

The Timetable for the 2050 Agricultural Revolution: Ecologized Agriculture in Germany

(Translation of the Executive Summary of the study “Kursbuch Agrarwende 2050 – ökologisierte Landwirtschaft in Deutschland”, published by Greenpeace Germany, January 2017)

Agriculture in crisis

Farming’s focus on maximum yields at lowest possible production costs has in recent decades allowed agriculture in Germany to slide into a sustained ecological crisis, indeed increasingly an economic crisis as well. At the same time that farmers in Europe are polluting soil, air and water resources, they can barely compete with low world market prices. In terms of climate change, they are perpetrators as well as victims, subject to increasingly extreme weather events.

Germany’s agriculture accounts for about eleven percent of the country’s climate gas emissions; at the same time, events such as droughts, storms and floods stunt agricultural yields. Intensive industrial farming and the high use of chemicals (pesticides) are key factors in reducing biodiversity, and our soils and waters are increasingly exposed to contamination from agricultural toxics and excess nutrients. The ability to supply the population with clean drinking water has become an ever-greater challenge. Furthermore, the public is increasingly disturbed by shocking pictures of industrial livestock production, which has massively expanded in recent years.

The agricultural revolution – ecological and “ecologized” agriculture

Given this background, a change in course is absolutely overdue. The movement toward ecological agriculture is a good and necessary step in the right direction, but organic farming is still a relatively small niche in production and will not alone be able to solve serious problems in the medium term. It is therefore crucially important for conventional agriculture to become successively more ecological. Both forms of production, organic and conventional, must contribute to protecting the climate and biodiversity, conserving soil and water as resources, and handling livestock with species-appropriate care – while producing enough high-quality food. Greenpeace is pursuing exactly this goal, aiming to bring about, within a realistic time frame, an agricultural system in Germany based entirely on ecological standards. Our declared and realistic goal is to see 30 percent of agriculture managed organically and 70 percent managed conventionally but ecologized by 2050, with both forms consistently using production methods that meet environmental and animal welfare standards. This study seeks to outline the feasibility, conditions required, and political action needed to meet this goal.

What does ecologized actually mean?

To mitigate climate change, it is essential that agricultural areas that are today making a significant contribution to greenhouse gas emissions (such as marshlands) are no longer used to produce food. Overfertilization, in particular the use of too much manure, also increases greenhouse gas emissions. Added to that, these chemicals pollute surface and ground waters. Reducing the amount of nitrogen fertilizer spread on fields is imperative for ecologizing agriculture. In Germany, this would involve lowering the number of farm animals kept since a large share of surplus nutrients comes from animal husbandry and the use of livestock manure. Although animal welfare is not in itself an original environmental goal, it would definitely lead to a reduction in the number of animals being kept on farms today and have a direct positive influence on environmental protection goals. For example, raising double-use chicken breeds (for producing both eggs and meat), and keeping dairy cows with the aim of utilizing their lifetime production, would improve animal welfare and reduce maximum production.

Seen in perspective, only a complete ban on synthetic chemical pesticides would really solve the problem of biodiversity loss in our cultural landscape. High yields in farming in Germany today, coming at the cost of biodiversity, would not continue to be a reality under ecologized

conditions. The study expects to see an incalculable gain in biodiversity from ecologization but it also assumes that yields would drop by up to 40 percent. The study also takes into account further developments in technology and breeding which to a certain extent would absorb shortfalls by 2050.

How can ecologization be successful?

A restructuring of the agricultural system to make it fully ecologized by 2050 is possible if the right political will is there. But it is also crucially important to know the extent to which a transformed agricultural system can provide enough food for the population at that time. This question is answered in “The Timetable for the 2050 Agricultural Revolution”. Particularly important in these terms is the future level of meat and milk production — animal husbandry requires a lot of arable land and other resources. If Germany intended to stop importing animal feed, especially protein feed from overseas, then it could not continue the level of animal production it engages in today, which is in fact increasingly geared toward export. The same holds true if farming in the future were to meet animal welfare standards; the scale of today’s meat production is not imaginable under good animal welfare conditions. Furthermore, it is imperative that today’s food wastage would have to stop. The study assumes that the waste factor for food would go down by half (from today’s 34 percent to only 17 percent) by 2050.

Key elements of the agricultural revolution — food and animal production

A key aspect of the study, next to its calculation of ecologized and realistic amounts of production, is its calculation regarding the food needs of the German population. The study points out that an essential factor here would be to reduce the consumption of animal food products, especially meat. **In order for Germany’s food supply to be completely ecological and ecologized, meat consumption would have to go down on average by about 50 percent.** It would not be necessary to give up meat entirely. The study assumes in its calculations that a segment of the population would still consume meat at today’s high level even after the “big food revolution”. But if “eating as usual” continued for everyone at today’s average of about 60 kilograms of meat per year, Germany would certainly not meet the ecologized goal. Production would have to be in line with declining consumption, meaning that animal husbandry could no longer produce animal products for export. The food revolution can work if the level of meat production covers only domestic consumption.

Food production according to fully ecologized standards — a viable plan

The results of the study are surprisingly positive. Germany could rely entirely on agriculture based on ecological principles, even though less land would be farmed in 2050 than today, above all because some areas would no longer be used for agriculture in order to protect the climate and biodiversity. If the food revolution were successful, the remaining agricultural land would be adequate for meeting the basic food needs of the German population. Even half of the demand calculated for fruit and vegetables, far above today’s figures, could be produced in Germany according to ecologized standards. The study’s calculations also foresee remaining areas being used to balance Germany’s import demand through the production of export goods. These areas could also be used to cultivate more domestic protein feed and oilseeds.

Adopting relevant national policies would be crucial for transforming our agricultural system. Government mechanisms today favor destructive industrial-scale production with its well-known negative ecological effects. Without new policies that consistently employ the right steering mechanisms, we could hardly count on change to happen.

Germany is now in the middle of a green energy revolution, a development that only ten years ago would have been thought nearly impossible. The agriculture revolution is just as important — and can be achieved by 2050.