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## Tinkering with the climate cow

Dairy cow's emissions could be halved | **p.18** |

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## Getting WUR 'circular'

The transition requires changes, but which? | **p.22** |

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## Scary August night

Student Sophie was attacked | **p.24** |

# RESOURCE [EN]

For everyone at Wageningen University & Research

September 2019 – 14th Volume



## Groundbreaking Gerlinde

Soil ecologist De Deyn wins prize | **p.12**

**INTERNATIONAL EDITION**



# Govert + Metallo K-0100 pruning shears

WUR staff and students work with all kinds of equipment. Here is Plant Breeding Master's student Govert Houtappel.



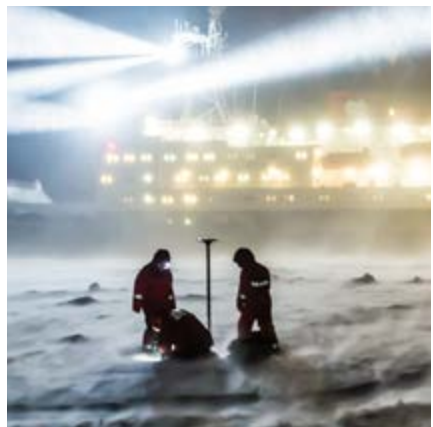
## THE QUINOA OF THE FUTURE

The new quinoa may well be growing in this trial field on Bornsesteeg road. Hundreds of hybrids are lined up in battle array. Now it is a question of finding the plant with the best properties: large seeds, good flavour, a full top and a short growing period. Master's student Govert Houtappel is writing his thesis on this topic. Now it is harvest time. No ingenious machinery here, though, just simple pruning shears. But they are rather dinky. An ergonomic model for the ladies, according to the manufacturer.

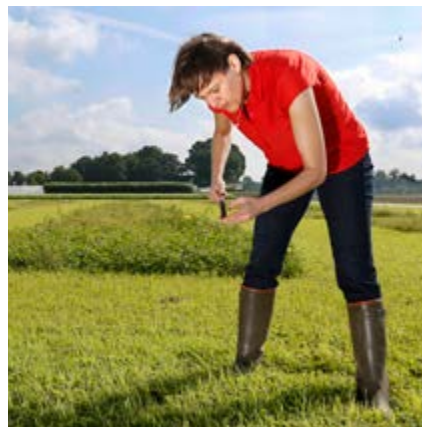
📷 RK, photo Sven Menschel

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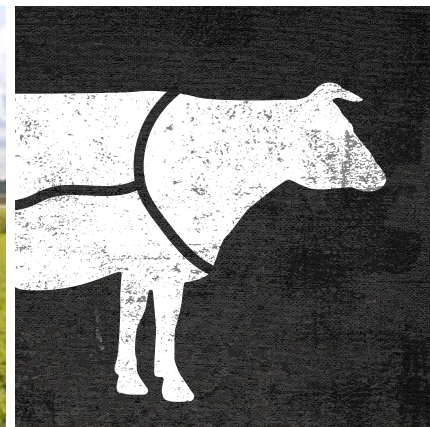
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## CITY WITH GROWING PAINS

I lodged with a landlady in Ede during my first year at Wageningen University. It wasn't easy to find somewhere in Wageningen itself. That is still the case nearly four decades later. What *has* changed is that more students are choosing to live at home, according to a survey conducted by *Resource* during AID week (see p. 4). We can only guess at the reasons. Money will undoubtedly play a role. Student financing was more generous back then. Public transport has also improved hugely, making the daily commute a reasonable option.

Having students continue to live with their parents may suit the city of Wageningen. Student numbers have been growing fast for years. A lot of building has been going on to accommodate the expanding student population. But space is scarce. Sooner or later we will have to ask how many students Wageningen can take. The municipality's recent tightening of the rules on room rentals and student houses are a first indication of what the answer might be. Residents in the select district of Wageningen-Hoog know what they want: they are using a ploy to block the arrival of any students (see p. 27). A sign of things to come?

*Roelof Kleis, editor*



**>> On the scent of the problem: Professor Frans Bongers says incense trees are severely endangered whereas there is no need for this. So what is going on? | p.20**



## UNIVERSITY HAS 100 FEWER BACHELOR'S FIRST-YEARS

**The number of first-year Bachelor's students in Wageningen has fallen by 100 (6 per cent). On the other hand, there are more new Master's students and 'switch students'. The net effect is a fall in the university's intake of 1 per cent.**

According to the Education & Student Affairs, the university has welcomed 1570 first-year BSc students, 1278 MSc students and 69 switch students (doing a pre-Master's programme). That adds up to 2917 new students, 39 fewer than last year.

These figures hide some surprising shifts. There is a big drop of 140 in the number of first-year Bachelor's students from the Neth-

erlands. That fall is compensated to some extent by an increase in the number of international students, mainly for the five English-language BSc programmes (plus 40). That means an overall drop of 6 per cent in the BSc first-years. However, the MSc intake has increased by 47 (4 per cent), and the number of switch students from applied universities and abroad has also grown. The total number of first-years has fallen by 1 per cent.

Ingrid Hijman, head of the Student Service Centre, sees two reasons for the falling intake. Firstly, the number of Dutch pupils at secondary schools that prepare for university is declining. Secondly, there is a shift in what

students are interested in. They are less likely to choose typical Wageningen topics such as nutrition and biotechnology, though Hijman still sees a lot of interest in the climate and the environment.

The number of new international students in Wageningen has grown slightly this year. The five English-language BSc programmes have attracted more foreign students this year. The number of international Master's students is about the same. While there are 18 more MSc students from Europe, the number from outside Europe has fallen by 20. That is because there are fewer scholarships for students from developing countries. **AS**

## ROOM SHORTAGES EASE OFF, MORE STUDENTS LIVE AT HOME

**The room shortage among Dutch students in Wageningen seems to have eased off. A survey by *Resource* during the Annual Introduction Days shows that more first-year Bachelor's students are continuing to live with their parents.**

Like last year, *Resource* asked AID participants if they wanted a room in Wageningen and whether they already had one. The questionnaire was filled in by 370 Dutch first-year Bachelor's students. 82 per cent (300) wanted a room straight away in Wageningen. Of that group, 55 per cent had already found permanent accommodation and 10 per cent

had a sublet. Nearly 35 per cent had still not found a room. Most of the people in this group were commuting from their parents' home for the time being, sometimes travelling four to five hours a day. Some were able to lodge with friends in Wageningen or nearby.

**'18 per cent of the first-years are not looking for a room as yet'**

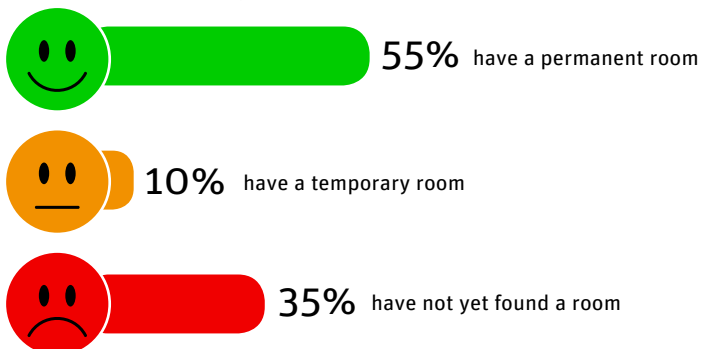
18 per cent of the first-years are not looking for a room in Wageningen as yet. Most prefer to live at home and don't have



▲ One group of students put up tents next to the Forum this week in protest at the room shortages.

PHOTO: LUIK ZEGERS

Of the Dutch first-years who want accommodation



any problem with the travelling. A minority find the accommodation in Wageningen too expensive.

The figures suggest that the room shortage in Wageningen is easing off slightly: in last year's *Resource* survey, 38 per cent of those looking for a room had not yet found one. This seems to be partly because more first-years are opting to live at home for the time being: 18 per cent this year compared

with 14 per cent last year.

There is a debate at the moment in the municipality of Wageningen about parents who buy a house or flat for their child at university. The survey shows this is not a widespread phenomenon: only three of the 370 respondents live in a place their parents have bought for them. **AS**

Read too the article on p.27: 'Villa residents block students'



## SURVEY OF CAMPUS SPACE USAGE

**WUR is expanding and the campus is getting crowded. A survey is now planned of the occupancy rates in the buildings to get a picture of where the problems are.**

The survey will take place in the last week of September and first week of October. 'Observers' will walk the same route every hour for a week and note down per workstation whether and how it is being used.

Student numbers have

been growing steadily for years, explains Peter Booman, director of Facilities & Services. That is increasingly resulting in a lack of thesis places. 'Add to that the growth in Wageningen Research for the past two years,' says Booman.

A short-term solution is being found by installing emergency units. In the longer run, the construction of a third teaching building behind Zodiac will create more space. 'But it will still

be congested,' says Booman. To get a good picture of the situation, Facilities & Services is currently assessing the supply and demand of space now and in 2025. When the data on occupancy rates is added, this will form the basis for a new strategic accommodation plan. **📍 RK**

### IN BRIEF

#### >> PLANS FOR AULA

##### Debating centre or cinema

The WUR Aula on Generaal Foulkesweg will be turned into a debating centre or cinema. The Executive Board will select one of these two options in early December. A new use needs to be found for the Aula now that construction of the Dialogue Centre on campus is definitely going ahead (see p. 6). Two parties are in the race. The BOEi/Van Swaay consortium wants to turn the Aula into a cinema and cultural centre. The Noordereng Group of businessman Gerben Kuipers and architect firm DP6 wants to make it a debating centre. The Executive Board prefers the Noordereng option but Wageningen municipality prefers BOEi. The two parties now have to refine their plans. **📍 RK**



Illustration DP6

▲ An impression of the Noordereng Group's plan for the Aula as a debating centre.

#### >> 20 MILLION FOR RESEARCH

##### Biological crop protection

Plant scientists in Amsterdam, Wageningen and Utrecht will find out how plants attract microorganisms in the soil for crop protection. Funding organization NWO is providing 20 million euros for the research. At WUR, professor of Entomology Marcel Dicke and professor of Plant Physiology Christa Testerink are involved in the programme. Former WUR professor Harro Bouwmeester, who now works at the University of Amsterdam, is heading the consortium. The programme is called *Microbial imprinting for crop resilience* (Microp). The funding comes from the ministry of Education's Gravitation programme for 'research consortia that have the potential to be among the top in the world'. **📍 AS**

#### >> EARLIER RESITS

##### Plan shelved for now

The proposal to move the exam resits period forward from August to July has been postponed for a year at least. The Executive Board wanted to bring the resits period forward so as to give both students and staff an uninterrupted holiday period. But the proposal has been shelved for now after 12 of the 24 programme committees advised against it. In September, a new working group will start looking at different options for improving the policy on exam resits. **📍 LZ**

## © COLUMN|VINCENT

### Worse off than our parents?

The Social and Economic Council and various youth organizations published a joint report in the final week of August entitled *High Expectations: Opportunities and Obstacles for Young People in 2019*. They don't beat about the bush: the future looks bleak for the current generation of young people — in other words, our future. We experience a lot of stress at university, are burdened by student loans and face an insecure job market and tight housing market.

**'Our parents were able to spend many carefree years on their degree'**

That message is hardly new. We have been hearing more and more in the past few years that our generation will not fare as well as our parents' generation. They were able to spend many carefree years on their degree. After graduating, they would in all probability get a permanent job and an affordable home. It was almost a foregone conclusion that they would earn more than their parents had.

That's the situation, right? Undoubtedly. But the other side of the coin is that many more people in our generation have access to higher education in the first place, and universities have become more diverse in many respects. We are also less restricted by religious and social dogmas than our parents were. And we live at a time when ensuring a liveable world is higher up the agenda than ever.

