



How long can we go on fishing?

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Wageningen UR's new president Louise Fresco wants to find new ways of involving society in the generation of knowledge. 'My dream is to salvage public debates which are now being crippled by conspiracy theories.'

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TAKING CARE OF THE HARVEST

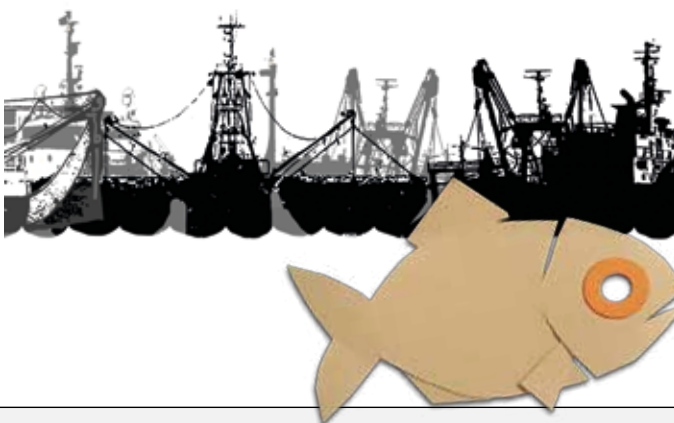
Large amounts of food are lost post-harvest, especially in developing countries. There is much to be gained by using simple existing techniques. Wageningen is developing a service desk which offers farmers and businesses advice on this topic.



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HOW LONG CAN WE CARRY ON FISHING?

Year in, year out, the press warns us of the dangers of overfishing and empty oceans. But the latest reports on herring and plaice stocks are positive. What's going on? Answers from fisheries experts inside and outside Wageningen UR.



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The mission of Wageningen UR (University & Research centre) is 'to explore the potential of nature to improve the quality of life'. Wageningen UR includes nine specialist applied research institutes and Wageningen University. These institutions have joined forces to contribute to finding answers to crucial questions related to healthy food and a sustainable living environment. Wageningen UR has a staff of 6,500, 10,000 students, 35,000 alumni and 40 sites, with a turnover of 662 million euros. Institutes of Wageningen UR: Alterra, LEI, Plant Research International, Applied Plant Research, Wageningen UR Livestock Research, Central Veterinary Institute, Wageningen UR Food & Biobased Research, IMARES and RIKILT.



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Putin's boycott prelude to reform

'Thanks to the boycott of European farm produce started by Vladimir Putin at the beginning of August, the tensions on the global political stage were felt in the greenhouse horticulture belt in Westland, in the Netherlands. Although no more than 4 percent of Dutch greenhouse produce goes to Russia, the boycott still put prices under pressure. It's an age-old problem in agriculture: consumers don't start eating a lot more tomatoes just because they are cheaper.

Four percent is not much. Yet the greenhouse horticulture sector has appealed for government aid, mainly because it has going through a bad patch for years now. Production is booming, and the sector's contribution to exports is praised to the skies. But for at least six years now, the producers themselves have not been able to earn a decent living. At the start of this century, when the sector was flourishing, Dutch market gardeners expanded their greenhouses considerably. Their yields per square metre increased every year, too. The result is a saturated market which cannot cope with the slightest downturn. For a long time the problems could be concealed by dint of improvisation and opening up new markets – lately, Russia. And buyers in the Netherlands are good at keeping prices low by playing off local and foreign growers against each other.

Putin's 'nyet' to imports should be the prelude to reform. It is hard to swallow for the market gardeners, but as long as they and their financiers refuse to cut their losses, the market will stay saturated, greenhouses will be impossible to sell and not even the best-performing businesses will be able to expand. This is damaging to the sector as a whole. In any case, it is time to change tack, for instance by starting to produce inside Russia using Dutch know-how and propagation material. Exporting technology and know-how is far more lucrative than exporting tomatoes.'

Krijn Poppe is economist and research coordinator at LEI Wageningen UR

CLIMATE

Earth cannot be cooled artificially

Reducing global warming by blocking solar radiation with fine particles high in the atmosphere is not a good idea, shows research by an international group of researchers including Marten Scheffer of Wageningen University, part of Wageningen UR. In theory, global warming can be reduced by injecting shadow-casting particles – fine sulphate particles – high in the atmosphere. But in *Nature Climate Change* in July, the researchers concluded that this kind of geo-engineering is not an option for managing climate change. The intervention would lead to a completely new climatic situation with very divergent effects in different areas, including severe droughts. The scientists therefore think it very unlikely that a political consensus will be reached on the use of this artificial cooling system.

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FOOD SAFETY

Test for doping in cows



PHOTO NATIONALE BEELDBANK

PhD student Susann Ludwig of Wageningen UR has developed a laboratory test for showing that cows have been treated illegally with growth hormones. The test checks for the presence of particular proteins in the blood. The protein configuration is atypical if the cow has been injected with artificial growth hormones, a practice which has been banned in the EU since 2000. Ludwig is now working with an American research group on developing a device for detecting doping in milk as well.

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PLANT DISEASES

App for diseases and pests

The *Beeldenbank*, a database for plant diseases, pests and weeds will from now on be available anywhere, any time through a free app. The *Beeldenbank* offers pictures and descriptions of diseases, pests, weeds and other natural enemies for people involved in agriculture, horticulture, nature management and private gardens. It was developed with the help of Applied Plant Research (PPO) at Wageningen UR. The app is available for Android at the Google Play Store, and was financed by Bureau Erkenning, which issues plant protection licences in the Netherlands. Info: erik.toussaint@wur.nl



NUTRITION AND HEALTH

Top sport depends on diet

For the next six years, Wageningen University will be working on innovations in diet and exercise, intended especially for top sportspeople, the elderly and people recovering from major surgery. Under the name Eat2Move, researchers will be developing knowledge on specific dietary needs for performance and recovery. This knowledge should lead to new products and services for the sporting world and the health care sector. For example, foods will be

developed and tested which contain specific proteins that help build muscle mass, or which promote recovery. Wageningen University's partners in this project are the Gelderse Vallei hospital, InnoSportNL, NOC*NSF, the HAN University of Applied Sciences, NIZO Food Research, FrieslandCampina and Papendal sports centre. The project is supported by the Province of Gelderland.

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PLANT PHYSIOLOGY AND BREEDING

WAGENINGEN UNIVERSITY



PHOTO NATIONALE BEELDBANK

Most sustainable again

Wageningen University, part of Wageningen UR, has been named Holland's most sustainable higher education institution for the second year running. This SustainaBul Award is an initiative of student organization Students for Tomorrow, and has been awarded for three years now. The assessment looks at water consumption, waste processing and CO₂ emissions, as well as the levels of commitment among student and staff and of transparency about the sustainability policy. Info: fennet.vandewetering@wur.nl

ENTOMOLOGY AND NUTRITION

Knowledge Centre for Insect Rearing

Since July, Wageningen UR has had an application centre for breeding insects: Insectpoint in Lelystad. The objective of Insectpoint is to expand the possibilities for rearing insects for animal and human consumption in Europe, and to improve the production process of this alternative protein source.

At the end of October the centre will organize its first workshop about rearing insects. Info: piet.spoorenberg@wur.nl



New tomato grows day and night

Researchers from Wageningen UR and Monsanto have discovered a gene in wild tomatoes which enables modern tomato varieties to cope with continuous light.

Horticulturalists use artificial light to raise production in their greenhouses. Plants convert light into energy. Under continuous light, however, highly productive modern tomato varieties suffer damage to their leaves, which can kill the plant. The phenomenon, which tomato growers have been aware of for almost a century, occurs when they are exposed to more than 16 hours of light per day. Certain species of wild tomatoes, however, can withstand continuous light. Researchers isolated the gene responsible for this, which is called CAB-13, and cross-bred it into modern varieties. A test

showed that these crossbreeds could cope with continuous light. The plants also produce 20 percent more tomatoes. The study may therefore contribute to a new development in the commercial cultivation of tomatoes and other food crops. The results also open up new possibilities for research on photosynthesis in plants in general. Roses too, for example, can make use of photosynthesis 24 hours a day, 7 days a week. It may be possible to achieve this in other plant species. The research results were published in August in *Nature Communications*. Info: wim.vanieperen@wur.nl

WAGENINGEN ACADEMY

Applied Statistics Course

Statistics are essential for scientific research. Thanks to the availability of statistical software, researchers are able to analyse complex designs and data independently. Wageningen Academy offers them a course on the basic principles of statistics and experimental design, data analysis and modelling, using examples from the life sciences (plant, animal, food and environment). The emphasis is on learning to understand which statistical method is needed given the experiment or research question.

The mathematical background is explained when necessary. The course is designed for researchers (both applied and fundamental) working in businesses, government and research institutes, as well as teachers in higher (agricultural) education. The course consists of lectures and hands-on computer practicals with GenStat.

November 2014 | Course leader: Saskia Burgers MSc.
For the full range of courses see: www.wageningenacademy.nl



CO₂ absorption in boreal region overestimated

The amount of carbon being absorbed in the boreal region is lower than that used as the basis for calculations. This is because the calculations did not take into account the many mosses growing in northern regions. Thanks to their negligible photosynthesis, these plants sequester two thirds less carbon in biomass than 'ordinary' plants. But this difference was never taken into account in the estimates. This was reported in *Nature Communications* in July by an international research team including Eddy Moores of Alterra Wageningen UR and Michiel van der Molen of Wageningen University, part of Wageningen UR.

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CROP PROTECTION

Resistance to pest insects charted

Working with several partners, Plant Research International of Wageningen UR has developed an automatized video tracking system with which to identify insects' preferences for some plants and aversions to others. The system facilitates the fast testing of large numbers of plants for resistance to a particular pest insect without having to wait for plant damage or for the insect to reproduce.

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Enough sole and plaice in North Sea

The fishing quota for sole and plaice have benefitted the fish stocks of these species in the North Sea. There is still cause for concern about cod, though.

In general, the fish species which are crucial to Dutch fisheries are doing fine, suggests the annual advice from the International Council for Research at Sea (ICES) to the European Council of Fisheries ministers. ICES bases its advice partly on research by IMARES Wageningen UR. Stocks of plaice have grown particularly fast in the last couple of years. In fact, it would be no problem if more were caught than are currently fished: for some years now, the plaice quotas have been below the amount which could sustainably be fished. This is because plaice and sole fall under the same management plan, in which it was agreed that the quotas for these fish would not fluctuate by more than 15 percent until the stocks had recovered. In the case of plaice, this had already happened by 2008, and research shows that sole are out of the danger zone now too. The Netherlands has therefore

recently asked the European Commission to draw up a new management plan.

'Until we have that plan, plaice fisheries are stuck with a situation in which there are nearly three times more plaice swimming around in the North Sea than are needed for healthy stocks, and yet the upper limit of the quota stays at 15 percent,' says Nathalie Steins of IMARES. The quotas for cod have not yet led to a recovery of the cod stocks, which are still below the 'safe biological minimum'. The influx of young cod has been low since 2000, for reasons which remain unclear. In its advice on catches for 2015, ICES states that environmental factors may play a role, including changes in the available food for cod larvae and increased predation, by seals and porpoises for instance. Europe will establish the new quotas for 2015 at the end of 2014.

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PHOTO: HOLLANDESE HOOGTE

LAND USE



How will we live in 2014?

How do Europeans want live, work, eat and spend their leisure hours in 2040? What sort of houses would they like to live in, and with whom? Just around the corner from a park or out of town? And what will sort of food will they serve up? To get more idea about this, in July researchers from Alterra Wageningen UR and Scottish colleagues launched a colourful and highly visual online questionnaire. 'We hope for responses from all over Europe, and

from young people especially,' says coordinator Joske Houtkamp of Alterra. The questionnaire is part of a broader study of activities which influence future land use and land use planning in Europe, with partners throughout Europe. It is possible to take part in the survey until the end of the year at www.life2040.eu. There were already more than 500 responses from 11 countries in the first six weeks.

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METEOROLOGY

Mobile network as rain metre

The UN World Meteorological Organization has honoured two Wageningen University researchers and a colleague from the Royal Netherlands Meteorological Institute KNMI with the Väisälä prize. The team developed a method of recording rainfall using the mobile telephone network. Rain weakens the electromagnetic signals between antennae, and the extent to which they are muted is directly related to the intensity of the rainfall between two antennae.

This method of measuring rainfall is particularly suited to Africa, South American and South Asia. These regions have limited infrastructure for measuring rainfall yet the data are indispensable for good water management, weather forecasting and agricultural and climate modelling.

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SEED TECHNOLOGY

Seeds keep longer without oxygen

Plant seeds keep their germination capacity much longer if they are stored in oxygen-free environments. This had been assumed for some time, but researchers from Wageningen UR have now provided evidence in an article published in *Plant Genetic Resources*. This is important knowledge for seed producers and gene banks such as the international seed vault in Spitsbergen. Seed is stored there at low temperatures and humidity in order to bring the seeds' breathing to a standstill. A lack of oxygen

stops the oxidation process which affects the shelf life of the seed. 'After dry storage, oxygen-free packaging is the best way of preserving them, followed by cold storage,' says researcher Steven Groot. The fact that cooling is less important is good news for developing countries. In these countries conventional storage at a temperature of 20 degrees Celsius is not easy to arrange, but extracting oxygen is a simple question of vacuum packing with a little bag

of iron powder. Rice seeds stored dry at 20 degrees Celsius have to be changed every three to five years. 'With vacuum packing you might be able to keep them for 15 years,' thinks Groot.

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Organic farming does little for biodiversity

The wealth of species on organic farms is hardly any greater than it is on conventional farms, shows a comparative study of plots farmed by over 200 organic and non-organic farmers in 10 European and 20 African regions. The study, to which Alterra Wageningen UR contributed, looked at the prevalence of plants, worms, spiders and bees. A few more species were found on organic crop farms than on non-organic plots, but on grasslands and in vineyards there was little difference. The study came out in June in *Nature Communications*.

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FARMING TECHNIQUES



Robot harvests bell peppers

A robot has been developed which can harvest ripe bell peppers completely autonomously. The robot was developed within the European research project Clever Robots for Crops (CROPS), coordinated by Wageningen UR Greenhouse Horticulture. The harvesting system is based on a platform which rides along a rail between the rows of plants. On the platform is a robot arm equipped with tools for seizing and cutting off the fruit, as well as computers and cameras for detecting fruit and obstacles.

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Composition of gut bacteria changes rapidly

In the human intestines, some types of bacteria can multiply or indeed dwindle at remarkable speed. This switching mechanisms offers scope for restoring disturbed gut floras to health.

The combination of bacteria in the gut has an influence on human health and well-being. In conditions such as obesity and type 2 diabetes, the gut flora is often disturbed, and introducing other bacteria can help to heal persistent intestinal infections. But for targeted treatments, scientists need to understand more about which mechanisms regulate the balance in this complex ecosystem. In order to gain more insight into this, Wageningen professors Marten Scheffer and Willem de Vos, and researcher Leo Lahti and some of his Finnish colleagues analysed which gut bacteria 1000 healthy adults from 15 western countries were carrying around with them, and in what quantities. They also looked at changes to the gut flora over time in 78 individuals.

The results show that key groups of bacteria are either practically absent or abundantly present in each individual, and that the microbial ecosystem can switch fast from one stable status to another. The extent to which particular bacteria are present or absent seems to depend on factors such as whether the host is elderly or overweight. The populations barely respond to temporary changes in eating habits. The discoveries point to a fundamental level of organization in the ecosystem of the digestive tract, and the occurrence of tipping points in gut microbiota. This offers starting points for new treatment strategies. The research results were published in July in *Nature Communications*.

