained farm managers include Luxembourg (50 %), the Czech Republic (34.6 %), France (29.3 %), Latvia (28.4 %), Poland (27.6 %), and Austria (27.2 %). In the countries that joined the Union in 2004 and after, practical experience as the only basis for managing a farm is particularly prevalent: 80.7 % of farmers have not been formally trained in agriculture (see Figure 2).

100% 90% 80% 70% 60% 50% 40% 30% 20% 10% 0% EU-28 SE UK LT EE BE LV IV FI FI EL BG CY MT PT ES HU SK PK CZ FR ■ Practical experience only ■ Basic training ■ Full agricultural training

Figure 2 – Share of farm managers with basic training, practical experience or full agricultural training (as their highest level), 2013, EU-28

Data source: Eurostat (the figures above for Italy are not reliable due to a lack of comparability in the data).

The share of fully-trained farmers is higher amongst the youngest EU farmers (under 35 years old), especially in the 'older' Member States: 70.8 % in France and 66.7 % in Luxembourg (see Figure 3). In the Member States that joined the Union in 2014 and after, more than 61 % of young farmers on average rely on practical experience alone, this figure reaching 93.1 % in Romania.

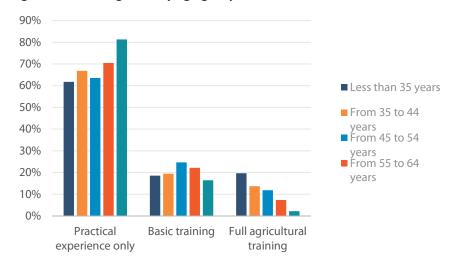


Figure 3 – Training level by age group, 2013

Data source: European Commission.

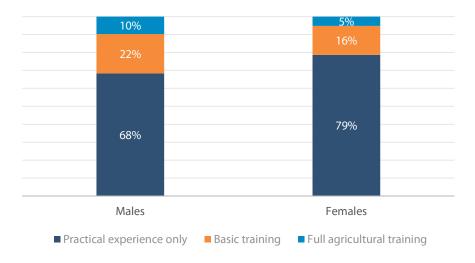
Conversely, older farm managers (over 55 years old) rely overwhelmingly on practical experience alone. In Romania, Greece, Bulgaria, Cyprus and Malta, more than 90 % have no formal agricultural training.

There is also a <u>correlation</u> between farmers' training levels and <u>farm size</u>: the share of farm managers with practical experience only decreases when farm size increases: in 2010, 88 % of the farm managers of smallholdings (<u>standard output</u> between €1-14 999) in the EU-28 had practical experience only, whereas this share was 26 % for large holdings (standard output €250 000). Conversely, full agricultural training increases with the size

of the farm: the share of farm managers with full agricultural training level was only 4 % on small farms and 34 % on large farms.

Among farm managers, educational attainment is <u>lower</u> for women than for men (see Figure 4).

Figure 4 – Share of farm managers with practical experience only, basic training or full training as highest training level, differentiated by sex, 2013, EU-28



Data source: Eurostat.

More generally, the <u>educational level</u> of the agricultural labour force is often below the national average. Some of the obstacles faced are distance to education establishments and training venues, lack of adequate transport for young people, and the costs of education and training. A British <u>study</u> exploring barriers to education, training and employment in rural areas in the United Kingdom found that young people face a number of uniquely **rural** barriers, particularly as regards access to transport, careers advice, employment and training support, and youth services. To access education, they are more dependent than their urban counterparts on public transport, the high cost and low availability of which, in rural areas, can act as a barrier to post-16 education.

# Training to be a farmer in the EU

#### Overview of agricultural education in the EU

As demonstrated by Eurostat figures, young farmers tend to start their careers equipped with the relevant diploma, acquired in their country's agricultural education system.