So it depends what you focus on. That is why claiming we will fare worse than our parents is problematic. Anyway, if you repeat something often enough you will start believing it. And nothing is as disastrous as the despondency that produces. **📍**

**Vincent Oostvogels** (22) is exploring the delicate interface between nature management and food production through his two Master's programmes, Forest and Nature Conservation and Animal Sciences





# TORFS: 'SCIENCE HAS BECOME A RELIGION'

**Today's academics are less free than the scholars of half a century ago, argued keynote speaker Rik Torfs on Monday at the opening of the academic year. 'Measuring research quality leads to conformity and a loss of freedom.'**

In the past you had lazy professors who concentrated on their rhetorical skills, argued Torfs, the former rector of the Catholic University in Leuven. Nowadays professors produce a lot more scientific research and they measure their quality in citation scores. That is basically a good thing but it also has a downside, said Torfs, 'because under those conditions you are best off doing research in a mature, narrow field of science. Broad, innovative research is not worth the effort. Measuring research quality leads to conformity and a loss of freedom.'

But there is another, more recent reason for the decline in sci-

entific independence, continued Torfs. Now that society is struggling with women's rights, climate change and meat consumption, people are becoming worried about whether we will still be able to save the world. A lot of scientists are working for a better world. That has turned science into a religion, concluded Torfs.

**'The current combination of scientific knowledge and morality is religion at its worst'**

Academics use moral arguments for their research on the climate and nutrition. They say, for example, that we should eat less meat because that is good for the climate. 'That combination of scientific knowledge and morality is religion at its worst,' claimed



PHOTO JONNE SEIJDEL

▲ The procession of professors, led by rector Arthur Mol (left) and keynote speaker Rik Torfs, walks to Orion for the opening of the academic year.

the Belgian expert in Church law. 'Restricting the number of children per family is also good for the climate, as is a ban on divorce, but no one would think of proposing that. The problem is that academics do not make their moral choices explicit.'

In this political climate, universities do not know how to deal with dissidents, said Torfs. He called upon the professors present to reflect on how independent they themselves were. 'When did you stop asking questions and decide to go for safer research topics?' **AS**

## WORK TO START ON DIALOGUE CENTRE

**Construction of the Dialogue Centre on Mansholtlaan, between Atlas and Friesland Campina, will start in December. The construction company Berghege from Oss will put up the building. It should be finished by summer 2021.**

Construction work should have started a year ago but problems with the tendering process put paid to that. The contractors who had been selected were not prepared to build the centre for the sum WUR had reserved. According to Peter Booman, director of Facilities & Services, this was because of the tight construction market and the associated increase in prices.

Booman is not prepared to say how much more the building is costing now, but he calls it 'substantially' more expensive. WUR will cover the additional costs.

The extra money is on top of the 3.6 million euros WUR got from the government (1.6 million) and the WICC fund (2 million).

**'The Dialogue Centre is a very good fit with the campus ecosystem'**

Cancelling the project was not a serious option, according to Booman. 'The Dialogue Centre is a very good fit with the campus



ILLUSTRATION BROEKBAKEMA ARCHITECTS

▲ The new Dialogue Centre will be used for PhD defences, ceremonies and symposiums.

ecosystem. A building that replaces the Aula, where you can hold symposiums, where you can conduct the dialogue between WUR and society at large and where you can receive delegations and clients in style. Those are all functions that belong on campus.'

The Dialogue Centre was designed by Broekbakema Architects in Rotterdam. The contractor Berghege previously built the NIOO/KNAW premises on the opposite side of Mansholtlaan. **RK**



Wageningen scientists involved in major Arctic expedition

# DRIFTING WITH THE SEA ICE

**This autumn, researchers on board the ship *Polarstern* will let sea ice trap them and spend the next year drifting towards the North Pole in the name of science. Researchers from Wageningen will also be involved in this major expedition.**

MOSAIC (Multidisciplinary drifting Observatory for the Study of Arctic Climate) will be one of the biggest polar expeditions to date. On 20 September, the German research ship *Polarstern* will depart from Tromsø in Norway. In the Arctic Ocean, ice will freeze around the ship, which will then drift with the ice towards the North Pole for 12 months.

The vessel will serve as a lab and a hotel for scientists from 17 different countries who will be studying the effects of climate change. Russian, Swedish and Chinese icebreakers will bring supplies to the ship and let researchers and crew — a total of 600 people over the course of the year — relieve one another. The expedition will cost over 120 million euros; preparations started back in 2011. Three Dutch projects will be included thanks to a financial contribution by Dutch science funding organization NWO: two WUR projects and one for the University of Groningen.

## YOUNG COD

Fokje Schaafsma of Wageningen Marine Research will be studying the Arctic cod (*Boreogadus saida*). ‘We found young cod under the sea ice during an earlier expedition.’ It seems as if they use the sea ice as a means of transport to take them from the Russian and Canadian coasts, where they are born, to the middle of the Arctic Ocean. Schaafsma will investigate what the cod eat in the different seasons. This information will be combined the results of other researchers, for example on the spread of cod.

Schaafsma will be on board the trapped ship from late January to early April 2020. It will not be her first polar expedition. ‘But so far I’ve only been in the summer. Now it will be permanently dark for the first few weeks. I’m interested to see what that’s like.’

As most of the scientists will only spend two months on board, they will help one another to carry out measurements for a full year. Schaafsma: ‘We’ll have to see how the logistics work out. Work and consultations have been going on for a long time to get all





▲ Research ship *Polarstern* during an expedition to the Antarctic in 2013.

the people and necessary equipment on board so that everyone can both do their own job and help others.’

## MELTING SEA ICE

Researcher Laurens Ganzeveld of Meteorology and Air Quality studies the exchange of climate-active gases between the ice, the ocean and the atmosphere. These are gases such as carbon dioxide, methane, ozone and dimethyl sulphide that influence the climate, for example as greenhouse gases. ‘The Arctic is predicted to be ice-free in the summer months by 2050,’ says Ganzeveld. ‘This will have a huge effect on the climate because the sea ice influences the exchange of energy and climate-active gases between the atmosphere and the ocean. But very little is known about these processes in the Arctic Ocean, especially outside the summer months as little research has been done in that period.’

Ganzeveld won’t be going on the ship himself; he will be performing model analyses in the Netherlands together with his colleagues. Fellow scientists from Boulder, Colorado, will carry out the measurements on board. Ganzeveld: ‘This data will let us improve our climate models and make predictions for the Arctic and global climate.’   TL



▲ Fokje Schaafsma



▲ Laurens Ganzeveld

## Sailing ship in the ice

The last time someone did a drifting experiment was in 1895 when the Norwegian explorer Fridtjof Nansen deliberately got his ship *Fram* stuck in an ice pack in an attempt to reach the North Pole. He never actually got there but a lot of scientific research was conducted during the journey.



## BIRDS DON'T LIKE VISITORS

**Hikers in nature areas disturb the birds. But how big is that effect and what would be a good solution for that problem? PhD candidate Rogier Pouwels developed a method to assess this.**

Land managers who want to protect birds from recreational crowds are quick to opt for the most severe measure: closing off an area, whether temporarily or permanently. 'But that also deprives people of a positive encounter with nature,' says Rogier Pouwels. He obtained his doctorate last week for a study of the use of data on the combination of recreation and the protection of birds.

**'Closing off areas deprives people of positive encounters with nature'**

Pouwels developed models to find solutions together with stakeholders and get supporting evidence for interventions. Local data and expertise form the basis. For example, in the New Forest (UK), he used GPS trackers to get precise data on where visitors walked. Incorporating that in a model showed that simply moving a car park can result in 80 per cent fewer hikers in a vulnerable area.

In the Waterleidingduinen nature reserve near Amsterdam, Pouwels' model predicted that the creation of a closed zone with no disturbances in the middle of the area would increase the number of breeding skylark pairs by almost a factor of three. For the Veluwe, Pouwels worked out the relationship between visitor numbers and bird populations for three species: the nightjar, the stonechat and the woodlark. It turned out that even small numbers of visitors disturbed these birds. Their populations would be over a quarter bigger without recreational visitors.

The province of Gelderland is currently developing a new recreational plan for the Veluwe. The Wageningen study is serving as a point of reference for potential measures, such as fencing off areas. Pouwels himself would prefer a different approach. 'It would be better to have measures that improve the quality or extent of the habitat and acknowledge the positive aspects of recreation. Positive encounters with nature generate a love of nature and support for nature conservation.' **© RK**



PHOTO: SHUTTERSTOCK

▼ Rogier Pouwels found that in the Veluwe, the stonechat and woodlark are disturbed by even small numbers of visitors.

## WORK ON BLOOD TEST FOR EARLY DETECTION OF CANCER

**Researchers at WUR and the University of Twente are working on a new method of blood testing for cancer. Analysing a single drop of blood may be enough in the future to detect cancers at an early stage.**

Cells communicate with one another using small sac-like particles known as extracellular vesicles (EVs). Tumour cells secrete them too; they are then known as tumour-derived extracellular vesicles (tdEVs). 'We know from previous studies that the number of tumour-derived vesicles in the blood is related to the patient's chance of survival,' explains Pepijn Beekman, a PhD candidate in Organic Chemistry. 'So that makes them an interesting subject for diagnostic tests and monitoring the effect of a treatment.' Beekman and the Twente PhD student Agustin Enciso-Martinez have now developed a chip that detects tdEVs.

'There are already tests that detect cancer via the blood by looking for cancer cells or the DNA of cancer cells,' continues Beekman. 'But detection is difficult, especially in the early stages. The concentration of cancer cells is very low then so you need a lot more blood to find a cancer cell.' He thinks that tumour-derived vesicles could offer a solution here as they are present in much greater numbers. 'Then you can get an awful lot of information out of one drop of blood. Except the existing analytical methods weren't up to it. That's because blood contains many other tiny particles and it was difficult to pick out the tumour vesicles.'

The new method solves that problem. The researchers used a chip with antibodies that, like jigsaw pieces, only fit onto tumour vesicles. They tested the method on tumour vesicles from prostate cancer

cells. The vesicles are too small to see with an ordinary microscope so they used other analysis methods, such as Raman spectroscopy, to get very detailed information about the tumour vesicles. Combining different analysis methods let them discover the tumour vesicle's unique fingerprint. They can now use that information to develop diagnostic tests.

Beekman: 'We hope eventually to have a test that will only require one drop of blood. Then you can see whether someone has cancer before the tumour becomes visible on scans.' But it will be at least another five years before they can run the first clinical trials. **© TL**





# POLLINATORS BOOST SEED PRODUCTION MOST

**Pollinators such as bumblebees are the most important production factor in the cultivation of leek seed, not fertilizer or water. This finding comes from PhD candidate Thijs Fijen. Growers therefore need to make sure their farmland attracts wild pollinators.**

Fijen did research in fields used by vegetable seed producer BASF in France and Italy, where contract farmers grow leek seed. BASF wanted to know how important pollinators were for seed production. In 36 commercial leek fields, Fijen studied the land management (fertilizer

**‘Farmers don’t seem to appreciate the importance of wild pollinators’**

ingredients and irrigation), and the number of bumblebees, solitary wild bees, hoverflies and honey bees. He also measured seed yields for five varieties of leek.

His conclusion: pollination was as important to seed yields as all the other factors combined. The outcomes when Fijen halved the production factors of fertilizer, water and pollinators were even more striking. Halving pollination — by putting

a net over the leek plants every other day — led to a drop of 40 per cent in leek seed production on average. Halving the water reduced the seed by 10 per cent and halving the fertilizers had no effect or increased yields.

‘The outcomes are interesting because the farmers are busy all year with irrigation and fertilizer,’ says Fijen. ‘They don’t seem to appreciate the importance of wild pollinators. It can be worthwhile investing in that too.’

Another striking finding of the study is that bumblebees, solitary bees and hoverflies were responsible for pollination but honey bees did very little. The attempts by BASF to make up for a lack of pollinators by bringing in beekeepers with honey bees were not very effective. ‘Seed companies and farmers are better off investing in a production environment that is attractive to wild pollinators,’ says Fijen.

Fijen thinks his findings are not just relevant for the production of leek seed. Pollination is essential for all hybrid vegetable seed. ‘Now that biodiversity is deteriorating so fast, we know the agricultural system needs to change. I think the research into pollinators is a really nice way for ecologists and farmers to collaborate on improving both production and biodiversity.’ **AS**



▲ A buff-tailed bumblebee on a leek plant.

