

Resource

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The journalism platform for Wageningen University & Research

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for basic grant

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nitrogen scheme work?

Rise in
scam phone calls

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FOREWORD

Black hole

When I was doing my PhD, I took part in special weekends organized by my graduate school, PE&RC, for first-year, mid-term and final-year PhD candidates. Especially in the mid-term weekend, I found it comforting and liberating to share my frustrations with fellow PhD students. Everyone regularly found it a struggle, but together we could put things into perspective and plan how to keep going. PhD contracts are for four years but most PhD candidates take more than five years to get to their defence. In the final stretch they complete the thesis in their own time, unpaid, while they survive on benefit or savings, or work on it in the evenings alongside a new job.

One in five prospective doctors drops out, the coordinator told us during the first weekend. Why? *Resource* found three people willing to talk to us. Two had stopped and one still intends to reach the finish line (p. 12). It is brave of them to share their experiences, and we can learn from their openness. But what happens after you stop? It is a black hole. When you stop, you disappear from the radar of the WUR network. There are plenty of career monitors showing what you can do with your doctorate, but what if you never finish your PhD? I'd like to see a career monitor for that too. It could end the taboo on not finishing and relieve the pressure on an awful lot of PhD candidates.

Stijn Schreven
Science editor





CLEANING ATLAS

Once again, a cleaning team is busy spraying the Atlas facade clean —the fifth time since the building was finished in 2006. Algae and dirt get lodged in the building's external concrete load-bearing structure. The job will take four weeks, during which 5500 m² of concrete and 4400 m² of aluminium will be cleaned with hot water. All this costs 40,000 euros. Facilities & Services experts say the cleaning operation is the only sustainable option. ^{RK}

Photo Roelof Kleis

Bonus for quick nitrogen decision

A ‘seriously attractive scheme’ was what the minister Christianne van der Wal promised farmers who were willing to put an end nitrogen emissions – and close their farm as a result. She sent a letter outlining the scheme to Parliament last Friday. Edo Gies, senior researcher in Dynamic Spatial Use, comments on the scheme.

Is that a good idea, rewarding quick decisions with higher compensation, 30 per cent above the market value?

‘There was not that much interest in the previous schemes. It’s hard to say whether this one will work. In the end, each farmer makes their own assessment: what are my plans for the future, do I have a successor, what does the market look like?’

Is the government pushing too hard with its ‘quick decision bonus’?

‘The scheme is voluntary so far: farmers don’t have to take up the offer. But that could change and the government could force farmers to give up their business. What is more, there is hardly



Photo: Taisiana Hengzel / Shutterstock.com

‘It’s hard to say whether this will work’

in that situation feel a lot of pressure to let themselves be bought out now, even if they would really prefer to carry on farming a few more years.’

any space left for development in various parts of the Netherlands and that is not going to change in the future. I can imagine farmers

Does the scheme offer a solution for the nitrogen crisis?

‘That depends on where the farms that stop are: whether they are close to nature areas badly affected by nitrogen. It seems sensible to prioritize the closure of farms located in areas where nitrogen deposition causes most problems. The minister has now asked the provinces to come up with a plan first. So there still no real clarity.’ ME

Plans for basic grant announced

A basic grant of 255 euros per month for students who are renting and 91 euros for students still living at home: these are Education minister Robbert Dijkgraaf’s plans.

Parliament can have a say in the plans as long as the new student financing system does not cost more than the one billion euros per year reserved for it and can start in September 2023.

Before the basic grant was abolished, students in rented accommodation got 312 euros and students living at home got 112 euros. So Dijkgraaf’s proposed basic grant is less than before the abolition in 2015. However the supplementary grant for students from low-income families is more. Previously it could be up to 299 euros but now it will remain as much as in the loan system, namely up to 419 euros per month depending on parental income.

Students who have already started their degree will also be able to get a basic grant as long as they are still within the nominal number of years for their degree. Chair of the Dutch

‘The 91 euros for students living at home doesn’t even cover their tuition fees’

National Students’ Association Lisanne de Roos is disappointed with the plans. ‘The 91 euros for students living at home doesn’t even cover their tuition fees and a grant of 255 euros for students who are renting only leaves 44 euros a month for groceries and rent after paying the fees.’ She says the proposed basic grant is ‘definitely an improvement financially’ for students but it won’t solve their problems. HOP

12

Student party Connect Wageningen was just 12 votes short of gaining an extra seat on the council. The party requested and got a recount of all the votes. That recount cost Wageningen municipality 31,000 euros and gave Connect exactly the same number of votes as before. So no extra seat. But you should not stint on democracy. RK

Less interest in BSc open days

With about 1200 prospective students turning up, interest in the open days on campus for Bachelor's degrees was less than before the coronavirus. 'The lack of clarity about student grants and loans is affecting prospective students' decision making,' says student recruiter Renske van Dijk. 'And many schoolchildren in their final year are still making up for the lost time during the pandemic. It's simply a weird time in which to be choosing your degree.' The number of preliminary registrations of Dutch Bachelor's students is eight per cent down on last year (an absolute difference of 60). But April is traditionally a month with a lot of movement in registrations. Van Dijk: '1 May is the key reference date. We'll know more then.' ME



GOLDFISH

HERE THE STURGEONS ARE
THEY GET QUITE OLD
TO MAKE BLACK GOLD
HOLLAND'S CAVIAR

HERSCHO DUDS

Rise in scam phone calls

Spoofing is affecting internationals in particular, including at Wageningen.

'Hang up, it's a scam.' Phytopathology researcher Lorena Herrera posted this warning last week on the Wageningen Student Plaza Facebook page after she and a number of her friends got dubious phone calls.

The calls follow a fixed pattern. The phone screen shows a normal 06 or 070 number. When you answer the call, you hear a voice message in English referring to 'the Dutch Supreme Court' or 'the Dutch police'. It says that your phone number or citizen service number has been linked to criminal practices. If you then press 1 as requested to speak to someone from the 'Dutch Ministry of Justice', you get someone on the line

who speaks English with a strong Indian accent and tries to persuade you to transfer money.

Sophisticated

Herrera, who is originally from Colombia, knows the Dutch government bodies well enough to realize this is suspicious.

If you know the Dutch government bodies well enough, you get suspicious

But if you have only just arrived in the Netherlands, you may not recognize this as spoofing, a sophisticated form of fraud. The police cannot give actual numbers but they confirm that many of the victims are international students and expats at the moment. Often a lot of money is involved too. The



national Fraud Helpdesk says people lose 8500 euros on average.

Delft University of Technology says various international students there have been caught out. At WUR, there has been at least one close call where an incident was prevented thanks to an alert bank. That plus the experiences of Herrera and her friends shows that people need to be on their guard here too. ME

Scan the QR code for tips





Wageningen best for student housing

The national student union LSVb has declared Wageningen the best city for student housing in 2021.

According to LSVb, Wageningen has ‘one of the healthiest student housing markets.’ The jury report praises Wageningen for its guarantee that all first-year students will get accommodation by 1 May at the latest. Wageningen also has the second cheapest rooms (345 euros on average) after Enschede (335 euros). The average rent for a room in Amsterdam is 520 euros.

LSVb ranked the Dutch student cities based not just on housing shortages and rents, but also other criteria. Points were awarded for the municipality’s policy, the information provided, and collaboration between the municipality, university and housing providers.

LSVb chair Ama Boahene says Wageningen takes the accommodation problems seriously. ‘The university gets involved, and that is not always the case elsewhere. And temporary housing has been put up for international students, who often end up on campsites in other municipalities.’

Good locations

With a market share of 60 per cent, Idealis is the biggest player in the Wageningen student housing market. Director Bart van As applauds the municipality for making good locations available for student housing. ‘We build specifically for students, which stops students for looking for alternative accommodation in the Wageningen housing market.’

The award does not mean there are no problems in Wageningen student accommodation. As an example, it was harder for exchange students to find a sublet room this year because Dutch students who had continued living with their parents in 2020 due to Covid were now also applying for sublet rooms. LZ

Students develop agriculture lessons

Douwe de Jong (26, Biosystems Engineering Master’s student) and Mustafa Agbaria (22, Electrical Engineering student at Delft) are helping to develop lessons on agricultural innovations.

‘Where does our food come from and what technological innovations are needed to produce food more sustainably? We want to get secondary school children thinking about these and similar questions,’ explains De Jong. He came up with the idea with Agbaria in January when they both started as Technology Drivers: a working group of students from the four technical universities (4TU). Last year’s Technology Drivers investigated what was stopping the farming sector from accelerating the transition to sustainability. One of the problems was the lack of knowledge about the food supply among consumers, says De Jong. ‘If you want to work on that,

you can start in schools.’ Setting up a completely new subject was ‘not doable’ as full-time students and part-time Drivers so De Jong and Agbaria looked at whether they could tie in with Nature, Life, Technology (NLT), a subject schoolchildren preparing for university can choose. Edgar de Wit is teaching materials coordinator at Wageningen Pre-University and responsible for the NLT module ‘The Future of Agriculture.’ ‘215 schools offer this optional subject. A test version of the module Douwe and Mustafa developed is already being taught in one school and we have feedback on that.’ After processing that feedback, De Jong and Agbaria want to arrange guest lessons and excursions to innovation agribusinesses: ‘To places where they have implemented precision agriculture with drones and sensors, for example.’ LZ



Bike repairers wanted

Each Tuesday evening, a group of WUR student volunteers help fellow students repair their bikes in the Forum basement. The group, the Student Bike Workshop Wageningen (SBWW), recently celebrated its 10th anniversary. But now the most active volunteers are close to graduating and SBWW is looking for new people to replace them. If you are interested but don’t have experience repairing bikes, that’s not a problem as the old guard will train you. LZ

Read more at www.resource-online.nl

Meat-light visions

In a week in which Agriculture minister Henk Staghouwer announced an investigation into a possible meat tax, WUR co-organized a debate on 'The Future of Meat'.

Eating meat is actually a weird idea, argued 'ecomodernist' Hidde Boersma. He shared a thought experiment with the audience in which he presented a meatless society as the norm. 'In such a vegan society, would anyone think it a good idea for humans to shut billions of animals in barns, snip or saw off body parts, clear a quarter of the Earth's surface to grow food for them — and then kill them in order to eat them?' he wondered out loud. Boersma advocated a completely meatless future in which precision fermentation is used to feed the world with non-animal protein sources: cultured meat and dairy products

'As a person I would have to get used to the idea. But as an economist, I say go for it'

that can be produced compactly and have the perfect taste and texture thanks to fermentation bacteria optimized with CRISPR-Cas.

WUR agricultural economist Petra Berkhout saw it as a 'nice alternative that is efficient and effective', adding: 'To be honest, as a person I would have to get used to the idea. But as an economist, I say go for it.'