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CROP TECHNOLOGY

App helps with watering

With the help of Wageningen UR Greenhouse Horticulture, the French company Parrot has developed a plant sensor which says exactly what kind of care an indoor plant needs. The Flower Plant is stuck into the plant pot, where the sensor uses an app on the smartphone first to

register which plant it is placed on, and then to measure the humidity level, the amount of sunlight, the air temperature and the level of nutrients in the pot. When it is time to give the plant more water or light, the app sends out a signal.

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NATURE AND HEALTH

Sheep flock combats ticks

Since the summer, flocks of sheep have been employed at several natural campsites and along rambling routes as lures for ticks.

When they are sucking blood, ticks can pass on the *Borrelia* bacterium which causes Lyme's disease. The number of people becoming infected with the bacterium is increasing rapidly in the Netherlands. Since 2012, Wageningen University, part of Wageningen UR, and the Dutch National Institute for Public Health and the Environment have been doing joint research on ways of combatting ticks. The sheep being used in this trial are

first treated with a substance which kills ticks that try to latch on to the sheep. This makes it easy to remove active ticks from the area. Because new ticks become active throughout the season, the lure sheep have to make regular visits to have a lasting impact. An incidental advantage of the sheep is that they keep the vegetation down, so that ticks feel less at home. The sheep themselves not harmed by tick bites.

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FOTO MAX WOLTERS

FOOD CHAINS

Supermarket delivers chilled

Wageningen UR Food & Biobased Research helped PostNL develop their own form of thermal packaging. Supermarkets can use this box made of hard polystyrene to deliver all their customers' groceries without cooled transport.

PostNL and online supermarket Vershuys.com are using the packaging for the home delivery service they started this spring in Limburg. With the new, reusable thermal box, the quality and freshness of products are maintained, and deliveries are cost-efficient and low-energy.

Food & Biobased Research, which has a lot of knowledge about the quality, shelf life and packaging of fresh foods, did research on the best materials for thermal packaging. The researchers also developed a model that can calculate how fast the temperature

goes up in the packaging when it contains various product combinations, and how the temperature is distributed in the packet. These temperature changes can be used to ascertain how many cool elements the packet needs to contain, where they should be placed, and the maximum length of time the transportation can take. For the efficiently insulating box of hard polystyrene, and at an ambient temperature of 20 degrees Celsius, this could be up to 12 hours. After delivery, PostNL returns the packaging for reuse.

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WAGENINGEN UR

Expat Center on Wageningen Campus



From 1 October 2014, expats living in and around Wageningen can call on the Expat Centre Food Valley on the Wageningen UR campus for help with dealing with formalities and with integrating in the region. The new Expat Centre is a collaboration between the Dutch Immigration Authority IND, Wageningen municipal council and the Expat Centre Food Valley foundation. The service targets expats in the Food Valley region – itself a collaboration between municipalities in the Gelderland Valley – but will be accessible to expats throughout Gelderland. Private individuals, companies and institutions will all be welcome to seek help and advice on such matters as applying for residence permits or finding housing and schooling.

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‘We are going to open up’

‘Connecting’ is the key word for Louise Fresco. The new president of Wageningen UR wants to find new ways of involving society in the generation of knowledge. ‘My dream is to salvage public debates which are now being crippled by fear, hostilities and conspiracy theories.’

PHOTOGRAPHY HARMEN DE JONG

The first thing that strikes you when you meet her is her thoughtfulness ('You have had something to eat, haven't you?'). But Louise Fresco is not just a considerate and hospitable person: she is also a person who gets things done. Someone with a vast store of experience and contacts with influential people on every continent. A woman with a mission, and every bit as eager to do her bit to make the world a better place now as she was in 1970 when she embarked on a degree in Non-western Rural Sociology at Wageningen Agricultural College.

Where does that tremendous drive come from?

'I have always realized that I am privileged: I happened to be born in the Netherlands and not in Biafra or a slum in Calcutta. There is absolutely no merit involved in being born in the Netherlands. In fact, such a privileged position gives you a responsibility to do something for the world. That is still a theme running through my life, a self-imposed mission. That mission first became clear to me in a Geography lesson when I saw a slide of the River Ganges in India. Something that at first looked like no more than a blob on the river turned out to be the corpse of a child. That was a decisive moment in some way. A moment of realizing the gulf between people, and the insight that those who are lucky must help those who have less.'

Have we managed that?

'It is hard to answer that with a yes or a no. There will always be a difference between rich and poor. But I do think great strides have been taken in recent decades. We have already achieved a lot, especially if you look at food security and life expectation. Just a hundred years ago we lived no longer than 40 years, on average. Now we have more knowledge and can make better use of what we know. Science has had a massive positive impact there. We should draw much more attention to that. Because there is a feeling now among the general public that

scientists are 'tinkering' with life and that they should stop it.'

But you say we must definitely go on?

Absolutely. But not in splendid isolation. The questions that scientists study are going to have to come from society as well. Combatting poverty, for instance, is one of the big issues in the world. The natural sciences, as well as applied social science and the life sciences have an important role to play in that. Consider for example the use of information technology in rural areas: getting every farmer in the world online. How much faster and better could we then get new knowledge out to people? Knowledge they could then use to get better yields. Knowledge that could help people address health issues better. And, for example, cheaper solar panels can ensure that millions of people don't have to sit in the dark anymore. It is a lot easier to study with some light than in the dark. In that sense, technological progress brings human progress with it. We can still do so much for each other.'

Isn't that exactly what scientists often get accused of? That they think everything can be solved with science?

'We need to make a change there. To stop just making assertions and saying we know what's what. True strength lies in forging connections. Asking together what the needs are, so that you work towards solutions

together and can reconnect what is technically possible with what is socially feasible. It is all very well for us to calculate how many piglets a sow can have, but the public have other considerations in mind. And we might say that cows are perfectly fine in megabarns, but people want to see cows out grazing in the meadow. From the science side, you don't just put the facts on the table; you also show what the consequences are and engage in dialogue about them. I am very keen for Wageningen UR to take on that role. By organizing gatherings on the campus, bringing thinkers together, inviting artists in residence or organizing a film festival. We are going to open up.'

Don't you think Wageningen scientists are open now?

'Oh, they certainly are. And in some senses science is part of society. But there is a difference between what people know and what they feel. And that difference seems to be getting bigger. And that is why, in my speech at the opening of the academic year, I appealed to scientists to strengthen the links with society. Now, specifically. Because the distrust of science has been growing. That worries me a lot. There are more and more conspiracy theories. As if we at Wageningen UR had made a pact to harm animals through large-scale livestock farming, for instance. There is no one here who wants that, but it still gets thrown at us.'



‘From the science side, you don’t just put the facts on the table; you also show what the consequences are and engage in dialogue about them.’

Why is that, do you think?

‘It is partly because of the internet, which can sometimes be a breeding place for distrust. The internet is a triumph of technological knowledge and a tremendous source of advancement. But the consequence is that people nowadays have an opinion on everything and reinforce each other through online discussions. That sort of discussion is unfiltered and often baseless. Another factor is the reluctance of scientists to engage in the public discussion. Then they get cross because people cast doubt on the facts. Two angry people together; that seldom leads to fresh knowledge because they stop listening to each other respectfully. Then you only stand in opposition to each other, rather than side by side. The important thing is to understand why someone reacts the way they do. By seeing and understanding the underlying emotions, you can actually help each other. Then you really enter into a dialogue about a shared goal.’

So you want to engage in dialogue in order to reduce the gulf between science and society?

‘Yes. Holding a dialogue means you look at a subject together and can make use of each other’s knowledge about it. But don’t forget that the dialogue must be purposeful. It is not enough just to have some nice chats. What we are aiming at is to achieve something together that we couldn’t achieve separately. I want Wageningen UR to play a >

BRIDGING THE GAP

At the opening of the academic year on 1 September 2014, Louise Fresco outlined for the first time as newly appointed president her vision on the role of Wageningen in society. In her speech she argued for a new and colourful Enlightenment.

‘We are in the midst of the third revolution’, declared Fresco. After the agricultural revolution and the rise of fossil fuels, we now have the information revolution, which is bringing about an irreversible turning point in world history. One of the biggest consequences of this, however, is a growing gulf between science and society: ‘It seems easier to believe an internet full of unfounded accusations than peer reviewed science.’

The lack of trust in science is not new, however: a great deal of human history has been marked by collective anxieties, rather than by openness to scientific research, said Fresco. This changed at the end of the 17th century, with the dawn of the Age of Enlightenment. In this day and age, trust in science can be restored through communication with the public, and by developing ‘embedded technology’ which meets the needs of society and individuals in all their diversity, says Fresco. Current systems, such as the much-lauded golden triangle of government, research and the business world, are not always adequate, Fresco notes: the general public need to be integrated into that model as well. And for that, engaging in dialogue is essential. This applies equally within Wageningen UR: ‘We need a greater diversity of minds and cultures and scientific views. An institution where the light shines in all colours.’

For a full report on the opening of the academic year, see: www.wageningenur.nl/en/opac2014

Watch the video on the opening of the academic year at: <https://wurtv.wur.nl>





PHOTO MARJET VAN VEELEN

THE LIFE AND WORK OF LOUISE FRESCO

- 1952 Born in Meppel, grew up in Brussels
- 1970 Started a degree in Non-western Rural Sociology at Wageningen Agricultural College
- 1986 PhD Cum Laude in the field of tropical plant breeding
- 1990 Appointed professor of Plant Production Systems at Wageningen
- 1997 Director of Research at the FAO
- 1999 Assistant Director-general at the FAO
- 2006 University Professor of Sustainable Development in an International Perspective at the UvA
- 2014 As of 1 July President of Wageningen UR

Additional positions Louise Fresco is a member of the Royal Netherlands Academy of Arts and Sciences KNAW, and of four overseas academies. She is on the board of the Royal Concertgebouw orchestra, a non-executive member of the board of Unilever, a member of the Praemium Erasmianum Foundation, and of the editorial board of the Dutch higher education guide *De Gids*.

Writing Fresco has written nine non-academic books in Dutch, including three novels. One of her novels, *De Utopisten*, was shortlisted for the Libris Literature Prize in 2008. She also writes a biweekly column in the Dutch newspaper *the NRC*.

TV At the end of 2013, the six-part documentary *Fresco's Paradise* was televised weekly in the Netherlands. In this series Fresco went around the world visiting special places related to agriculture and food. This series is released on DVD, with English subtitles.

pioneering role in this, to actively attract dialogue. Even on controversial topics.'

Such as?

'Some time ago we organized a meeting on potatoes that had been made genetically resistant to the potato disease *Phytophthora*. We showed what we had done, and in particular what the significance of it is. There were opponents present who discussed the consequences of this with us. The discussion was very transparent and open. That worked: it generated more understanding of the various interests. In past communication about genetic modification, some big blunders have been made by scientists and policymakers. As a consequence, Europe has slammed the door shut. The discussion is at a standstill. For that reason this continent is lagging behind and we are not getting the opportunity to pass our knowledge on the subject on to farmers. Genetic modification is helping small cotton farmers in India enormously, to give one example. When they grow transgenic cotton they need far less pesticide. That saves farmers money and is good for public health as well.'

So would you like to revive the debate about genetic modification?

'That won't be the first subject to be raised, because there is still too much emotion involved. And conducting a dialogue is something you have to learn to do. In that situation it is better to start with a different topic, such as animal welfare, obesity, or agricultural production versus nature management or biomass production. A theme with many different points of view, with a lot of interest groups with an opinion, and on which not all scientists take the same line either. Society faces choices and science can help with that by proposing options. I am keen to get involved in that process.'

Conducting a dialogue is one thing, but running an organization is another. What are you going to tackle?

'To sum it up in one word: connecting! I realize that sounds vague, but for Wageningen

‘The distrust of science has been growing. That worries me a lot.’

UR, forging connections is the key issue for the future. The first area I want to tackle is to strengthen the bonds between the university and DLO. There is so much knowledge in the organization. If we can bring it together even more effectively, we can achieve so much more.

One thing I would like to do is to invite more DLO people to contribute to the teaching on courses. I also want to stimulate collaboration between the sciences groups, so that they do even more interdisciplinary work. And I want to bring fundamental and applied research even closer together, for example around an issue such as creating a biobased economy. That is something we mustn't do alone, but in collaboration. I want to form partnerships with individuals, organizations, governments and companies who would like to realize our ambitions with us. That will increase the impact of our knowledge.'

So it is more about impact than about knowledge?

'Indeed, knowledge for its own sake is not enough. It has always been a characteristic of Wageningen UR that we can make our knowledge applicable. It is a tremendous advantage that we can translate questions from the field into fundamental research – and vice versa. Nowhere else in the world do you find this combination of social and natural sciences, including both fundamental and applied knowledge, focusing on the life sciences. And precisely at this time, the world needs our knowledge. But we in turn need the world, in order to have the right impact with that knowledge: impact on people's lives.'

The collaboration with the business world has raised questions about the independence of researchers. Won't that particular connection backfire on Wageningen UR?

'We must be open and transparent about that. We have nothing to hide and we observe very good codes conduct. Indeed, it is one of the challenges for science to

create a place in today's dynamic world where justice is done to science and to the needs of society. You cannot separate them. But you cannot buy facts. We will never say something works if it doesn't. Companies know that and respect it. Successful companies set great store by ethics.'

You also want even more efforts towards internationalization?

'Research has shown that diversity gives teams important advantages. And then I don't just mean diversity in gender and culture, but also in age and experience. You need a range of opinions and backgrounds. I advise students, for instance, to go looking for difference perspectives and not just to stick with their own little club. But I have the human resources policy in mind as well. We will soon have our first immigrant professor. In spite of many international staff and students, Wageningen is primarily a Dutch organization, and that includes its culture. I would like to see world-class scientists coming to Wageningen and feeling at home here.'

Alongside your job you also find time to write columns and books, to make TV programmes and make public appearances. How do you do that?

'Fortunately I have a lot of energy. And I can do a lot in a short time, because I am a fast reader for instance. But apart from that, I want to make time for literature and art. They are an incredibly enriching presence in my life. That's why I called on students to read. Read! Be open to being surprised by new insights from other cultures. And in my novels I can explore dilemmas much better. What happens when ideals meet the hard

world of reality? That is the subject of my novel *Utopisten* [nominated for the Libris prize, ed.], for example. The main character is an environmental activist who becomes secretary of state because he wants to have some influence on things. Writing keeps my mind sharp and that carries over into my executive work.'

Was it hard to say goodbye to your post as university professor of Sustainable Development at the University of Amsterdam?

'In Amsterdam I was in a very good position to get issues onto the agenda. But it was also a little bit 'Louise against the rest of the world'. What I can do here at Wageningen UR has a big impact and I very much want to do it together with other people. The motivation you feel among most Wageningers appeals to me very much. I was a student at Wageningen, I did my PhD at Wageningen, and I was a professor at Wageningen. Coming back to Wageningen feels like coming home. Full circle, as it were.'

Where will Wageningen UR be in four years' time?

'I would love to see us having defused the tension in the discussion, which is caused by fear and conspiracy theories. I hope we'll be organizing open, respectful discussions and that we'll have brought different parties together and developed new, high-impact knowledge. And that Wageningen has led the way in this. I want to be able to look back with pride on everything we've done for education, for science, for the Netherlands and for the world.' ■

www.wageningenur.nl/en/LouiseOFresco



FLYING FOR SCIENCE

Is it a plane?

Wageningen researchers are increasingly using their own drones to take measurements of crops, vegetation or soil from the air. The use of this fleet is subject to stringent conditions.

