WUR from within: straight, sharp, transparent

No 01

Resource

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The journalism platform for all at Wageningen University & Research

Must WURwolf retire?

Farts as a guide to gut health

City tours silent on colonial past

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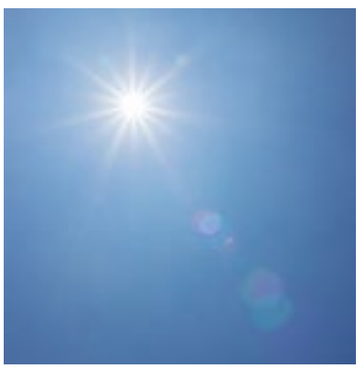

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FOREWORD

Weighty

This is a weighty number, in more ways than one. Maybe you missed us in the magazine trays around the opening of the academic year: there was no up-to-the-minute *Resource* to pick up. That's because we'll be coming out once a month this year instead of fortnightly. You can read about the ins and outs of that on page 4. This number is a bit thicker (four extra pages), making it a bit heavier. But we deal with some weighty subject matter too time. Like the concerns about budget cuts. Budget day is still to come, so we don't know yet what the cabinet will do: postpone and procrastinate, or make clear-cut decisions? Although that is uncertain, we do know for sure that WUR has to make cuts to the tune of 80 million, and we polled initial reactions to that. We'll go on doing that WUR-wide. A lot of students are bracing themselves too, with a slow-student fine hanging over their heads (page 20). And a look at the outside world gives further cause for concern. Global warming is going to lead to enormous migration flows, and we should start preparing for them, says Professor Marten Scheffer on page 22.

But there are some glimmers of light in this number too, in our ever-inspiring science stories such as those about the beaver, a scientist at Lowlands, and a nice harvest of heritage crops.

We'll be back in a month, and until then we'll go on publishing daily on our website and our social media platforms. Got any tips for us? Do email resource@wur.nl.

Willem Andrée
Editor-in-chief

QUESTIONS

How long will the WURwolf be with us? It's getting harder to find students willing to wear the WURwolf's suit, the value of mascots is being questioned, and the suit needs replacing after years of wear. 'A new suit is quite pricey,' says Jodi van Leusden (WURwolf coordinator). 'Before we order a new suit, we need to think about the wolf's image.' A final decision has not been reached, but for now the WURwolf is taking a sabbatical. LZ

Photo *Resource*

High score but cuts to *Resource*

The readers' survey conducted by Resource before the summer break made one thing clear: staff and students want a magazine. Six out of 10 respondents prefer a printed edition – among students the score is 79 per cent, in fact. Nevertheless, this year we will go from being a fortnightly to a monthly magazine.

Resource readers rate it 7.9 out of 10 for use and value. The publication frequency of the magazine could be reduced, they think, but the volume of news and stories should not. The readers like the layout and content, with its mix of subject matter, and they like a strong focus on news. *Resource* is seen as up-to-date (89 per cent), involved in the WUR community (86 per cent), for everybody (69 per cent), critical (63 per cent) and independent (56 per cent). So many readers are critical of the magazine's critical attitude and independence. That means the editors should double down on offering critical self-reflection, opinion and debate, and probing background stories.

Less

So carry on with what we've been doing (bearing in mind the last comment), you might think. That is definitely what we'll aim at in our work as journalists, but the publication rate is going to change drastically. In spite of the high score in the readers' survey, the editors are obliged to reduce the printed magazine from once a fortnight to once a month for the rest of 2024. This is because we've got to cut costs, just like the rest of WUR (see page 12). And on top of tightened budgeting rules, *Resource* faces falling advertising revenues and rising costs for paper and staffing. We don't know yet what the situation will be in the New Year. WA

Old DNA in new plants

There may be a wealth of genes hidden in layers of ancient soil, which could make crops more resilient to climate change and disease. The trick is to extract that information.