Half

Professor of Livestock & Sustainable Food Systems Imke de Boer said that meat would not have to disappear from the menu if the Dutch food system only produced what the planet can sustain. 'If we only feed animals with waste streams and grass, which is indigestible for humans, we would need to cut our meat consumption by about half. And that is in line with what the Nutrition Centre recommends,' she said. The video recording of the evening, which also included inspiring contributions by practitioners, can be viewed on the YouTube channel of debating centre De Rode Hoed. ME



Photo Shutterstock

Not that much plastic in your body

A model study shows that adults take in 880 microplastic particles a day on average.

Even something simple as opening a plastic bottle releases microplastics — plastic particles between 1 and 5000 micrometres in size. We take in microplastics with our food and drink but also via the air. It is not yet clear what effect this has on

Over half the microplastics leave your body in your poo

our health. Nur Hazimah Mohamed Nor, a researcher at Aquatic Ecology and Water Management, investigated how much we take in exactly and how that accumulates.

According to a 2019 study by the University of Newcastle (Australia) commissioned by WWF Singapore, we ingest five grams a week, the equivalent of one bank card. Do we really swallow that much plastic? Mohamed Nor built a model to calculate how much microplastic you get inside you through breathing and via eight food categories with known concentrations of microplastics (fish, molluscs, crus-

taceans, tap water, bottled water, salt, beer and milk).

Her model shows that adults absorb 880 plastic particles per day on average, and children 510 particles. Children and adults expel similar quantities in their poo, namely 480 and 490 particles respectively per day. That children get rid of as many particles as adults could be due to their faster metabolism.

Grain of sand

The model calculated how many microplastics a person's body absorbs up to the age of 70. That is more than 50,000 particles, which sounds a lot but is only 0.04 micrograms, a fraction of a grain of sand. So the bank card per week story can be taken with a grain of salt. However, it should be noted that the foods in Mohamed Nor's model only account for one fifth of our daily diet. The concentration of microplastics in many foods, such as grains, rice, vegetables, fruit, meat and processed foods, is not yet known. ss



A Little Wiser

How healthy is decaf?

'Coffee is not unhealthy,' explains Vincenzo Fogliano, professor of Food Quality and Design, 'if drunk in moderation.' In fact, one or two cups a day lowers the risk of diabetes, heart disease and strokes. Filter coffee is the healthiest; the filter actually keeps out some of the cafestol and kahweol, substances that increase LDL (bad) cholesterol. Cafetière coffee contains the most cholesterol-raising substances.

Coffee also contains the stimulant caffeine, which is a reason to drink it for a lot of people. It's not great, though, if you want to sleep or you are highly sensitive to caffeine. For such cases, there is decaf. But decaf is not completely caffeine-free either: one cup still contains about three milligrams of caffeine, compared to 60 to 90 milligrams in a regular cup of coffee.

Decaf is said to be bad for the drinker and for the climate because of the chemical process used to extract the caffeine from green, unroasted coffee beans. 'In the past, dichloromethane was used for that,' says Fogliano. 'That's a toxic substance that evaporates after the process. Nowadays, CO₂ is used. Under high pressure, this gas becomes a liquid in which the caffeine dissolves and then evaporates. It's a clean process and toxin-free.' But the process does take a lot of energy, which is not good for the climate. Only a few factories in Europe use this CO₂ method on a large scale, says Fogliano. 'Because of the enormous scale, bulk quantities of coffee beans are used. And those are not the best quality beans. Coffee

roasters usually use the best beans for regular coffee and the rest are used for decaf. One reason for this is that the decaffeination process removes certain disagreeable aftertastes.'

People sometimes find decaf less flavoursome. Understandably, says Fogliano. 'But the mediocre quality of decaffeinated coffee has nothing to do with the process of decaffeination, and everything to do with the quality of the beans. In itself, decaffeination actually improves the taste a little. But you can never make good coffee with poor quality beans.' But there is another advantage to taking the caffeine out of the beans: fungi that produce toxins can easily grow in coffee. 'If that happens, you have to throw away the coffee. Some manufacturers choose a different solution: they turn it into decaf. With the CO₂ you flush out not only the caffeine, but also the fungal toxins.' TL



'You can never make good coffee with poor quality beans'

Vincenzo Fogliano,
professor of Food Quality
and Design

Every day we are bombarded with masses of sometimes contradictory information on pressing issues. In this feature, a WUR scientist gives you something to hold on to. What are the facts of the matter?

Every question makes you a little wiser. Do you dare to ask yours? Email us at redactie@resource.nl

Illustration Marly Hendricks



Image from the collection

The curator's tastes

With a new curator in charge, Special Collections is looking to connect with people.

Chef's Special, a taste of the collections is the title of the new exhibition that starts next week in the library. The poster advertising the exhibition shows a table laid for a meal. The six 'dishes' are unusual books and artworks from the library's collection.

'I also want the collection to be used a lot more'

Chef Anneke Groen sits at the table. She has been the Special Collections curator in charge of WUR's treasures

for a year now.

Groen says the exhibition was designed as a 'renewed acquaintance'. The collection has largely remained out of sight for the past two years due to Covid. As a result, many new employees and students have no idea of the unusual scientific and cultural heritage that WUR has in house.

Apple cakes

Groen: 'We are serving the dishes as a team of six people. Each person chose one theme, which we use to showcase the collection.' The themes range from the drawings of the botanical artists who worked for WUR to farm

mechanization and the Vroom family of garden designers.

If you look closely at the poster, you will also see a plate of cakes on the table. The cakes refer to the theme of apple varieties through the centuries. Groen: 'Lotte Kniest chose that theme. She baked the cakes herself using a recipe from the 18th century. You can see the recipe in the exhibition. It is for a kind of apple fritter.' WUR has long done a lot of research on new apple varieties.

It is good to be visible, but Groen plans to go further than that. 'I also want the collection to be used a lot more. Special Collections should be about making connections: connecting researchers to the library, connecting students to education, and connecting WUR people to people outside WUR. For example, we are collaborating with the Garden Design and Landscape Architecture group to let first-year students work with the collection next year in their project week.' ^{RK}

Chef's Special can be seen from 12 April to 30 September at the library. More info: wur.nl/en/show/Library-SPECCOL.htm

Rat trap tested: effective but causes suffering

The trap is effective but it also causes a lot of suffering. That in brief is the conclusion of a study investigating a drowning trap for rats and mice by Wageningen Livestock Research, Utrecht University and the Dutch Pest & Wildlife Expertise Centre (KAD).

Questions had already been asked in Parliament about the trap. New methods for catching and killing rats and mice are constantly appearing on the market in response to the increasing restrictions on the use of poisons to deal with rodents — in part because the rats and mice develop resistance while the poison accumulates further up the food chain. Two key questions are whether the new methods are effective and whether they cause unnecessary suffering. Article 3.24 of the Nature Conservation Act states that unnecessary suffering must be avoided when catching or killing animals, and that applies to *all* animals living in the wild.

Practical test

To answer these questions for a certain type of drowning trap, Livestock Research performed a study that included a practical test on a farm in Limburg. The images were not pleasant, says pest expert Bastiaan Meerburg. Rather than stupefying the rodents as the manufacturer claims, the liquid they fell into when the trap door opened irritated them. It took over one and a half minutes (96 seconds) on average before the rat or mouse drowned. 'Severe suffering', ruled the experts from the three research institutions.

The research report was sent to the Ministry of Agriculture last week. The conclusion is that further optimization is required to reduce the negative effect on the welfare of the target animals. Or as Meerburg puts it: 'I can see additional rules being introduced.' ^{ME}

In other news science with a wink

◆ BLOOD

Vampire bats can survive on blood alone. They are the only three out of all 1400 species of bats that can do so. Researchers at the Max Planck Institute and others have identified 13 genes involved in that adaptation to a low-calorie, low-fat menu. By the way, these little Draculas do not live here, but in South and Central America. So that's the good news.

◆ THIRST

The occasional glass of beer or wine does not make your ticker work any better. On the contrary, a study by MIT (Massachusetts) shows. Even light alcohol con-

sumption leads to a higher risk of cardiovascular disease – contrary to what is always claimed. The researchers do have an explanation for the claim, though: light drinkers have healthier lifestyles. And that counteracts the negative effects of a drink or two.

◆ CURSING

Swearing makes a person stronger and more reckless, according to a study by Keele University in the UK. Students squeezed a handgrip dynamometer an average of 2.5 kilos harder if they simultaneously swore heartily. And they dared to pump up a balloon further, at the risk of bursting it, if they swore

as they did so. The underlying theory is that swearing removes inhibitions. What the f***?

◆ PLASTIC

Scientists at ETH Zurich have created a fully recyclable type of plastic. The stuff (a polymer) can be almost completely broken down to its building blocks (monomers) after use. Currently that only works with plexiglass. The next challenge is the widely used polystyrene. Note, though, that existing plastics cannot be broken down in this way. ^{RK}

Looking for an exciting career on the edge of science, technology, and entrepreneurship?

Experienced Plant Biochemist - Entrepreneur

IsoLife bv (www.isolife.nl) in Wageningen (WUR-campus) is looking for a scientist with the ambition to further develop IsoLife's mission, with the intention to take over the management of IsoLife in the medium to long term, and with the capacity and possibilities to become a future (major) shareholder.



Stable Isotope Labelled Plant Products for the Life Sciences

Our company:

IsoLife is a product company with a focus on contract research, global market leader in the production, development, and marketing of plants and phytochemicals enriched with stable isotopes. This is performed in a worldwide unique labeling facility on the Wageningen UR campus. Our aim is to advance Life Sciences with tracers and internal standards, e.g. by publications in *Nature*. Our international clientele includes many top-100 universities.

Requirements:

- PhD Plant Biochemistry / Biotechnology in the Life Sciences
- Commercial skills, attitude and ambition
- Passion to develop innovative plant products.



Job description:

- Initiate & coordinate product and business development
- Biochemical and physiological support of productions
- Enthusiastically presenting IsoLife in R&D ambiances.

Has this aroused your interest: look at www.isolife.nl/careers for more information!

Pension, part 2

In February 2020, I wrote a column in *Resource* about our ABP pension and how the pension policy is detrimental to the younger generations, who are also barely represented in the ABP's Accountability Council.

Apart from the angry emails I received from senior readers, the column was also read by people from the Accountability Council. After talking to the List for Independent

'Saving 800 euros every month for later! Surely you want that money to be properly distributed and sustainably invested?'

myself and stand for election to the LvOP. Can I spare the time? No. But it is so important, especially with the introduction of the new pension system, that balanced consideration is given to the interests of all generations. Every time I have doubts about the usefulness of standing for election, I think of Joke, who wrote under a tweet from the

Pension Supervision (LvOP), one of the six parties represented in the council, I decided to take up the cudgels



Guido Camps

LvOP: 'Who thinks about their pension when they are young? Way too far off. You don't even know if you'll reach your state pension age and what the pension system will look like in 40 years. I'm more worried about my own pension rights, with no indexation for the past 10 years.'