TEXT RIK NIJLAND PHOTOGRAPHY GUY ACKERMANS

Pilot Niels Anders stands on the beach at Ter Heijde and watches the MAVinci Sirius zoom by at 70 kilometres an hour (with the wind behind it) at a height of 100 metres. The Soil Physics and Land Management postdoc has a device around his neck that enables him to take over control from the automatic pilot should the little plane run into problems. But no intervention is needed. The drone flies backwards and forwards just as planned, along the route pre-programmed with GPS, to map the beach and dunes. In the space of half an hour, the camera in the plane's belly takes about 1200 over-



Altura PRO AT8 Octocopter

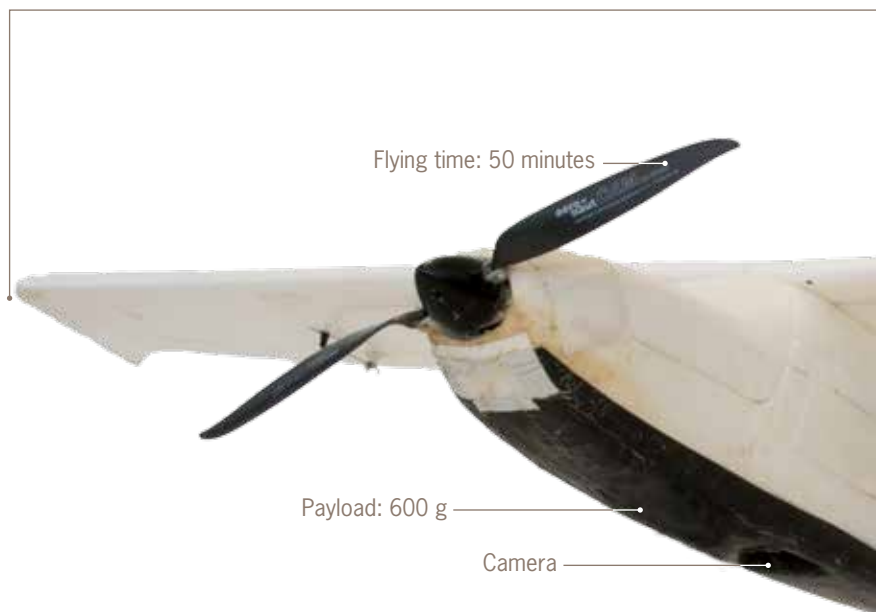
lapping colour photos. Afterwards, the computer will put them together to create an accurate picture of the height differences in the dune landscape. 'We will be able to see the tyre tracks here on the beach in the images,' says Anders. The photos form the basis for doctoral research on the influence of the Sand Motor, a large man-made area of sand along the coast off Ter Heijde, on the adjoining dunes and vegetation.

THE VIEW FROM ABOVE

Wageningen researchers are increasingly using drones to examine their areas of interest from above. But they prefer to refer

to their toys using an abbreviation such as UAV (Unmanned Aerial Vehicle) rather than 'drone', because of its military connotations. Wageningen UR has three UAVs: two octocopters (a kind of flying saucer with eight rotors) and the MAVinci, a high-tech instrument disguised as a child's toy. It consists of separate foam parts screwed together to make a mini aeroplane with flashing lights under the wings and with the battery casing held together by an elastic band. 'You can get them in carbon too. Ours might not look great, but it works fine,' says Anders. 'The MAVinci enables us to map the soil

much better than in the past,' explains Saskia Keesstra, assistant professor of Soil Physics and Land Management at Wageningen University. She is using MAVinci images of the soil surface for her study of water erosion in Spain. They show how rough or steep the land is, but more importantly they reveal the changes over time, for example after a big downpour. Where does the water fail to drain away, how much soil gets washed away, where do new gullies develop? Until recently, Keesstra was dependent on satellite images or aerial photos to get the view from above. 'Not only can we



MAVinci Sirius

see far more detail now, what is more important is that you can fly whenever you want.' Aerial photos are only taken once a year at best. Hiring a plane is far too expensive and a satellite passes over only once a fortnight. Then you're praying it's not cloudy.' Keesstra thinks the MAVinci is a fantastic alternative: 'We can take photos of an area covering more than 100 hectares per flight, whenever it suits us.'

POWERHOUSES

Lammert Kooistra from the Laboratory of Geo-Information Science and Remote Sensing and Sander Mucher from Alterra Wageningen UR have different requirements. Their octocopters can only stay up in the air for about eight minutes, but these powerhouses are able to carry remote sensing's showpiece instrument into the air, a hyperspectral camera weighing two kilos. It carries out measurements at about 100 different wavelengths from ultraviolet to infrared. This gives scientists all kinds of information: the state of the grass on a heath for example, or the condition of a tropical forest, the amount of biomass in a field or an arable farm, the volume of nitrogen in plants, the number of

layers of leaves or, on a more experimental note, virus infections or drought stress. 'The technology to create a fingerprint of a crop in this way and interpret it is already there,' says Kooistra. 'The challenge now is how to turn those images into information that tells farmers what setting to use for their fertilizer spreader or where to spray. Anyone can buy an octocopter and attach a camera to it. That will give you images, but not of a high, standardized quality. It's only useful if you can make comparisons over space and time. That is our niche: processing the images to give information that genuinely helps the user. That involves an awful lot of software and loads of new algorithms for image analysis.'

COMPETITION

Before the UAV can get a foothold, it first needs to contend with an established rival – satellite images. 'Satellite imaging still forms the basic infrastructure for getting a picture of the Earth, says Mucher. 'The images with a resolution of 20 by 20 metres are virtually free these days. We see the UAV as a complimentary method, with flexibility and high resolution as its big advantages.'

Corné Kempenaar, an Agrosystems researcher at Plant Research International (PRI) and lecturer in Precision Farming at Vientum University of Applied Sciences in Dronten, thinks that the use of UAVs in arable farming depends crucially on a smart, cost-effective application for the images. 'Processing them is a skill in itself. You can't just say there is a spot with not enough biomass so you should apply more fertilizer. Perhaps the soil is slightly dryer there. It's a great tool for research but it is still too premature for farmers to use it.' He does not rule out the possibility of farmers with large farms or contract work companies using UAVs to collect crop data or detect weeds and diseases, but there is competition from the multispectral cameras that farmers install on the tractor's spray arm, for instance. 'They only scan part of the field, but even that gives valuable information,' says Kempenaar. 'The drones have to find a niche between the cameras on the ground and the satellite high up in the air. Plus the information that they deliver must come at an attractive price.' He suspects the potential savings on fertilizer or pesticides are modest, a few dozen euros per hectare per treatment.



Erik Pekkeriet, greenhouse horticulture project manager at PRI, is less cautious. ‘There is a lot of potential for the use of UAVs in greenhouses,’ he notes. While contact with satellites for navigation is not possible inside, that problem can be solved by installing beacons that let a UAV in the air get its bearings. ‘You can manoeuvre incredibly accurately in a greenhouse. And there is no wind that you need to adjust for in the images,’ says Pekkeriet. Another advantage is that the rules are not so strict: you do not have to request a flight in advance, nor do you need a pilot’s licence. Which means less hassle and is cheaper. Pekkeriet sees the UAV as the ideal aid for market gardeners who want to get information quickly, for example about the state of their crop. He has worked with someone

who had a big plant nursery and wanted to monitor the progress of the germination. ‘Nurserymen agree plant sales in advance. They will then sow 15 to 20 percent extra to make sure they can deliver the agreed quantity. That could be reduced to perhaps five percent, a substantial saving, if you know in good time whether you need to sow extra seeds.’ But getting to the right section is a real challenge in modern greenhouses, and counting by hand would be impossible, says Pekkeriet. ‘A UAV gives you the information you need in no time. You send it off with the instruction: check section 12. It flies over there, scans the section and transmits the data directly to the nurseryman’s computer. That may seem like pie in the sky now but I wouldn’t be

surprised if it was really happening a few years from now.’

The MAVinci has completed its route on the beach at Ter Heijde. It continues to circle above us until Anders takes over the controls and guides the plane back to land gently on the sand. He downloads the data from the camera and the flight details from the black box, the final step in a series of mandatory actions and protocols.

PILOT’S LICENCE

The use of drones is subject to stringent rules. Both the MAVinci pilots got their licence at the end of June. They are now allowed to fly up to an altitude of 120 metres anywhere in the Netherlands as long as the owner of the land, the government and the provincial authority give prior permission. There must always be an observer with the pilot during a flight to keep an eye on the vehicle. This means a drone can fly up to 500 metres from the point at which it was launched. ‘Apart from that, we basically need to keep to the same rules as for civil aviation,’ explains Anders. ‘I realize the authorities need to be careful, but it all means hours of work for a half-hour flight.’ ■

‘It’s still too premature for farmers to use it’

A woman wearing a white sleeveless top, a blue headwrap, and a blue skirt is harvesting tomatoes in a field. She is bending over, holding a yellow bucket, and picking tomatoes from the plants. A blue patterned cloth is visible on the right side of the frame. The background is a lush green field with many tomato plants.

ONE THIRD OF OUR FOOD GOES TO WASTE

Taking care of the harvest



In developing countries especially, a lot of food is lost post-harvest. There is much to be gained by using simple existing techniques, especially when applied in close collaboration with local producers. Wageningen is developing a service desk which offers farmers and companies advice on this topic.

TEXT RENÉ DIDDE PHOTO RON GILING/LINEAIR INFOGRAPHIC SCHWANDT INFOGRAPHICS

Melon farmer José Castillo from Zacapa, Guatemala, is bringing in the harvest. One big team of labourers cuts the melons and another team heaves them into trailers. A mat covered in black plastic is in place to protect the fruit from bruising. The harvest then sits in the burning sun for at least half an hour. Only when there are 14 trailers ready does the tractor come to pull them to the cold room.

‘That’s if there is no lunch break in between, because in that case it can take up to three hours before the first harvested melons get cooled down,’ says Eelke Westra, who is showing slides of the harvest. ‘There is no sign of damage on the melons, but without the farmer realizing it, they lose a quarter of their shelf life in three hours,’ says Westra, post-harvest technology research leader at Wageningen UR Food & Biobased Research.

As a result, Castillo gets a lower price for his melons, which are exported to Europe and elsewhere. His crop would be worth more if he employed extra hands during the lunch hour, used white plastic instead of black, and parked the trailers under trees, advises Westra. Simple improvements can be made in the cold room too. Crates of melons are dumped on top of each other, preventing the cold air from reaching all the fruit. The fruit also gives off moisture, which can make them rot or dry out.

STAGGERING LOSSES

According to the agricultural organization FAO, 1.3 billion tonnes of food is wasted every year. This amounts to one third of total global production. A staggeringly large amount, especially in view of the organization’s projection that by 2050,

70 percent more food will be needed to feed the world’s population, which will have swelled to 10 billion by then. The food waste mainly affects developing countries, where it is largely due to a variety of factors at various points along the chain: from the time of the harvest, slaughter or catch to the consumer’s kitchen. Among the causes are lack of cold storage, insufficient dry storage space, a shortage of transport and inadequate infrastructure. Whether you look at melons in central America, mangos in Kenya, teff in Ethiopia or chicken in Indonesia, the waste is massive. The causes of food waste in rich western countries are different. There, supermarkets and consumers are to blame, mainly because we buy too much food. With a view to reducing post-harvest losses in developing countries, Eelke Westra and

FOOD LOSSES IN DEVELOPING COUNTRIES

Just as much food is wasted in developing countries as in industrialized countries: approximately one third. In the west, consumers and retailers

are responsible for more than 40 percent of the wastage, whereas in Africa and Asia more than 40 percent of the losses occur during harvesting and processing.



Differences in food losses

North America & Europe

Food production per person per year
900kg



280-300kg
is lost

Southern Africa, South and South-east Asia

Food production per person per year
460kg



120-170kg
is lost

‘We also offer tried and tested ideas such as using wet cloths to keep vegetables fresh’

colleagues from the Horticulture Chains chair group, LEI Wageningen UR, RIKILT Wageningen UR and Wageningen International are working on establishing a Network of Excellence. ‘This will be a servicedesk where farmers, companies, governments and NGOs from all around the world can submit their problems to Dutch experts by phone or computer and receive concrete agricultural advice,’ explains Westra. Besides scientists from Wageningen UR, there are also NGOs, companies and the ministries of Economic Affairs and Foreign Affairs involved. The planned service desk will not restrict itself to proposing high-tech solutions such as cold storage units or solar energy. ‘We also offer tried and tested ideas such as using wet cloths to keep freshly picked vegetables fresh, or storage cupboards with air vents

on poles above tubs of water.’ According to Westra, it is important to share this kind of folk wisdom as well. An approach which is common knowledge in India might be unknown in Africa, for instance.

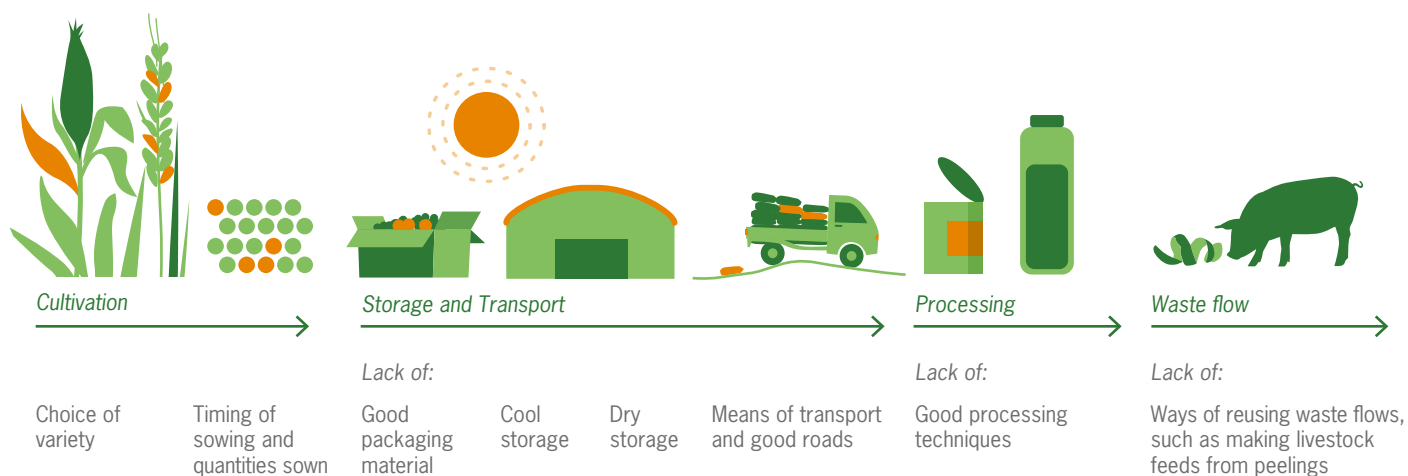
PANEL OF EXPERTS

‘Everyone is in favour of reducing food waste. People are upset about the deterioration of agricultural products. What makes it difficult, though, is that they are not familiar enough with the problem of food losses,’ says Toine Timmermans, Sustainable Chains

programme manager at Food & Biobased Research.

In a report called *Food Losses and Waste*, which was produced this summer by the High Level Panel of Experts, a key think tank on food security, Timmermans and an international group of scientists analysed the problem of global food waste. ‘The biggest food losses are of fresh products. That is precisely where too little thought is given to business cases and integral solutions in the food chain. The result is that products do not accrue enough added value on the market,’ says Timmermans. >

Losses during harvesting and processing are caused by:



NOT IN THE BIN

Whereas most of the food waste in developing countries occurs post-harvest, in the west it is primarily a question of too much food being bought and cooked, and subsequently thrown out. The average Dutch person, for example, throws out 50 kilograms of food – or 150 euros – per year. In several places, initiatives are being developed to counter this wastage, and Wageningen UR is collaborating on them.