## VISION

**‘Soya doesn’t come from the Amazon’**



**The forest fires in the Amazon have been all over the news in recent weeks. Millions of euros have now been raised to put out the fires, and in the Netherlands there is a debate about soya imports. ‘That won’t solve the problem,’ says Amazon researcher Bart Kruijt of the Water Systems and Global Change group (WSG).**

***Donating money won’t help?***

‘Brazil’s economy is not strong but if the will is there, they can easily raise the money themselves to put out the fires. Donations don’t solve the real problem; that is a question of political choices.’

***Bolsonaro initially turned down the offer of help.***

‘That discussion was about neo-colonialism. “The rest of the world wants to decide what goes on in the Amazon.” The Brazilians hate that idea. They are always cagey when it comes to foreign interference. Whenever we do a research project there, it always has to be in partnership with Brazilian scientists.’

***So what would be a solution to this problem?***

‘The policy of previous Brazilian governments has worked for the past 15 years. Deforestation has declined considerably over that period. However, Bolsonaro is sending a message that he is not prepared to invest in the conservation of the Amazon. We need to look for ways of exploiting the area’s natural wealth sustainably. The Amazon forest produces its own rain and sequesters large amounts of CO<sub>2</sub>, while new medicines are still being discovered there. You can use those strengths to improve living standards among local communities and give them an alternative to felling and burning.’

***Should we call a halt to Dutch imports of soya?***

‘In a talk show last week, it was claimed that an area of forest equivalent to dozens of football pitches is being felled every minute for the production of soya. That may have been the case 15 years ago but a stop has been put to that. Now most deforestation is for livestock farming. There is still a link to soya because livestock farmers have been pushed out of the areas where soya cultivation is allowed. But saying you should stop importing soya from Brazil is not an effective approach.’ **TL**

# ‘YOUR DIET SAYS SOMETHING ABOUT YOU’

**On 1 February 2019, Emely de Vet became head of the new Consumption and Healthy Lifestyles chair group. She sees it as her task to decipher the complex relationship between nutrition, identity and living conditions.**

Together with her colleagues, De Vet tries to figure out why people lead healthy or unhealthy lives and how we could encourage healthier and more sustainable lifestyles. You won't get there with just information and advice, the approach health experts have mainly used so far, says De Vet. 'That just increased the existing gap between the highly educated and people with relatively little education. People who were in a position to follow the advice started eating a healthier diet but others did not.'

## DIET AND IDENTITY

If you only tell people how to eat more healthily, you are wrongly putting all the responsibility on the individual whereas many other factors play a role in their behaviour, according to De Vet. 'A healthy lifestyle is much more complex than saying no to cake. People with less education often earn less and live in neighbourhoods where the food on offer is less healthy and where they are surrounded by others who also have unhealthy diets. Your income deter-

**'A healthy lifestyle is much more complex than saying no to cake'**

mines what you can buy, and a healthy diet is less of a priority if you have money worries.'

This complexity intrigues De Vet. 'Your diet says something about you, your position in the group and your knowledge and convictions. Teenagers want to buy their own food for example, to show that they can fend for themselves. But they don't have much money and so they often end up in the snack bar.'

## PEOPLE'S OWN PERSPECTIVE

De Vet and her group want to get a picture of these underlying processes and use that information to design interventions, for example in spatial planning and education, that allow for food's various functions. 'At present, most interventions are developed



PHOTO: SVEN MENSCHTEL

**NEW PROFESSORS**

from a health or environmental perspective. We are taking the reverse approach of looking at what role food plays in people's daily lives so that we key into people's own perspective. Take the elderly. Interviews show that they use food to create structure in their lives and they don't like eating alone. It's all very well saying "Put an extra spoonful of veg on your plate" but that doesn't relate to their situation at all.'

There is no one-size-fits-all solution, says De Vet. 'Consumption and lifestyle are complex topics that require an interdisciplinary approach. We have sociologists, psychologists and epidemiologists working in our group. A lot of research has been done within all those disciplines on this subject; our task is to connect up that knowledge. We also collaborate a lot with people in the field and policy-makers – for example in local government, education and healthcare – so that we can generate a direct impact.'

## ART COLLEGE

De Vet also adopts an interdisciplinary approach in teaching. 'I'm not just thinking about the education of students but also about training in various professions where increasing attention is being paid to nutrition and lifestyle, such as healthcare, social work and schools. That collaboration can be in two directions: we are working with

art college students and spatial planning students, for example, to see how we can use their expertise to develop interventions.' **LT**

## EMELY DE VET (1978, OUD GASTEL)

1996-2001	Degree in Health, Maastricht University
2002-2005	PhD, Maastricht University
2006	Postdoc, Erasmus Medical Centre, Rotterdam
2006- 2009	Assistant professor in Disease Prevention, VU University Amsterdam
2009-2013	Senior researcher in Health Psychology, Utrecht University
2013-2016	Associate professor in Health Communication, WUR
2015	NWO Vidi grant
2016-2019	Professor holding a personal chair in Health Communication and Behaviour Change and interim chair holder in Strategic Communication, WUR
2019-present	Professor of Consumption and Healthy Lifestyles, WUR

Emely de Vet lives in Rijen with her son Thies (9) and daughter Kiki (7).



# SELF-CLEANING SOLAR PANELS ARE ON THEIR WAY

**It won't be long before self-cleaning solar panels and windscreens are on sale, thanks to the PhD research of Hanne van der Kooij in the Physical Chemistry and Soft Matter chair group.**

Van der Kooij studies coatings made of liquid crystals that are able to change their shape and their function with the help of electricity. You can use this to let a coating vibrate from time to time to shake off dirt and sand particles. Liquid crystals are the key. They are already incorporated in touchscreens and LCDs (liquid crystal displays). The Eindhoven researchers Dirk Broer and Danqing Liu are now using them to create coatings that can vibrate to clean windows and to make robot fingers harder or softer as needed. The liquid crystals are packed in a thin, hard layer but if you send a high-frequency alternating current through the layer, they start to vibrate.

However, the technique for making these coatings was still expensive and high on energy consumption as the Eindhoven researchers did not yet understand how exactly the electric current interacts with the material shape. That is why they approached the Physical

Chemistry and Soft Matter group, as this group has the laser equipment needed to measure this interaction precisely. Van der Kooij: 'We have developed a method for very sensitive measurements of how the material changes shape under the influence of electricity.' That resulted in an article this week in the journal *Nature Communications*.

Van der Kooij discovered that there are three stages between applying the current and the deformation of the material. In the first stage, the liquid crystals start to vibrate very quickly, independently of one another. In the second stage, they start vibrating in sync, which makes the layer soft. This lets the coating change shape, which is the third stage. This basic information will let the scientists in Eindhoven fine-tune the interaction between the current and the crystals so that more electricity can be converted into kinetic energy. 'This will make the process more efficient and the coatings will be cheaper and consume less energy,' explains Van der Kooij.

Eindhoven University of Technology is already collaborating with a test factory in China where these dynamic coatings are manufactured. **AS**



## PROPOSITION

### 'Accept the cheaters'

**On top of his research, PhD candidate Thijs Fijen had to spend a lot of time on tedious paperwork aimed at preventing fraud. Pointless, in his opinion. Hence his proposition: 'We should accept that there will always be some cheaters, instead of making everyone accountable for everything they do to prevent cheating.'**

'There is a lot involved in publishing a paper: you have to supply all the data and the statistical code you used and you have to sign various statements. This is all about transparency, but also about preventing fraud. But there are no checks in practice and you can count the

number of downloads of the data on one hand. Sharing data is fine but it shouldn't be a goal in its own right.

**'I think you can trust that most people will behave properly'**

There are always charlatans, for example people who make up data, but this won't solve that problem.

I see this everywhere. Take manure fraud. It's a problem, but there's only a small group who does this. But then all

these extra rules are introduced that every farmer has to satisfy, so they are even more overburdened with complicated paperwork. Whereas the vast majority were already doing it right. Expense claims are another example. If I need something quickly, I pay up front. Then I need a receipt — that's logical — but I also have to sign everything so that I can't claim for it twice. That costs both me and the finance department more time. All because the occasional person might not stick to the rules. I think you can trust that most people will behave as they should. That saves time and money that you could then spend on research.' **TL**



PhD candidates have to include some propositions with their thesis. In this feature, they explain the thinking behind a provocative proposition. This time it's Thijs Fijen, who obtained his doctorate for a study of the benefit of wild insects in farming.



Gerlinde De Deyn wants to change the public's mindset

# 'Soil is cool!'

Soil has got a great ambassador in Gerlinde De Deyn. Her enthusiasm never flags as she explores the wonders beneath the Earth's surface and shares her story with others. That resulted recently in her receiving the GroundBreaker Prize in America. 'The next generation will have to rely on what we leave behind. The soil is the basis.'

*text* Roelof Kleis *photos* Aldo Allesie





## ‘Soil’s significance for the planet needs to be addressed from an early stage in our schools’

**E**nergetic is a word that springs to mind with soil ecologist Gerlinde De Deyn. Cheerful and upbeat too. She laughs a lot and often says things are ‘fantastic’ or ‘nice’. She talks rapidly with an unmistakable Flemish accent. Imagine all that as you read this article. So, shall we begin?

In June, Gerlinde De Deyn was in New York for a chic event organized by FoodShot Global, a group of mainly American investors, to receive the very first Ground-Breaker Prize. The award, worth a quarter of a million dollars, is in recognition of innovative research that brings us closer to a sustainable food chain. And that is essentially what De Deyn’s research is all about. She studies how plants and soils interact physically, chemically and biologically, and how you can use that knowledge to make both healthier. An example is growing rows of different plants in pairs next to one another so that they reinforce one another’s utilization of nutrients in the soil and become less susceptible to disease.

### UNUSUAL FAMILY

The GroundBreaker Prize is not De Deyn’s first award. ‘That was a poster prize I won in 1999 at a conference about biological pest control in Swansea.

That was before I even got my PhD, at my second conference ever. I was over the moon *then*. I won a polo shirt that was way too big. Of course they’d been expecting some huge bloke.’ De Deyn has been awarded grants by the EU (Marie Curie), and the Dutch funding organization NWO (Talent grant, Aspasia and Vidi) and is in the running for a Vici. Then she suddenly recalls: ‘I also got a prize at kindergarten for the best drawing of a goat’. She laughs loudly at the memory.

De Deyn was born 43 years ago in Aalst in Belgium, the middle child of a family of three. She calls it ‘an unusual family’. ‘I have a sister who is 20 months older and a brother who is four years younger. My parents divorced when I was six and we all stayed with my dad. Dad taught at the secondary school that we also went to. He later got married again, this time to a man. Our mum was a teacher and we would spend every weekend or so with her. That family situation meant that I came into contact with diverse people from an early age. Nobody from university circles, though, apart from a cousin of my dad’s who worked on Alzheimer’s disease. He was at my inauguration. That was fantastic — I hadn’t seen him for 30 years.’

### GREAT WORLD

De Deyn decided to study bioengineering in Ghent after another relative had sparked her enthusiasm. But her love of science was only really triggered later. ‘A few weeks before I was due to graduate, a vacancy appeared for a researcher on a project about the biological control of nematodes. One of the profs asked me if I was interested. My response was OK, it sounds quite interesting and in the meantime I’ll look for a proper job. That doesn’t sound too keen, does it? I found the work fun, all that experimenting, but something was lacking. Two months later, there was a conference in Scotland. The professor wanted us researchers to go. He said, “I don’t want to see you going around together the whole time.” That remark stuck and I spent the conference accosting leading scientists in the field. I could just go up and ask them questions... and they even answered! I realized then how amazing that was. All these different people, of different ages and from different countries, could talk together about exciting topics. This is a great world!’