For example, if you earn 3500 euros gross, about 800 (!) euros goes from you and WUR as an employer to the ABP every month. So you are saving 800 euros every month for later! Surely you want that money to be properly distributed and sustainably invested? And – painful detail – 100 of the 800 euros goes into a scheme for early retirement, which you as a 'young person' can go whistle for. (Another agreement made by a different generation than the one that has to pay for it.)

I understand that nobody enjoys studying pensions in depth and I'm not that keen on it myself. But do prove Joke wrong and at least make the effort between April 4 and 25 to make your voice heard, whatever your age. Vote for who you want and if you care about having a sustainable, fair and transparent pension scheme, then please vote for the List for Independent Pension Supervision. abp.nl/verkiezingen

Guido Camps (38) is a vet and a researcher at Human Nutrition and OnePlanet. He also enjoys baking, beekeeping and unusual animals.

Nearly 10 per cent of PhD candidates drop out within four years

PHD IS A LONG HAUL – TOO LONG

Getting a PhD is the ticket to an academic career, or so the thinking goes. But the four-year process of research, data analysis and publication takes its toll on many candidates. Nearly 10 per cent of PhD students drop out within four years. Many others are still working on their thesis years later. Why is this? And what could WUR do to support PhD students better?



Text Coretta Jongeling

Abandoning your PhD research is not an easy decision to make. I was undecided about it for a long time. You're not the only person involved. You know you're leaving the department with a problem if you stop halfway through.' Viola quit her PhD after three years. The main reason was practical: she became pregnant and was no longer allowed to enter the lab because she was working with toxic substances. Breastfeeding was incompatible with lab work too. 'I hadn't expected it to have such an impact. We then asked someone else to do the practical work, but that person couldn't do the analysis that went with it. In the end, that way of working was terribly time-consuming.' Viola got so behind that she eventually decided it was better to stop.

Not enough progress

WUR keeps track of data on PhD students in the Promis database. This shows that almost 14 per cent of the PhD students who started in the last 12 years dropped out. 52 per cent of them did so at the go/no-go moment, about 12 months after starting. The main reasons for dropping out at that point were 'not enough progress', 'the project is not motivating', and 'lack of the required academic attitude'.

So more than half of the dropouts stopped after less than a year and a half. Is that a bad thing? Saskia de Boer, policy officer in the Dean of Research Office: 'The go/no-go moment was created precisely to make it possible to stop PhD projects fairly early on if they stand little chance of success. Of course it is a pity when you have started and it turns out not to go well. On the other hand, you might be preventing a lot of personal distress at a later stage.'

'Not enough progress' is also the most important reason given for stopping at that 'later stage' (in over 40 per cent of the cases). Illness is often mentioned too (nearly 15 per cent), as well as 'the project is not motivating', 'personal reasons', 'started another job', and 'loss of contact with PhD student'.

Short circuit

'Not enough progress' and 'personal reasons' are catch-all terms that cover a wide variety of personal stories. Officially, Vera (not her real name) quit because she hadn't got far enough with her research. 'I started my PhD about a year before the Covid pandemic broke out. I had received a grant, was eager to go to Wageningen, and found a supervisor quite



About 22 per cent of WUR PhD candidates have dropped out or are yet to finish after 10 years ♦ Photo Guy Ackermans

easily. In retrospect, maybe I should have considered other options, because we didn't really click. When I asked questions, he said discouraging things like "Even a Master's student can do this, why can't you?" That gave me a case of imposter syndrome: I felt incapable compared to other PhD students around me. When we started working at home during the first Covid lockdown, the situation worsened. I was suffering from stress, things were not going well in my private life, and because of the travel restrictions I could not see my family. That combination caused anxiety symptoms, which I had therapy for. The therapist said that the anxiety caused a kind of short circuit in my brain, which made it difficult to think clearly. Which happens to be just what you need to do to be able to do research.'

At the beginning of Vera's third year, she had not yet published any articles. Her supervisors set her a deadline: three months later there had to be an article. 'During that time, fortunately, I was doing better. I was motivated, I had the courage to ask questions, and I was on a roll with my research. But I didn't make the deadline.' The PhD project was terminated. 'I was very

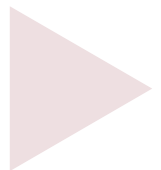
'YOU KNOW THAT YOU ARE LEAVING THE DEPARTMENT WITH A PROBLEM IF YOU STOP HALFWAY THROUGH'

sad. Not only did I feel I had failed, but I also had to pay back the full grant. Even though my supervisors were also partly to blame.'

Ten-year plan

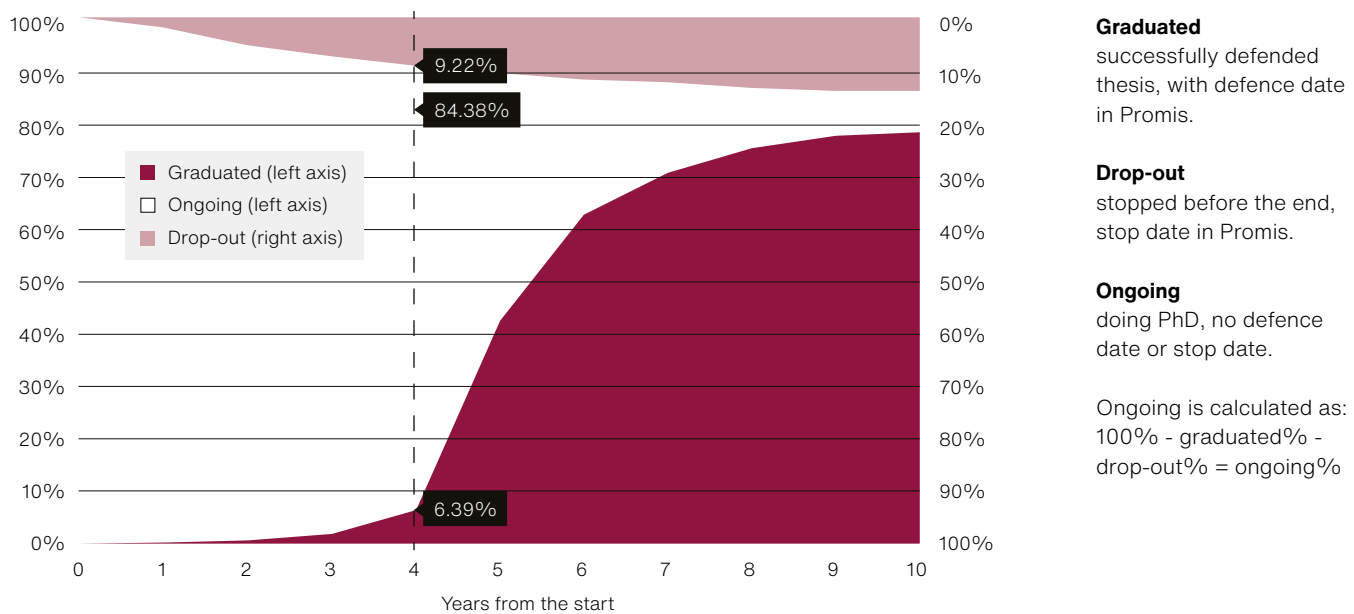
In addition to the group of dropouts, there is also a sizeable group (7.9 per cent) of 'perpetual PhD candidates', who are still plugging away after 10 years. Policy officer De Boer: 'Some of these are people who have done everything – the research, the data analysis – except finish the dissertation. That's a great pity, not only for the PhD students themselves, but also for the supervisors and the university. If someone successfully completes a PhD, the university gets a PhD bonus from the government. If someone has had years of supervision and the university has invested in the research, and it is only that the dissertation is not completed, that's a bitter pill to swallow.'

Lucas (not his real name) is one such long-term PhD



Completion rates for WUR PhD candidates

based on analysis of all PhD candidates who started at WUR in the period 2010 - 2020 (n = 4213; data source: Promis)



Graduated
successfully defended thesis, with defence date in Promis.

Drop-out
stopped before the end, stop date in Promis.

Ongoing
doing PhD, no defence date or stop date.

Ongoing is calculated as:
100% - graduated% - drop-out% = ongoing%

‘I TRIED TO CRAM THAT PHD INTO A SPACE IN MY LIFE THAT WASN’T THERE’

student. He started 10 years ago as a guest PhD student, which is someone who does their research alongside another job. ‘I thought, this is a once-in-a-lifetime opportunity, so I said “yes” straightaway. I was given time for it by my other employer and there was already data I could use. But it didn’t go to plan. That one day a week is just not an efficient way of working. Besides, I had misjudged how suitable the data was that we already had.’

After seven years, Lucas got another job. ‘I still intended to finish the research but then I had a burnout. That had to do with my personal life as well: by then I had got married, bought a house, and had children. I was trying to cram that PhD into a space in my life that wasn’t there. At one point I told my supervisor that I wasn’t going to make it and was at home with a burnout. He didn’t really get it. He said, “If you want to finish it, you’d better get a move on, because I’m going to retire soon.”’ Lucas still plans to finish his dissertation, although he won’t put a date on it. ‘I’m afraid that

if I commit fully to the dissertation writing, I’ll have another relapse. I want to avoid that at all costs.’

What could be improved on?

In total, about 22 per cent of WUR PhD students drop out or have not finished after 10 years (the national average is even higher, incidentally). Isn’t that a sign that something is going wrong with the supervision? What improvements could be made? Anouk van Breukelen of the PhD Council sums up: ‘Better guidelines on how much time can be spent on teaching and supervising students. This varies enormously from one department to the next. Some PhD candidates supervise one student, others six. Not everyone knows that it is possible to get a contract extension if you spend a lot of time supervising. And another thing: clarity about the number of chapters that a dissertation must have. The norm is four, but many people don’t know that that’s not a legal requirement.’ Lucas thinks more priority should be given to completing the dissertation within four years. ‘Because after that the funding runs out and if you go on, it’s at your own expense, often in the evenings and weekends. That’s not healthy.’

Whichever way you look at it, a PhD is a daunting task. Viola: ‘As a PhD candidate you immerse yourself in one subject for four years. You really need to be in it for the long haul, even if everything goes well. And if things don’t go to plan, or you don’t get concrete results, you’ll soon be wondering what you are doing it all for. For a report that ends up in a drawer somewhere?’ ■



UNIQUE houses

There are student houses and there are weird and wonderful student houses. In this column we visit the latter. This time: The Tree House.

Thijs: 'This has been a student house since 2018. Before that, it was a university building. When we moved in, it was totally empty. Here in the kitchen we had two tables and four refrigerators, but of course that was not nearly enough for 34 people. To begin with there were also only Bachelor students living here.'