In all EU Member States, agricultural education is an integral part of general education and training. It is mainly aimed at students who wish to pursue a career in the land-based sector, either as an employee or a manager. There are different levels of attainment, ranging from basic certificates to engineering degrees or PhDs in agronomy. The organisation of agricultural education varies according to the various national educational systems. It can be centralised or partly devolved to regions (as in Germany). It includes initial vocational training, apprenticeship, undergraduate and postgraduate higher education. Agricultural education usually falls under the remit of either the Ministry of Agriculture or the Ministry of Education. The arrangements in France are illustrated below.

#### French agricultural education

Although the Ministry of Agriculture has been responsible for agricultural education since 1848, it forms an active part of the national education system, as the diplomas delivered are signed by both the agricultural and educational administrations. Students are trained for <u>careers</u> in <u>sectors</u> such as: agricultural production, forestry and aquaculture; processing and marketing of products; the agrifood industry; animal and plant health and protection, food hygiene, quality and safety; rural development (rural areas, forests, water, landscapes); services to people and territories.

Within the whole range of training courses, only a few specifically prepare students to become farmers. Qualifications range from the Certificate of professional competence in agriculture (CAPA) to engineering degrees and PhDs. There is a dense network of training establishments, with 806 secondary schools, 371 apprenticeship sites, 495 continuing vocational training sites, 19 higher education establishments — in particular for veterinary and agronomy studies, 192 farms, 32 technological workshops, 18 900 cultivated hectares; and more than 465 000 students, apprentices, trainees (including those in continuing vocational training). Agricultural education is considered as a tool of agricultural policy and a driver of modernisation/adaptation of agriculture and the transformation of rural areas.

Source: French Ministry of Food and Agriculture.

Agricultural colleges provide students with professional training encompassing different types of skills: job-specific (such as plant cultivation, care and breeding of animals, equestrian activities), generic (time management, resource planning, entrepreneurial skills), IT, green (awareness of sustainability issues), and technological skills.

In general, careers in agriculture and forestry typically cover farm work, working with livestock, forest management, advisory work, and research. Agriculture is a research-intensive area, in particular in fields such as sustainable development, environmental protection, the fight against climate change, disease and pest control, organic farming, and land erosion. Students can also find opportunities within the agricultural product industry, and work in the marketing of feed, fertilisers, or forestry equipment. Food sciences also offer career opportunities.

Students learn through a combination of theory and practice, attending classes in colleges and gaining practical experience on farms. They can be encouraged to take part in international exchanges, so as to widen their horizons. University students willing to study abroad can take part in <a href="Erasmus+">Erasmus+</a>, the EU's programme supporting education, training, youth and sport in Europe. Other student exchange schemes exist, as part of educational programmes supervised by lecturers, as shown in a comprehensive <a href="Study">study</a> commissioned by the European Commission (2015). The study includes an inventory of exchange schemes for young farmers in the EU and several countries outside the EU.

For young people already working in agriculture, there is also a host of <u>exchange schemes</u> enabling them to travel abroad and work on a different farm in order to improve their knowledge and get acquainted with different methods, technologies, machines and processes. Among these is the <u>Erasmus for Young Entrepreneurs</u> programme (a cross-border exchange programme which allows new or aspiring entrepreneurs to move to another participating country to acquire new skills from more experienced entrepreneurs).

Today, the majority of young farmers have a family background in agriculture. However, growing numbers of newcomers to farming are entering the sector. These <u>new entrants</u> are more likely than the average to engage in agro-ecological projects: small-size organic farms, direct sales to consumers, or on-farm processing. Among many obstacles, such as

access to land and credit, they can face several knowledge issues: gaining the right technical knowledge, finding networks, and knowing where to find information. An example of an innovative way for would-be farmers to learn is given below.