### GERLINDE DE DEYN (1975, AALST, BELGIUM)

1993-1998	Degree in Bioengineering, Ghent University
2000-2005	PhD candidate at the Netherlands Institute of Ecology (NIOO-KNAW) and Utrecht University
2005-2006	Postdoc at the University of Guelph, Canada
2006-2009	Postdoc at Lancaster University, UK
2009-2011	Postdoc/Marie Curie fellow at NIOO-KNAW, Wageningen
2011-2016	Assistant/associate professor at Wageningen University & Research
2016 to date	Professor holding a personal chair in Soil Ecology at Wageningen University & Research

Gerlinde De Deyn is deputy editor-in-chief of the scientific journal *Oikos* and a member of the board of the Netherlands Ecologist Research Network (NERN) and the Centre for Soil Ecology. She is single and lives in Bennekom.



‘The Netherlands was more traditional than I’d expected. That rigid attitude to time took a lot of getting used to’

Via a Dutch friend who sent her vacancies, De Deyn got a position as a PhD candidate at the Netherlands Institute of Ecology (NIOO) in Heteren. She worked on a large biodiversity project with colleagues including Wim van der Putten, now professor of Nematology at WUR. ‘I remember the job interview at NIOO. I was a bit overdressed. It was summer and I was in a suit whereas Wim was sitting there in his shorts! We also worked together at WUR. That’s how I first got to know Wageningen.’

#### CULTURE SHOCK

Her move to the Netherlands in early 2000 was something of a culture shock for De Deyn. ‘The Netherlands was much more traditional than I’d expected. That rigid attitude to time took a lot of getting used to. Freedom is very important to me. Less rigid, being open to the unexpected. I found it difficult at first. I really had to adapt. It made me realize that I’m more Belgian than I thought. In my first year, I even bought CDs of Belgian singers singing numbers in the dialect of Ghent, Antwerp or Brussels. I just had a need for that. Really weird. After getting my PhD, I spent a year working in Canada on an NWO Talent grant, followed by three and a half years at Lancaster University as a postdoc. I missed my mother tongue, though, whether the Flemish variant or Dutch. One of the nice things about the Netherlands is that I speak the language, though everyone can hear I’m Belgian, of course. I find it funny that I’m that bit different. In Belgium I’m just an ordinary Belgian, right?’

#### DRIVE

Ever since De Deyn joined the WUR soil group as an assistant professor in 2011, the Flemish researcher has stood out not just for her scientific achievements but also for her many ancillary activities. She raced through the tenure track scheme, becoming a professor with a personal chair in six years, worked on the first biodiversity world atlas, is on the Gender Balance Committee and is one of the organizers of the Wageningen Science Cafe. She also made a splash with the time-lapse recordings of soil life that she produced with micro-photographer Wim van Egmond, clips from which were even used in the opening ceremony of the Olympic Games three years ago in Brazil.

Asked where she gets her drive from, De Deyn points to a Gary Larson cartoon. ‘*The Far Side*, with that chicken and the road — you know it? The chicken’s facing a sign saying, “THE OTHER SIDE – Why do you need a reason?” Why *not* cross the road? What have you got to lose? You can always learn from the experience. I like that attitude. I’m always getting all kinds of opportunities that I think sound fun. I often get asked for things — and I do say no sometimes! Of course it helps that I don’t have a family so I don’t need to be back home on time. I don’t have strictly demarcated working hours. Those extra things often start off small and you have no idea what will come of it. But I like that and I don’t see it as extra work. Per-




haps I could have published more scientific papers in that time. But would that have made me happier?’

#### FASCINATION

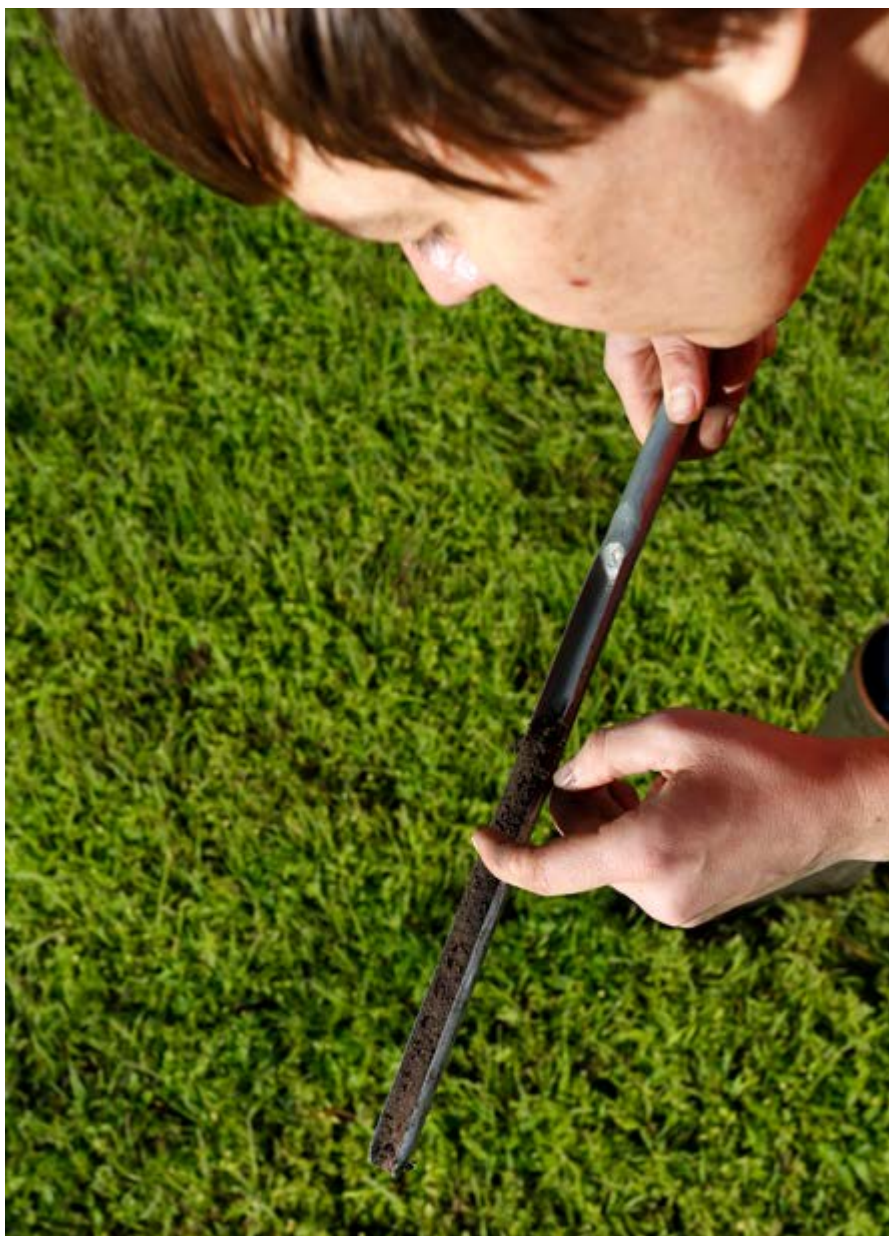
De Deyn is also a natural optimist. ‘I think I was born that way. Whenever we went anywhere as kids, my first question would be: what can we do there?! My sister would always ask: how far is it?’ She laughs warmly. ‘I’m fantastically lucky to have been born with this curiosity and this tendency for fascination. Science wouldn’t have been my thing at all otherwise. But it’s also because of an awareness that our time on Earth is finite. When I was 16, my best friend died in a car crash. For a while, I had real problems dealing with that. But it did make me realize how pleased I am to be alive. Every day is precious and I should use my time to do things I enjoy and that are hopefully useful to the rest of the world.’

De Deyn likes to share her fascination for soil science with a broad public, and does so often. That is needed, she says. ‘Soil is cool,’ she calls out spontaneously during the photo shoot for this article while tackling the earth drill. But the general public knows next to nothing about that fantastic soil. ‘People only believe stuff when they can see it. Those time-lapse images we filmed with Wim van Egmond were to show things. People are amazed by them. The same amazement that I felt when I first saw root-knot nematodes through the microscope. Wow, I didn’t know that! And you don’t even need to travel far. It’s there in front of you. But if you never see it, you won’t learn to appreciate it. It’s so important to show the soil and the life in it.’

#### CHANGING MINDSETS


Soil biology will become mainstream if De Deyn has anything to do with it. ‘Its significance for the planet, the climate and our food needs to be addressed from an early stage in our schools. I don’t have children myself — I’ve some wonderful nephews though — but the next generation is going to have to rely on what we leave behind. The soil is the basis. If you want to change the entire food system, you have to start with the soil. If you don’t have that figured out, you’ll never achieve what you want. I hope we’ll be able to change people’s mindsets by finding out how it all works and communicating that clearly. Current farming systems have huge leaks. For example, not all the fertilizer that is spread gets used. Instead, it damages the environment because of the nitrogen compounds getting into the water and air. We are basically throwing money away. And at the expense of nature too. That can and must improve. I hope the recent IPCC report on climate change and changes in land use will be a wake-up call for the world. We need our soil badly.’ 

‘I’m fantastically lucky to have been born with this curiosity and this fascination’





## RECORDING THE FRATERNIZING

Student and photographer Tim den Duijf had a nice job during the Annual Introduction Days. As the official AID photographer, he got to attend all the festivities and watch the groups of first-years. 'You saw people change from complete strangers into mates who shelter together under canvas during a shower at the Open Air Movie,' he says. 'It's great seeing the contrast between the first encounter, when they cautiously get to know one another, and the beer Cantus, when they sing arm in arm at the top of their voices — and it's a nice challenge recording that on film.' More of Tim's AID photos can be found at [resource-online.nl](http://resource-online.nl). 

LdK, photo Tim de Duijf

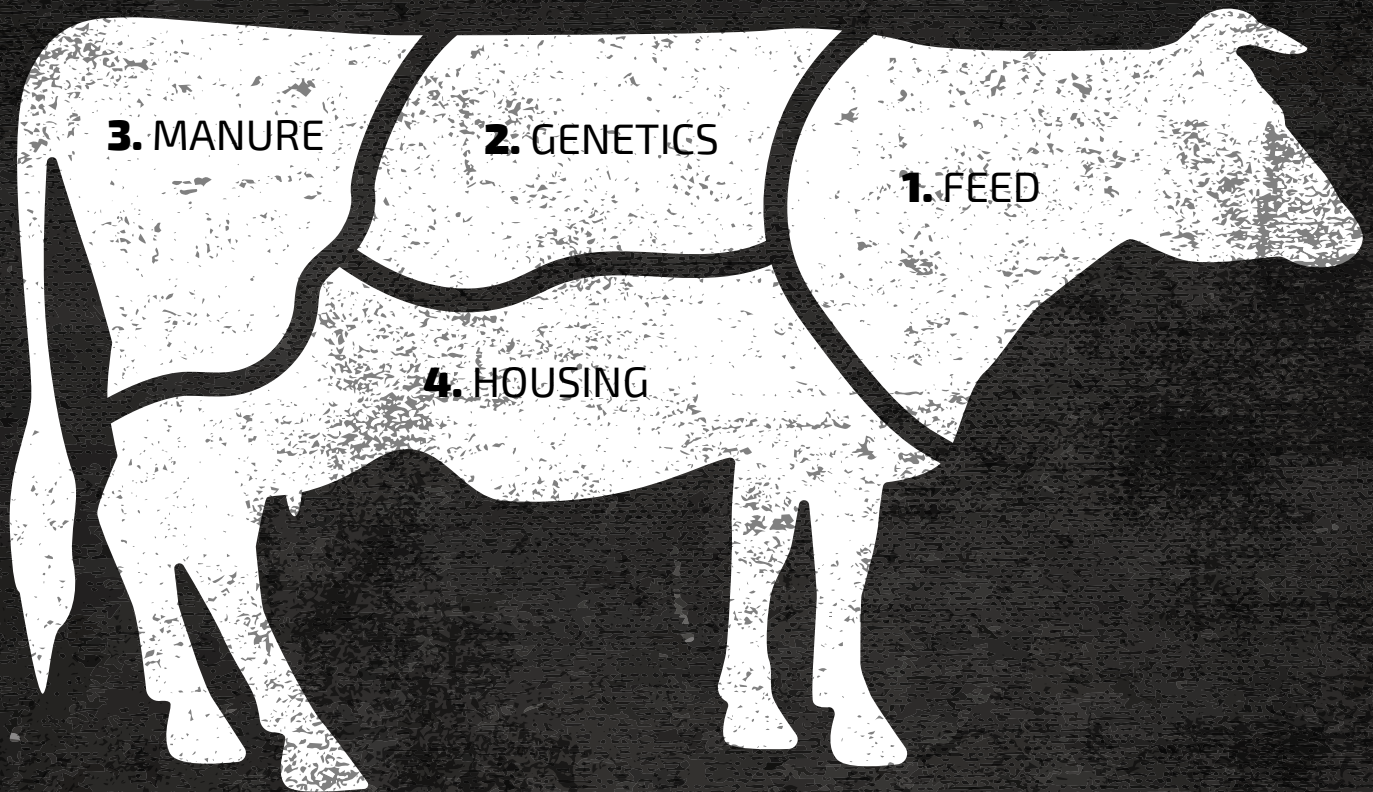
Check out the photo series on [resource-online.nl](http://resource-online.nl).