Bas: 'That really was over the top. Drinking beer every day, terrible cooking...'

Thijs: 'It's different now. The house has become a lot more diverse. We try to do something together once a week. You have to sign up for that, so we know how much food and beer we need. We never manage to have everyone home at the same time, but there are often about 25 of us. We cook in that large catering pot over there.'

Yann: 'The nice thing is that this building is due for demolition at some point,

so we can do whatever we want. Paint on the walls, for example.'

Thijs: 'With variable results, I must say.'

Bas: 'We created a gym on the first floor, which is used regularly.'

Mink: 'That was particularly ideal during the lockdown, when all the gyms were closed.'

Bas: 'The house has four floors. Each floor has its own atmosphere and routines. The third floor is always very clean, for example.'

Thijs: 'And the fourth is – er, let's say the opposite. That's where the living room is, in the tower. It's quite big, but it fills up quickly. If everyone invites a few people, you can have 50 people in the room in no time. That could be tricky sometimes during the Covid period.'

Bas: 'We got quite well-known in Wageningen then because there was the odd party. We can say that now, can't we?'

Thijs: 'Sometimes it was almost scary, because so many people came. I would



The Tree House

Residents :

Babette, Bart, Bas, Bram, Brian, Camille, Cedric, Dennis, Dieke, Eline, Fenne, Hannah, Jorn, Kees, Kim, Koen, Kwin, Laura S, Laura T, Lise, Lotte, Luisa, Luuk, Mink, Natalia, Nelson, Nick, Olivier, Raymon, Rody, Susette, Thijs, Torgeir and Yann.

Unique because :

34 people live there

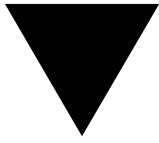
be in the supermarket and I'd hear people say: where are you going tonight, the Tree House as well?'

Bas: 'Once we had to turn away a long line of people at the door; it was getting really dangerous.' ☹

Would you like to be in *Resource* with your UNIQUE student house too? Send an email to resource@wur.nl



Some of the Tree House residents. ♦ Photo Guy Ackermans



INBREEDING INFOGRAPHICS

What is inbreeding and why can it be problematic? Most people can answer this question, albeit with some difficulty. But calculating a kinship or inbreeding coefficient? Understanding why a homozygous gene pair (i.e. a gene pair with two identical genes) can have both advantages and disadvantages in breeding? Or knowing under what conditions an inbred animal can still produce genetically healthy offspring? Not all breeders have this kind of knowledge at their fingertips, regarding relatively rare breeds, for example.

To help breeders, breed organizations and studbook publishers make the right breeding policy decisions, the Netherlands Centre for Genetic Resources (CGN) developed three infographics on inbreeding. CGN is WUR's programme unit for statutory research tasks (WOT) on genetic sources and the genetic diversity of crops, farm animals and aquatic species, trees and shrubs. *Resource* has permission to publish one of those infographics here; the entire set is available (in Dutch and English; French and Spanish versions are in the works) at fokkenmetverstand.nl.

Text Marieke Enter ♦
 Infographic Illustration-ink
 (©CGN/ERFP; cgn.dier@wur.nl)

Managing inbreeding and relationship in a breed

Inbreeding (F) can cause genetic defects and affect health. When breeding related animals the offspring will be inbred. Inbreeding itself is not heritable.

When breeding an animal, it is important that breeders can choose from a sufficient number of weakly related animals with low relationship for breeding.

Population

Rate of inbreeding (ΔF): difference (in %) between the average inbreeding in a population and the average inbreeding at an earlier stage.

Rate of inbreeding per generation

Rate of inbreeding adjusted for generation interval, used for risk assessment between breeds and species.

For a healthy population



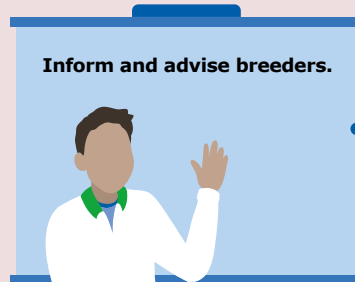
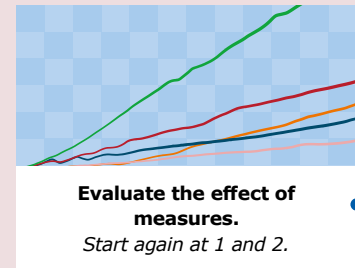
More animals for breeding



Higher genetic diversity



Lower rate of inbreeding



Mean Kinships (MK)

Average kinship of an animal to all other breeding animals ($\sigma + \varrho$) in the population.

Publish MK to assist selection of breeding animals.

Offspring increases the MK of their relatives.

Use animals with a low MK for breeding.

MK adjusts every generation for animal use.

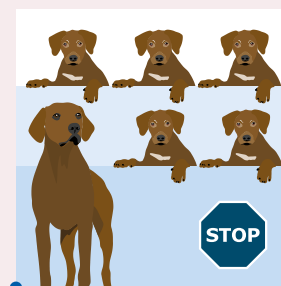
Measures to limit rate of inbreeding



Inform and advise

Animal owners and breeders make the choice. Advice and information are needed.

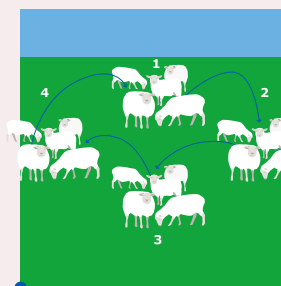
- Be aware of current situation and possible scenarios.
- Give breeding advice and use breeders' acumen.



Breeding restriction

Maximal number of matings per breeding animal.

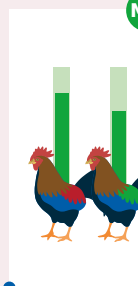
- Prevents excessive use of certain animals.
- Promotes use of other breeding animals.



Breeding circle

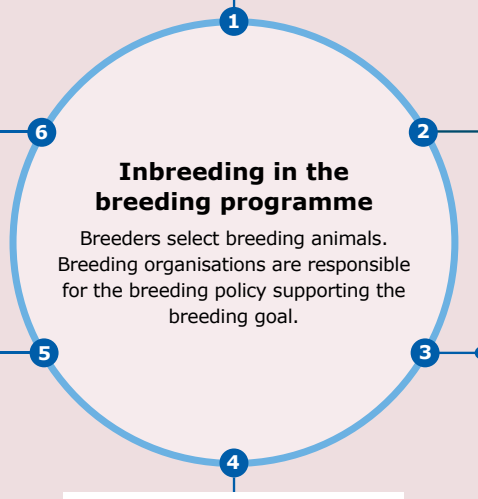
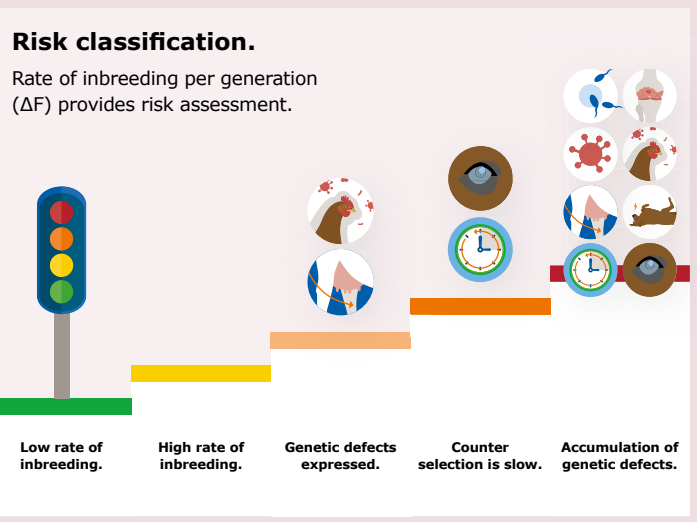
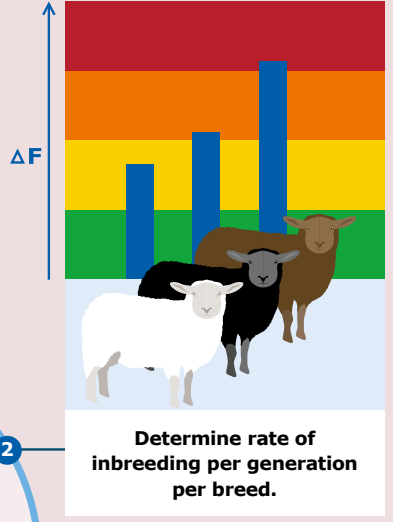
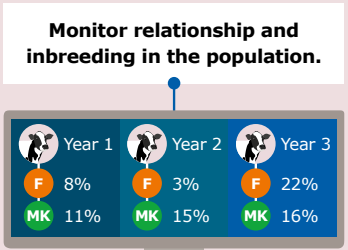
Males always move to another group.

- No pedigree needed.
- More groups are more effective.

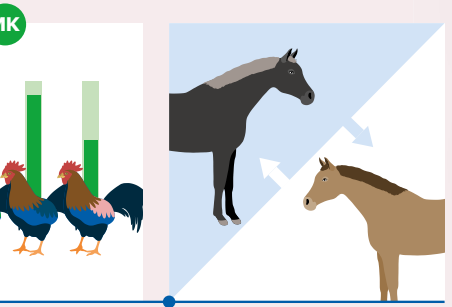
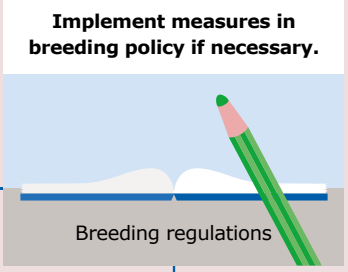
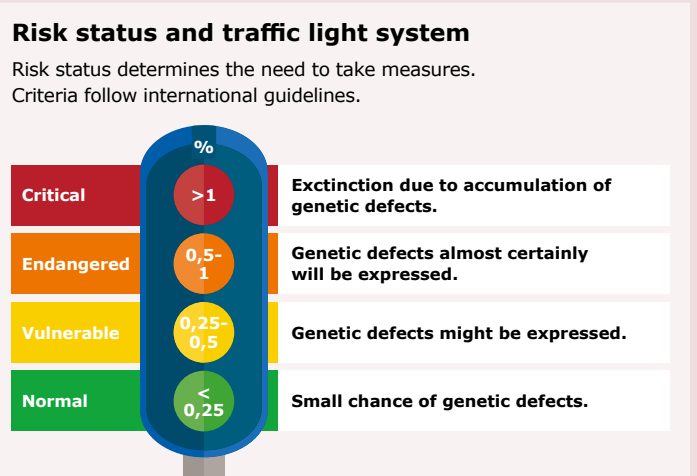


Publish Mean

- Selection criterion
- Increases visible family lines.
- Most effective in long term.