- **Damn Food Waste** serves free lunches made of products that are 'past their use-by date'.
- **Food2Food** selects usable unsold fruit and vegetables in supermarkets. Caterer Hutten is working on a plan for making soups and sauces from them.
- During **Foodbattle**, participants keep track of what they waste over a period of three weeks. After that, practical tips help them to cut their food waste by 20 to 30 percent.
- **Instock**, a restaurant in the Westergasfabriek in Amsterdam, cooks exclusively with food that would have been thrown out. The restaurant collects food daily from branches of the Albert Heijn.
- In the EU project **FUSIONS**, partners in 13 countries work together on raising awareness, collecting reliable data, giving policy advice and bringing about behavioural changes; according to LEI Wageningen UR, 40 percent less food waste would save the EU 75.5 billion euros.

More initiatives on www.nowastennetwork.nl, including an app to help combat food waste. The No Waste Network is an initiative by the Ministry of Economic Affairs in close collaboration with the Dutch sustainable food alliance (Alliantie Verduurzaming Voedsel) and Wageningen UR.



One example is the mango trade in Kenya, where the big problem is how to deal with seasonal peaks, explains Timmermans. 'All the fruit ripens at once, creating a surplus which cannot be marketed due to lack of infrastructure and markets. If you juice the surplus mangos, new markets could develop. Drying or conserving mangos are promising options too. These kinds of food manufacture can make a big contribution to food security.' Such steps would not only make mangos available all year round, but would also create export opportunities. 'If the government develops a business case of this kind together with farmer organizations, it might be possible to find international investors to provide the capital for jam factories, juicing machines or drying equipment.' If NGOs participate in such public-private partnerships as well, Timmermans expects they could attract funding from rich funds such as the Rockefeller Foundation and the Bill Gates Foundation.

Plans of this kind for creating added value differ from product to product and from country to country. Timmermans: 'In Egypt, green beans are grown for export to Europe. The losses, in the form of beans that are too small, find their way onto the local market. Kenya grows beans too, but Kenyans don't eat them. There, a canning



'If you juice the surplus mangos, new markets could develop'

factory for exporting B quality beans could provide a way of combatting waste.' Such business plans should be drawn up in collaboration with local producers, says Timmermans.

He agrees with Westra that simple techniques can help limit waste. 'You don't need fancy packaging like plastic with holes in it,' he says. 'Reusable packaging such as the grey Euro Pool crates do require some investment, but they are much more robust than the ubiquitous cardboard boxes. You really need to organize that throughout the chain.'

In order to draw attention to new collaborative partnerships between private and public parties to find solutions to waste and losses, the Ministry of Economic Affairs and the FAO are jointly organizing a conference in The Hague from 8 to 10 December.

Jennie van der Mheen agrees that involving local producers is crucial for a sustainable solution to food losses. She works for Wageningen International, the office which coordinates Wageningen UR's international products. 'All too often, a decision is made about a cold room without consultation on the best location, the right size or possible collaboration, for example between growers of mangos, pineapples and tomatoes,' says Van der Mheen, who is involved in Wageningen UR projects in African

countries such as Ghana. 'The government there is not in control of distribution and logistics.' Van der Mheen does notice, however, that export is relatively well-organized thanks to strict conditions imposed from abroad. 'The biggest post-harvest losses occur in crops such as maize, cassava, yams and tomatoes for the home market.'

SOFT SKINS

The case of Ghanaian tomatoes is particularly sad. Between 50 and 80 percent of the crop goes to waste. 'That is because farmers work with the wrong variety,' says Van der Mheen. 'Its high water content makes it unsuitable for tomato puree, while for the salad tomato market, the tomatoes' skin is too soft.' What is more, the tomatoes are transported in big crates and dumped onto large plastic sheets at the market. 'There is not much left then except pulp. And the farmers all plant their tomatoes at the same time without any idea of the demand or market price,' adds Van der Mheen. Switching to a different tomato seed is expensive, though. Nor are the farmers very eager to try something new.

But Ghana does need to do something about food waste, if only because the African Union has now put the issue on the agenda. Food & Biobased Research is

working on logistical plans for this West African country. The Horticulture Chains chair group is helping farmers to work on varieties with a longer shelf life. The LEI is providing market information for the farmers. RIKILT and the CDI (Centre for Development Innovation) will pass on knowledge to farmers about the best ways of harvesting, storing and selling produce. 'Wageningen scientists are also doing research in Ghana on the use of waste flows,' explains van der Mheen. One example is cassava, which is used to make flour. The peelings currently go unused. 'Plant Research International is working with fungi which break open the cells so that the nutrients in the peel are released and become suitable for livestock feed. Cassava peelings can also be used as substrate for cultivating oyster mushrooms, a traditional but neglected item on the Ghanaian menu.'

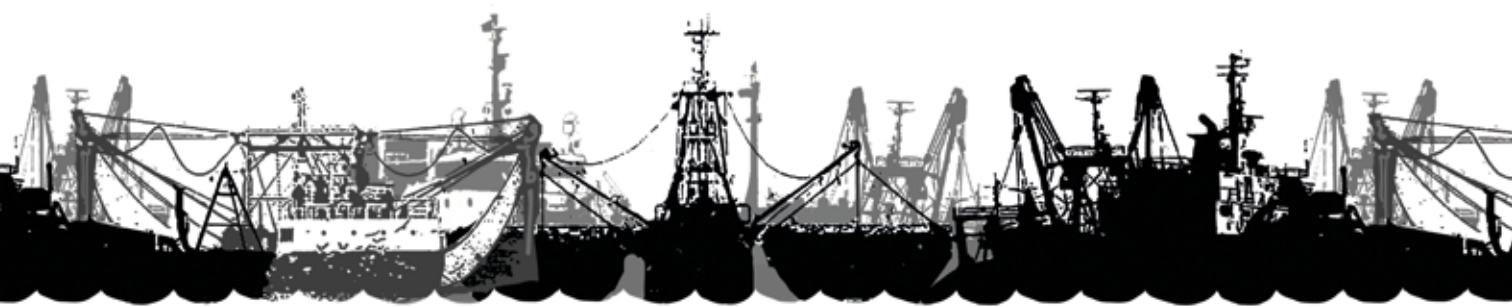
Van der Mheen sees the growing middle class as an important driver of agricultural improvements. 'In countries such as Ghana, the middle class will start shopping more at supermarkets such as Carrefour and Wal-Mart. They won't be fobbed off with bruised mangos, tomato pulp and overripe pineapples anymore. ■

www.wageningenur.nl/foodlosses

WAGENINGEN ACADEMY

Wageningen Academy will be running a four-day course on Postharvest Technology in October 2014, with course leaders from Wageningen UR and UC Davis. For an up-to-date insight into post-harvest developments, as well as into techniques for dealing with fresh products.

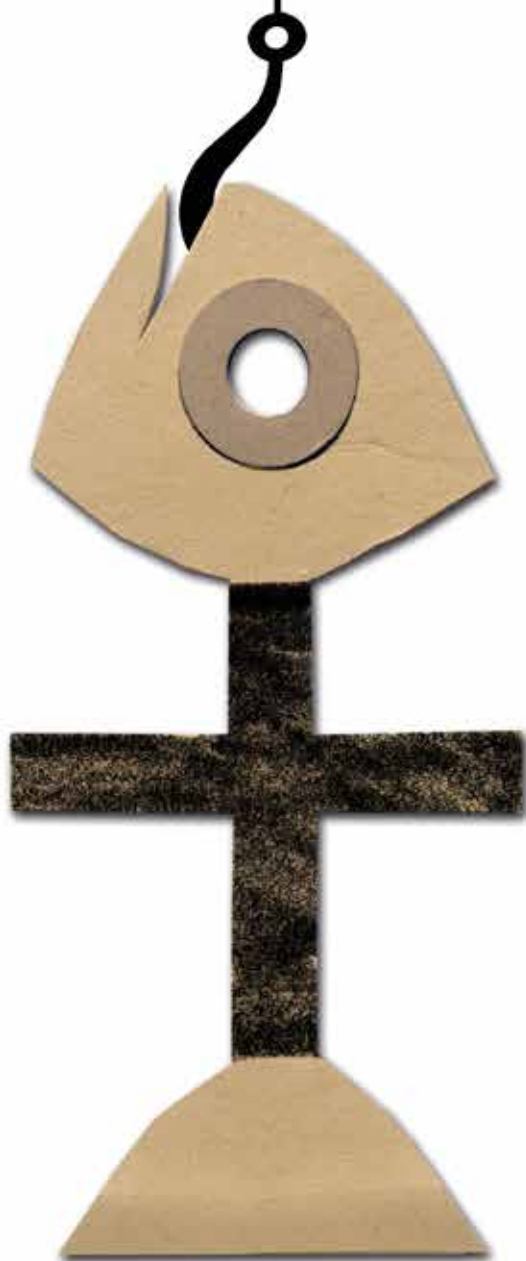
Kijk voor meer informatie op www.wageningenacademy.nl/postharvest



How long can we carry on fishing?

Year in, year out, the press warns us about the dangers of overfishing. *The Washington Post* recently declared that the oceans will be fished to extinction in 2050. But the latest reports on herring and plaice stocks are positive. Six questions for fisheries experts inside and outside Wageningen UR.

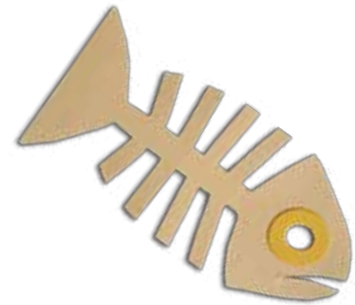
TEXT ARNO VAN 'T HOOG **ILLUSTRATION** IEN VAN LAANEN



How bad is the overfishing?

As in previous years, world food organization FAO's hefty report *The State Of World Fisheries And Aquaculture 2014* is full of warnings. Global catches of fish may have been stable since 1990, at 90 million tonnes, but the FAO notes that production is not sustainable as the number of fish stocks subject to overfishing is growing. For example, the once abundant stocks of cod off the east coast of Canada collapsed in the early 1990s following years of overfishing. At the same time the number of unexploited fish stocks is going down. The stability we think we see in the supply of fish, says the FAO, is the result of fishing fleets looking for new fishing grounds when the old grounds become exhausted. They are fishing further and further from the coast and in increasingly deep water. 'The increasing range of international fishing fleets is a clear trend,' says Reinier Hille Ris Lambers, senior marine advisor to the World Wildlife Fund. 'If that continues, we really will come up against the limits.' 'About 75 percent of global fish stocks are not managed properly,' concludes Nathalie Steins, head of the Fisheries Department at IMARES Wageningen UR. '25 percent have been overfished and are now unable to reproduce, and 50 percent are being fished to the maximum or are at the limit. The remaining 25 percent are not yet being fished to the maximum.'





Is there only bad news to report?

It depends on what you look at and what you want to emphasize: general trends or positive exceptions. Researchers, fishers and nature organizations often have different opinions about this. In the Mediterranean for example, the outlook is bleak: 96 percent of the fish that live on the ocean floor, such as sole, are overfished, and 71 percent of the species that live in open waters, such as anchovies and sardines, are overfished. Elsewhere, the situation is more encouraging. Many fish stocks in the North Atlantic region – including the North Sea and the Baltic – are showing signs of recovery. In 2009, 30 of the 35 fish stocks investigated were overfished; that figure has fallen to 19. The herring, for instance, is doing fine. And the volume of plaice in the North Sea is estimated at more than 670,000 tonnes for 2014, the highest level since estimates were first made in 1957. A stock of even 230,000 tonnes is seen as a healthy level for plaice in the North Sea.

This positive development is partly due to the European fishing plans that have been drawn up since 2008. Fishers and nature organizations were also involved in this. Steins: 'These plans specify the permitted fishing pressure for the next few years; the aim is to keep the size of a given fish stock big enough to justify talking in terms of responsible fisheries. The plans also specify a maximum for the percentage year-on-year change in catch quotas. This approach has helped put an end to the annual wheeling and dealing by politicians about the fishing quotas for sole, plaice and herring, for example. That has made the situation a lot more stable.'

What makes fisheries sustainable?

Steins says fishing can be compared to banking. If you manage a large capital sum (a healthy fish stock), you will get more interest in the form of annual catches. If you start eating into the capital on top of the interest (by increasing the fishing

pressure), you will increase yields in the short term. But if you do that year after year, you will eventually be bringing in less and less. In short, you can continue to fish sustainably by not fishing too much.

Yet this metaphor is not entirely appropriate. Proper stock management is only part of the solution, says Hille Ris Lambers. 'Fishing is not like arable farming, where you just harvest one species. You need to look after the entire sea. Nobody manages the tube worm, but that organism still affects the ecosystem.'

Christen Absil, fisheries programme manager at the North Sea Foundation, also warns against a too one-sided fixation on the commercially important species of fish. 'Sole and plaice are doing well at the moment but fishing for these species still leads to damage to the ocean floor and lots of bycatch, of dab for example. Sharks and rays also end up in the nets and we don't really know what effect that has. There is much less research on those fish species.'

Do labels offer a solution?

About seven percent of the fish sold worldwide has a label from the Marine Stewardship Council. These days, all Dutch supermarkets have several fish products on offer with a label of this kind. A fishery gets an MSC label if it manages the fish stock sustainably, limits the impact on the ecosystem and reduces catch volumes when necessary. The sale of certified fish has really taken off in recent years thanks to the book *De Goede Visgids* (The Good Fish Guide) and

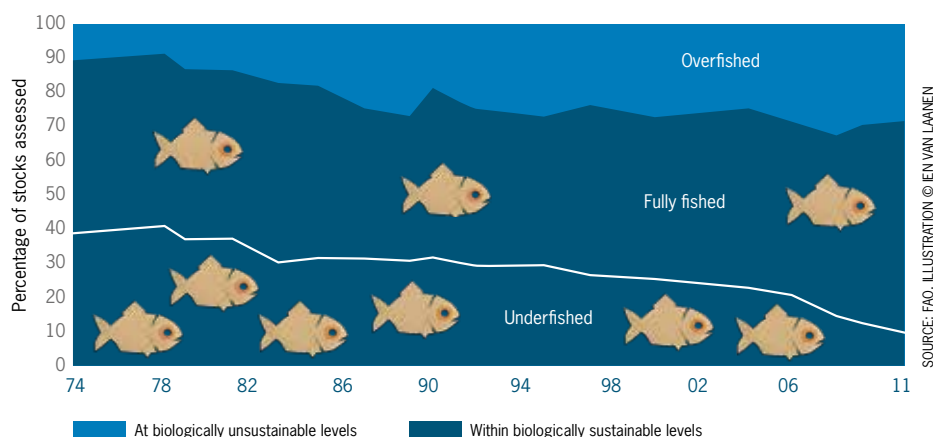
the VISwijzer website. They give information about the origin, fishing methods and sustainability of dozens of different species of fish.

According to Absil, the VISwijzer has made consumers aware of sustainability. Supermarkets have responded to this by purchasing more certified fish that had been caught sustainably. 'That then put pressure on food producers to process sustainable fish. This change among consumers and supermarkets was a sign to fishers that investing in certification would be worthwhile.' Even so, she does not think that fish guides and labels are a cure-all. They work well within Europe, but probably not elsewhere. Most fish on the European market comes from tropical and international waters where there is almost a complete lack of monitoring and checks.

Work has recently started on a fish guide for financial institutions. It will let banks assess the environmental impact of an investment in the fishery business. Low financial risk sometimes goes hand-in-hand with high ecological risk. Investing in 120-metre long freezer trawlers can give good yields as such ships run little commercial risk; they catch hundreds of tonnes of fish and are large enough to sail to the other side of the world

**Most fish in Europe comes
from seas that are hardly
monitored at all**

GLOBAL TRENDS IN THE STATE OF WORLD MARINE FISH STOCKS, 1974-2011



if a fishing ground becomes exhausted. That is one of the risk factors that the FAO warns about for overfishing.

Should fishers be fishing somewhere else?