# THE CLIMATE-FRIENDLY COW

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Dutch dairy cows produce an awful lot of milk but they also produce greenhouse gases. We can do something about that: emissions can be halved by some smart tinkering with genes, manure, housing and feed.

*text* Albert Sikkema *illustration* Geert-Jan Bruins



**C**ows are notorious for the greenhouse gases they produce. When they burp, fart and poo, they release methane. And when manure is used in fields, it produces nitrous oxide. Emissions of these two powerful greenhouse gases are often quantified by converting them to CO<sub>2</sub> equivalents. Dutch dairy cows produce on average the equivalent of 1150 grams of CO<sub>2</sub> per litre of milk. That needs to come down to 1020 grams per litre if we are to achieve the Dutch government's climate targets by 2030.

We can manage that easily, reckons researcher Theun Vellinga of Wageningen Livestock Research, who specializes in animal production systems and climate change. In fact, he says emissions of greenhouse gases from dairy cows could be halved in the next few years. These are the 'levers' we need to pull to achieve that.

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## 1. FEED

When cows digest grass in the rumen, it releases methane. If farmers feed their cows less grass and more maize, then less methane is produced, says Vellinga. But there are downsides too. 'If a farmer starts growing a lot of maize, grassland has to be converted into arable fields, with organic compounds in the soil evaporating as a result. Maize cultivation can also be a blot on the landscape. So you can only go so far in replacing grass with maize.'

A less radical method for curbing methane production in cows is to add supplements to the fodder. 'Many additives have been tried out, such as various herbs and nitrate,' says Vellinga. The herbs did not have a lasting effect but the nitrate did. WUR experimental farm De Marke has run trials with the addition of low concentrations of nitrate to a diet of maize and silaged grass. This led to a drop of 30 to 40 per cent in methane emissions.

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## 2. GENETICS

You can breed cows that produce less methane, says Vellinga. To do that, you need to find out how efficiently cows digest their feed. That varies from one cow to the next, so cattle breeders can select bulls with efficient digestive systems. Researchers estimate that a targeted breeding programme could reduce methane production

by one per cent per annum over the next few years. So over 20 years you could cut methane emissions by 20 per cent.

You could also use genetics and selection to push up Dutch cows' milk yields further still, so that cows produce more milk per kilo of feed and therefore less methane per kilo of milk. But you need to be careful with that, says Vellinga. For years, Dutch dairy cows have been bred mainly to maximize production, a strategy that has resulted in cows with low resistance and little meat on their bones. 'We mustn't repeat the mistake of focusing too much on one property of the cow. We want robust cows in our fields that don't fall ill easily and don't need loads of antibiotics.'


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## 3. MANURE

When cow manure is stored, nitrous oxide and methane are released as bacteria convert organic compounds into these gases. But there is variation in this. For example, methane emissions from manure fall if the manure is cooled. Separating out the poo from the urine also has a beneficial effect on greenhouse gas production. There are other benefits from manure separation too, as it helps farmers apply precision fertilization because the urine contains nitrogen in particular and the solid manure has lots of phosphate.

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## 4. HOUSING

In theory you could reduce the impact cows have on the climate further by keeping them in hermetically sealed barns with equipment to remove the methane and nitrous oxide. But such a hermetically sealed barn is expensive and it would mean keeping the cows indoors all the time. That is why Vellinga does not advocate this solution. Many dairy cows are currently kept in open barns with natural ventilation and room for the cows to move around. Many cows also spend part of the year outdoors. Those circumstances limit the extent to which we can capture or prevent greenhouse gas emissions, says Vellinga, but having cows in fields is valuable in its own right. 'There are some things you can't control as a farmer,' says Vellinga, 'but there is no cheaper way of removing grass from the land than a cow.' 



## 'DON'T FORGET THE FULL PICTURE!'

We won't get there just by tinkering with the feed, the cow and the manure to reduce greenhouse gas emissions, claims Vellinga. He warns that we need to keep focused on the full picture. According to him, Dutch livestock farming is caught in the trap of optimization: how can we maximize milk production with as few inputs as possible and with minimum environmental impact? Animal manure legislation is a deciding factor. The phosphate rules reward farmers for producing as much milk per kilo of output phosphate as possible, while reducing phosphate excretion per kilo of milk gives farmers scope for more milk and more cows. We need to wean ourselves off this approach, says Vellinga, because it comes at the expense of other aspects such as the landscape, biodiversity and animal welfare. 'Dutch livestock farming makes full use of the phosphate quota but at the same time birds and insects are disappearing. The climate-friendly cow needs to be part of an approach to livestock farming that does justice to nature and the landscape and that closes cycles.' That broader picture should encompass a business model for farmers, says the researcher. 'We should pay farmers for their services to the landscape and ecosystems. That is possible for the climate-friendly cow too. You can set requirements for the reduction of greenhouse gases in livestock farming, identify appropriate measures and reward farmers who implement those measures. The guiding principle is giving the cow room rather than getting the most out of the beast. But there is no single right solution; farmers can combine perspectives.'

# Will incense sn

The production of resin from *Boswellia* trees, a.k.a. frankincense, is under threat. The frankincense trees in the Horn of Africa are rapidly dying out. Rescuing them is simple in theory but less so in practice.

text Roelof Kleis

**F**rankincense in peril was the disquieting title of the study in *Nature Sustainability* with which WUR professor of Forest Ecology and Forest Management Frans Bongers and his colleagues sent a wake-up call to the incense world in early July. Not for the first time, either. Bongers had already sounded the alarm about frankincense trees seven years ago. 'The British Ecological Society said it was the most widely cited article in the media ever,' he says with some pride. The press paid a lot of attention to his most recent study too. *The New York Times* devoted a whole page to the story.

#### What is new about your latest study?

'We've extended the research. The previous study was based on data from two locations. Now we have looked at 23 sites of the main production tree, *Boswellia papyrifera*, in the Horn of Africa. We also looked at the other *Boswellia* species that are used for the production of incense. The story is consistent and solid.'

#### And the conclusion is...?

'Incense production will halve over the next 20 years due to over-exploitation and a shortage of new plants. A lot of places have not seen any new trees in the past half century. Without any new growth, it will only be a matter of time before incense trees die out.'

#### Why is so much incense tapped?

'Interest in incense has soared over the past seven years or so. That is mainly due to the use of incense in essential oils. When people think of incense, they usually think of the grains, sticks and cones you can burn but it's the oil that you get from incense through steam distillation that is the big business. The body culture has really taken off in the West in the past 10 to 15 years. There's a Body Shop or Rituals on every high street. And the profit margins are huge.' (See inset, ed.)

#### INEXPERT TAPPING

Incense is obtained by slashing the tree bark and then tapping the resin that is secreted. Production needs to become more sustainable, for example by tapping less often and more skilfully, argue Bongers and his co-authors

in their article. Trees that are tapped too often and inexpertly become weak and die. The emphasis should be on quality, not quantity. Certification would help, as would sound regulations and oversight, say the researchers.

#### Is it that simple?

'No. Anyone can see that it would help but it's tricky in practice. An Ethiopian PhD candidate is currently trying to persuade companies to use different incentives for more sustainable production. But none of the companies are interested. Why should they cooperate? They can sell their product anyway.'

#### So who should initiate that change process?

'We consumers need to want this. We need to ask for it. And that is happening. There is increasing pressure. The users who rub that stuff on their bodies — often middle-aged ladies — want socially and environmentally responsible products. The demand is the important thing. That is why I try to talk to companies and the media about that demand. We need to ask for a different approach.'

#### What about CITES, the organization that regulates international trade in endangered species?

'There has just been a CITES conference in Geneva, where the trade in incense was on the agenda. Of the 20 species



▲ Frequent, inexpert tapping of the resin damages the incense trees.

PHOTO: FRANS BONGERS



# uff it?

of incense trees, 13 are on the Red List of endangered species. The species we are talking about here are not yet on that list. In Geneva, a proposal was made to improve regulation of the trade in these species. That trade is a free-for-all at present. Our article provides powerful support for that call, and in fact it was enclosed with the proposal.'

'Without new growth, it will only be a matter of time before incense trees die out'

## NEW GROWTH

In addition to making production more sustainable, a key measure is to plant more trees, says Bongers. 'Regeneration is the big problem. Old trees die off. The trees are now 70 years old on average. No new trees at all have grown in the past decade as cows eat all the saplings. So it is not enough to plant trees; you have to look after them for a long time. It takes 10 to 30 years before you can tap resin from a new tree.'

## Is this possible in conflict zones?

'No. The main incense production areas, Ethiopia's borders with Sudan and Eritrea, are conflict zones. That has to change if the approach is to be successful.'

## Are incense plantations a solution?

'Experiments are underway with plantations. The question is what the quality of that incense is like. But you need a lot of money for such plantations. What is more, they sideline small-scale farmers' cooperatives, which cannot compete with the big companies. The farmers then have less secure livelihoods as the woods where they tap incense are no longer worth anything. Is that what we want?' **R**

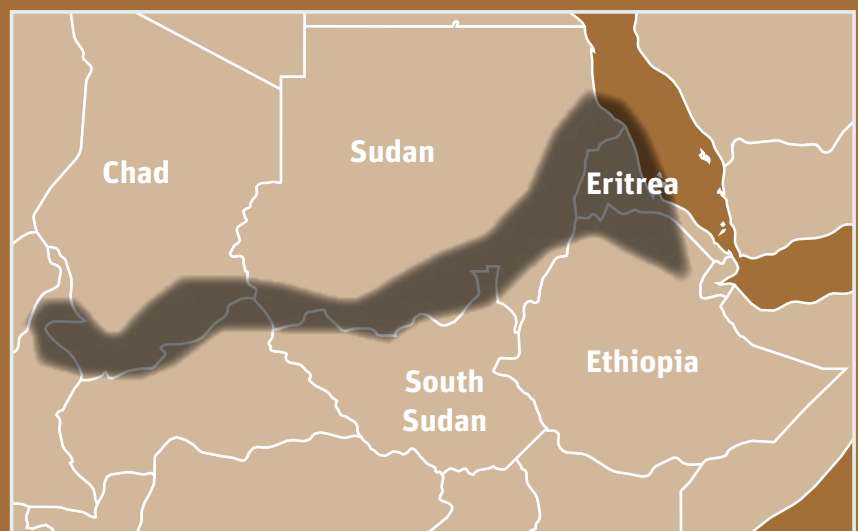


PHOTO: PETER GROENDIJK

▲ *Boswellia* trees in Ethiopia.

## INCENSE IS BIG BUSINESS

Around 6600 tons of frankincense — the resin from *Boswellia* trees — is traded every year. Two thirds comes from *Boswellia papyrifera*, the main frankincense tree, which grows primarily in Ethiopia, Eritrea, Sudan and Chad (see map). One kilo of raw incense fetches two to six euros. The essential oil that is extracted from incense using steam distillation fetches a lot more. Frans Bongers: 'A 15 ml pot costs 100 euros online. One kilo of incense will give you 60 ml of pure oil. That's four pots, so 400 euros.'