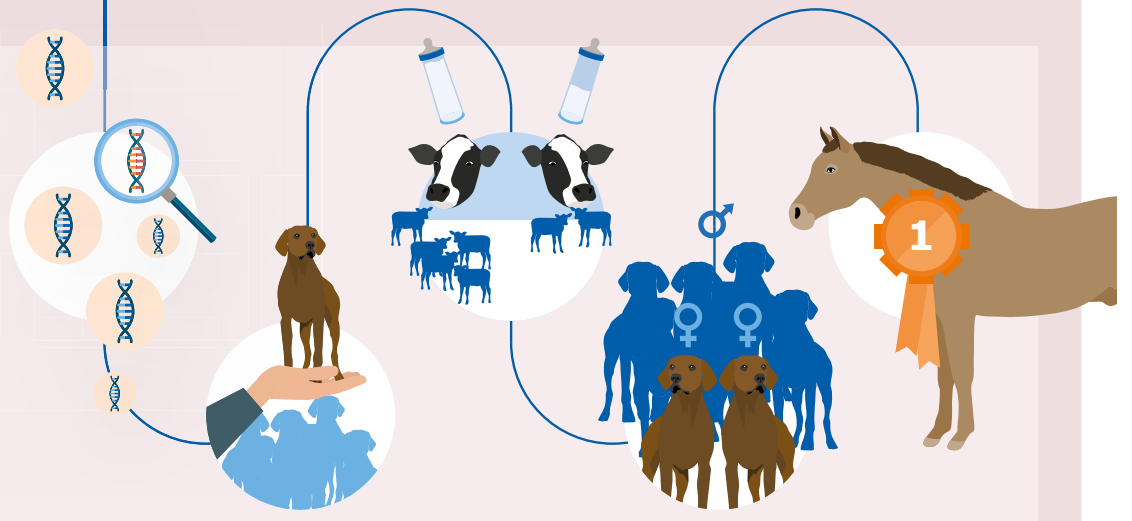
Risk factors
Few or uneven use of breeding animals.



Kinships
Information for breeders. Availability of less known breeds is a measure in the breeding programme.

Use animals from a different breed (outcross)

- Always less or not related.
- Backcrossing with purebred animals reduces effect of outcross.
- Effect is temporary.
- Risk of loss of breed characteristics.



Small, closed populations quickly run out of unrelated animals.

Not all potential breeding animals are used for breeding.

Few, related animals are used due to high selection pressure on heritable traits.

Male biased sex ratio in breeding animals.

Champions are more popular and produce disproportionate numbers of offspring.

10 million from the Science Agenda for research on crop diversity

URGENCY ON THE FARM

European arable farming needs to halve the amount of pesticides it uses by 2030. Crop diversity can play a crucial role in this, but how exactly? And what could it mean on the farm or in the supermarket? A consortium led by WUR is going to find out in detail.

In the very same week that Erik Poelman (Laboratory for Entomology) received a Vici grant, he was also awarded 10 million euros from the National Science Agenda for the research programme he coordinates on crop diversity. He had worked on the proposal for about three years, together with more than 20 scientists from various chair groups, including Dirk van Apeldoorn (Farming Systems Ecology chair group and the Field Crops business unit), Barbara van Mierlo, Cees Leeuwis (Knowledge, Technology and Innovation chair group) and Niels Anten (chair holder, Crop and Weed Ecology). The programme, which four other universities are involved in (Groningen, Eindhoven and both Amsterdam universities), aims to reveal whether and how ecological processes involved in growing multiple crops in one field (crop diversity) can replace the functions of pesticides and fertilizers. This entails, for example, specific combinations of crops in space (e.g.

carrots alongside onions) or time (e.g. cabbages after legumes) that reduce the risk of pests, nutrient deficiencies and soil degradation, and that benefit yield and biodiversity.

Strip cropping

Although crop diversity is a broader concept - there are several ways of diversifying crops in space or over time - the focus in this programme is on strip cultivation. This is partly for practical reasons to do with the use of agricultural machinery. Another factor is that WUR is leads the way in expertise on this form of cultivation. Poelman: 'We've been testing the system in Wageningen for five years, and the trial plot at Wageningen Research in Lelystad has been going even longer. This project builds on what we have already learned there. Crop diversity depends on ecological processes, something we are incredibly strong on at Wageningen. It does require us to bring together many different disciplines: interactions underground and above the ground, plant growth and defences, natural enemies, the development of biodiversity, you name it. By bringing all that together, this pro-



Text Marieke Enter

gramme can provide a sound scientific basis for the right decisions for making arable farming more sustainable.' The CropMix programme also specifically examines the socio-economic and societal factors that promote or hinder the transition to a more sustainable farming system of this kind. According to Van Apeldoorn, it is precisely this overarching systems approach that makes the research so relevant. He explains: 'At present, the entire value chain is still totally based on monocultures. From seed suppliers to financiers; from purchasing to transport and logistics: everything assumes that crops always consist of the same thing. If we mix them at all, we do so further down the line. But couldn't we do so earlier, in the field, to create more opportunities

for ecosystem services from the start?’ he asks rhetorically.

Living labs

If arable farmers start producing a more diverse range of crops, there will of course be consequences - locally, nationally and perhaps even at a European or global level. The programme aims to identify and do the calculations on all these consequences. ‘So that includes things such linking up with vocational education and applied sciences universities, so that we’ll have enough professionals who are ready to put the new arable farming principles into practice,’ says Poelman.

This broad approach explains why the research consortium has such a long list of names: 59. From Albert Heijn to Agrifirm, from Rabobank to Ravon, from government bodies to educational institutions: they are all on board. Not to mention the

24 arable farms that form the real core of this programme. ‘That’s part of what makes this project special too: the farmers are at the forefront. Half of the co-financing also comes from the farmers,’ says Van Apeldoorn. A variety of farms are involved, from frontrunners in alternative arable farming to those that are still in the early stages of the transition. This variety is deliberate, says Poelman. ‘There simply is a great diversity of arable farmers, types of farm, and customers.’ Van Mierlo adds: ‘In three living labs, we are developing various promising transition paths towards a more sustainable agricultural system, together with all the stakeholders. There is no single failsafe recipe.’

Change must come

The need to find those transition paths is clear. Resource has previously reported on how, with its Farm to Fork strategy, the EU wants to halve the use of chemical pesticides by 2030, but the transition to new

cultivation systems is in danger of stalling. ‘As a leader in global agriculture, the Netherlands has a major responsibility to meet this challenge by 2030. At the same time, problems arise here earlier than in the rest of the world, partly because our agriculture is so intensive,’ Van Apeldoorn points out. ‘The arable farmers acknowledge this. They have said: okay, change must come; we want your help.’ Exactly what steps are needed differs per type of farm - and per type of farmer. ‘Some of them are eager to change, others are more or less forced into it,’ says Poelman. ‘Depending on their intrinsic motivation, we see how we can provide them with the knowledge to make the change. And not just the farmers, but along the entire value chain. For example, we also look at what institutional changes are needed. Our programme aims to secure all the fundamental insights that form the stepping stones for making an effective transition. Because whether we like it or not, we and the arable farmers together have really got to find an alternative to pesticides by 2030.’ ■

‘THE ENTIRE VALUE CHAIN IS STILL BASED ON MONOCULTURES’



The focus in this programme is on strip cultivation. This is partly for practical reasons to do with the use of agricultural machinery. Another factor is that WUR leads the way in expertise on this form of cultivation. ♦ Photo ERF bv and Flevolandschap

THE RETURN OF THE STURGEON

The Rhine was once the European sturgeon's preferred spawning ground. And that time will come back, if it's up to PhD student Niels Brevé. Through the sturgeon, he is paving the way for the ecological recovery of the river.



Text Roelof Kleis



Niels Brevé (1966)

Birthplace: Amsterdam

Place of residence: Wijk bij Duurstede

Degree: Geoscience VU University Amsterdam

Work: Senior project leader at Sportvisserij Nederland

Research: The migratory behaviour of sharks and rays in the North Sea, using transmitters

Also: a part-time PhD candidate at Marine Animal Ecology and Aquaculture & Fisheries

If you want to see *Acipenser sturio* in this country, you have to go to Rotterdam's Blijdorp Zoo, where there are sturgeon of about one and a half metres long in the aquarium. Little ones, says Niels Brevé dryly. And he should know. For his doctoral thesis on the reintroduction of the sturgeon to the rivers of north-western Europe, he comprehensively documented the historical distribution of the beast.

And beast is the right word here. 'The sturgeon is actually megafauna,' says Brevé. 'Like the elephant. It's the biggest freshwater fish we know. They can easily reach three metres and, in exceptional cases, even a few metres longer. The largest I've encountered was five metres long and weighed 350 kilograms.' That monster, by the way, was caught in 1869 by Belgian fishermen at sea, which is the sturgeon's real home.

Brevé's inventory includes many fish of similarly monstrous proportions. The heaviest, a specimen found in July 1928 in the Rhine near Rees, in Germany, weighed 375 pounds. You can't catch these girls - the extremely large ones are always females - with a fishing rod. At that time, the sturgeon had already

been in decline for a while. The last time a sturgeon was caught in the Dutch reaches of the Rhine was in 1952. The last sturgeon recorded in the IJsselmeer bay was caught in 1960.

Spectacular

At one time, thousands of sturgeon must have swum in the Rhine and waters linked to it, Brevé thinks. 'But we don't know.' What he does know about numbers is based mostly on newspaper articles. Brevé and historian Rob Lenders (Radboud University Nijmegen) pulled out all the stops to reconstruct the sturgeon's distribution since the 14th century in the rivers of the Netherlands, Germany, United Kingdom, Belgium and France. This resulted in more than 5000 records of more than 40,000 sturgeon. 'A life's work', is his own description of this painstaking work. 'I'm glad it's finished.' That so much has been written about the sturgeon is partly due to its spectacular size. Brevé: 'There was a time when fishermen would travel from town to



Royal Sturgeon caught in the Hundred Foot River at Oxlode, Pymoor, 1906

There was a time when fishermen would travel from town to town with the fish and charge people to see them.

town with the fish and charge people to see them. The fish would stay fresh for a week or two, and then it could be sold for consumption. That would depend on the degree of scarcity, of course. Around 1850, an adult sturgeon was worth 1000 euros. In 1920, it was worth twice that, in today's terms.'

That catches were reported was also due to the requirement to register them. The sturgeon was a fish on which the owners of the fishing waters charged tax. Brevé: 'Owners of fishing waters such as the Count of Holland and the Bishop of Utrecht demanded payment for all fish caught in the Biesbosch (a

**'AROUND 1850,
A STURGEON
WAS WORTH
1000 EUROS'**

network of waterways, ed.). In those days there were about 20 leaseholders; large royal companies that fished for salmon, allis shad and sturgeon. A tax inspector checked that all fish were registered. In the second half of the 19th century up to 100,000 salmon and 200 to 600 sturgeon were caught annually.'

