

Can we feed ourselves?

As long as world trade flows smoothly, food supplies in the Netherlands and Europe seem guaranteed. But our daily diet relies on imports – including soya, energy, phosphate and potassium.

TEXT KOEN JANSSEN ILLUSTRATION PETRA SIEBELINK

Failed harvests due to climate change and restrictions on international trade are increasingly raising questions about the availability of raw materials and energy in the Netherlands and Europe. How capable are we of producing enough food independently and providing the entire population with a healthy diet?

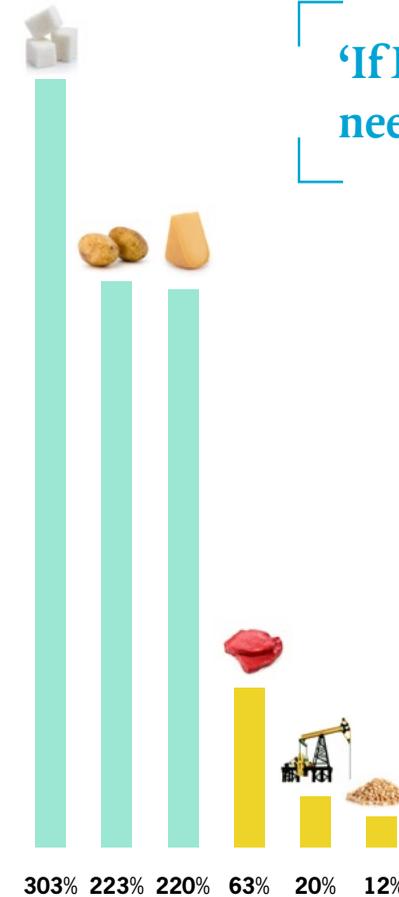
‘This topic was much less of an issue 10 to 20 years ago,’ says Bart de Steenhuijsen Piters, who studies the transformation of food systems at Wageningen Social & Economic Research. ‘Back then, it was generally believed that deregulation of world trade would resolve all food problems. But the priorities of scientists and policymakers have changed a lot, and much faster than you might expect. The resilience of the food system has now become an objective in its own right.’

There are various reasons for this shift, including the Covid pandemic, the Russian invasion of Ukraine in 2022 and the current trade war with the United States. De Steenhuijsen Piters: ‘Policymakers now see food being used as a strategic measure and it is even being weaponized in conflicts.’ There is talk again of building up food reserves, after a long period in which such

reserves had been scaled down. ‘India is one of the last countries where the government has large stores of grain and rice. Western economists and policymakers used to be somewhat disparaging about that, but nowadays they show more appreciation.’

A DIFFERENT MENU

In a study conducted in 2013, Wageningen researchers concluded that Dutch agriculture could be capable of feeding the population of (at that time) 17 million. They would be able to eat 2000 kilocalories a day, delivered by a variety of plant-based and animal-based products. That would, however, require radical changes in Dutch food production and in Dutch diets. Tropical products such as coffee, bananas and avocados would obviously no longer be on the menu. The Netherlands produces relatively little grain and a lot of potatoes so the Dutch would have to eat less bread and more potatoes. Pork would have to be partly replaced by eggs and chicken because producing chicken meat uses less land than producing pork with the same nutritional value. The Netherlands’ self-sufficiency ratio for the main agricultural products is calculated and published in >



Self-sufficiency rate in the Netherlands, in percentages.

‘If Europe wants to become autonomous, it will need to reduce its dependency on energy imports’



68 per cent of the phosphate used in the EU comes from outside the Union

Staat van Landbouw, Natuur en Voedsel (State of Agriculture, Nature and Food) – an annual report based on Wageningen research and published by the Ministry of Agriculture with key figures on Dutch agriculture and food production. The self-sufficiency ratio is expressed as the percentage of domestic consumption that is produced in the same country. The self-sufficiency ratio for potatoes, for instance, is 223 per cent; this means that the Netherlands produces over twice as many potatoes as are needed for domestic consumption. Most of the harvest is exported abroad. The percentage for sugar is even higher: 303 per cent, three times as much as is needed.

The Netherlands is also more than self-sufficient in dairy produce, pork, poultry meat and lamb. There are other agricultural products where the Netherlands does not produce enough to satisfy domestic demand. The self-sufficiency ratio is low for wheat (23 per cent) and barley (11 per cent). These grains are largely imported from other European countries, mainly France and Germany. The Netherlands is also not self-sufficient in beef (63 per cent).