▲ The main distribution area for the frankincense tree *Boswellia papyrifera*.



# HOW CAN WE GET WUR READY FOR THE CIRCULAR ECONOMY?

The transition to circular agriculture requires changes not just from farmers, consumers and the ministry of Agriculture but also from WUR, concluded Michel Berkelmans of the ministry in *Resource* in July. But what changes? The views of one WUR transition expert and one external expert.

text Albert Sikkema illustration Henk van Ruitenbeek



‘I would like to see WUR taking a normative stand more often’

*Derk Loorbach, professor of Socio-economic Transitions at the Erasmus University*



‘You need internal divisions; those differences are what get innovations’

*Katrien Termeer, professor of Public Administration and Policy at WUR*

## ‘Rethinking the organization’

The Dutch ministry of Agriculture, Nature and Food Quality wants WUR to design new food systems that boost nature and do not damage the climate and the environment. That is why ministry director Michel Berkelmans talked about ‘rethinking your own organization’ in a previous edition of *Resource*. In this article, transition experts Katrien Termeer and Derk Loorbach discuss what this rethink should involve. If you want to join in the debate on this topic, go to the interview series *WUR and the Food Transition* at [resource-online.nl](http://resource-online.nl), in which three more experts give their opinion, and add your comments.

## Second transition stage

**Derk Loorbach, professor of Socio-economic Transitions at the Erasmus University Rotterdam:** ‘The old agricultural regime, which was built up in the post-war years and has been so successful, is now turning into more and more of a problem. Over the past few decades, researchers, farmers and campaigners have come up with alternatives to that system. Small-scale niche solutions in organic farming, urban agriculture, nature-inclusive farming or a vegan diet. That was the first stage of the transition process. We are now in the second stage, in which the niches spread and connect up while public pressure to change the old regime increases.’

**Katrien Termeer, professor of Public Administration and Policy at WUR:** ‘Everyone involved in a transition has to change, so that includes WUR. One feature of transitions is that they won’t work if you try to make those changes within the framework of the existing system and it’s all more of the same. **Radical transformations are required, often in combination with taboo-breaking.** The size of the livestock population is one such taboo in the debate about the circular agriculture, as is the Netherlands’ position as an agricultural export country. Opinions differ on this subject, even within WUR. So you need to take a critical look at this together.’

## Questioning the regime

**Loorbach:** ‘I feel a lot of Wageningen researchers are still working on improving the current regime. Katrien Termeer mentioned a good example last year. You have massive poultry sheds. You’ve put an end to battery





cages for animal welfare reasons. So you get aviary systems, but those sheds produce fine particulates. Air purifiers are then used to capture the particulates. But those air purifiers result in more barn fires. **When you solve one problem within the current regime, another one pops up.** The big issue now is whether researchers have the capacity to question the regime and look for alternatives.'

**Termeer:** 'WUR needs to further intensify the links between the technical and social sciences. The old attitude was always to develop a new technology first and then get the social scientists

on board for the implementation. That won't work anymore. Social and technological innovation go hand in hand.'

### Refreshing variation

**Termeer:** 'WUR mustn't present a single vision; there need to be plenty of internal divisions. You actually need that diversity and different theories. We have to discuss our differences with one another and be tolerant towards the range of opinions and perspectives, because that variation and those differences are what

get innovations. You can't polish a gem without friction. **So we mustn't be afraid of WUR sending the outside world differing messages.** The ministry van Agriculture should also learn to value that diversity and debate.'

**Loorbach:** 'Here in the Netherlands, we can be proud of our intensive food production but there's no point in yet more research on how to increase yields and improve efficiency. Instead, we should invest 80 per cent of our efforts and money in an agricultural economy that is good for people and the environment. Take research into nature-inclusive agriculture, true pricing for food products, and changing consumer behaviour. And much of the benefit to society lies in sectors other than the food industry.'

### Taking a stand

**Loorbach:** 'WUR has a tendency to position itself as a knowledge institution providing expertise from a neutral standpoint. **I would like to see WUR taking a normative stand more often, pointing out the direction that the food transition needs to go in, but without becoming a lobbyist for specific solutions.** For example, saying that we should rule out cheap food that doesn't give farmers a decent livelihood. Or that we should rule out food systems that reduce biodiversity. You set strict societal requirements and work towards a new regime in which food is still being produced using smart, efficient methods. Optimization is not necessarily wrong, you know.'

### Value idle time

**Termeer:** 'I think research funding needs to change. Take the top sectors, in which companies are expected to co-finance part of Wageningen's research. That leads to safe choices and more of the same, whereas in fact you need new kinds of relations between businesses, researchers and civil society organizations. We researchers are also caught up in a system that is all about meeting targets, spending billable hours on projects, sending invoices and bringing in as much cash as possible. I think we should consider giving advice for free, acting as a sounding board more often, and visiting clients more for a coffee and a chat. If we want to do that, WUR will also have to change how it evaluates staff. **At present we don't value "idle time" or failed projects. Whereas you have to take risks in a transition and projects have to be allowed to fail.** WUR staff need to feel they have the room to explore new avenues and partnerships.' 📍

‘He was wearing a balaclava and had a stick in his hand’

# Attacked in the dark

Sophie was cycling alone late at night just outside Wageningen when she was attacked by a man. She managed to get away. ‘I think he wanted to rape me. But what would he have done afterwards?’

text Luuk Zegers photo Sven Menschel



**I**t's 23:50 on Wednesday evening, 21 August. Master's student Sophie (22) is cycling back home from the Binnenveld, the rural area north of Wageningen. She has been visiting a friend who lives in a student residence there. She cycles along the northern part of the Dijkgraaf road, which does not have any street lighting. ‘That unlit area is always a bit scary, but I thought: there's nothing to be scared of here, right?’

Then she sees a parked car. ‘That surprised me, because who has any reason to be there at that time of night?’ She keeps cycling, but after five metres a masked man suddenly appears out of the dark. ‘He was wearing a balaclava, had a kind of stick in his hand and he ran up against me.’ Sophie ends up in the verge but manages to stay on her bicycle. She quickly cycles off, the adrenaline pumping through her veins.

#### NO PHONE

‘I didn't have my phone with me,’ Sophie says. ‘But when I got to the Northwest district I ran into two people. They called 112 and we waited for the police together.’ While they wait for the police to arrive, two women cycle past. ‘They came from the same direction as me, but they didn't see anyone.’

When the police arrive, they drive with Sophie to the place where the man appeared out of the dark. The car is gone and there is no one around, so the police cannot do much. ‘I wanted to make an offi-

◀ Sophie cycles past the spot where she was attacked by a man late at night on 21 August.



cial report, but the officers said it's pointless if you don't know who the perpetrator is. The next day, I decided to go to the police station to make a report anyway, because I wanted to do something. After waiting for a long time I was told again that it would be pointless. A few days later the police came to my house to draft a special police report, so they *are* working on it, but at that point it felt like they weren't taking it very seriously.'

The day after the incident, Sophie wrote about what happened to her. She isn't on Facebook herself, so her roommate posted her story in the Wageningen Student Plaza group. 'I didn't want to scare anyone unnecessarily, but I thought it would be a good idea to warn people. The attack seemed so organized and well thought out. And I also think that person didn't get what he was after. Maybe he'll try it again.'

#### NO REASON TO BE AFRAID


In the five years that she has lived in Wageningen, Sophie has never felt unsafe before. 'You don't really think that something like that can happen here. But it can.' She

### 'You don't really think that something like that can happen in Wageningen'

notices that she feels different now when she goes out at night. 'I always have my phone with me. If you end up in a suspicious situation, you can at least pretend you're calling someone, or actually call someone. That might scare the person off.'

Sophie will probably avoid cycling past the scene of the incident at night from now on. Yet she doesn't want to lose her freedom of movement. 'I don't want to feel afraid the entire time; to have that one person take away your freedom. In the town centre it's lit up everywhere and there are always people around. If you walk through the high street and someone bothers you, you can always scream loudly.'

#### FRUSTRATION

Apart from the shock, Sophie also feels a lot of frustration. 'Perhaps the most annoying thing is that there are no clues whatsoever. I can't do anything. Someone like that can just do what they want. I think he wanted to rape me. But what would he have done afterwards? Would he get in the car and drive away when he's done? Or would you end up in a ditch? You just don't know. That's the scary part.' 

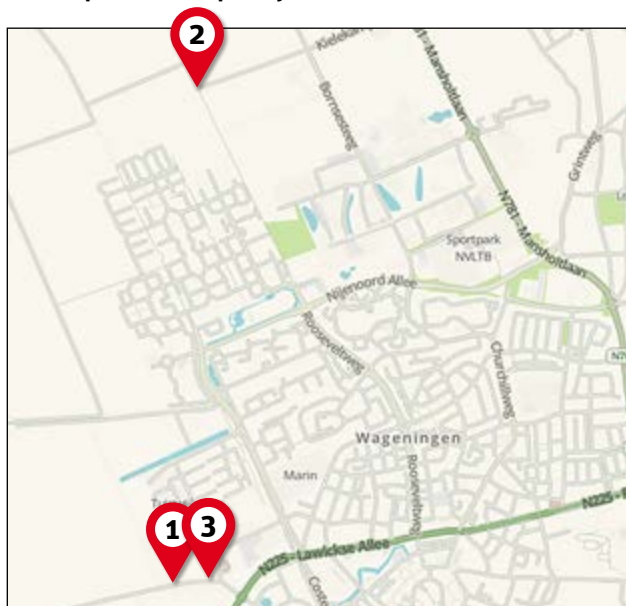
*Sophie is a fictitious name. The student's real name is known to the editors.*

## THREE VIOLENT INCIDENTS IN ONE WEEK

The fourth week of August was a notably violent week in the generally quiet town of Wageningen.

1. On Saturday 17 August, at around 23:30, a 21-year-old student was robbed of her handbag on Haarweg. The perpetrator threatened her with a weapon.
2. At about 23:50 on Wednesday 21 August, student Sophie was attacked by a man wearing a balaclava at the point where Dijkgraaf and Plassteeg meet (see interview).
3. On Saturday 24 August, at about 23:30, three men with a weapon tried to rob a 22-year-old female student on Haarweg.

It is unclear whether the cases are linked. The police are investigating. They ask anyone who has seen something suspicious to contact them by calling 0900-8844 or completing the digital tip form. The police also ask people to be extra alert and to call the emergency number 112 if there is trouble. Student accommodation provider Idealis has opened a safer bike path to Haarweg 333 across its own terrain. WUR has instructed security staff to patrol Haarweg and the edges of the campus more frequently.



## COMMENT FROM THE POLICE

Police spokesperson Marie-José Verkade explains why the police advised Sophie not to make a formal report. 'We understand that the woman in question was very upset by the incident. After the incident, officers compiled an official record of their findings. That did not include a criminal offence. If no criminal act was committed that could be reported, there is no benefit from making a formal report. However, the incident is part of a wider investigation, in which police are also looking at the mugging and attempted mugging on Haarweg.'

## IN OTHER NEWS

### OIL GUZZLER

German researchers have found a bacterium that converts oil directly into methane. The bacterium was discovered in the depths of the Gulf of Mexico. Turning oil into the powerful greenhouse gas methane doesn't seem very useful, but the scientists hope the trick might work in reverse too.

### A BORN THIEF

Some people are more likely to fleece you than others. That difference is congenital; economic circumstances have nothing to do with it, according to a study at Texas A&M University. The research was carried out among members of a remote tribe in Guatemala. Even so, the scientists say the results are universal. Good to know that opportunity does *not* make the thief. You either have it in you or you don't.

### SEMEN

The composition of fruit fly semen changes when the flies have to compete with other males, according to a study from Oxford University. They increase their chance of having offspring by adding certain proteins to the emission. But there are two sides to the coin: creating protein costs energy. In fact, the more potent semen has a disastrous effect on how often they have sex. A dilemma for fruit flies.