Little of that tax registration has survived, however, which is why Brevé delved into old newspapers, manuscripts and fisheries documentation. 'The more recent they were, the more data they delivered. Until 1930, that is, by which time the sturgeon had all but disappeared.' The sturgeon was wiped out by overfishing in the North Sea with steam trawlers, pollution and damage to its spawning and nursery grounds.

Salt and fresh water

There are lessons to be learned from the historical overview. Maps made by

Brevé show clearly where the catches were made, and thus where the fish were located. 'If you want to bring back the sturgeon, you have to focus on the lower reaches of the Rhine,' says Brevé. 'That means the Haringvliet estuary, the Biesbosch and the current port of Rotterdam, where the fish gathered to acclimatize to the transition from salt to fresh water. And the spawning grounds and nurseries upstream towards Germany. If we want to tackle the recovery of the sturgeon,





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we should start in the Netherlands and move on to Germany.’

The fact is that spawning (reproduction) is the only reason the sturgeon leaves the open sea for the narrow rivers. The sturgeon is anadromous, Brevé explains. ‘That means that it can live in both salt and fresh water. But it is primarily a sea creature. That’s where most of its food is and where it grows up. Adults swim upriver to spawn, and then they return to the sea. To spawn, they need oxygen-rich gravel beds. And those are found mainly in the Rhine.’

The preference for gravel is due to the vulnerability of the eggs and larvae. ‘Gravel is coarse-grained and offers protection. As soon as the roe is spawned, the eggs become sticky and attach themselves to hard substrate. They hatch out as very fragile yolk-sac larvae that need to be able to hide in the gravel or they will be devoured in no time. After about a year, the young sturgeon are strong enough to swim to sea.’

Released

Brevé feels sure that there is a future for sturgeon in the Rhine, and there is experimental evidence for his conviction. It is not entirely true that sturgeon have not swum in the Rhine since 1952. Brevé helped release them himself, first in 2012 and again in 2015. Three- to five-year-old tagged sturgeon of one metre in length were released into the Rhine on the border of the Netherlands and Germany, to see whether and how they could find



Report about a surgeon catch in De Noord-Brabander (1869).

their way to the sea. Most of the sturgeon passed the test with flying colours.

The next phase of the project may take place this year: the release of tagged young sturgeon. With money from the Post Code Lottery and in cooperation with ARK Natuurontwikkeling, the World Wildlife Fund and the French, German and Dutch governments, the Dutch angling association Sportvisserij Nederland (Brevé’s employer) is going to release 700 young sturgeon at known spawning grounds.

It will take a long time, however, before the sturgeon will spawn again in the Rhine. The sturgeon has a long life cycle and can live for over 100 years. Brevé: ‘Males only spawn after 10 to 12 years, females after 15 to 22 years. So you really need a lot of patience with these fish. And a lot of money, but we’ve got to be willing to pay the price. We have all invested billions of euros in making the Rhine the artery of our economy. And a clean and healthy Rhine is worth a lot too.’

Meanwhile, sturgeon are being spotted occasionally at sea too. ‘In the last five years, there have been 28 reports of sturgeon of nearly two metres in length,’ says Brevé. ‘These are fish that have been released into the Elbe in Germany and the Garonne in France. They end up in fishing nets in the North Sea. They survive that if they are handled properly and put back. These are

‘KNOWLEDGE ABOUT THE STURGEON IS MAINLY BASED ON NEWSPAPER ARTICLES’

strong, sturdy fish.’

With a bit of luck, Brevé will witness sturgeon spawning in the Rhine again in his time. His study suggests that if it can be done anywhere, it can be done there. ‘The Rhine is one of the few rivers that is completely accessible to shipping. And therefore to fish too: 850 kilometres from the mouth at Rotterdam to Iffezheim. Various migratory fish are slowly returning. Salmon, houting and sea lamprey preceded the sturgeon. They will never reach the numbers of the past, but they are coming.’ ■

The prestige of an expert

What defines a 'true' expert in the year 2022? It takes more than a load of knowledge for a scientist to be heard in a society where 'my own facts' sometimes seem to matter more than your thorough research.



Text Marieke Enter

‘We have the facts, why don’t you listen to what we have to say!’ A cry of despair from Leonardo DiCaprio, as Professor Randall Minke tries to warn the world of an impending disaster in the Netflix hit *Don’t Look Up*, resounds through Impulse. According to author and commentator Wytse Versteeg, who showed the excerpt during her lecture for Studium Generale, many scientists are familiar with this kind of frustration, which you feel when your findings don’t go down well with your audience. When people don’t appreciate your work, or worse still cast doubt on it, ridicule it and even dismiss it out of hand.

Versteeg was invited by Studium Generale last month to talk about a question that has been topical for a while and which she studied for her doctorate in 2018: what defines an expert? And what does it take to be recognized and respected as an expert? Clearly, possession of a body of knowledge is not enough; there are

many other forces that determine whether your work is taken seriously. Just ask the scientists who have had their meticulous studies dismissed as ‘just another opinion’ or even as alternative facts that cannot be taken seriously, or as deliberate manipulation. Scientists from Wageningen sometimes find themselves in the dock too. A fairly recent case was the nitrogen researchers who were accused by activist farmers of ‘eagerly seizing the opportunity to score points with the ministry’. Or the ecologists whose wolf study the director of De Hoge Veluwe National Park – yes, the one with that wolf-proof fence around it – vociferously proclaimed to be so ‘one-sided and biased’ that it should be redone by foreign scientists. Climate scientists, of course, have years of experience of being labelled as tub-thumpers and prophets of doom. And more recently, experts on virology and zoonoses have had similar treatment.

Further reading? Versteeg’s dissertation is called *How do you know? Everyday negotiations of expert authority*, and can be found online.

Disinformation

Such baseless questioning of your scientific expertise and integrity can drive you to despair. It is maddening to realize that there are people who set store by ‘hours of research’ done by a top model or companies

like Moonsisters, but not by thoroughgoing scientific research. The bizarre reality is that conspiracy theories and urban legends are more readily accepted in some circles than systematically proven scientific knowledge. Education minister Robert Dijkgraaf recently called it the biggest surprise of the Covid pandemic: 'Not the severity of the disease. Not the success of the vaccines. But that disinformation can spread across the globe as quickly as virus particles.'

Fortunately, there is some good news as well: in spite of all the odds against it, science still ranks number one among the institutions in which the Dutch have confidence - even above the judiciary and journalism. And since the Covid pandemic, that confidence has not decreased but increased, from a score of 7.07 in 2018 to one of 7.42 in 2021, according to research by the Rathenau Institute.

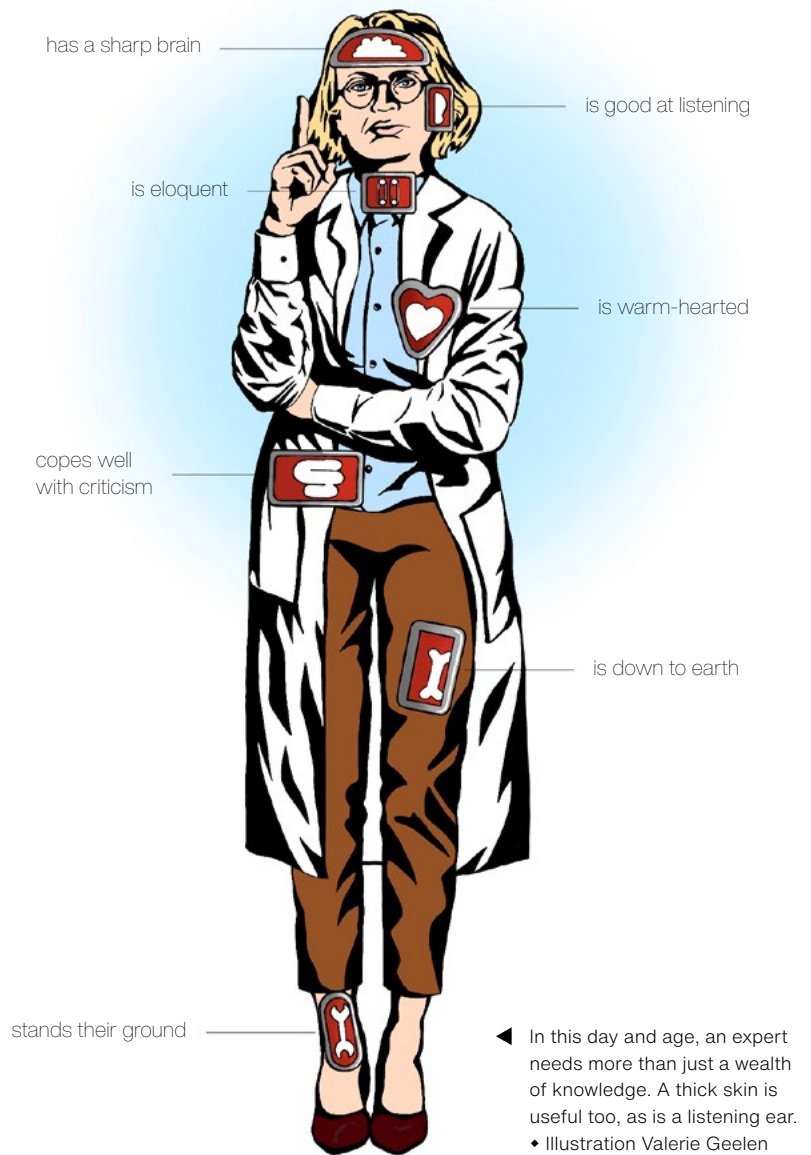
And if you listen carefully, Versteeg argued, you can even hear that unshaken confidence reflected in the language of groups that are usually seen as anti-science. Indeed, their vocabulary is remarkably similar to that of scientists. Virus deniers and antivaxxers 'do their own research', 'check their sources', 'sometimes want to see the raw data' and 'don't take anything for granted, but think critically'.

Emotion

Versteeg's explanation for this is partly based on the concept of 'value shyness', coined by WUR professor of Science Communication Hedwig te Molder early last year. 'The modern human is so wary of talking about values and emotions that instead we focus on a battle for the facts,' says Versteeg. 'The use of scientific lan-

'A lot of criticism of science is not about science, but about worldviews and self-images'

'Knowledge too is always relational'



guage is often a way to be heard or to be granted a say. Why make yourself vulnerable by talking about feelings, when you know there is a good chance that they will be dismissed as non-scientific, irrational or irrelevant?' Another observation: resistance to science is also a way for people to define themselves; to underline who they are in relation to others. 'Outsiders might see vaccine refusers as irrational people who deny themselves a valuable shot of proven effectiveness on misguided grounds. But that's not at all how that person will experience it: they probably define themselves more as a critical mind that doesn't run with the crowd,' Versteeg explains. So a lot of the criticism of science is not about science at all, but about worldviews and self-images. 'Make no mistake: knowledge, like anything else, is always relational,' says Versteeg. 'And science is steeped in emotions and social values - so it's logical that it triggers a lot of discussion.' ■

COMMUNING WITH NATURE

Real sustainability comes from feeling a connection with the environment. And that feeling can be trained.