A European consortium is going to search ancient soils for DNA that is thousands, or even tens of thousands, of years old. The aim is to gain knowledge about plants' resilience in the face of climate change and disease ◆ Photo Shutterstock

A European consortium that includes Wageningen has 78 million euros in funding for a serious attempt. A crucial bit of figuring out will be done in Wageningen, in the Bio-informatics chair group led by Professor Marnix Medema. What this project (Aegis: Ancient Environmental Genomics Initiative for Sustainability) is doing could be described as a kind of archaeology. 'That's what makes it exciting,' says Medema. 'The idea is that we shall search ancient soils for DNA from thousands and even tens of thousands of years ago. How did plants and micro-organisms co-exist back then? How did they evolve together? Can we find genes that protected those plants against pathogens then?'

The comparison with archaeology is not far off the mark. Medema: 'We are working with archaeologists who know where agriculture first developed and therefore where you can find plant remains. We will deduce from the DNA what the plant looked like then, and which microbes it lived alongside. Plants are engaged in a constant arms race with pathogens. Which genes played a role in that?'

Within Aegis, Medema's group is doing most of the 'computational analysis' – in other words, the sums. 'We will predict the likely function of the genes that are found. Which proteins they coded for, and what role they played in the arms race between plants and pathogens. Other members of the consortium are studying how climate change caused genes to change.'

Databases play a dominant role in that identification.

Medema will be appointing two post-docs and a research assistant for Aegis. The project is financed by the Danish Novo Nordisk Foundation and the British Wellcome Trust. RK

50

Long live Lebo! The Leeuwenborch's 50th birthday was celebrated last week with a seventies-themes party exclusively for 'Leboers'. The building, designed by W.R. de Vries and named after the old neighbourhood around it, went into use in 1974 to accommodate the social science chair groups. This was a novelty at the university then: all the other Wageningen chair groups were scattered around the town. ME

What is the role of generative AI in education?

All students and staff at WUR will soon receive a survey about this question, Education dean Arnold Bregt has announced. 'Artificial Intelligence is an important theme in the new Strategic Plan. In Education and Learning Sciences, they are already working on projects about AI in education. This survey is a kind of baseline measurement, to see what role AI is already playing in Wageningen education, and how students and teachers use it.' The survey will be sent to all students and staff by email in the course of period one. LZ

The student diet: beer, bread, bananas, peanut butter and pizza

Last year saw the launch of the Wageningen Student Cohort study. A cohort study is a research method in which data is collected regularly over a longer period among a relatively large group of test subjects. Nutrition lecturer De Roos started the study because she was curious about the mental and physical development of the current generation of first-year students.

'And because I wanted to create a project for thesis students. One of them discovered, for example, that the participants in our cohort got most of their iron – needed for the haemoglobin that binds oxygen in red blood cells and muscles – in the form of non-haem iron, which is not found in meat. I thought that was a result we should make known at the society level: people are scared of going short of iron if they don't eat meat, but it clearly doesn't have to result in an iron deficiency.'

Blood loss

The study revealed that about half the girls involved suffer serious blood loss during their menstruation. De Roos:

'That is a risk factor for iron deficiency. When we discovered that, we contacted biology lecturer Anneke Valk, who is known for her menstruation workshops. We will see what we can do about this in the future.'

And the diet diaries provided an interesting peek into what first-years eat. De Roos: 'Mainly bread, bananas, pizza, peanut butter and beer. A typical student diet.'

In the first year of the project about 90 students took part. De Roos: 'Only when we have about 200 students can we divide them into subgroups and submit those to statistical analysis. We are now recruiting the next hundred, but these data are already providing interesting insights.' DV

Minding your peas

Learning by doing works best. So on the first day of the BSc course on Irrigation and Water Management, Lieke van der Horst was given a plant to take home. The only assignment was to keep the plant alive for the six weeks of the course. This is teacher Chris Seijger's tried and tested method, which he calls 'tamacroppi' after the imaginary Tamagotchi pets that were all the rage in the 1990s. 'It's a way of getting people thinking about the subject matter. How often does a plant need watering? How much evaporation takes place?' Van der Horst chose a chick pea. Others went for soya, sorghum or hemp plants. RK

See resouce-online.nl

Photo *Resource*

Teacher of the Year longlist announced

Last July, 1334 students cast their votes for their favourite teacher. Sjouke Kingma (Behavioural Ecology) and Maartje Bulkens (Consumption and Healthy Lifestyles) are in the top 10 for the first time. Three former winners have been nominated too.