### FERTILE

Planning to have a baby? Then pay attention. Only 13 per cent of women have a cycle of exactly 28 days, according to a large-scale study by University College London. One third of all women have a cycle that is shorter than 25 days or longer than 30 days. So peaking at the right time requires serious planning... or plenty of practice.



# Less interest in societies

First-year students did not register with the main Wageningen student societies in such big numbers during this year's Annual Introduction Days (AID). KSV Franciscus got the most applications, breaking its own record. Argo and SSR-W saw a big drop in the numbers registering.

KSV Franciscus got 290 applicants, beating its own record from 2017 (see table). 'It is indeed a big number. We weren't expecting this at all,' says Amber Laan, the KSV Franciscus chair. 'We ran a really good AID, and with our new roof terrace the weather was in our favour too.'

Unlike in previous years, student rowing club Argo won't have to draw lots or select applicants this year. With 190 applications, the society is well below its limit of 280 new members. Even so, Maxime Visser of Argo's candidate rowing committee is upbeat. 'Fewer registrations means more boats, training sessions and equipment per member. That will let us spur people on to become active members.' Nji-Sri has seen the number of applicants increase for the second year in a row, while Ceres is fairly stable with 178 regular



▲ A student tries out rowing club Argo's ergometer at the AID Info Market.

	2019	2018	2017	2016
KSV Franciscus	290	166	262	219
W.S.R. Argo	190	304 (280)*	295 (250)*	301 (250)*
Ceres	178	187	231	247
SSR-W	131	187	195	193
Unitas	45**	60	50	70
NSW Navigators	36	46	70	60
Nji-Sri	87	74	52	67
<b>Total</b>	<b>957</b>	<b>1025</b>	<b>1155</b>	<b>1157</b>

\*Limit set by Argo

\*\*Estimate

applications. A further 60 international students registered for a light version of the Ceres membership. The final intake for the various societies will be announced in

a few weeks. By then it will be clear whether all the applicants have actually become members. **GvZ**

## Student magazine *The Jester* now online too

***The Jester*, a magazine founded by students, can now be read online. The first issue of the magazine appeared in June in a print run of 650 copies.**

A jester is 'someone who criticizes the king, but uses humour to do so,' says David de Winter, one of the students behind the magazine. 'The idea is that *The Jester* should be critical and nuanced, but with a smile.'

The magazine was originally a project of the RUW Foundation, whose mission is 'to bring life to science'. 'We want to produce a creative learning en-

vironment in which students can develop and communicate their ideas,' says De Winter. Nine students worked on the first *Jester*, writing articles or drawing cartoons. The contributions discuss such subjects as room shortages in Wageningen, books written by WUR president Louise Fresco and the history behind Liberation Day in Wageningen (5 May). There is also an interview with Wageningen's city poet. New articles will be posted regularly on thejesterwageningen.nl. 'We also plan to publish a new issue three or four times a year,' says De Winter. **LZ**



# Villa residents block students

**Residents in the select residential district of Wageningen-Hoog have used a ploy to prevent the rental of rooms to students. The council was surprised and annoyed when it heard.**

The ploy is based on the fact that locals are able to request a permit to rent out rooms but then not use that permit. That prevents others in the same street from letting rooms. The new policy on rented accommodation states that only one in 20 homes in a street can be used for student lets.

Provincial newspaper *De Gelderlander* found out about the trick. Inquiries with the municipality have revealed that permits have been requested for 12 addresses in Wageningen-Hoog. Alderman Anne Janssen, who is re-

sponsible for housing policy, is not happy. 'This is a new phenomenon in Wageningen. We see it as undesirable and are investigating what we can do to stop it.'

The alderman confirms that you do not have to use a permit once it is granted. The ploy is not restricted to Wageningen-Hoog:

**'We see it as undesirable and are investigating what we can do to stop it'**

anyone in Wageningen who doesn't want students in their street could take this approach. That is why the unused permit trick is potentially disastrous for the new policy on room rents that



PHOTO: ROELOF KLEIS

was adopted before the summer. Alderman Janssen acknowledges this.

Mark Reijerman of student party Connect Wageningen was also surprised at the news. 'This is

new to me. We know some people in Wageningen-Hoog are not happy about the possibility of rooms being rented out. It's a smart trick, but a shame they are doing this.' **✪ RK**

## MEANWHILE IN... ITALY

### 'There is great polarization now in Italy'

**Giuseppe Conte resigned as Italy's prime minister on 20 August, after accusing the interior minister and leader of the far-right Northern League, Matteo Salvini, of triggering a government crisis. Ten days later, after Salvini tried to force an election, Conte is back as the Italian leader under a new coalition of the populist Five Star Movement (M5S) and the centre-left Democratic Party (PD).**

**Antonino:** 'I was listening to the live broadcast of Conte's speech when he announced his resignation as the prime minister. After Salvini broke the contract with the government, all political discussions were broadcasted by the Italian public TV. Thus this crisis was described as "the most transparent crisis in Italian history".'

**Francesco:** 'Conte resigned because he did not want to be part of Salvini's political games. As a university professor, he did not want to cast a shadow over his name. He gave a very transparent and logical speech and communicated his decision to resign at the same time to the Ital-



PHOTO: SHUTTERSTOCK.COM

ian public and the parties in parliament. Salvini's reply was full of insults and with no reasonable arguments.'

**Antonio:** 'Salvini's aggressive campaign during the past year led to the Northern League winning the EU elections. Salvini felt power in his hands and started to impose his opinion and ideas arrogantly inside and out of parliament. Now he is crying out for elections as he is quite confident that the League will win. In my opinion, elections will bring chaos. Salvini represents an extreme right political philosophy and he is not good for Italy's political stability and collaboration with the EU.'

**Francesco:** 'There is great polarization now between the supporters and opponents of Salvini. If we have elections and Salvini wins, he will most likely ally with Fratelli d'Italia, which represents even more extreme right ideas. In that case, I would be worried about Italy's democracy. Salvini often repeats phrases that Mussolini used to say and he openly supports Putin and Trump.' **✪ KT**



Antonino Crucitti (27) (l), Erasmus student of Plant Sciences, and Francesco Pancaldi (25) (r), PhD candidate in the Plant Breeding Group, both from Italy, reflect on the current political situation in their home country.

# YOU ON CAMPUS

**Yumeng Dong has had a special guest these past weeks: the vice president of Suihua No.7 College from China, who is also her father. She has just completed the first year of her Food Safety Master's programme and was waiting for a chance to show her father – who is very passionate about education – around the WUR campus.**

'My father has been a teacher and education director for almost 30 years now. He heard from me about all the advanced teaching and lab equipment we have at WUR and he really wanted to see it,' said Yumeng. 'He was fascinated by the classrooms that have a movable wall between them. He also liked the idea of having discussion rooms with a whiteboard for students; it is very helpful and encouraging for students to communicate more and share their ideas.' During the tour, Yumeng made a

video for her father to take back home with him and show everyone. Perhaps it will be used as an inspiration for renovations of his college in the future.

## 'Showing my father around campus was an unexpected summer course for me'

Influenced by her father, Yumeng wants to become a teacher. She thinks it is important to combine the Western way of teaching with the traditional Chinese educational system. While guiding her father around different buildings and listening to his opinions, she clearly saw the differences between Chinese colleges and

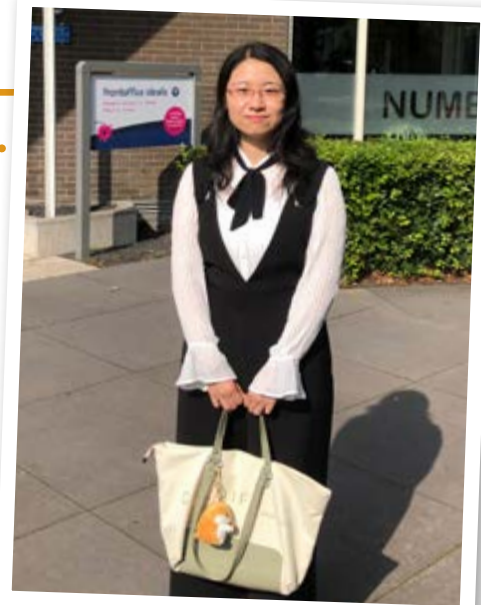



PHOTO: CATHY CHEN

WUR. 'For instance, the students here are encouraged to communicate more; the students are provided with plenty of space and services for both casual and formal communication. Also, WUR puts a lot of effort into providing a generally nice environment. This really helps to reduce stress. Stress is not something we pay much attention to in Asia,' said Yumeng. 'I think it was a good idea to invite my father here. What he observed can help him improve his college and also helps me in my future career. I have learnt more from this trip than I thought. This is an unexpected "summer course" for me!' said Yumeng happily. 

## 'Mister caretaker, hair is growing on my wall!'

### DIARY OF A CARETAKER

Eugene van Meteren works for Idealis as a caretaker. He writes about his experiences for *Resource*. You can read all his columns on [resource-online.nl](http://resource-online.nl).

**Eugene van Meteren sometimes feels like a globetrotter in Wageningen. A trip to tropical Asia and back within an hour is a breeze for the Idealis caretaker.**

'Early in the morning I get a call from a Hoeverstein resident who is in tears. Judging from her accent she is from Asia. I hear panic in her voice. "Mister caretaker, please come to my room, I have a big problem. Hair is growing on the wall."

### 'The room is full of plants, the heating is on full blast and the windows are closed'


#### JUNGLE ROOM

Scenes from horror films flash through my mind. I kindly ask her for more details. "It started with a small black spot. After a few months the spot got bigger, and when I checked it closely, I saw that hair was coming out of it."

Ten minutes later I'm at her door. When she opens the door, I'm hit by a wall of humid heat. I see that the room is full of the most amazing plants and I can feel the heating is on full blast. It's like being in the jungle in a hot, exotic country.

She points out the hairy spot and I immediately see what the problem is. There is a large patch of mould on the wall, created of course by the climate conditions in this jungle room. The windows are closed so the moisture has nowhere to go. Such a culture on the wall is the inevitable result.

#### JUST LIKE HOME

We discuss the cause, but she says that she likes the sultry climate in her room. "That way I feel a little bit like I'm at home with my family." These words bring tears to my eyes. I have to solve this respectfully, that much is clear. I tell her that she should ventilate her room regularly and turn down the heating every now and then. I arrange for Idealis to remove the mould, after which we will repaint the walls at our expense. As I go back to the office, I realize that this is what makes my work so great: behind every door is a different world. I'm actually a globetrotter in Wageningen.' 






Wageningen Master's students do internships and thesis research all around the world, getting to know their field and other cultures. Here they talk about their adventures.

# Cultivating resilience in slums

'For three months, I flew to a new city every month for my thesis on Cordaid's urban resilience projects. At first, the crowds and chaos took a lot of getting used to, especially in Jakarta. The roads are always jam-packed, so the only way to get anywhere is by scooter taxi. The first time I sat on the back of one was pretty nerve-racking. I was given a half-loose helmet for my head, and my hands were still looking for something to hold on to when off we went, whizzing in and out between the cars. The heat, the honking and the exhaust fumes overwhelmed my senses. Fortunately I quickly learned to give up control, and sitting on the back of a scooter seemed totally normal after a few days. Now it is one of the things I miss about my time in Asia. Those scooter rides

## POSITIVE MINDSET

The work and the people I met have become a great source of inspiration for me. In my interviews I was often surprised by the positive mindset of the local population. They always make the best of things and are actually happy, despite the poor conditions. I will never forget the many smiles and their hospitality. My fieldwork also showed me how development organizations work locally. In my degree programme we learn to look critically at development work, but when you visit the projects it is not the same. It is inspiring to see how passionate the local staff are, how committed they are to improving living conditions in their communities.' 

## 'I saw situations that no one should have to live in'

gave me the opportunity to see what life is really like in the city. I so enjoyed the little scenes from the daily lives of the locals and the backstreets where tourists never come.