Text Roelof Kleis

Sustainability often seems to be about technology. We come up with smart solutions that spare the environment, cut the use of raw materials or reduce CO₂ emissions. The internal, emotional side of the concept is rarely discussed, says Louise van der Stok. 'It is seldom about your personal connection with the world, or how you can stay inspired during these troubling times.' That gap is being addressed by the new course Exploring Regenerative Cultures for Sustainability, which she developed together with Lian Kasper.

The course has actually been going for four years. Every year in June, student organization OtherWise runs a training camp on the site of the former Pieter Pauw hospital. The programme lasts one week and participants camp on the grounds of the local squatters' collective. The week is all about self-discovery and the essence of feeling a connection with nature. Thanks to collaboration with Education and Learning Sciences (ELS), the course became part of the official WUR curriculum for the first time this year.

Metres

But what is that connection exactly? Van der Stok, freelance teacher and Forest & Nature Conservation alumnus, gives a cautious explanation. 'It's a state of awareness. For me, the connection is a feeling. It feels good, it feels alive. You get a sense of fulfilment, of

being part of nature.' That feeling is investigated with the help of specific exercises.

'One of the first things we do is run through the history of the Earth,' says Van der Stok. 'We walk a 4.6 kilometre route from the camp to the Rhine. Each step of one metre represents one million years in the history of the Earth. As we walk, we explain that history. That gives you an awareness of time. For example, it seems to take for ever to get to the first single-celled organism. And we only get humans in the final metres. It's ridiculous! That puts it all into perspective. The course participants know that history of course, but the exercise makes them feel it too.'

Another example. 'One evening, we get the participants to make a kasàlà,' says Van der Stok. 'That is an African tradition in which you write an ode, a poem praising yourself. That's nice but it also feels uncomfortable. You have to describe yourself in exaggerated lyric language. You can pull out all the stops. It's so funny to see what this does with people. It really opens things up.' Of course there is a deeper rationale too. 'Part of our lack of sustainability is due to a lack of self-respect,' explains Van der Stok. 'You need to feel that you are worthwhile, that you are beautiful, just like nature. We often admire the beauty of nature, but as living creatures we too are part of nature. That



This course is about learning to feel a connection with nature. The photo shows one of the course activities. ♦ Photo WUR

awareness encourages a positive attitude to the world.’ Self-discovery is an important aspect of the training course. That can take the form of introspection using the truth mandala. Van der Stok: ‘That is a ritual in which you express your pain using four tangible objects. We sit in a circle and we take it in turns to pick up an object and say what makes us feel angry, sad, afraid or powerless. For example that species are becoming extinct, or that you don’t know whether you can have children because you don’t know what the future will look like. We do try to stick to the topic of connecting with nature because it’s not supposed to be about airing personal traumas.’

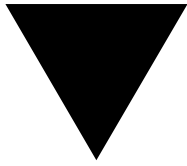
Pain and passion

The catharsis comes in the second part of the exercise. ‘The pain is good,’ says Van der Stok. ‘Anger means passion and sadness means love. So then we turn things around: everyone picks up the same objects and they have to say what they feel passionate about, love and so on. That’s an important moment in the week because it gives people strength. For many people it is the first time they have opened up about the situation with the planet.’

‘Part of our lack of sustainability is due to a lack of self-respect’

An important feature of the course is having more profound experiences of nature. ‘So we do exercises that help people to be still,’ says Van der Stok. ‘Such as games where you probe the boundary between human and animal. You learn how to move through the forest like an animal. That transforms your state of being, and the forest immediately feels quite different.’ That is followed by a day among sand drifts. You spend the entire day alone, preferably without food or drink, guided by your instinct and mulling on a question you set for yourself beforehand. ‘In the evening, around the camp fire, everyone talks about their day and the insights they gained.’

A new element this year is the final assignment: an essay in which you reflect on your experiences and what they mean for the transition to sustainability. After all, it is a university course. ■



Key people: Lidwien Graafland

They are indispensable on campus: the cleaners, caretakers, caterers, gardeners, receptionists - the list is long. *Resource* looks up these key people. This time, meet Lidwien Graafland (39), a senior staff member at the Facilities Service Desk in Actio.

Text Milou van der Horst • Photo Guy Ackermans

'I did the Bachelor's in Soil, Water, Atmosphere at WUR, but during my Master's I started to have my doubts about that career direction. I love working with people and I like solving problems quickly - which is difficult in that line of work. It took me a long time to find out what I wanted. What are you letting yourself in for when you start a whole new course? But I'm glad I did the Facility Management course and that I'm working here now, at the Facilities Service Desk. I thoroughly enjoy it, and I've been here six years now. We receive facility-related reports about wishes, complaints, faults or requests for

'What I like about my job is that every day is different. But angry phone calls are not much fun'

information. These can range from an overflowing garbage container to someone who is stuck in the elevator. We pass these calls on to various "problem-solvers" such as the caretaker or the technical building manager. We ourselves are the problem-solvers for reports about domestic and international travel, the library, WUR cards, insurance and the ordering system. As an intermediary, we ask for clarification and monitor the handling of the case. Because we are in contact with many different departments, we know what is going on within the university, so people often involve us in projects. We also initiate that ourselves, because it is annoying if decisions are taken from above that do not work in practice. I also make improvements to our reporting system and the facility processes around a report, which allows me to use my analytical skills.

What I like about my job is that every day

is different. But angry phone calls are not much fun. Most people are civilized and pleasant, but sometimes they are looking for a chance to let off steam. I let them vent for a while and then they are often okay. Sometimes they're not and then I talk it over with them. We always discuss these situations within our team. We are a close team, which is useful for this work, because we don't know everything ourselves and you have to be willing to ask. Keeping in touch was more difficult during the Covid time, but we managed to do so through two chat groups, one for serious questions and one just for nattering. Covid kept us very busy, and we got new sorts of questions. But we continued to work like we always do: solutions-focussed, listening well, asking lots of questions, setting priorities and not getting stressed out. We all put our shoulders to the wheel.'





Campus ♦ residents

Innogusto

Taste. That's what Innogusto is all about. In particular, the perception of taste through the structure, colour and smell of food, says Matteo Piano. He and his wife Carola Piano-Willemse founded Innogusto three and a half years ago. They develop plant-based food concepts. 'We replace animal proteins in dishes with plant proteins, without the consumer missing the animal proteins.'

Innogusto's first concept, RESTOPIA®, is already on the market. It is a series of plant-based Italian pasta sauces and stews. 'We replace meat, chicken and fish in them with plant-based ingredients that taste just as good to the consumer.' Innogusto is also working on plant-based substitutes for meat and tuna salads.

The company develops complete meal components for food companies, supermarkets and caterers. In doing so, Innogusto concentrates on the question: what experience do we want

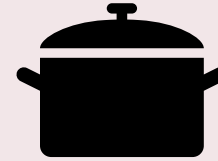
'We often start by tasting raw ingredients to get a sense of their potential'

to offer the consumer with our plant-based alternative? With this in mind, Innogusto chooses ingredients and raw materials, and then proceeds to the cooking and tasting stages. 'We often start with tasting the raw ingredients to get a sense of their potential.' They develop the production process together with other companies.

Innogusto has been on the Wageningen campus for almost a year now and is looking to collaborate with other startups that may be able to supply new proteins, such as Fumi Ingredients, BBS, Symrise and Time-Travelling Milkman. 'There is a spirit of enterprise here,' says Piano. 'You run into other startups and think: we might need each other.' As

There are about 100 companies on the campus. We introduce them to you in *Resource*. This time: Innogusto.

All the flavours of the world can be found in the WUR community. Priyadharshini Sekar (23), an MSc student of Environmental Sciences, shares a kidney bean curry from the south of India.



Flavours of WUR

Rajma curry with ghee rice

This dish of rice and beans with naan bread is an all-time favourite comfort food for people in my country, India.

Ghee rice:

- 1 Soak the basmati rice for 15 minutes and drain.
- 2 Heat a pan, add 2 tbsp of ghee and the cumin seeds, cloves, and bay leaves.
- 3 Add the soaked basmati rice and mix slowly.
- 4 Add 3 cups of water and salt to taste.
- 5 Put the lid on and simmer for 20 to 25 minutes.

Curry:

- 1 Heat the pan and add 3 tbsp of oil.
- 2 Add the cumin seeds, cloves, and bay leaves.
- 3 Add the onion and sauté until golden brown.
- 4 Add the ginger and garlic paste and sauté until the raw smell disappears.
- 5 Add the chopped tomatoes and simmer for a while.
- 6 Add the turmeric, chilli powder, garam masala, ground coriander and 2 cups of water. Simmer for 5 minutes.
- 7 Add the kidney beans.
- 8 Stir well and add salt to taste.
- 9 Simmer for 15 minutes. Add water if needed.
- 10 Add lemon juice and fresh cream, stirring well.
- 11 Garnish with coriander leaves.