#### Farming on trial

Farm incubators are programmes enabling would-be farmers to test their business project at full size before getting started. They make entry into farming easier by addressing barriers to prospective farmers, including access to land, capital and credit, and opportunities to learn and develop skills in farm management and business planning. These farm incubators enable prospective farmers to develop a life-size farming activity in an autonomous way, during a limited period of time (two to three years), in an environment presenting limited risks. They are particularly adapted to newcomers to agriculture, who are provided with land, buildings and equipment, and receive training, support and advice, as well as access to networks. They are assisted by mentors (farmers or former farmers) who show them how to work. At the end of the trial period, the prospective farmers assess their project and their performance, in order to decide whether to carry on, to amend, or to give up the project. Farm incubators are a recent phenomenon and can be found in several EU countries, under different names: Point Vert in Belgium, the Kindling Trust/FarmStart in the United Kingdom, the RENETA network in France (with around 200 ongoing projects).

Source: EIP-AGRI Focus Group 'new entrants into farming'.

# Lifelong farming training

#### Adapting to changing conditions in agriculture

To run a successful business, farmers require knowledge in a variety of areas which they acquire as part of their formal training, on the job but also later through various means, in particular vocational training courses.

The evolution and specialisation of agriculture, linked to the rapid evolution of scientific knowledge in all fields relevant to agriculture and forestry, requires an appropriate level of technical and economic training. Farmers need the means and skills to meet the new agriculture and forestry challenges. Those include improving productivity while ensuring the sustainable management of natural resources, coping with climate change, providing ecosystem services and public goods, ensuring the sustainable management of forests and adapting to shifting consumer demand. Producing enough food for an increasing world population in a sustainable way, 'to produce more with less', requires innovative technologies.

An example is the development of **precision agriculture**, a new farm management concept that uses digital technologies to monitor and optimise production processes while limiting the amount of necessary input (water, energy, fertilisers). It relies mainly on a combination of sensor technologies, satellite navigation and the internet of things. According to a European Parliament scientific foresight <u>study</u>, achieving significant progress with precision agriculture would require increased education in farming, in particular in high-tech skills, as well as a greater level of life-long learning to keep up with the speed of technological developments. The technological expertise needed would include working with automation technology, as well as computer data and diverse high-tech production skills. Data management would become an important aspect of farming practice.

#### Network approach to lifelong learning for farmers

A 2012 <u>study</u> on the creation of a **farmer-university network** in Brandenburg, Germany, indicates that farmers need information on new developments, opportunities and

strategies for adaptation. The study findings highlight the need for farmers to have a very good knowledge of innovative processes and technics, especially when they plan to increase the productivity of a traditional production system, to diversify by producing new crops, animals or services, to specialise by reducing the scope of farm products or to change the orientation of production, for example towards organic farming.

Lifelong learning is about gaining new skills and competences, extending knowledge and obtaining qualifications. It relies and builds upon prior learning by working adults and focuses on learning outcomes, regardless of the learning path (formal or non-formal). In a large part of the traditional agricultural knowledge and information system, knowledge flows still move in a top down direction, from industry or research to farmers. However, experience shows that more networked approaches are needed.

The German study concludes that some farmers are difficult to reach with lifelong learning offers, but will accept those which are immediately relevant to their needs. Learning methods have to be adapted to farmers' needs and the various levels of their agricultural education. Importantly, **farmer-university networks**<sup>1</sup> function effectively if all participants are considered as equal partners.

#### Knowledge needs of young farmers

According to a <u>study</u><sup>2</sup> conducted for the European Commission in 2015, young farmers' knowledge needs differ widely according to the country where they live, the agricultural sector (whether specialised or not), their level of education and their farm situation (farm owner or employee, for example). Young farmers living in Member States which joined the EU after 2004 seem to have greater knowledge needs. They appear more eager to develop skills and gain knowledge from different sources, and have a more positive attitude to exchange schemes. Young farmers working in a specialist sector (for example, olive and olive oil production) also seem to have greater knowledge needs. Those who have already acquired a high level of education are more eager to develop different skills, while young farmers who own their farms appear to be less open to developing new skills.