Fishers prefer to catch their target species of fish, and in a size that will get them the best price back in port. Bycatches are a waste of time and fuel. Herring fishers in the North Sea are good at targeting their fishing because a school of herring is largely homogeneous, with very few other fish species in it. On the other hand, fishing for sole and plaice on the ocean floor with a small mesh catches many undersized fish, crabs and starfish. That could change with innovations in fishing equipment. Pulse fishing, in which fish are startled by an electric pulse into leaving the ocean floor, results in less bycatch and requires less fuel to trawl the nets.

‘That is good,’ says Mike Turenhout, a fishery researcher at LEI Wageningen UR. ‘The Dutch fishers are having a hard time economically. Fishing costs are constantly increasing because of rising fuel prices. In 2003, one litre of diesel oil cost 20 cents; now prices have topped 60 cents. At the same time, average fish auction prices are low, especially for plaice. Fishers are suffering from competition from other, farmed species such as salmon and pangasius.

They will have to cope with another problem soon, too. Between 2015 and 2019, the EU

will be introducing a new ‘landing obligation’. Throwing overboard unwanted bycatches of undersized or commercially uninteresting fish – known as discards – will no longer be allowed; they will have to be brought into port. This rule was introduced to combat waste and encourage fishers to use fishing methods that result in less bycatch. Because the discards can only be used to produce animal feed, fishers receive a mere 15 to 30 cents per kilo, less than the landing costs. The LEI has calculated that this would mean an extra expense for Dutch fisheries of between 6 and 28 million euros. The new measure has sparked off a debate, including among fishery researchers. They feel the ecological impact of the landing obligation has not been properly investigated. Steins: ‘They demand an environmental impact assessment for all kinds of ventures at sea, such as wind turbines and oil drilling, but this they just go ahead and implement. Let’s say 30 percent of the discards that are landed could have survived in the ocean. What does that mean for the ecosystem? We know for example that certain seabird populations will decrease if no more fish is being thrown overboard but what about

other species, and what about the long-term effects?’

Can sea reserves help both nature and fisheries?

Keeping fisheries separate from nature by designating certain areas closed to fishing has been a contentious issue for years. Important fishing grounds often overlap with parts of the North Sea that are of interest for their ecological values. ‘If plaice is so easy to catch now, why should plaice fishers still be allowed to fish anywhere they like, including those few spots where some rare sea anemone can be found?’ asks Absil. ‘The discussions concerning closing off certain areas do not go smoothly. Fishers don’t like giving up their freedom; closing off even a small percentage is a bridge too far.’ According to Hille Ris Lambers of the World Wildlife Fund, closed areas help fish stocks recover and protect biodiversity. Fish grow and reproduce unimpeded in these nature reserves, resulting in more fish in the surrounding waters as well. However, Steins at IMARES doubts whether closing off areas of the North Sea would lead to more fish. Research shows that many North Sea species do not stay in one area. ‘What we do know works in the North Sea is to reduce the fishing pressure and keep it lower. The big challenge is how to manage the seas in a way that benefits both nature and the fisheries.’ ■

www.wageningenur.nl/sustainablefishing



REFORM OF THE COMMON AGRICULTURAL POLICY

A few shades



greener



Is the greening of the European agricultural policy really going to do much for the natural environment? Scientists and nature organizations are critical, but farmers think we should count our blessings.

TEXT NIENKE BEINTEMA ILLUSTRATION M.A KOEKKOEK

The starting shot has been fired and the greening of the European Common Agricultural Policy (CAP) is about to get going. The policy obliges farmers to take a series of steps towards making European farming more nature- and environment-friendly. These measures are of three kinds: crop rotation, the conservation of permanent grassland, and the allocation of 5 percent of their land surface to ecological purposes in 'ecological focus areas'. What do the experts think: is the greening likely to be fruitful?

David Kleijn is an animal ecologist at Alterra Wageningen UR. At the beginning of June he and some of his colleagues published an article in the journal *Science* entitled: *EU agricultural reform fails on biodiversity*. 'It is a crying shame,' he says, 'but this greening will deliver woefully few ecological benefits in Europe. I see a lot of missed opportunities. First of all: the measures only apply to farms larger than 15 hectares. That means that an awful lot of farmers are let off the hook.' He also thinks 5 percent for the ecological focus areas (EFAs) is too stingy: 'Scientific research has shown that 10 percent really is the minimum to go for if you want to see any

ecological effect. But during the negotiations that kept on being nibbled away at.'

ADVANCED MATHS

Anne van Doorn of the Alterra department of Spatial Knowledge Systems is equally sceptical about the new policy. She is first author of two Alterra reports on the ecological side of the greening. 'Thanks to the political tug-of-war, the policy has become very complicated,' she says. 'For example, the definition of what is allowed to count as EFA. Whether it's managed field edges, ditches or landscape elements: with all the weighting factors, a farmer needs advanced maths to be able to calculate whether they count as EFA.' She also thinks the measures have been made less effective by being watered down so much. In certain regions with large-scale agriculture, such as Flevoland or Zeeland, she reckons you might start to see a bit of a difference: a little more variation in the landscape. Now these regions are typified by endless fields of monocultures; under the new policy there will be more variety through the crop rotation, and in the best case scenarios also through the creation of new >

INCOME SUPPORT IN EXCHANGE FOR GREENING

The new European Common Agriculture Policy (CAP), which will be in force from 2015 to 2020, includes measures intended to make European agriculture more nature- and environment-friendly. Thirty percent of the income support for farmers has been made contingent on these measures, which are of three kinds: crop rotation, the conservation of permanent grassland, and the establishment of 'ecological focus areas' (EFAs), in which farmers set aside 5 percent of their land surface 'for ecological purposes'.

At the end of June Dutch secretary of state for Economic Affairs Sharon Dijksma outlined to the lower house of parliament how she aims to implement this new European policy in the Netherlands. This was followed by a parliamentary debate on 1 July in which it was established how the Netherlands will set to work on this issue in the coming years. The Dutch plans still need to be ratified by the EU, and this decision will only be taken in the autumn. Then the measures can be put in place.



landscape elements. Van Doorn: 'But it is difficult to estimate what impact that will actually have on individual species.'

The big Dutch nature organizations (*Vogelbescherming*, *Natuurmonumenten*, *Milieudefensie*, *Natuur en Milieu*, the 12 Landscape conservation organizations and *Landschapsbeheer Nederland*) put joint proposals on greening to the secretary of state back in 2012. They argued for raising the groundwater table under grasslands, reinforcing the structure of 'region-specific landscape elements' such as terraced slopes in Limburg or wooded embankments in the peat soil area, as well as for creating and widening field edges and nature-friendly banks.

Cees Witkamp of *Vogelbescherming Nederland* (a society for the protection of birds) thinks there is little or nothing to show for these ideas in the final policy. 'One of our systematic objections is that there may be rulings about preserving permanent grassland and special landscape elements, for example,' he says, 'but there is nothing about their management. For field birds, management makes all the difference to whether young birds grow to maturity. We would have liked to see precious grassland getting special protected status. Now that only happens within Natura 200 areas. So we are not very optimistic. If you look at how much

taxpayers' money is being spent on that greening, we could have expected more of it.'

NO TARGETS

The nature organizations also deplore the pack of criteria in the new policy for testing the 'green impact' of the measures. There are no concrete biodiversity targets, for instance. Ben Hermans of nature and environment foundation *Stichting Natuur en Milieu*: 'Take the conservation of permanent grassland. That is not so difficult for the Dutch dairy sector with its intensive grasslands sown with English ryegrass. Only the size of the area has to be monitored and not the quality of that grassland for field birds, for example.' Dairy farmers, he concludes, are getting out of the greening en masse. 'The new policy won't lead to flowery meadows or higher groundwater levels for field birds. That is disappointing. This way you are just accepting the decline of biodiversity.'

Anne van Doorn of *Alterra* agrees. 'For endangered field bird species such as skylarks, it is not just field edges that are important, but what happens across the whole field. What is planted plays a role, as well as the use of pesticides. Vulnerable species, which have very specific needs, will not benefit from the greening. The policy is too one-dimensional for that.'

The greening policy means farmers can also dig ditches and count them as EFA. 'But if they are really to contribute anything to biodiversity,' says Merijn Biemans of nature conservation organization *Natuurmonumenten*, 'then they need to level off the banks to reduce the impact of fertilizer and pesticides on the aquatic life in the ditches. Reeds make a good buffer too. Sadly, these sorts of quality criteria have not been laid down now.' According to Biemans, the proposed greening measures are not going to benefit Dutch biodiversity at all: 'The greening of the CAP is quite simply a failure.'

GREEN CATCH CROPS

Another cause for concern, say the critics, is the major role assigned by the new policy to 'catch crops'. These are crops which are of no intrinsic value to the farmer, but are used for purposes such as counteracting the runoff of fertilizer into ground and surface water. Examples are winter rye or ryegrass, which are sown after the main crop is harvested. Green sources of



fertilizer such as nitrogen-binding legumes also count as catch crops, as do crops which lure harmful insects or worms, thus protecting the main crop. In the new policy many of these kinds of catch crop – including protein crops such as lupin and alfalfa – count as ‘green’. A farmer only has to sow these crops for his land to count as EFA.

‘The greening will deliver woefully few ecological benefits’

‘Some legumes are certainly helpful for biodiversity, but that is by no means true of all catch crops,’ responds David Kleijn of Alterra. ‘Such measures could deliver biodiversity gains,’ agrees Cees Witkamp of Vogelbescherming, ‘but only if they are carried out in a particular way. No arrangements have been made for that, so I don’t expect much to come of it. It would be good if the ministry of Economic Affairs got some research done on the most promising way to carry out these kinds of measures, and then communicate clearly about it with farmers.’

Jos Roemaat, chair of the Network of Agrarian Nature and Landscape Management, is less pessimistic about the effect of catch crops. ‘At many places we can already see that they definitely lead to more biodiversity, providing shelter for wild animals for instance.’ The regional agricultural and horticultural organizations belong to his network, as do the three umbrella organizations for agricultural nature associations.

COUNT YOUR BLESSINGS

Roemaat emphasizes that a total of 14,000 Dutch farmers are involved in agrarian nature management, managing 300,000 hectares of land between them. In other words, he says ‘green thinking’ is all in a day’s work for very many Dutch farmers. So he thinks it is a pity the Dutch nature organizations react so negatively. ‘There are already many positive developments going on,’ he says. ‘The agrarian nature managers meet almost all the new European criteria for greening. The point is

now that all Dutch arable farmers must start greening.’ And he is positive about this. He does think greening will only be effective if farmers are involved in thinking through the policy. ‘It is logical that entrepreneurs are not wild about measures that cost money,’ he says. ‘Farmers and policymakers need to look together for measures that are good for nature, but which also make money. In that case farmers are definitely prepared to go into action.’ He thinks the best approach is to shift responsibilities to the district level, to collectives of farmers who themselves work out which measures are most effective.

‘Of course the new greening policy that is in place now won’t achieve enough in itself,’ says Roemaat. ‘I understand that nature organizations are disappointed. But we must be realistic. It is quite something that a move has been made in this direction. I think we should count our blessings.’

Dirk de Heer, arable farmer in De Purmer, supports this view. ‘I thoroughly enjoy the flowery ditch banks around my fields. It is lovely that nature can run its course in places the farmer pulls out of. I am convinced you don’t need strict rules in order to get greening off the ground in the right way. So much is going on already, just give it free rein.’

GREENER MINDSET

Only time will tell who is right. The Ministry of Economic Affairs has asked Alterra to monitor the ecological effects of the greening over the coming years, an assignment which got support from the lower house of parliament during the debate on the subject. Exactly what form that monitoring will take is not yet clear; the ministry will consult Alterra about that this autumn. ‘In any case, we hope to be able to say something more concrete about the effectiveness of the greening measures by halfway through this CAP period, in 2016-2017,’ says Anne van Doorn of Alterra, who will be involved in the monitoring. ‘In recent years we have seen the adopted policy being watered down. But very slowly now, a greener mindset is spreading, among farmers as well as policymakers. And that is a big gain. I do see light on the horizon.’

www.wageningenur.nl/cap



Researcher Ruud Timmer in a trial field of quinoa in Lelystad.

QUINOA CONQUERS THE WORLD

Eating like the Incas

Quinoa is hugely popular, spreading all around the world from its South American origins. Partly thanks to Wageningen plant breeders, quinoa is now being grown in France, England and Germany. And it may soon be grown in the Netherlands. 'This year will be decisive.'

TEXT ASTRID SMIT PHOTOGRAPHY MARCEL BERGH INFOGRAPHIC SCHWANDT INFOGRAPHICS

Harry Donker's quinoa plants in Middenmeer in North Holland province are not as tall as they should be at this time of year. A pity, because germination may now be too late. 'I should have used more fertilizer,' says the organic farmer. 'Maybe I was too stubborn. I thought: well, it grows on poor soils in the Andes. But this type seems to need more nitrogen.'

Donker does not mind too much. The aim this year was to gain experience. How far apart should the plants be, is it possible to keep weeds under control, and can you harvest the seeds properly? 'So far it is all quite doable,' says Donker, who has sown a quarter of a hectare of quinoa.

Donker is one of the 13 Dutch farmers who started growing quinoa this year. Three of them are organic farmers, while the other ten farm conventionally. 'Quinoa is now being grown on 30 hectares of land,' says Rens Kuijten of the Dutch Quinoa Group, the company which got quinoa farming launched in the Netherlands. 'At the end of the summer we shall collect the quinoa from the farmers and make sure it reaches the consumers after processing.'

Quinoa has become hugely popular in the last few years. Bolivia and Peru – where quinoa has been grown for thousands of years (see text box) can barely meet the demand. In recent years about 10,000 tonnes have been shipped to Europe per year, and it is still not enough. Quinoa has characteristics which western consumers value highly nowadays: it is gluten-free and rich in protein. Packets of quinoa have been selling like hot cakes, initially in health food stores but now in supermarkets such as Albert Heijn and Jumbo too. Early this year the shops had even sold out of quinoa for a while. Kuijten is pleased with this development, having envisaged a major role for quinoa in our diet years before the market was ready for it. Now there is a demand for it, he has devoted himself to

promoting this new crop. His aim: getting quinoa cultivation in the Netherlands off the ground and making quinoa more widely available to European consumers. He encouraged the 13 farmers to sow quinoa and he is guiding them, together with the advisory group DLV Plant, Applied Plant Research (PPO) and Plant Research International (PRI) at Wageningen UR.

RIPENING IN TIME

Wageningen started breeding quinoa in the nineteen nineties, says Robert van Loo of PRI. 'The Netherlands was looking for a fourth crop. For the sake of spreading risks, the then ministry of Agriculture thought farmers should start to grow another crop besides sugar beets, potatoes and wheat. One of the crops we set our sights on was quinoa. Primarily because of its high nutritional value.' One problem, however, was that the quinoa from the Andes was not suitable for Europe. 'The seed does not ripen fast enough here because of the longer daylight hours. Only when our days are the same length as they are in the Andes does the plant get the signal to ripen. That is too late, because then it is too wet here.'

For this reason PRI bred varieties from southern Chile, which are used to longer daylight hours, so that they do ripen fast enough in Europe. After that, PRI tackled a second breeding challenge: to breed quinoa plants without bitter seeds. 'The outer shell of the seeds contains saponin: a soapy layer which tastes very bitter.

In Bolivia they wash and scrape it off. We looked into whether we could breed quinoa varieties without saponin. The production costs could be lowered that way, certainly in Europe where labour costs are high,' explains Van Loo. By crossing the European variant with a Chilean one, Wageningen has succeeded in this. Between 2002 and 2008 PRI presented three new saponin-free varieties: Atlas, Riobamba and Pasto.