Ingredients for five portions :

Curry

- 3 tomatoes, finely chopped
- 3 onions, blended
- 1 tin of kidney beans (350 grams)
- 1 tbsp ginger and garlic paste
- 1/2 tbsp turmeric
- 1 tbsp chilli powder
- 1/2 tbsp garam masala
- 1/2 tbsp ground coriander
- 1 tbsp lemon juice
- Coriander leaves for garnishing
- 1 cup fresh cream
- 1/2 tbsp cumin seeds
- 2 cloves and 2 bay leaves

Ghee rice

- 2 cups basmati rice
- 1 tbsp cumin seeds
- 2 tbsp ghee (clarified butter)
- 2 cloves
- 2 bay leaves



Priyadharshini Sekar

a Master's student of Environmental Sciences from India

10-euro lunch voucher

Share your recipe with *Resource* and get an **Aurora voucher worth 10 euros**.
resource@wur.nl

Irregular Opening Hours – April/May 2022

Forum

		Building	Library	Student Service Centre	ServicePoint IT	Restaurant	Grand Café	Wageningen in'to Languages
Good Friday	15 April	8 am – 11 pm	8 am – 10 pm	closed	8 am – 5:30 pm	closed	closed	closed
Saturday	16 April	10 am – 6 pm	10 am – 6 pm	closed	closed	closed	closed	closed
Easter Sunday	17 April	closed	closed	closed	closed	closed	closed	closed
Easter Monday	18 April	10 am – 6 pm	10 am – 6 pm	closed	closed	closed	closed	closed
Saturday/Sunday	23/24 April	9 am – 7 pm	9 am – 7 pm	closed	closed	closed	closed	closed
Monday/Tuesday	25/26 April	8 am – 11 pm	8 am – 11 pm	10 am – 5 pm	8 am – 5:30 pm	9 am – 3 pm	8 am – 5 pm	10 am – 2 pm
King's Day	27 April	9 am – 7 pm	9 am – 7 pm	closed	8 am – 5:30 pm	closed	closed	closed
Thursday	28 April	8 am – 11 pm	8 am – 11 pm	10 am – 5 pm	8 am – 5:30 pm	closed	8 am – 5 pm	10 am – 2 pm
Friday	29 April	8 am – 11 pm	8 am – 10 pm	10 am – 2:30 pm	8 am – 5:30 pm	closed	8 am – 5 pm	10 am – 2 pm
Saturday/Sunday	30 April/1 May	9 am – 7 pm	9 am – 7 pm	closed	closed	closed	closed	closed
Monday - Wednesday	2 - 4 May	8 am – 11 pm	8 am – 11 pm	10 am – 5 pm	8 am – 5:30 pm	9 am – 3 pm	8 am – 5 pm	10 am – 2 pm
Liberation Day	5 May	9 am – 7 pm	9 am – 7 pm	closed	8 am – 5:30 pm	closed	closed	closed
Friday	6 May	8 am – 11 pm	8 am – 10 pm	closed	8 am – 5:30 pm	closed	8 am – 5 pm	10 am – 2 pm
Saturday/Sunday	7/8 May	10 am – 6 pm	10 am – 6 pm	closed	closed	closed	closed	closed

After working hours, entrance is only possible with a WUR card.

Orion

		Building	Bike basement	The Spot	Restaurant
Good Friday	15 April	closed	closed	closed	closed
Saturday	16 April	closed	closed	closed	closed
Easter Sunday	17 April	closed	closed	closed	closed
Easter Monday	18 April	closed	closed	closed	closed
Monday/Tuesday	25/26 April	8 am – 7 pm	8 am – 9 pm	8 am – 8 pm (at least)	11.30 am – 2 pm
King's Day	27 April	closed	closed	closed	closed
Thursday	28 April	8 am – 7 pm	8 am – 9 pm	8 am – 8 pm (at least)	11.30 am – 2 pm
Friday	29 April	8 am – 6 pm	8 am – 9 pm	8 am – 8 pm (at least)	11.30 am – 2 pm
Monday - Wednesday	2 - 4 May	8 am – 7 pm	8 am – 9 pm	8 am – 8 pm (at least)	11.30 am – 2 pm
Liberation Day	5 May	closed	closed	closed	closed
Friday	6 May	8 am – 6 pm	8 am – 9 pm	8 am – 8 pm (at least)	11.30 am – 2 pm

Orion is closed on Saturday and Sunday.

Aurora

		Building	Bike basement	Your Barista	Blend	Plant	World Flavours
Good Friday	15 April	closed	closed	closed	closed	closed	closed
Saturday	16 April	closed	closed	closed	closed	closed	closed
Easter Sunday	17 April	closed	closed	closed	closed	closed	closed
Easter Monday	18 April	closed	closed	closed	closed	closed	closed
Monday	25 April	8 am – 7 pm	8 am – 7 pm	8 am – 5 pm	11 am – 2 pm	closed	12 pm – 2 pm
Tuesday	26 April	8 am – 7 pm	8 am – 7 pm	8 am – 5 pm	11 am – 2 pm	12 pm – 2 pm	12 pm – 2 pm
King's Day	27 April	closed	closed	closed	closed	closed	closed
Thursday	28 April	8 am – 7 pm	8 am – 7 pm	8 am – 5 pm	11 am – 2 pm	12 pm – 2 pm	12 pm – 2 pm
Friday	29 April	8 am – 6 pm	8 am – 6 pm	8 am – 5 pm	11 am – 2 pm	closed	closed
Monday	2 May	8 am – 7 pm	8 am – 7 pm	8 am – 5 pm	11 am – 2 pm	closed	12 pm – 2 pm
Tuesday/Wednesday	3/4 May	8 am – 7 pm	8 am – 7 pm	8 am – 5 pm	11 am – 2 pm	12 pm – 2 pm	12 pm – 2 pm
Liberation Day	5 May	closed	closed	closed	closed	closed	closed
Friday	6 May	8 am – 6 pm	8 am – 6 pm	8 am – 5 pm	11 am – 2 pm	closed	closed

Aurora is closed on Saturday and Sunday.

Leeuwenborch

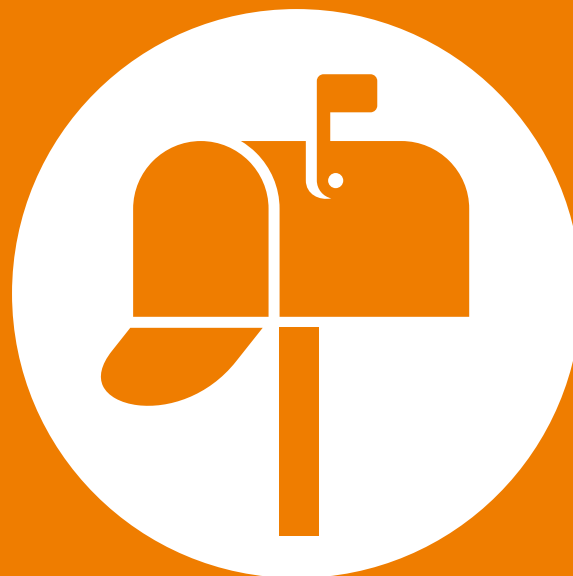
		Building	Library	Coffee Bar / Restaurant
Good Friday	15 April	7 am – 6 pm	closed	8 am – 5 pm
Saturday	16 April	10 am – 5 pm	closed	closed
Easter Sunday	17 April	closed	closed	closed
Easter Monday	18 April	closed	closed	closed
Saturday	23 April	10 am – 5 pm	closed	closed
Monday/Tuesday	25/26 April	7 am – 10 pm	8.30 am – 6 pm	8 am – 5 pm
King's Day	27 April	closed	closed	closed
Thursday/Friday	28/29 April	7 am – 10 pm	8.30 am – 6 pm	8 am – 5 pm
Saturday	30 April	10 am – 5 pm	closed	closed
Monday - Wednesday	2 - 4 May	7 am – 10 pm	8.30 am – 6 pm	8 am – 5 pm
Liberation Day	5 May	8 am – 5 pm	closed	closed
Friday	6 May	7 am – 10 pm	8.30 am – 6 pm	8 am – 5 pm
Saturday	7 May	10 am – 5 pm	closed	closed

Leeuwenborch is closed on Sunday. 30 Minutes before closing time you will be requested to leave the building. After 6 pm entrance is only possible after registration at the reception desk.

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IN MEMORIAM

GERARD FLEER

We were sad to hear that Gerard Fleer passed away on 27 February at the age of 79 after a short illness. After studying in Utrecht and obtaining his PhD at the Agricultural College, Gerard worked as a professor holding a personal chair in the Physical and Colloid Chemistry group, which later became the Physical Chemistry and Soft Matter group. During his successful career, he had an impact in fields such as colloid chemistry and polymer physics, for which he won the Overbeek Medal in 2009. The polymer theory that he developed with Jan Scheutjens is undoubtedly his major achievement and can be seen as one of the scientific high points of Wageningen University. After his retirement he

led a quiet life. We will always remember him as an eminent scientist, but above all as a genuine, dedicated and honourable person.

On behalf of the staff and former colleagues of Physical Chemistry and Soft Matter

Colophon

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

Contact Questions and comments for the editors: resource@wur.nl | www.resource-online.nl

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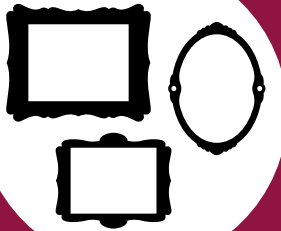




Impersonal desks

'We are hot-desking more and more, which makes the workstations less personal and in my opinion less welcoming. Has anyone got any tips on how to liven up the office and make the desks and work areas more welcoming?'

Arjan Cuppen,
WUR employee



Talk to your manager

'The issue of accommodation and implementing flexible desks is something we are working on a lot as the AFSG OR (Agrotechnology & Food Sciences Group Works Council, ed.). Many aspects are being discussed and that includes the physical setup. My advice is to talk to your manager. Is it possible to paint the walls a different colour or hang up art? Do you want plants in the office? And contact your department's works council: what do you find helps create a pleasant, welcoming environment? We can then use your input when discussing the issue of accommodation with the management.'

Marloes Pals, Food Sciences cluster coordinator and vice chair, AFSG OR

View of greenery

'We use a hybrid working approach where possible and I find it means a less personal atmosphere. I myself don't find personal items that important but the surroundings are a different matter. At WCDI we create welcoming surroundings with plants, so the open areas and offices have a view of greenery. Staff take it in turns to look after the plants. We also have photos of scenery and people from other cultures in the office areas. In the morning I put out personal possessions like a framed photo, artificial plant, pen holder and mug. That adds to the ambience. Try also setting up a cheery corner with a coffee table, magazines and armchairs for breaks. Good luck!'

Daniëlle Arends, portfolio support group,
Wageningen Centre for Development Innovation

Photos

'You can make your workstation more personal with photos. I use a holiday photo or photo of my family as my computer desktop image. If you have a lot of online meetings, you can also use it as your background image in Teams. That's good for breaking the ice and starting off some small talk. You can also hang pictures in the office that are related to your field of work. Or stick printed foil on glass walls, like in parts of Radix. You can add a personal twist to areas other than the office, for example with birthday calendars, prizes and souvenirs from team trips in the coffee corner. In the Plant Sciences Group, we are thinking about a library section with books and PhD theses.'

Annemarie de Vries, Housing and Facilities
project coordinator, PSG

Home decorations

'The problem with hot-desking is that every desk is empty and impersonal by default. Discuss with your co-workers the option of putting some standard decorations on every desk, such as small plants, figurines or a message board with photos. Ask everyone to bring a decoration from home (bonus points for international articles). That gives each desk its own vibe *and* you introduce some talking points. This means you never have to sit at an empty desk in the morning!'

W. N., WUR employee

NEXT WURRY

Disrespectful
'In course evaluations, students write anonymous assessments of a course they took. That usually goes well, but sometimes the comments are hurtful, personal or rude. Recently, one student wrote: "It's pure bullshit we had to learn this". How can we make sure students are respectful and polite when communicating with their teachers?'

Jan Kammenga, professor of
Nematology

*Do you have advice or tips for this WURrier? Or could you use some good advice yourself? **Email your tips or your question (100 words max) by 22 April to resource@wur.nl** subject noWURries.*