But that is not the full story. That is because part of the food production in the Netherlands depends on imports of raw materials. ‘There are various kinds of dependencies,’ explains Petra Berkhout, an agricultural economist at Wageningen Social & Economic Research. For example, the Netherlands imports more than four million tons of soya per annum from countries including Brazil and the United States. Soya is an essential component of the diet for young farm animals in particular because it has a high protein content and the optimum mix of amino acids. Replacing soya by other crops would make Dutch agriculture less efficient.

FOOD AUTONOMY IN EUROPE

In the context of failed harvests due to climate change, temporary shortages of products caused by trade blockages and concerns about the sufficient availability of energy, Berkhout and her Wageningen colleagues published a report in 2024 on the factors that affect food autonomy in Europe – ‘the EU’s ability to produce

sufficient food or obtain it through trade.’

In the current situation, European meat production depends in part on imports of soya and other high-protein crops, and oilseeds such as rapeseed and sunflower seeds. Europe’s self-sufficiency ratio for high-protein crops is 82 per cent, and the ratio for oilseeds is 64 per cent. Europe would need to grow more of these crops to be able to independently feed all its farm animals. Berkhout: ‘Oilseeds such as linseed can easily be grown in the EU but they have always lost out so far to soya, which is rich in proteins and cheaper. You would need to transform the entire supply chain.’

In addition, nearly two-thirds of the energy consumed in the European Union is imported. That percentage was as high as 80 per cent in the Netherlands in 2022. The agricultural sector also depends on imports of fossil fuels, for both direct consumption such as the diesel used in agricultural vehicles and indirect applications such as producing fertilizer.

That also applies to the rest of the food supply chain, right down to supermarkets. It makes the sector vulnerable to price fluctuations and geopolitical developments. Berkhout: ‘If Europe wants to become autonomous, it will need to reduce this dependency. Then you get into a discussion about the mix of solar power, wind power and nuclear power.’ The EU is also focusing on energy storage, for example using batteries or hydrogen, and on electrification, where vehicles and systems run on electricity rather than fossil fuels.

PHOSPHATE

European farmers are largely dependent on the import of raw materials for the production of fertilizer, in particular potassium and phosphate. In 2022, 68 per cent of the phosphate used in the EU came from abroad, mainly Morocco and Russia. The figure for potassium, which is mainly imported from Russia and Belarus, was 32 per cent. There are options for recycling those raw materials, says Berkhout. ‘At present, we wash a lot of nutrients away through the sewer system. There are still huge gains to be made in that regard.’

Policy changes are also needed if Europe is to

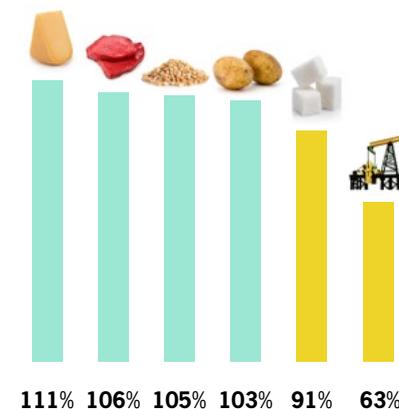
become more self-sufficient in its food provision, thinks De Steenhuijsen Piters. ‘The EU’s agricultural policy is too uniform; most grants are still geared to a large scale and big volumes. I think a more targeted approach is needed that takes regional differences into account. You can’t have the same policy for farmers in the French mountains that you do for Dutch farmers in the Achterhoek region. That will also let us think harder about what we want to produce where. For example, you might be able to keep intensive agriculture in the Westland region but opt for more nature-inclusive forms of agriculture in other areas. Ultimately, you make the food system more resilient by encouraging regional differences and diversity because you are spreading the risk. The system is then better able to absorb the effect of a shock.’

ANIMAL PROTEINS

‘If you’re aiming for food autonomy, you need to at least make sure you don’t become more dependent on international trade,’ says Berkhout. ‘Governments can do various things to make the European food system more resilient. You could tax animal protein, but that is politically highly contentious. I think the market is more likely to respond to changes than governments. Companies throughout the supply chain, from animal feed producers to potato processing businesses and supermarkets, are also aware of what is going on in the world, of course. They want to safeguard the supplies of their raw materials over the coming years, for example through plant breeding or by shifting production to different locations – steps like that.’

There is another, broader strategy for increasing food autonomy in Europe: change consumption patterns. You could consume less, rather than produce more in Europe. Petra Berkhout likes that idea: ‘Use less energy, buy fewer clothes, reduce food waste, eat more plant-based protein rather than animal protein. Then we wouldn’t have to import so much animal feed.’ ■

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Self-sufficiency rate in the EU, in percentages.

