



## Farmer

### INFO

A farmer (also known as an agriculturalist or agronomist) cultivates crops or raises animals. Different types of farmers produce different food products that are essential for human existence:



- Crop farmers grow grains or vegetables. They till the soil and plant, water, fertilise and harvest crops that are then sold either on a local market or to wholesale distributors.
- Livestock farmers breed and care for animals such as cows, sheep and pigs, fish or bees. They produce meat, milk, eggs, honey and other food products on a small-scale or commercial basis.
- Some farmers grow crops for sale or use as animal feed.
- Arable (crop) farming may also be combined with the raising of livestock on mixed farms.

When we buy conveniently packaged meats and vegetables from the shop it is all too easy to forget the work of the farmers who produce these goods. One of the main social impacts of commercialised farming is that the majority of people have been freed from the need to grow their own food, they have turned to other professions and are able to allocate more time to leisure pursuits and other interests. In 1991, the proportion of the global labour force employed in agriculture was 43.7 percent, compared to 26.76 percent in 2019. For the EU, these figures are 10.71% and 4.37% respectively. And in Bulgaria employment for this period of 28 years has fallen from 19.54 to 6.62%.

These statistics suggest that while agriculture is still a significant area of employment for much of the world's population, the trend is changing rapidly. Larger, more commercially efficient farms are buying up smaller farms, and individuals are shifting from subsistence agriculture to employment for financial compensation.

### IMPACT

The commercialisation of agriculture has many benefits, but it has also had a profound impact on poorer populations. No longer self-sufficient, they are now vulnerable to fluctuations in prices on the world food market. The world's poorest



people spend a far higher percentage of their income on agricultural products than those living in developed countries.

As the leading sector in terms of water consumption, agriculture has a significant impact on global fresh water supply. Irrigation alone consumes 70 percent of the world's supply of fresh water, while only 8 percent is used for domestic purposes. This has a significant environmental impact and has resulted in water shortages throughout the world.

Various agricultural practices have an impact on the environment:

- **Irrigation and water abstraction** — These activities lead to soil salinisation and alkalinisation; damage river ecosystems; and lower the water table. Irrigation may also increase emissions of the greenhouse gases nitrogen oxide and methane from soil.
- **Intensive cropping** — Soil erosion caused by intensive agriculture increases the amount of sediment in runoff, contributing to water pollution. Intensive crop production also results in nutrient depletion, damaging the soil structure and reducing its fertility and adsorption capacity while increasing erosion and runoff.
- **Fertiliser use** — The spreading of animal manure and artificial fertilisers results in the volatilisation of ammonia and emissions of nitrous oxide; the contamination of groundwater from leachate; the pollution of the drinking-water supply; and eutrophication and oxygen depletion in surface water bodies as a result of runoff, which encourages algae growth and kills fish populations. Fertilisers and manure also lead to soil acidification, and the heavy metals and phosphates that accumulate in the soil enter the food chain. The use of sewage sludge as a fertiliser leads to the accumulation of heavy metals and organic micro-pollutants that enter the food chain; and directly contaminates fauna and flora with microbial agents and chemicals.
- **Pesticide application** — The use of pesticides results in the leaching of residues into groundwater, which can affect drinking water quality. Many pesticides contain persistent organic pollutants, which are organic compounds that are resistant to degradation. Their accumulation in food chains has a significant impact on human health and the environment. Pesticides can alter or destroy non-target organisms and damage wildlife, habitats and food sources. The evaporation or volatilisation of pesticides results in them being carried by the wind and affecting ecosystems far from the point of application.
- **Intensive animal husbandry** — Livestock farming results in emissions of methane and ammonia and the release of organic matter and nutrients into water bodies.

- **Canalisation** — The construction of artificial waterways, or the conversion of rivers, leads to hydrological changes with negative impacts.
- **Drainage** — Draining agricultural land lowers the water table and poses a threat to wetlands and the composition of grasslands, fens and similar habitats. It also causes the oxidation and acidification of organic soils, reducing their organic content and changing the soil structure.
- **The use of mechanical equipment** — Tilling and ploughing cause increased amounts of dust and particulate matter in the air. This can lead to greater volumes of surface runoff, resulting in sedimentation, contamination and eutrophication in water bodies. The use of heavy machinery leads to soil compaction, increased surface runoff and greater sediment loads, while ploughing on slopes leads to the erosion of soil by water and wind.
- **Changes in land use** — The removal of vegetation cover leads to soil erosion and increases surface runoff and sediment load, resulting in sedimentation, contamination and eutrophication in water bodies. The loss of hedgerows, woodlands, small watercourses and ponds results in a loss of landscape variety and a reduction in species diversity.

## TIPS

During the past few decades, there has been a steady rise in interest in developing more sustainable and environmentally friendly agriculture. The popularity of organic farming is rising as people begin to recognise the damage that intensive agriculture is causing to public health and the environment. Consumer demand for alternative products has increased rapidly. However, organic farming is smaller in scale, which results in higher prices. Many countries have established a framework for the production and labelling of organic foods.



The following agricultural practices result in less damage to the environment:

- applying less-intensive farming methods;
- rotating crops;
- reducing pesticide and fertiliser use;
- lowering the number of cattle per hectare;
- transforming arable land and pasture into meadows;
- planting and maintaining hedgerows;
- maintaining woods and copses;
- undertaking intensive reforestation; and
- switching to organic farming..