GLOBAL FACTS ON WORLD FOOD AND AGRICULTURE

Growing population

The world population is growing. Every day it increases by 200,000 people. The same number is migrating to cities every day. According to the UN, we will reach the ten billion mark in the 2050s. 70% of them will live in cities. According to the FAO, to feed these people, agriculture will have to produce around 50 percent more food by 2050 than in 2012. And the products must be affordable and of good quality when they reach the consumer. Almost one in three people did not have access to a balanced diet in 2020. 811 million people go to bed hungry today. Of these, 70 percent are engaged in agriculture - without access to knowledge and technology. Against this backdrop, the Food and Agriculture Organization of the United Nations (FAO) is calling on all countries to provide enough food and supply their populations with affordable and healthy food. [1] [2]

Threat from climate and pests

Alongside strong population growth, climate change represents the second huge challenge for agriculture. Extreme weather events are on the increase. Periods of heat and drought as well as flooding of landscapes will become more frequent in the future. On the one hand, agriculture is a victim of floods and droughts; on the other, it is responsible for 20 percent of global greenhouse gas emissions. Climate change also increases pest pressure and threatens yields. One example is the plague of locusts that threatened the harvests of several countries in East Africa and Asia, particularly last year. One million hectares of land were affected. Over 20 million people were at risk of starvation because of the crops that were eaten away. [3] [4]

Threat to food safety

Contaminated food is a major hazard. Only recently, the Federal Office for Agriculture (FOAG) issued a warning about enterobacteria in baby food and withdrew a known product from circulation. The bacteria can cause meningitis in newborn babies. Plant diseases pose a threat to food safety. The WHO warns against mycotoxins. In Europe alone, hundreds of thousands of liver cancer deaths each year are due to poisoning from this fungal toxin. Molds produce various toxins that are highly toxic to humans. Residues can be reliably controlled with the use of fungicides. [5]

Scarce water supplies

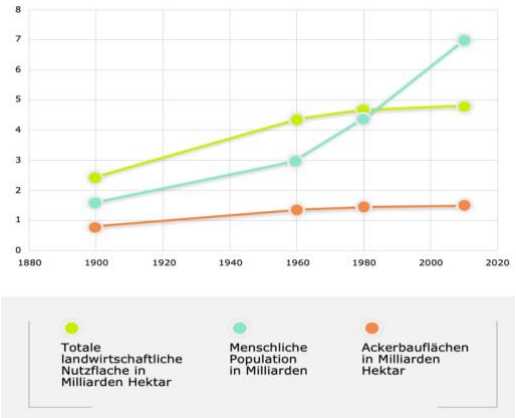
Agriculture already requires 70 per cent of the freshwater abstracted. The United Nations expects that in 30 years, four billion people will live in countries with water shortages. To avoid further depleting the water supplies of many countries, the water efficiency of plants must be improved and their tolerance to heat and drought increased. Research-based industries are investing billions in more tolerant plants through breeding and crop protection. [3] [6]

Limited areas

Every second, agricultural land the size of a football field is lost. Already 40 percent of the land is degraded. Arable land cannot and should not be expanded any further. Because the conversion of swamps, moors and forests into arable land releases gigantic amounts of CO2. Against the background of the climate crisis, this cannot be a solution. The additional food must be produced on land that has already been developed for agriculture. Food production must become more efficient, cheaper and more ecological. Here, too, it is clear that the challenges facing agriculture, are enormous. Organic pioneer Urs Niggli puts it this way: "Even if global agricultural yields continue to rise as they are now, around 200 million hectares of farmland and 400 million hectares of green space would have to be added by 2050 to feed the world's population, which is estimated to grow to almost ten billion by then." This is equivalent to one and a half times the area of the European Union. [7] [8]

Increase in productivity

Without increased productivity, 370 million more hectares of land would be used for agriculture today. This corresponds to 60 percent of the Amazon rainforest.



Since the 1960s, there has been a decoupling of population growth and agricultural land: Since then, 80 percent more food has been produced on practically the same amount of land, making it possible to feed eight billion people instead of just three billion. This is due to the findings of agricultural science and an agricultural sector that makes use of them. More productive agriculture also compensates for the migration of labour to the second and third sectors. Thanks to progress, they can be provided with enough food without having to work in the fields themselves. [9] [10] [11]

Global responsibility

In view of the global challenges facing agriculture, Switzerland must not opt out of production. An organic and import strategy is fraught with ecological question marks and must also be rejected on ethical grounds. The burden on the environment would be outsourced to the countries of origin of the imports. Switzerland has a global responsibility and must be able to supply itself to a large extent. This can only be achieved with a further increase in productivity of around 30 percent. [1][11]

Resource-efficient agriculture

A further increase in productivity is possible using all available technologies. Switzerland has excellent conditions in the field of basic and industrial research. New technologies such as digitization or improved breeding with CRISPR/Cas offer huge opportunities. Green genetic engineering has been used for over 30 years in many regions of the world (e.g. USA, Latin America, numerous countries in Asia) and has a long tradition of safe use for the environment and humans. A global meta-study has shown that the average yield benefits of green genetic engineering are about 22%. Pesticide use, on the other hand, can be reduced by an average of 37%. Sustainable agriculture is resource efficient. The goal is to increase yields with fewer inputs (labor, capital, land) and only the least possible environmental impact. [12] [13] [14] [15] [16]

Only thanks to technological progress and modern crop protection will we be able to conserve our resources in the future and at the same time feed more and more people in a healthy way.

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