A majority of young farmers are interested in gaining specific technological knowledge for the farm and skills for the development of a farm strategy. They also wish to gain **entrepreneurial** skills such as marketing, networking, communication and financial skills, as well as managerial skills.

## **CAP support for knowledge transfer and innovation**

The current **common agricultural policy** emphasises knowledge transfer and provides farmers and trainers with support in this area.<sup>3</sup>

#### Farm advisory systems

According to Articles 12 to 14 of <u>Regulation</u> (EU) No 1306/2013 on the financing, management and monitoring of the common agricultural policy (the 'Horizontal Regulation'), Member States are obliged to provide a farm advisory system (FAS) to advise all farmers on land and farm management. The FAS raises awareness of the relationship between agricultural practices and management of farms on the one hand, and standards relating to the environment, climate change, good agricultural condition of land, food safety, public health, animal and plant health, and animal welfare on the other. It helps farmers meet the obligations resulting from **cross-compliance** standards (see box below). It includes advice, training, information provision, extension services and research, which farmers use on a voluntary basis.

The FAS is operated by public or private bodies and may also provide advice on other subjects such as farm conversion or diversification, risk management, or green direct payments. It may receive funding from the CAP (rural development), according to Article 15 of Regulation (EU) No 1305/2013 on support for rural development by the European Agricultural Fund for Rural Development.

Farm advisory services are an essential part of what is generally known as AKIS: Agricultural Knowledge and Information Systems. A recent project, PRO AKIS, funded through the EU's 7th Framework Programme, provides an overview and an inventory of AKIS in Europe. They are defined as 'a system concept that links people and institutions to promote mutual learning, to generate, share, and utilise agriculture related technology, knowledge, and information. The system integrates farmers, agricultural educators, researchers, and advisors to harness knowledge and information from various sources for improved livelihoods.'

The project shows the considerable diversity of AKIS and advisory systems, as each country has developed a system adapted to its particular situation, needs and actors. In most countries, the public sector supplies information, advice and funding. Research and education actors from both private and public sectors create knowledge, encourage innovation and provide education and advisory services.

# Rules on cross-compliance (Annex II of regulation (EU) No 1306/2013)

Cross compliance is a set of rules that link CAP payments to the farmers' compliance with a number of standards. It is implemented under two main areas: Statutory Management Requirements (SMRs), which refer to 13 legislative requirements fields in the environment, food safety, animal and plant health and animal welfare; and Good Agricultural and Environmental Condition (GAEC), which refers to seven standards for soil, water and biodiversity protection and maintenance landscapes. Cross-compliance ensures that support granted to farmers under the CAP contributes to promoting sustainable agriculture. It has the potential to create greater synergies between agricultural and environmental policies.

#### Rural development measures supporting knowledge transfer and innovation

Within the EU rural development policy (second pillar of the CAP), strong emphasis is placed on knowledge acquisition and innovation in agriculture. The EU rural development policy framework provides important training, information and advisory services. The first of the six main priorities providing the basis for rolling out support from the EAFRD to EU rural areas is entitled 'Fostering knowledge transfer and innovation in agriculture, forestry and rural areas'. It is considered a cross-cutting priority, insofar as the budget under the five other priorities contributes to the achievement of Priority I targets. The legal basis for the present EU rural development policy 2014-2020 is Regulation (EU) No 1305/2013 on support for rural development by the European Agricultural Fund for Rural Development (the EAFRD regulation).<sup>4</sup>

The first priority is sub-divided into three focus areas: 1A: Fostering innovation, cooperation and the **development of the knowledge base** in rural areas; 1B: Strengthening the links between agriculture, food production and forestry and **research and innovation**; 1C: Fostering **lifelong learning and vocational training** in the agricultural and forestry sectors. Among the measures provided for in the EAFRD regulation, some are particularly relevant for the implementation of these focus areas.