The French company AbbotAgra was the first to embark on cultivation of these varieties. In 2007, owner Jason Abbott started with 10 hectares and late expanded that to 100 hectares. He now has more than 1000 hectares in France. 'He is a pioneer,' said Van Loo. Since 2007, Abbott has held the license for the Wageningen varieties. Every farmer who wants to grow them has to knock on his door. This includes the farmers of the Dutch Quinoa Group. A conscious choice, says Van Loo.

'That way Abbott can build something up. Without that exclusivity, he would never have started growing quinoa. Setting up a chain from farmer to consumer takes a lot of time, energy and money. Abbott is only now beginning to see figures in the black.' Meanwhile he is working with farmers in Germany, England, Belgium and the Netherlands.

CHINA, VIETNAM AND CHILE

There is interest in the Dutch-bred quinoa beyond the boundaries of Europe. PRI hopes shortly to start a project in the deltas of >

**'Quinoa plants thrive
in brackish areas'**

NUTRITIOUS LITTLE SEEDS

Quinoa, sometimes referred to as the food of the Incas, has been a key food crop in South America for 6000 years. Its unique characteristics have led to a rapid rise in consumption and cultivation of this crop around the world.

Quinoa

Chenopodium quinoa – a close relative of the weed goosefoot and of spinach – is resistant to low and high temperatures, drought and salinization.

Use



The seed can be processed like grain. Traditionally it is roasted and milled to make flour for bread, as well as fermented for beer or the traditional beverage chicha.

Nutritional value

The seeds are gluten-free, high-fibre, full of iron and protein and contain all the essential amino acids.



Gluten-free



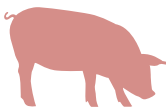
High-fibre



Iron-rich

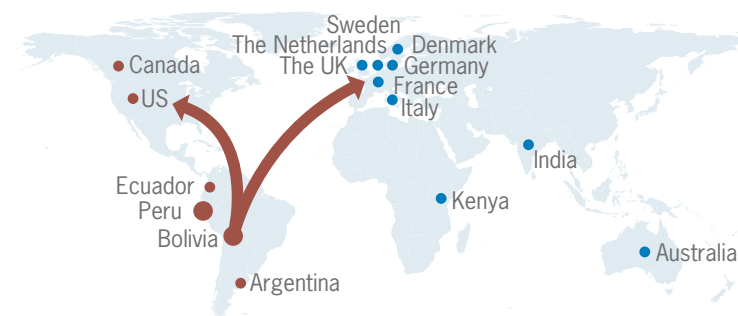


Meat substitute



Quinoa is also used as livestock feed.

Cultivation and export



- Production
- New producer
- Export

Cultivation:

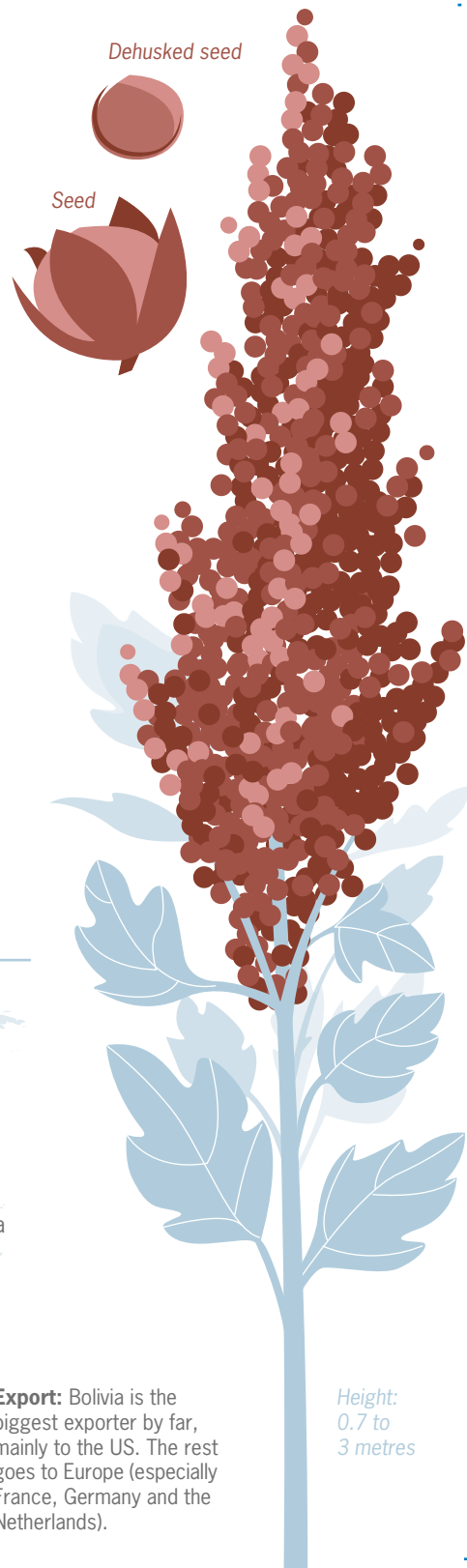
Bolivia and Peru are the biggest producers by far (c. 90%), followed by the US, Argentina, Canada and Ecuador.

New producers:

Farmers have recently started growing quinoa in France, the UK, Sweden, Denmark, the Netherlands, Italy, Kenya, India and Australia.

Export: Bolivia is the biggest exporter by far, mainly to the US. The rest goes to Europe (especially France, Germany and the Netherlands).

Height:
0.7 to
3 metres



CHOCO-QUINO

In collaboration with Wageningen UR Chile, Wageningen UR Food & Biobased Research is trying to extract the protein from the quinoa seed in order to create new, healthy food products. 'An isolated protein gives you more freedom,' says project leader Marcel Minor. 'We could make cheese with it, for instance, or sports drinks, custard, meat substitutes or baby food.' The research group is currently experimenting with what is known as dry fractionation. This involves grinding the quinoa seeds into a powder through which air is blown: this is called wind sifting and it separates light particles from heavy ones. 'By doing this we hope to get fractions with high and low protein levels.' If the researchers succeed in extracting the protein from the seed efficiently, they will identify its characteristics: does it bind well, does it offer solidity? 'Once we have an idea about that, we can set about developing healthy products.' Three Wageningen students of Food Technology already did this last year. They extracted quinoa protein from waste water from quinoa processing and made a chocolate milk from it, intended for the local population. Their product, Choco-Quino, won them second prize in the EcoTrophelia, an annual European competition between teams of students tasked with developing a new and sustainable nutritional product.

'This is a decisive year for quinoa farming in the Netherlands'

China, Vietnam and Chile. 'Our research and that of others shows that quinoa plants thrive in brackish areas. When fresh water is mixed with half seawater, the plants still produce the same number of seeds as they do with fresh water alone. Not many crops can match quinoa in that,' says Van Loo. Within the 'Securing water for food' programme run by USAID (US Agency for International Development, SIDA (Swedish International Development Cooperation) and the Dutch ministry of Foreign Affairs, PRI is in line for 600,000 dollars in funding for establishing quinoa farming in the deltas. Van Loo: 'We want to experiment first on a small plot of land and then after three years set up the same as in France. AbbottAgra is involved in this as well.'

So it looks as though quinoa is heading for a glorious future. Besides the established quinoa farming in South and North America, and the new initiatives in Europe and Asia, a few African countries have also started growing quinoa. Could quinoa become just as important a crop as rice, potatoes, maize or soya? The world food organization FAO would like to see that. It declared 2003 the international year of quinoa because the crop could play a major role in combatting hunger, under-nutrition and poverty. But Van Loo thinks that large-scale quinoa cultivation is not realistic at present: the yields per hectare of quinoa are still much too low. They vary from 500-600 kilos per hectare in Bolivia to 2500 to 4000 kilos in Chile and Europe.

'Production of wheat, potatoes or maize, for example, is twice that.' For the time being, quinoa is still an exclusive product, comparable with something like Basmati rice. But, concedes Van Loo, never say 'never'. 'Through further research and breeding, we can of course raise production.' Should quinoa's success continue, it will mean a nice windfall for Wageningen UR, given that PRI has the breeding rights. 'Oh well, we get a small percentage of the retail price,' says Van Loo, to put that in perspective. But he acknowledges that if the amount of land under quinoa increases, it could become an interesting proposition. 'A few more researchers could get to work on it in that case.'

PRICE TRIPLED

The farmers in South America are doing well out of the current interest in quinoa. The price per kilo has tripled since 2006. But *The Times* and *The Guardian*, followed by the Dutch daily papers, have raised questions about the down sides of this boom. The price has gone up so much that the poor local population can no longer afford to buy quinoa, to the detriment of their diet. Instead of the highly nutritious quinoa, local people have started eating less nutritious staples such as pasta and rice. Growing quinoa is also said to cause soil depletion, erosion and disruption of the water table. Van Loo wonders whether this story is not exaggerated. 'In the city people don't eat quinoa; they look down on it there, and high in the Andes nearly everyone is involved in





PHOTO HOLLANDE HOOGE

Harvesting quinoa plants in Oruro, Bolivia.

quinoa farming. So you would expect people there all to be benefiting from the higher quinoa prices.'

As for the environmental damage, Van Loo has his doubts. Danish agronomist Sven-Erik Jacobsen sounded the alarm on this in an article in 2011. The areas where quinoa is grown are in danger of turning into deserts, he claimed in *The Journal of Agronomy and Crop Science*. But fellow agronomists do not think this warning accurately reflects the facts, as they wrote in a response in the journal. So far, there is no question of soil exhaustion.

But Gerdien Seegers of aid organization Cordaid has her doubts. Up until the end of 2012, she was involved in a project in Bolivia aiming at strengthening the quinoa chain. The Dutch embassy focused mainly on export. 'We and other NGOs wondered whether that was such a good idea. Can the highlands cope with that extra production? It is a fragile ecosystem. There is only a thin layer of fertile soil, which is very vulnerable

to wind erosion, especially if quinoa is grown on it. And in 2012 the growers' organization ANAPQUI sounded the alarm about the declining harvests and the monoculture that was growing up in the highlands.'

In 2013 the Netherlands ended its development aid to Latin America rather abruptly. That put an end to the quinoa project. 'A lot of money was invested in it by the Netherlands,' says Seegers. 'It would be useful if a study could be done on the socio-economic and ecological effects of that. Some farmers will certainly have done well out of it, but there were also conflicts with villagers with little or no land.'

POOR BOLIVIANS

Consumers who are afraid of snatching quinoa away from poor Bolivians will soon have an alternative, says Van Loo: quinoa from France, England, Germany, and soon perhaps the Netherlands too. Kuijten of

the Dutch Quinoa Group: 'This will be a decisive year. The current state of affairs is hopeful: cultivation is going well for one third of the farmers, reasonably for one third, and badly for one third. If it stays like that until the harvest, we shall carry on. Because we know why it's not working well for one third of the farmers. It's mainly to do with the choice of field, the preparation of the soil and the fertilization.' Kuijten would like to see growth to 1000 hectares within a couple of years, which would make it possible to meet current Dutch demand. Farmer Donker in Middenmeer is quietly watching developments. 'I am curious what the harvest will be like. The seed heads are vulnerable to wind and hail, so there is a danger of the seeds falling on the ground. We shall see.' But for him, a poor harvest would not be a reason to stop straightaway. "One year is not a year," we farmers always say.' ■

www.wageningenur.nl/en/quinoa

Studying heart valves and coaching idealists

Sandra Schiffelers supervises clinical studies on medical aids. Her erstwhile fellow student Irene Lausberg has worked as a nutritionist and project leader in the development sector and is now going to coach people. As students, both women started out on a Food Technology degree programme and transferred to Nutrition.

TEXT ALEXANDRA BRANDERHORST PHOTOGRAPHY HARMEN DE JONG

Actually we never have any contact with patients ourselves, but ultimately you are doing it for them,' says Sandra Schiffelers. She works at Medtronic, the world's largest medical technology company, which develops and manufactures medical equipment such as pacemakers, heart valves and insulin pumps. Schiffelers holds up a show model of a heart valve. It looks rather like an elegant doll's dress of white material covered in a steel net with three heart valve flaps, or leaflets, at the top. 'In the real ones the leaflets are made of beef tissue,' says Schiffelers. The frame is made of expandable metal. The heart valve can be folded into a catheter and inserted to replace a dysfunctional aorta valve via the groin or between the ribs. There is no need for risky open heart surgery, Schiffelers explains enthusiastically. As clinical research manager, Schiffelers is responsible for all the clinical studies Medtronic conducts on this type of heart valve. 'We study the safety and functioning of the heart valve after implantation.' The patient data which Schiffelers gets to see are completely anonymous. 'And yet you still feel a connection with the patient,' she says. 'I used to work with lung valves, which were usually implanted into children

with congenital heart problems. When a child dies, you feel differently about it to the way you feel when someone of 82 dies. Sometimes I meet a doctor at the hospital years later, and then I might hear that a girl who the doctor hesitated to operate on at the time is now a mother herself. You get a kick out of that.'

It came as no surprise that Schiffelers ended up working in the medical aids industry. 'I really wanted to study medicine, but all the injections and cutting into people was too scary for me.' She went to Wageningen to study Food Technology. She found she was most interested in the biology courses, so after the first term she transferred to Nutrition. Alongside her studies she sang in the Wageningen Student choir (WSKOV), serving on the board as well.

FLYING DOCTORS

Schiffelers' fellow student Irene Lausberg started out with a very different dream of her future. Inspired by the popular TV series Flying Doctors, she wanted to be a pilot in Africa. But after the first test, it was clear that training to be a pilot was not an option. Like Schiffelers, she started a degree in Food Technology in 1989, but was disappointed in

the programme. 'My coursemates could chat away about dairy and meat, but that didn't interest me.' After two years of muddling along, the student dean advised her to switch to Nutrition. 'People sneered at that degree course and the students were called the 'nutrition gurlies'. But I immediately felt much more at home with people-oriented courses like social psychology.'

For an internship she opted for the Philippines, and her experience there confirmed her ambition to do development work. 'In the villages I saw malnourished children; that touched me, as did the gap between rich and poor.' As a student she had already started to work as a volunteer at the Agromisa Foundation, the Wageningen expertise centre for small-scale agriculture in developing countries. 'We answered questions posed by farmers in developing countries. The topics ranged from rotting mango trees to dietary advice. That was very nice and I learned a lot about the field.' After some time she became gender coordinator, with the task of attuning the advice given to the traditional division of tasks between men and women. After graduating in 1996 she got a similar job with the TOOL Foundation.



‘I love
methodical
work’



SANDRA SCHIFFELERS

Age: 43

Studied: Human Nutrition
1989-1995

Work: Clinical Research Manager at
Medtronic Bakken Research Center,
Maastricht



‘Coaching people
gives me a lot of
energy’

IRENE LAUSBERG

Age: 43

Studied: Human Nutrition
1989-1996

Work: Coach

WHERE DO NUTRITION SCIENTISTS END UP?

Between 1975 and 2005, 1424 people graduated with a degree in Nutrition. We know in which branch 876 of these graduates are now working. One fifth of the alumni work at a university or research centre; one fifth landed up in the health care sector or the social services; one fifth work in the food industry and trade, or another branch of industry. About eleven percent work for central or local government, while 6 percent have jobs with consultancies and advisory bureaus. Source: KLV Wageningen Alumni Network

In 1998 she went to work as nutrition advisor for Doctors without Borders in southern Sudan. Lausberg and her colleagues were living in rebel territory. They distributed food drops to people who had walked hours to get the food aid. 'We knew the rebels would snatch the food off them on the way back.' South Sudan turned out to be a political hornets' nest and coordination among the aid organizations was difficult. 'I was shocked to see that.' Because of her partner, after two years with Doctors without Borders, Lausberg looked for a job in the Netherlands. But her experience in the Sudan had changed the way she saw the world, she says. 'I had thought it was pretty obvious what was right and what was wrong, but it turned out that it wasn't as black and white as I thought. For instance, we noticed that some of the children we were treating at the nutrition centre were deliberately kept undernourished and were used by several families to get hold of extra food.'