The longlist (in alphabetical order): Fred de Boer (Teacher of the Year 2019), Maartje Bulkens, Julia Diederen, Roel Dijksma (Teacher of the Year 2016), Jessica Duncan (Teacher of the Year 2017), Hannie van der Honing, Tijs Ketelaar, Sjouke Kingma, Klaas Metselaar, Anneke Valk

This year's award ceremony is on 10 December during Teachers Day, rather than at the end of the academic year as in previous years. That is not the only change being made, says coordinator Alejandra Guijo Bermejo (Education and Student Affairs. The interviews conducted by the student jury will be recorded as podcasts and published around the time of the award ceremony. These interviews have always been held, but were hitherto only used to help the jury choose a top five and a winner. LZ

HUMAN FARTS HELP WITH GUT ANALYSIS

Evert van Schothorst, associate professor in the Human and Animal Physiology group, is collaborating with a team of researchers at Maastricht University on a method for measuring human 'exhaust fumes' in real time as an indicator of intestinal health. The researchers put the test subjects in a small room and then measure their fermentation gases — their farts. Text Dominique Vrouwenvelder

Photo Shutterstock

'We use indirect calorimetry — a method for looking at the difference between the composition of inhaled and exhaled air — to analyse the energy metabolism,' explains Van Schothorst. 'This research method has been around for a while, but now we have developed an add-on that lets us study the presence of isotopes. What is more, the new sensors we have developed can also measure fermentation gases such as hydrogen and methane. That helps us figure out how the microbiome in the intestines is related to health.'

The isotopes Van Schothorst is talking about are chemical particles. The new sensors measure the carbon isotopes that chemists call carbon-13. It is the identical twin of carbon-12, an isotope that is found a lot in nature. Carbon-13 is rare in nature, accounting for only one per cent of carbon atoms. That makes carbon-13 a useful substance in research.

'The sensors measure the composition of the gases in the room in real time'

Van Schothorst: 'If you give test subjects a product to eat or drink that contains labelled carbon-13, after being processed by gut bacteria it will reappear in the air via the air the subject breathes out and their farts. We can then calculate how fast the product is processed and by which bacteria.'

Room or cage

The researchers are adding the new techniques to the respiration rooms used for indirect calorimetry by the research group of Professor Ellen Blaak in Maastricht. Van Schothorst: 'We have already successfully applied our technique in studies with mice. We know it works in very small spaces. Now we will be testing in Maastricht whether the new sensors can also detect human fermentation gases in larger spaces. Are the sensors sensitive enough to measure low concentrations of fermentation gases? Because the respiration rooms are larger relative to the human subject than the mouse cage relative to the mouse.'

'The sensors measure the composition of gases in the room in real time. If someone eats something now, it will end up in their intestines in a couple of hours' time. The gut bacteria then get to work on fermentation, among other things. The gases that are released in the process and ejected from the body can be measured immediately. If you repeat such measurements with different groups of patients, you get an insight into the gut microbiota activity. We hope this will tell us more about the interaction between diet and disease.'

Maastricht PhD candidate Gillian Larik is the project manager. Van Schothorst expects the team will be able to publish the first research results using the new method within the next two years.

A botched experiment, a rejected paper: such things are soon labelled as failures in academia. As for talking about them — not done! But that is just what WUR scientists do in this column. Because failure has its uses. This time, we hear from Fred Kistenkas, senior researcher in Environmental Research and former assistant professor in Environmental Law.