Measure 01 'Knowledge transfer and information actions' (Article 14 of the EAFRD Regulation) provides information and training to increase the performance, social and environmental sustainability of farms and other rural businesses. Projects supported include: vocational training and skills acquisition; demonstrations and information; short-term farm and forest management exchanges as well as farm and forest visits, for the

benefit of farmers and other rural actors. EAFRD funding is allocated to the providers of training or information actions.<sup>5</sup>

Measure 02 'Advisory services, farm management and farm relief services' (Article 15 EAFRD) aims at providing tailored advice to individual farmers, young farmers and other rural stakeholders. Such advice should be linked to at least one rural development priority and cover at least one of several topics listed in the EAFRD Regulation (such as safety standards, greening practices). As for Measure 01, funding goes to the providers of advice or training and can also be used for the training of advisors.

Measure 16 'Cooperation' (Article 35 EAFRD) can serve several of the six rural development priorities. As far as the first priority is concerned, the cooperation measure can be used to support the establishment and operation of groups under the European Innovation Partnership for agricultural productivity and sustainability (EIP-AGRI, see box below) as well as pilot projects and the development of new products, practices, processes and technologies.

European Innovation Partnership Network for agricultural productivity and sustainability (EIP-AGRI) EIP AGRI is one of five European Innovation Partnerships contributing to the Europe 2020 Strategy. One of its missions is to 'build bridges between cutting-edge research knowledge and technology and farmers, forest managers, rural communities, businesses, NGOs and advisory services'. The idea is to better link research and farming practice and encourage dissemination of innovation measures. Member States can include this feature in their RDPs as a tool to support innovation projects in agriculture carried out by operational groups, which bring together the various innovation actors: farmers, researchers, advisers, businesses, NGOs and others. EIP-AGRI pools funding from the EAFRD and, for multinational innovation projects, from Horizon 2020, the EU research and innovation programme.

#### Current EU rural development policy – expectations

The vast majority of the 118 regional and national rural development programmes address focus areas 1A and 1C: Some 3.9 % of total RDP public funds (EAFRD and national funding) will be devoted to Measures 01, 02 and 16, for a total amount of €156.3 billion. A total of 3.9 million people will be trained under the knowledge transfer measure (262 000 in Poland alone). The total public expenditure for the period 2014-2020 amounts to €1 870 million for Measure 01 and €1 422 million for Measure 02. Belgium, Austria and Spain have the highest numbers of participants trained under Measure 01. The countries planning to set up the highest numbers of EIP operational groups are Spain, Italy, Greece and France. Support for EIP Operational Groups is provided in 25 Member States by 95 rural development programmes, 3 230 of which are expected to be established under the approved RDPs.

The 'Mapping and analysis of the implementation of the CAP' (November 2016) shows how the various CAP measures have been used by Member States. For example, Bulgaria implements Measure 01 to develop farmers and foresters' skills and knowledge. Slovenia uses Measure 01 to improve agricultural education.

# **European Parliament and institutional actors' positions**

#### **European Parliament**

Parliament has stressed the importance of education and training in agriculture in several resolutions. In its <u>resolution</u> of 27 October 2016 on how the CAP can improve job creation in rural areas, Parliament calls on the Commission and Member States to grant support for training that would enable farmers, agricultural and rural workers to learn new skills

and diversify their activities and initiatives. Parliament considers it will be necessary to promote continuing vocational training for farmers and agricultural workers in future, and to promote the dissemination of scientific knowledge and innovation, to ensure adaptability to a changing economic environment.

In its <u>resolution</u> of 7 June 2016 on technological solutions for sustainable agriculture in the EU, Parliament notes that centres for education, training and innovation throughout the EU have declined or do not adequately cater for transdisciplinary approaches in emerging fields, such as agricultural engineering. It considers that farmers' qualifications are still limited in some Member States, which makes access to new technologies more difficult. It therefore calls on the Commission to draw up a European plan for investment in technical or higher-level agricultural training and education.

An earlier <u>resolution</u> on the future of small agricultural holdings (4 February 2014), called on the Member States to ensure that their education systems include appropriate infrastructure for vocational education and training in agriculture.