METHODICAL

Schiffelers' future career in the medical world began to unfold during an internship at the hospital in Leuven and her final research project on drip-feeding of children with cancer, which she did at the Radboud University Medical Centre in Nijmegen. 'We combed through a whole lot of statuses. Then I discovered my interest in the medical world. I didn't have to do anything scary, but I was still right in the middle of it.' After graduating in 1995 she did doctoral research at Maastricht University, and graduated five years later with a thesis on the role of the sympathetic nervous system in excessive weight gain. She then got a job as a postdoc, but she got itchy feet. 'When you do fundamental research, it takes a very long time before anyone benefits from it. Translating it into practical applications is very complicated. I really like to see the impact of my work.' So in 2002, Schiffelers made the move to Medtronic as study manager in the heart surgery department, where she set up studies of

the operative treatment of abnormal heart rhythms. You had a lot of freedom back then, recalls Schiffelers. 'European regulations for clinical studies of medical aids are getting stricter and stricter. For studies involving new products you now have to report on all the serious complications in all the countries every week, even when a death that occurs years after an implant is caused by something completely different. Formerly, doctors used to do this reporting themselves besides their other work, but nowadays academic hospitals have a special bureau for managing the bureaucracy around clinical studies.' Schiffelers no longer feels any connection with the Wageningen domain. 'But I still use the knowledge about statistics and physiology I gained there every day.' As research manager, she now manages several study managers, but it is not her ambition to go on to take over from her boss. 'For me the challenge lies in new innovative products which have to be scrutinized in clinical studies.' But she does see herself working in future in the quality department at Medtronic, or with an inspectorate or quality label organization. 'It is interesting to translate regulations into usable procedures. I love that kind of methodical work.'

ENERGY RESTORED

Bureaucracy has increased in the development sector too, notes Lausberg. After her job with Doctors without Borders, she worked as a coordinator of nutrition and food security-related projects at Dutch development organizations ICCO, the Overijssel Development Centre, and Wemos. The wave of budget cuts in recent years has been very destructive, she feels. 'In many development organizations they are spending a lot of their time trying to scrape funding together,' says Lausberg. 'It is logical that you should have to account for the money you spend, but one successful project is not a blueprint. You need to be able to adapt a project to local conditions. I have come to admire local people who go against the tide.'

Since 2006 Lausberg has worked as project manager and health lobbyist for Wemos, a foundation that stands up for the health rights of people all over the world. She leads projects in countries including Bolivia, Kenya, Zambia and Bangladesh, with an emphasis on influencing government policy both in the countries themselves and in the Netherlands. One of the successes booked by the lobbying work of Wemos and its partner organizations in Kenya was the allocation of more budget to local health posts, which improved access to health care. 'The international political context and the collaboration with partner organizations and stakeholders appeals to me a lot,' says Lausberg.

Unfortunately, Wemos was hard hit by the budget cuts, too. The funding for nutrition projects ran out and Lausberg turned her attention to policy influencing in Europe. That did not suit her so well. 'Changing policy does bear fruit eventually, but you have to take a long-term view. Personally I also need the occasional success in the short term.' During the reorganization at Wemos, Lausberg played a trailblazing role as staff representative. 'Then, as well as earlier as project manager, I realized that connecting and motivating people was my strong point. I get an awful lot of energy from coaching people.' So she decided to leave Wemos and has been taking an additional training course in coaching over the past year. She wants to combine coaching with interim project management. 'As coach I focus on the not-for-profit sector. People often choose a particular profession out of idealism, but at some point they get stuck. By making small changes or just by looking at things in a new way, you can get your enthusiasm and energy back. I want to help people do that.' ■

REUNIONS

The reunions for alumni who started in Wageningen 25 and 50 years ago will be held this year on Saturday 1 November and Friday 7 October, respectively. More information on the website of Wageningen UR. If you know people on the list of those whose contact details are missing, could you please inform them about the reunion? www.wageningenur.nl/25yearreunion www.wageningenur.nl/50yearreunion

Growing number of young donors

‘I’m not normally the type to give to loads of funds and charities, but I used to be a Wageningen University student myself.’ That is why Dave Dirks, aged 33, makes regular contributions. And he is not the only young donor.

TEXT ALEXANDRA BRANDERHORST **PHOTOGRAPHY** HARMEN DE JONG, GUY ACKERMANS, ANTOINETTE BORCHERT

Traditionally, it has mainly been older alumni who make donations to the Wageningen funds, but more and more young alumni are now donating. Dirks is one of them. He never hesitates when the giro slip arrives in the post from the Anne van den Ban Fund. Dirks obtained his Environmental Sciences Master’s from Wageningen and now works as a consultant for Veelzijdig Boerenland, an umbrella organization for agricultural nature conservation societies. He gave 10 euros the first time, 35 euros last time round; it varies. Dirks: ‘This fund enables students from developing countries to study in Wageningen. These are students with the same interests as me so it’s good for them to get the same opportunities too. Young people should

support each other,’ emphasizes Dirks. ‘What is more, the students take their knowledge back home with them. That has potential as you are helping someone who also wants to invest in a sustainable world and who is looking for solutions to key issues in agriculture, nature and the environment. In the end, that benefits everyone.’

Anne-Geer de Groot (34) has made annual donations by direct debit to the Wageningen University Fund (WUF) ever since she got her first job. She did a degree in Soil, Water and Atmosphere and now works as a policy officer for the Ministry of Infrastructure and the Environment. ‘When I was studying, I did an internship in Romania, for which I received a grant from the university fund. I decided then that I would donate money myself when I got a job later on.’

GETTING INVOLVED

Most donors are over 55, says Arianne van Ballegooij of Wageningen University Fund. ‘Older people have a better view of the impact their degree has had on their career and life. They want younger generations to enjoy

‘I don’t want to wait until I’m able to make massive donations’



From left: Dave Diks, Anne-Geer de Groot, Dennis Gudden and Izhah Sama.

that too.' Older people also have more disposable income. 'At the start of your career, you don't have the same financial resources and it also costs money to start a family. That is why we ask young people for a smaller contribution,' says Van Ballegooij. 'The key thing is that they get involved.'

In 2013, 71 of the 420 regular donors were under 35. The university fund actively started recruiting young donors last year. For instance, in autumn 2013 the alumni office phoned young alumni about a survey and making donations. That resulted in 62 new donors for the fund, 22 of them donating on an ongoing basis. Van Ballegooij: 'We had a lot of nice chats and the response was good. In particular, people who received support from the university fund themselves want others to get that opportunity.'

That is the case for Dennis Gudden (35), who studied Land Use Planning Sciences and now works as a project manager for Over Morgen, a spatial planning consultancy. 'When I did my graduation project in Costa Rica, I received an allowance for my travel costs.' Gudden has opted for a standing order of a few euros a month. 'That's not an amount you'll miss and if lots of people pay a little every month, it makes a huge difference.' It was the alumni office's phone call that gave him the idea. 'That personal contact works better for me than a letter, which is easy to put to one side.' Most of the donors come from the Netherlands but

there are exceptions. Izhah Sama (41) from Cameroon did an MSc in Bioinformatics at Wageningen with the help of a scholarship from the Wageningen University Fellowship Programme. He calls that support 'a decisive factor in my life'. He went on to get a doctorate in Medical Sciences at the Radboud teaching hospital in Nijmegen and now works as a biostatistician for PRA Health Sciences in Zuidlaren. As Sama says in his email, he wants to help people from developing countries in their academic careers. 'I believe every little contribution helps. I don't want to miss out on the chance to do my bit by waiting until I'm in a position to make big donations.' ■

DONATING MONEY TO THE UNIVERSITY FUND

The Wageningen University Fund (WUF) organizes and funds activities that are not covered by the university's regular financing. For example, the fund provides grants for international student activities and it awards prizes, including the Teacher of the Year Award and thesis prizes. The fund is also providing financial support for the digitization of the university's collections. And the fund manages the Anne van den Ban Fund, the Belmonte Arboretum Fund and several other named funds.

Information about making donations:

www.wageningenur.nl/en/Benefactors.htm

Portraits of enthusiastic alumni

Wageningen University is publishing a new series of online portraits of alumni to show schoolchildren what they could do with their degree.

Schoolchildren are increasingly choosing degrees in technology, healthcare and agriculture which give them a better chance

of a job. The university is working on a website with an extensive series of alumni portraits to show what the job prospects are for Wageningen graduates. The alumni talk about their work and what motivates them, for example about the company they have started up, their job or the research they are performing.

The site already has about 25 alumni, but far more portraits are due to be added, both of recent graduates and people who have been working for up to thirty years. Any alumni who want to be part of the series are welcome. You can email your contact details with background information to alumni@wur.nl www.wageningenuniversity.nl/alumni



Santiago Rodas
(MSc Nutrition and Health 2010-2012)
International consultant at the World Food Programme, Rome

'In Wageningen I learnt how to build relationships with people in different countries.'



Marlou van Campen
(Western Sociology and Communication Science 1982-1989)
Senior Social Media Marketeer, World Wildlife Fund, Zeist

'I've seen Communications and Marketing change from "sending a message to target groups" to "collaborating with people and communities".'



Danny Schoch
(International Water Management 2001-2007)
Environment manager, Department of Public Works and Water Management, Arnhem

'Some of the work is highly technical but mainly it's about dealing with people and different stakeholders.'

NETWORKS ABROAD

China and Indonesia get alumni chapters

Wageningen alumni in the Chinese capital Beijing and the Indonesian capital Jakarta will soon have their own alumni chapters. Both countries will be holding their first group meeting at the end of this year.

Last year, Wageningen University organized a global series of debates on the world food problem to mark its 95th anniversary. In Indonesia these meetings resulted in an alumni chapter being set up, and in China the chapter has been relaunched with a new board. The first alumni gathering in Jakarta will be held on Monday 24 November in the Dutch embassy, with Huub Löffler from Wageningen International and Tjeerd de Zwaan, the Dutch ambassador, as special guests.

The alumni chapter in Beijing will probably be launched in early December.

On 19 September, an evening debate was held in the Chinese city of Nanjing, where many alumni live, on the subject of food

quality and food safety, with rector Martin Kropff from Wageningen University and Atze Schaap, the director of Dairy Development China at Friesland Campina. In both countries, enthusiastic alumni have already signed up to play an active role in their alumni chapter. One such alumnus is Aditya Kusuma, who gained his MSc in Management, Economics and Consumer Studies at Wageningen in 2004. Kusuma is a policy advisor on agriculture, fisheries and nature management for the Dutch Ministry of Economic Affairs. 'There are an estimated

1000 Wageningen alumni at present in Indonesia. Many have important jobs working for the government, multinationals, international and local NGOs, universities and research institutes,' says Kusuma in an email. He thinks collaboration between these alumni will benefit the 'Wageningen' sectors of agriculture, water, food, nature management and fisheries in Indonesia. If you want to help out with the organization of the alumni group in China or Indonesia, or just want more information, email caroline.bijkerk@wur.nl.



NETWORKS

New alumni group South 'Those are worthwhile contacts'

The new alumni group for the southern Netherlands has now been launched. The first meeting, on 4 June in Nunhem, Limburg, was about food security and breeding new vegetable crops.

The event was hosted by the company Bayer Vegetable Seeds, where the 50 or so alumni were given a guided tour and a talk by Jan van den Berg. That gave them an insight into modern vegetable breeding. Ernst van der Ende, the director of the Plant Sciences Group at Wageningen UR, travelled down from Wageningen to talk about food security.

Katrien de Vos, who graduated in Livestock Farming in 1977, was one of those present. Although she knew hardly any of the other people there, she enjoyed meeting the other alumni. 'It was interesting to hear what people are doing. Wageningen graduates end up in a variety of jobs and they are always easy to get on with,' says De Vos, who once researched the behaviour of

laying hens at the Spelderholt research institute. After the meeting, De Vos signed up to help in the organization of the new regional group. 'A network like this gives you the opportunity to learn about fields you are unfamiliar with and visit places where you wouldn't normally come. You also work with people you wouldn't otherwise get to know; those are worthwhile contacts,' explains De Vos. Two more alumni have signed up since, but others who wish to help come up with ideas and organize events are still welcome.

If you live in Brabant or Limburg and would like to help organize the alumni meetings in the southern Netherlands, send an email to: alumni@wur.nl.

WAGENINGEN UNIVERSITY



Promotion material about your old university

Many Wageningen students first hear about Wageningen from family or friends who studied there. Now a special webpage offers ammunition for alumni who want to promote Wageningen University.

'I frequently suggest Wageningen to young people, telling them that the degree programmes are good and I had a great time there,' says alumnus Lennart van der Burg. He did a Master's degree in Environmental Economics from 2006 to 2008 and now works for Grontmij. From now on he will be able to send potential students information himself using the webpage, which gives access to slide shows and brochures about the university, the Bachelor's and Master's degrees, the town and student life. 'I find it really handy to be able to download and send the information myself now,' says Van der Burg. You can also request a promotion pack on the website. Alumni in the Netherlands, Malawi, Kenya, Ethiopia and Bangladesh have already shown interest.

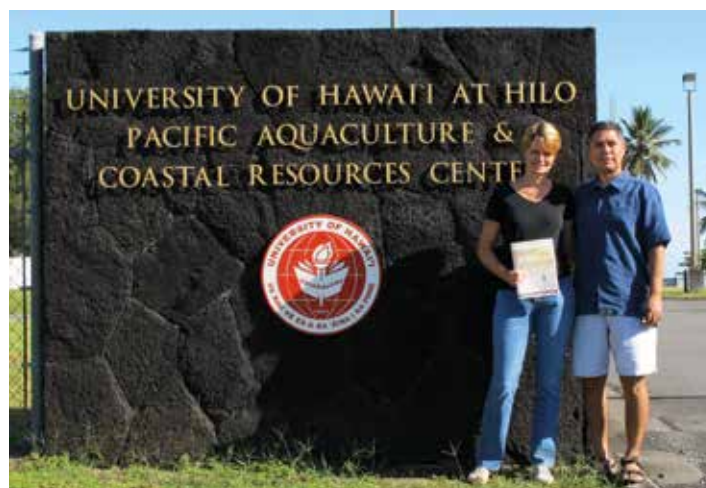
www.wageningenur.nl/en/article/

PromoteWageningenUniversity.htm

WAGENINGEN IN THE WORLD

Aloha from Hawaii!

A 'Wageningen' husband and wife are reading Wageningen World in Hilo, Hawaii, where they work at the Faculty of Agriculture, Forestry and Natural Resource Management at the University of Hawaii. Chantal Vos, who is Dutch, and Armando García-Ortega from Mexico met in Wageningen in 1997. Chantal graduated in 1998 in Tropical Land Use and Armando obtained a doctorate on fish farming in 1999 in Wageningen, after which they went to Mexico. They have been living on Hawaii since 2011. 'Chantal does research on grazing, beef cattle and dairy cows. Armando works as an assistant professor of aquaculture and is developing a fish farming programme,' they say in their email. 'We feel very fortunate in being able to put the knowledge and skills we learnt in Wageningen into practice in this unique, beautiful place.'



PERSONALIA

Michel Eppink PhD, WU PhD 1999, has been appointed professor by special appointment in Biorefinery with a focus on mild separation technologies of complex biomolecules, with effect from 1 March 2014. 8 July 2014.

Jan Fongers MSc, WU Tropical Plant Breeding 1980, account manager for Asia at Wageningen International, has retired. 1 September 2014.

Prof. Georg Frerks, WU Rural Sociology of the Non-Western Regions 1981, professor of Disaster Studies at Wageningen University and professor of Conflict Prevention at Utrecht University, will be giving his farewell lecture. 9 October 2014.