## SWIMMING IN WASTE

I was conducting research on urban projects that aim to improve the resilience of the local population. I visited places and saw situations that no one should have to live in. In the slums you see children swimming in a lake of waste and you can smell burnt plastic. The houses are on rickety bamboo stilts and it feels like you could fall through the floor any moment. The worst part was that 15 minutes away there was a luxurious shopping centre where the very rich indulged in splendour. That difference between rich and poor was probably the most harrowing, confrontational part of my experience.



Do you too have a nice story about your internship or thesis research abroad? Email [lieke.dekwant@wur.nl](mailto:lieke.dekwant@wur.nl).

## THE WORKS

**Who?** Mirjam van der Kraats (23), MSc student of International Development Studies  
**What?** Thesis study for Cordaid  
**Where?** Jakarta (Indonesia), Cebu City (Philippines), Yangon (Myanmar)

## In memoriam

## Mario van Wandelen



We were devastated to hear the sad news that our valued and cherished colleague Mario van Wandelen passed away suddenly on 20 July, at the age of 61, after completing the Four Days March in

Nijmegen.

Mario started his career on 16 August 1978 at NIBEM, one of the TNO institutes back then. Mario eventually became a senior research assistant in the TNO Functional Ingredients group. In that capacity, he was one of the people who moved to Wageningen Food and Biobased Research (WFBR) on 1 January 2018 as part of the transfer of TNO's food and biobased research.

At both TNO and WFBR, Mario put his analytical research skills to use in the field of carbohydrate structure-function relationships for developing new applications for biobased products and healthy nutritional concepts. As a project manager, he was an important link between WFBR/TNO and international clients. That resulted in a substantial portfolio in sugar anal-

yses. His years of dedication and passion for the analysis technique of high-pressure anion-exchange chromatography made this possible. In losing Mario, we are losing a fine, committed, enthusiastic and above all flexible colleague and an experienced senior research assistant. As a loving person, partner, father and grandfather, Mario really knew how to create the right mood. He was always thinking of others rather than himself, and he liked to proactively tackle things. These qualities were evident in his work and his relationship with his co-workers too. They soon made him a popular and valued colleague. He never lost sight of his work and the need to maintain a high quality even in the face of difficulties in his private life, whereby he devoted a great deal of time and love to his family.

Our thoughts and condolences go to his wife Carla, his children and their partners, his grandchildren, relatives and friends. We wish them strength to deal with their loss.

*On behalf of all staff at Wageningen Food & Biobased Research,  
Jan Jetten, Wouter Noordman*

## Announcements

**ARDUINO COURSE FOR BEGINNERS AT FABLAB WAGENINGEN**

You will learn about microcontrollers (Arduino), electronics and the programming language to make robots, self-steering machines and advanced measuring equipment or even control a 3D printer. The course consists of eight Tuesday evenings. Starts 24 September. Email [info@fablabwag.nl](mailto:info@fablabwag.nl).

[FABLABWAG.NL/EN](http://FABLABWAG.NL/EN)

**LENS THEATRE COMPANY SEEKS ACTORS**

At Stichting LENS, amateur theatre makers work on productions under the supervision of professionals, gaining experience in all aspects of the process (script, directing, stage sets, technical elements and PR). There is still room for actors in the following production (10 lessons), which will be a one-act play. Director Karin Verbeek uses techniques from Stanislavski's method acting, whereby the focus is on the goal of the character in the scene, and the actor draws on their own experiences to get inside the character's head. The introductory lesson is on 23 September.

[STICHTINGLENS.NL](http://STICHTINGLENS.NL)

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[www.wur.eu/into](http://www.wur.eu/into)



**FORUM LIBRARY EXHIBITION: 'ONLY ONE FOOT IN REALITY'**

Another exciting exhibition on display. The artist in this summer's exhibition is Simon Oosting, associate professor in the Animal Production Systems group. Poetry is his major art form, but for the past few years he has been making unique sculptures and paintings. The sculptures are made from black wood, often from oak trees that fell thousands of years ago in the marshlands near Wageningen and became totally black in the soil. You can admire these works of art till 25 October.

**EVER HEARD OF SWING DANCE?**

This dance style goes back to the 1920s and 30s in America. We dance the Lindy hop, a dance for couples to jazz music. The first (free) lesson of the course is on 23 September. Both students

(discount!) and non-students are welcome. If you want to be sure of a place on the eight-week course, register via the website.

[GRASSHOPPERSWAGENINGEN.NL](http://GRASSHOPPERSWAGENINGEN.NL)

**Agenda**

**Thursday 5 to 19 September SHOWING AT MOVIE W**

*Ruben Brandt, Collector:* Hungarian thriller/mystery about a psychotherapist for art thieves. *Tigers Are Not Afraid:* Mexican fairy tale about the violent drugs world starring 10-year-old Estrella. *Queen of Hearts:* Danish drama about a romance between a stepmother and stepson. *Miles Davis: Birth of the Cool:* US documentary. Tel Aviv on Fire: comedy about the Arab-Israeli conflict. *Le Jeune Ahmed:* intelligent drama about radicalization. Venue: Wilhelminaweg 3A, Wageningen. €6.50/€5. [MOVIE-W.NL](http://MOVIE-W.NL)

**Saturday 14 September, 10:00-17:00 41ST WINDMILL MARKET**

The theme is the lively panorama offered by Wageningen both now and in the past. Colourful panoramas form the backdrop for dance and music by talented Wageningen residents. There will be over 120 stalls with organic products and presenting sustainable businesses and non-profit organizations. You can paint at 'Montmartre on the Rhine' and of course there is the traditional children's clothes market. Venue: in and around Harnjesweg.

**Thursday 19 September WEES WORKSHOP & SEMINAR**

Prof. Erhard Strohm (University of Zurich, Switzerland) will give a workshop and seminar. Workshop: 'How do antimicrobial defences of insects evolve?', Orion C4014, 13:30, registration required ([yidong.wang@wur.nl](mailto:yidong.wang@wur.nl)). Seminar: 'The secret tricks of bees: how males and females of a digger wasp increase their reproductive success', Orion C1040, 16:00, open to all. Drinks and discussion afterwards at The Spot.

[WEESWAGENINGEN.NL](http://WEESWAGENINGEN.NL)

**19 and 20 September (19:00), 21 September (15:00, 19:00)**

**EINDGEBRUIKER, PERFORMANCE BY ARTISTS' COLLECTIVE WATERLANDERS FROM WAGENINGEN**

Waterlanders has a national and international reputation for theatrical and artistic spectacle. *Eindgebruiker* (end user) was a success at Oerl and will open the Junushoff theatre season in September on Wageningen campus. The performance will start in the Forum and then take an exciting route across campus. There will be four performances for 150 spectators at a time. Tickets €15/€10 via [JUNUSHOFF.NL](http://JUNUSHOFF.NL).

**Saturday 21 September, 10:00-17:00 WAGENINGEN UNIVERSITY TEDX: 'GROW WITH THE FLOW!'**

The event will throw a spotlight on three key aspects: technology, nature and personal development. With eight inspiring speakers and some amazing performances, this surely will be a day to excite and inspire you. Location: Orion building. More info on speakers/tickets on the website.

[TEDXWAGENINGENUNIVERSITY.COM](http://TEDXWAGENINGENUNIVERSITY.COM)

**Colophon**

*Resource* is the independent medium for students and staff at Wageningen University & Research. *Resource* reports and interprets the news and gives the background. New articles are posted daily on [resource-online.nl](http://resource-online.nl). The magazine is published every fortnight on Thursday.

**Address**

Droevendaalsesteeg 4, 6708 PB Wageningen (Atlas, Building 104, bode 31) PO Box 9101, 6700 HB Wageningen Secretariat: Thea Kuijpers, [resource@wur.nl](mailto:resource@wur.nl), 0317 484020 Website: [www.resource-online.nl](http://www.resource-online.nl) ISSN 1389-7756

**Editorial staff**

- Willem Andree (editor-in-chief) [willem.andree@wur.nl](mailto:willem.andree@wur.nl), 0317 483774
- Lieke de Kwant (magazine editor) [lieke.dekwant@wur.nl](mailto:lieke.dekwant@wur.nl), 0317 485320
- Roelof Kleis (ecology, social sciences, campus developments) [roelof.kleis@wur.nl](mailto:roelof.kleis@wur.nl), 0317 481721
- Tessa Louwerens (animal sciences, nutrition) [tessa.louwerens@wur.nl](mailto:tessa.louwerens@wur.nl), 0317 481709
- Albert Sikkema (plant and animal sciences, organization) [albert.sikkema@wur.nl](mailto:albert.sikkema@wur.nl), 0317 481724
- Luuk Zegers (students and education) [luukfl.zegers@wur.nl](mailto:luukfl.zegers@wur.nl), 0317-486002

**Others who work on Resource**

Guy Ackermans, Ignacio Auger, Hannah Begemann, Evelien Castrop, Cathy Chen, Inge Corino, Rijk Dersjant, Tim den Duijf, Marieke Enter, Donatella Gasparro, Anna den Hartog, Gina Ho, Hoger Onderwijs Persbureau (HOP), Anja Janssen, Femke Janssen, Piotr Kukla, Clare McGregor, Sven Menschel, Rik Nijland, Kaavya Raveendran, Henk van Ruitenbeek, Julia Schäfer, Monique van Schie, Konstantina Togka, Inge van der Wal, Clare Wilkinson

**Graphical design**

Geert-Jan Bruins, Paul Gerlach, Alfred Heikamp

**Printer** Tuijtel, Hardinxveld-Giessendam

**Subscription**

A subscription to the magazine for one academic year costs €59 (€135 if abroad). Cancellations before 1 August.

**Advertising**

External: Bureau van Vliet, [l.paap@bureauvanvliet.com](mailto:l.paap@bureauvanvliet.com), 023 5714745 Internal: Thea Kuijpers, [resource@wur.nl](mailto:resource@wur.nl), 0317 484020

**Deadline**

Deadline for Service items: one week before publication date. The editors reserve the right to edit and/or shorten announcements.

**Publisher**

Marc Lamers, Corporate Communications & Marketing, Wageningen University & Research

**Science Cafe Wageningen**  
[www.sciencecafewageningen.nl](http://www.sciencecafewageningen.nl)  
 Music by: Radiant Wood  
**Climate Change Policy & Ethics**  
 Thursday, Sept. 19th  
 Café Loburg  
 19:45 Live music  
 20:15 Science  
 FREE ENTRANCE  
 Speakers:  
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# >>TYPICAL DUTCH



ILLUSTRATION: HENK VAN RUITENBEEK

## The Dutch don't know their country

**Coming from outside Europe, I feel that every city in this region is unique. It makes me super curious and I try to see as many different cities as I can. To my surprise, the Dutch don't share my curiosity. They have often seen very little of their own country.**

Every weekend I try to take time to explore different Dutch cities. Amsterdam, Leiden, Enschede, Tilburg, Eindhoven, Maastricht, Den Bosch... You name it, I've been there. And I guess that most international students visit the major Dutch cities. But when I try to talk to a Dutchy about any less popular city, chances are that he or she has never been there. By now I think I can claim to have visited more Dutch cities than the majority of Dutch people. I think that's funny. The Netherlands is such a small country and railway connections are excellent here. The furthest major Dutch city is reachable from Wageningen within three hours. Still, many people do not take the trouble to go there.

A Dutch guy I spoke to recently confirmed my hypothesis that Dutch people rarely explore their own country. 'Leeuwarden, Groningen, where's that?! And no, I've never been to Gouda.' And one Dutch friend of mine had never visited Rotterdam until three months ago, when we went there on an excursion of a course we took together. The funny thing is that his parents live in The Hague, which is only 20 minutes from Rotterdam by train! 📍 **Tombayu Amadeo Hidayat, an MSc student of Geo-Information Science, from Indonesia**

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*Do you have a nice anecdote about your experience of going Dutch? Send it in! Describe an encounter with Dutch culture in detail and comment on it briefly. 300 words max. Send it to [resource@wur.nl](mailto:resource@wur.nl) and earn 25 euros and Dutch candy.*