#### **European Committee of the Regions**

In a 2017 <u>opinion</u> on supporting young European farmers, the European Committee of the Regions considers that the training and information needs of young farmers are considerable and very varied. Young farmers should be made more aware of the training opportunities and the benefits of upskilling. In this regard, the Erasmus for young entrepreneurs programme has considerable potentialfor young farmers. Furthermore, the European Committee of the Regions recommends that vocational training provided in rural regions should be modernised and adapted to global competitive conditions and the needs of local businesses.

#### Stakeholders' positions

In 2015, the **European Council of Young Farmers** (CEJA) launched a <u>manifesto</u> focusing on the issues most relevant to young farmers. For CEJA, young farmers are well-educated and informed on issues of agricultural sustainability. Research is indispensable to the agricultural sector and communication links between researchers and farmers are essential for research to meet the genuine needs of farmers on the ground. There is also a need for education and information services for young people entering the farming sector, as well as continued professional development throughout their careers. With lifelong learning, young farmers who are naturally innovative can optimise their use of technology, innovation and best practices at farm level. The **Cork 2.0 Declaration 2016**<sup>6</sup> entitled 'A better life in rural areas' sets out ten policy orientations for an innovative, integrated and inclusive EU rural and agricultural policy. In particular, it recommends boosting knowledge and innovation (point 7) by placing greater policy focus on social innovation, learning, education, advice and vocational training. It also stresses the need to strengthen peer-to-peer exchange, networking and cooperation amongst farmers and rural entrepreneurs.

#### **Main references**

EIP-Agri (European Innovation Partnership for Agricultural productivity and Sustainability) Focus Group, New entrants into farming: lessons to foster innovation and entrepreneurship — Final report, 3 May 2016.

<u>Precision agriculture and the future of farming in Europe</u>, EPRS Scientific Foresight Unit (STOA), European Parliament, December 2016.

European Commission, Needs of young farmers — Report I of the pilot project: Exchange programmes for young farmers, November 2015.

Von Münchhausen S. and Häring A.M., <u>Lifelong learning for farmers: enhancing competitiveness</u>, <u>knowledge transfer and innovation in the eastern German state of Brandenburg</u>, Studies in Agricultural Economics 114 (2012), pp. 86-92.

#### **Endnotes**

- <sup>1</sup> The study presents three innovative research projects led by Eberswalde University for Sustainable Development (HNEE) and aimed at establishing a farmer-university knowledge and innovation network in Brandenburg, where economic and farming conditions are unfavourable. These projects, which address the training and knowledge needs of Brandenburg's farmers, are a very good example of a tertiary level educational body 'reaching out' to a local community.
- <sup>2</sup> The study includes individual reports on young farmers' needs in the 28 Member States.
- <sup>3</sup> The justification and context for the rural development measures dedicated to knowledge transfer and innovation are given in the recitals of the rural development regulation (Regulation (EU) No 1305/2013 on support for rural development by the European Agricultural Fund for Rural Development (EAFRD): 'Knowledge transfer and information actions should not only take the form of traditional training courses but should also be adapted to the needs of rural actors. Workshops, coaching, demonstration activities, information actions and also short-term farm and forest exchange schemes and visits should therefore also be supported'.
- <sup>4</sup> While this briefing focuses more particularly on CAP and especially EAFRD support, it should be noted that other European structural funds (EFRD, ESF, Cohesion Fund) can also support agricultural training, research and innovation projects.
- <sup>5</sup> However, according to Article 14.3 of Regulation (EU) No 1305/2013, 'Support under this measure shall not include courses of instruction or training, which form part of normal education programmes or systems at secondary or higher levels'.
- <sup>6</sup> The Cork 2.0 Declaration 2016 was the result of a major European conference on rural development, held in Cork, Ireland, in September 2016, which gathered more than 300 stakeholders from throughout Europe who discussed their vision for rural areas and considered policy responses.

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