Kees de Gooijer PhD, WU Food Technology 1985, Chief Inspiration Officer (CIO) at TKI Agri & Food and TKI Biobased Economy, has been appointed chair of the board of the Royal Netherlands Chemical Society. 8 May 2014.

Robert van Gorcom PhD, WU Molecular Sciences 1981, director of RIKILT Wageningen UR, has been appointed a member of the management board of the European Food Safety Authority (EFSA). 1 June 2014.

Prof. Leo den Hartog, WU Zootechnics 1978, R&D director at the animal feed producer Nutreco and a professor at Wageningen University, has won the Molenaar Award 2014 for his services to the cereal processing and/or animal feed industries, which is awarded by De Molenaar, the trade journal for the cereal processing and animal feed industries. 22 May 2014.

Gerard Heuvelink PhD, University of Twente Applied Mathematics 1987, associate professor in the Soil Geography and Landscape chair group and at ISRIC, has been awarded the Webster Medal by the Pedometrics Commission of the International Union of Soil Sciences for his excellent pedometric research. 5 June 2014.

Manuela Ilakova MSc, WU Leisure, Tourism and Environment 2013, won second prize in the 2014 Herta Macht Thesis Awards for her thesis 'Museumizing contested heritages: post-communist identity politics and representations of communist heritage in Bulgaria'. 18 June 2014.

Bert Lambooij PhD, Utrecht University Veterinary Science 1976, animal welfare researcher at Wageningen UR Livestock Research, has received an award from the Humane Slaughter Association (HSA) for his contribution to the improvement of slaughter methods. 26 June 2014.



Bert Lambooij PhD (on the right).

Prof. Mark van Loosdrecht, WU-Environmental Protection (Water Purification) 1985, professor of Environmental Biotechnology and Water Purification at Delft University of Technology, has been awarded a 2014 Spinoza prize of 2.5 million euros by the Dutch Organization for Scientific Research (NWO) for research on the behaviour of bacteria under dynamic conditions. 6 June 2014.

Rienk Miedema PhD, WU Soil and Fertilization Sciences 1972, a former soil scientist at Wageningen University, was awarded the 2014 Kubiëna Medal by the International Union of Soil Sciences in Jeju (South Korea) for his contribution to research and education in the field of soil micromorphology. July 2014.

Gert-Jan Nabuurs PhD, WU Forestry 1991, has been appointed professor by special appointment in European Forest Resources with effect from 1 June 2014. 8 July 2014.

Meine van Noordwijk PhD, WU PhD 1987, has been appointed professor by special appointment in Agroforestry with effect from January 2014. 8 July 2014.

Prof. Henk Schols, WU PhD 1995, who works in the Food Chemistry section of the Agrotechnology & Food Sciences Group at Wageningen University, has been appointed professor holding a personal chair in Food Carbohydrate Biochemistry. 18 September 2014.

Kirsten Steinbusch PhD, WU Environmental Protection (Water Purification) 2004, has been awarded the Hoogewerff Encouragement Prize for her work on the conversion of biomass into building blocks for the chemical industry, in her own company Waste2Chemical. 26 May 2014.

Prof. Jan Vermaat, WU Biology 1985, professor in Earth Sciences and Economics at the VU University Amsterdam, has been appointed head of the Department of Environmental Sciences at the Norwegian University of Life Sciences in Ås, Norway. 1 August 2014.

Lisanne Verschuren BSc, WU Animal Sciences 2012, has won second prize in the 2014 NZV (Dutch zootechnics association) thesis awards for her thesis 'Selection strategy for total nutritional efficiency in pigs'. 17 June 2014.

Geert Wiegertjes PhD, WU Zootechnics 1988, who works in the Cell Biology and Immunology chair group at Wageningen University, has been appointed professor holding a personal chair in Cell Biology and Immunology. 15 May 2014.

Prof. Han Wiskerke, WU Agricultural Plant Breeding 1992, professor of Rural Sociology at Wageningen University and lecturer at the Academy of Architecture, has been appointed editor-in-chief of SITOPOLIS, a new scientific journal about urban agriculture and urban and regional food systems. 12 May 2014.

COMPETITION

Best storyteller



Pádraic Flood (BSc Botany, University College Dublin 2008), a doctoral student in the Horticultural Supply Chains chair group at Wageningen University, has won the Benelux FameLab, a competition organized by the British Council where young researchers have three minutes in which to tell a fascinating and inspiring story. Flood told the story of how photosynthesis came into being several billion years ago. 22 May 2014

SCIENCE

Three Vidi grants for Wageningen

Joop Vermeer PhD, WU Plant Breeding and Crop Protection 2000, senior post-doc at the University of Lausanne, Switzerland, has been awarded a Vidi grant for research on the communication between plant cells during the development of new organs. He will perform that research in Wageningen. The Dutch Organization for Scientific Research awards Vidi grants of up to 800,000 euros to outstanding researchers. Two other Wageningen researchers were awarded the grant along with Vermeer: Marleen Kamperman PhD, University of Groningen Chemistry 2003, who works in the Laboratory for Physical Chemistry and Colloid Science. Bert De Rybel PhD, Ghent University Cell and Gene Biotechnology 2005, who works in the Laboratory of Biochemistry. 19 May 2014

SCIENCE

Seven Veni grants for young scientists

Seven young researchers at Wageningen University have been awarded a Veni grant (250,000 euros each for three years of research) by the Dutch Organization for Scientific Research:

Bob Douma PhD, WU Biology 2006, for his research in crop and weed ecology: Exploiting your neighbour's cry for help - the role of herbivore-induced plant volatiles in plant growth strategies.

Annemiek ter Heijne PhD, WU Environmental Sciences 2006, for her research in environmental technology: Fundamentals and kinetics of electrochemically active microorganisms on capacitive materials.

Jaime Hoogesteger van Dijk PhD, WU Tropical Land Use 2005, for his research in the environmental sciences: Re-patterning water control: Vegetable agro-export chains, water rights and rural livelihoods in the Bajío, Mexico.

Florian Muijres PhD, Delft University of Technology Aerospace Engineering 2006,

for his research in experimental zoology: Mechanics, aerodynamics and energetics of mosquito flight.

Michelle van Vliet PhD, WU PhD 2012, for her research in earth system science: Quality matters: including water quality in global water stress projections.

Maarten Voors PhD, WU International Development Studies 2006, for his research in development economics: Africa for sale? Exploring the Development Impacts of Foreign Investments in African Agriculture.

Marjon de Vos PhD, WU Biology 2006, for her research in plant sciences: Experimental evolution of antibiotic resistance in bacterial consortia.

IN MEMORIAM

Prof. B.H. Bijsterbosch, emeritus professor at Wageningen University, passed away at the age of 79. 3 May 2014

J.T.C. Bognetteau-Verlinden MSc, WU Forestry 1981, passed away at the age of 62. 13 May 2014.

J. van den Brink BSc, employee of RIKILT, Wageningen UR, passed away at the age of 23. 8 August 2014.

J. Herweijer MSc, WU Land Development A 1980, passed away at the age of 64. 4 July 2014.

H.A. Jongejan-Brons MSc, WU Rural Economics 1956, passed away at the age of 84. 29 May 2014.

W.J.M. Joosten MSc, WU Tropical Rural Economics 1955, passed away at the age of 85. 14 May 2014.

R.F. Knibbe MSc, WU Farming Technology 1967, passed away at the age of 74. 10 August 2014.

Ms A.M. Kolenberg MSc, WU Domestic Science 1985, passed away at the age of 56. 20 May 2013.

S.G. Manger Cats PhD, WU Tropical Rural Economics 1957, passed away at the age of 87. 1 July 2014.

G.A.J.M. Meijer MSc, WU Tropical Rural Economics 1953, passed away at the age of 86. 5 May 2014.

R. Mulder MSc, WU Phytopathology 1963, passed away at the age of 79. 11 July 2014.

P.C. Muntjewerf MSc, KLV member, passed away at the age of 92. 13 April 2014.

Ms A. Rehbach MSc, WU Tropical Land Development 1989, passed away at the age of 52. 2 May 2014.

A. Schotveld MSc, WU Forestry 1965, passed away at the age of 77. 17 February 2014.

Ms A.M.M. Swart, MSc, WU Landscape Architecture 1989, passed away at the age of 61. 26 May 2014.

J.M.W. van Waesberghe MSc, WU Tropical Rural Economics 1960, passed away at the age of 76. 19 April 2014.



KLV: OLD ASSOCIATION WITH A NEW FACE

KLV is the oldest association that actively focuses on Wageningen alumni. However, other organisations have more recently become active in this area. Starting in the new academic year, KLV will therefore work closely with the Alumni Office of Wageningen University, the Wageningen University Fund and the Wageningen Ambassadors. That means a joint approach for membership policy, alumni and fundraising policy and a clear distribution of tasks, but also another role for KLV. Han Swinkels, chair of KLV, tells us more.

Why is this collaboration necessary?

"Since the establishment of the university, KLV has actively focused on the alumni. For many years we were the only body to do so. However, over the past ten to fifteen years the university has been working on an ac-

tive alumni policy. We already collaborate a lot with the university, for example with the organisation of the lecture series *Wereldlezingen* or reunions. Therefore a more intense collaboration, including the Wageningen University Fund and the Wageningen Ambassadors, is a logical next step."

What form will the collaboration take?

"The KLV office will become part of a new joint working organisation under the flag of a new independent foundation. This organisation will be responsible for all of the general tasks associated with alumni. That includes things that KLV used to do, such as managing the alumni database or doing labour market research. KLV will contribute to those activities that have added value for our members. Because that will be our new role: profiling ourselves within the collaboration as an association for our members. However, to remain critical KLV must continue to function independently from the university. The new foundation will therefore have an independent chair with sufficient distance from the university. KLV will continue to exist as an association with its own board. As there will no longer be a KLV director, the chair of the KLV board will in future play a greater role as the face of KLV. To facilitate that the sitting period on the board has been extended from two years to four years. Of course there are issues that we still need to resolve. For example, who is the sender of joint communications? How can we remain recognisable as KLV in the communication, and can we also still reach non-members?"

Why should you be a member of the re-styled KLV?

"Due to the connection with Wageningen. And that feeling of connectedness is the most important aspect. We are an associa-

tion with an old name and a long history that we can be proud of. However KLV membership must have genuine added value as well, with interesting members' activities and good networking possibilities. We want to support our study circles and networks more intensively. And we will increasingly focus on more specific target groups. For example, for students nearing graduation and recent graduates we have a range of workshops and training courses aimed at improving personal skills - or finding a first job. For members aged 40 and over we recently organised a well-attended careers event. However, we really need to make a mark in the coming period. Our ongoing active search for new ways of serving our members is what really motivates me.

A second cornerstone of KLV's activities is encouraging public debate. We want to remain critical and initiate discussions about current themes that affect the working field of Wageningen graduates. For example, the future of cattle farming, fraud in the food chain, and the glass ceiling for women at the university. Furthermore, we want to give our members something extra, for example a meet and greet with prominent speakers at the *Wereldlezingen*."

And now?

"Now we have a lot of work to do. I have agreed to the request for my board period to be extended until 2017. I hope that in 2017 we will have an association with an old name and a new face. With a growing number of members and fantastic, distinctive activities. Over the past two years we have already been growing towards this ideal and we want to continue this line of development. I am proud that at our AGM, the board was given a mandate to set a new course."



KLV investigates the possibilities for promotion of women with a personal professorship

DO WOMEN WITH A PERSONAL PROFESSORSHIP WANT TO BECOME PROFESSORS WITH A CHAIR?

Less than 10% of Wageningen professors are women. Wageningen wants to address this imbalance. Silvia Blok, employment market researcher at KLV, interviewed twenty professors, either with a chair or personal professors, about their choices and ambitions.

One of the questions was: do women at Wageningen University prefer a personal professorship instead of a position as head of a chair group? The opposite appears to be true: four of the five female professors interviewed said that they would like a position as chair professor, whereas none of the men held that ambition. This picture is also confirmed by studies of the subject.

Women, however, have different expectations than men. What attracts them is having their own group, being busy with management, coaching and setting their own course. Men expect mainly a lot of management tasks and little room for the specific content. Women also appear to

need other competencies: they state things such as empathy and sympathy as well as negotiation and communication skills. Men talk more about uniting leadership, determination, setting boundaries and persuasiveness.

So this study seems to have refuted the misconception of many managers, namely that women (in this case female personal professors at Wageningen) are not that ambitious.

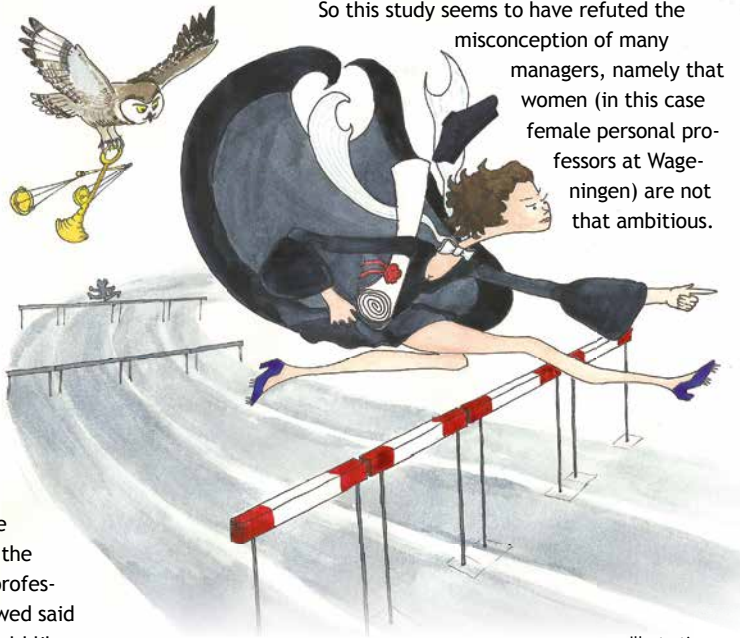


Illustration:
Martine Janzen,
Communicatiebureau de Lynx

The percentage of female professors at Wageningen is still very low. It is therefore good to examine what the ambitions of women and men are within the entire population of professors and why Wageningen still has so few female professors compared to other universities. A recommendation for managers or recruiters of professors: look first in your own pool of female personal professors at Wageningen.

INVITATION

If you check our KLV Facebook page on a regularly base, you will be informed what KLV has been up to and what we are working on. This way you will keep in touch with the alumni association of your Wageningen University. Of course you are welcome to post your own interesting status updates too.

Join KLVNetwork!

www.facebook.com/klvnetwork

ACTIVITIES

Info: klv.nl/en (unless indicated otherwise)

9 October

Young KLV - Scientific English, avoiding non-native influences

16 October

Wageningen Business Cafe

17 October

Reunion for the alumni who started their study 50 years ago, in 1964

28 October

Young KLV - CV Writing

01 November

Reunion for the alumni who started their study 25 years ago, in 1989

20 November

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PHOTO ELISE TALSMAN

Yellow cassava helps against vitamin A deficiency

Many African children get too little vitamin A, causing night blindness and making them vulnerable to infections. Elise Talsma of the Human Nutrition department at Wageningen University, part of Wageningen UR, did research in Kenya to see whether a small change to their staple food would reduce the level of vitamin deficiency among children. She replaced white cassava, which was on

the menu several times a day, with a yellow variety containing more beta carotene, a substance which the body converts into vitamin A.

Over a period of four months, children between the ages of 5 and 13 were given a generous portion of yellow cassava every day, which they enjoyed. Afterwards the levels of vitamin A in their blood had increased

significantly. 'A sign that we can improve their health through their staple food,' says Talsma. Handing out vitamin pills seems a good alternative in theory, she says. 'But in the region where I was working, 70 percent of the children were not reached. By growing yellow cassava, people can do something themselves to combat vitamin A deficiency.'

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