Text Nicole van 't Wout Hofland • Illustration Stijn Schreven

'In 2003, I made the switch as a lawyer from Amsterdam's law faculty to Wageningen Research. I found myself in a completely new world, surrounded by scientists and social scientists. One big difference was in how we publish. During my first years at WUR, I made a new discovery relating to nature conservation law. A colleague encouraged me to publish it in an international scientific journal. Until then, I'd only published in Dutch professional journals, which is the standard practice in law. In the academic world of Wageningen, the emphasis is on English-language high-impact journals. So I sent my article to one of these journals.

'Weeks later, I got it back covered in red markings and criticisms. I was shocked. In my 20 years of publishing articles, I'd never experienced anything like this. Law journals either publish your article immediately or reject it without giving reasons. I was so overwhelmed, I assumed my work wasn't good enough. But I kept on trying, with the same result every time: criticism. Three years later, I worked part-time in a chair group and this topic came up during a coffee break. My colleagues told me it's normal for reviewers to give points for improvement. The journal is prepared to publish the article as long as you implement the proposed changes. I went through my old emails and found my articles had indeed been accepted by a couple of leading journals; all I had to do was make some changes. What a huge missed opportunity.

'Weeks later, I got my article back covered in red markings. I was shocked'

'Even so, I don't blame myself or the organization for this mistake. I actually found it funny. These days, I see more lawyers coming to work at WUR. I tell them immediately about the peer review system and how it differs from "our" approach to publication, so they don't make the same mistake.'

Amsterdam city tours barely acknowledge colonial past

What stories do Amsterdam's tour guides tell, and at which locations, if they want – or maybe don't want – to talk about slavery and the city's colonial past? And why? Simone Berg's investigations into these questions not only informed her successful Master's thesis in Cultural Geography but also provided the basis for a publication in the *Journal of Heritage Tourism*, as a co-author of assistant professor Emmanuel Akwasi Adu-Ampong.

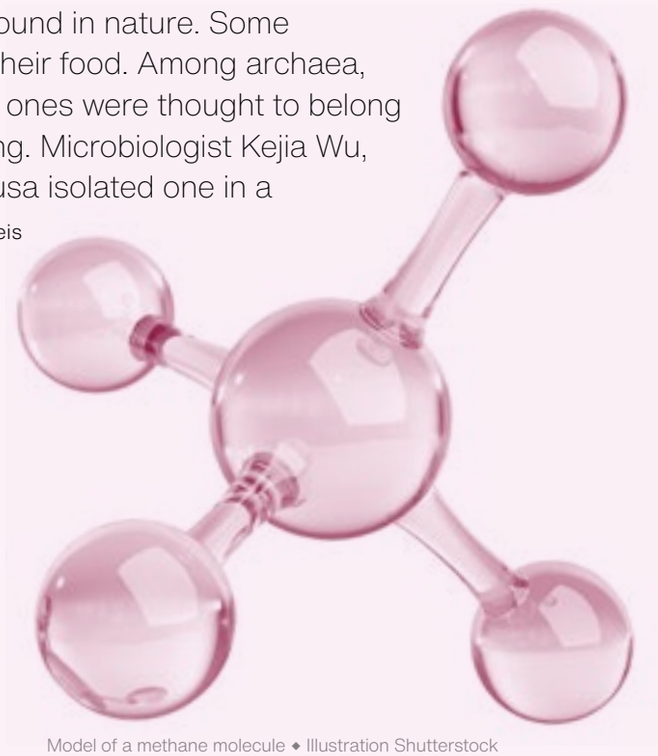
Berg did her research as part of Adu-Ampong's Veni project on slavery-related tourism. She studied the extent to which Amsterdam tour guides incorporate slavery and the colonial past in boat trips and guided walking tours. She and Adu-Ampong also created a map showing where the guides tell which stories about these aspects of the history of Amsterdam and the Netherlands. It turned out the guides don't pay much attention to the subject. 'They assume that topics such as slavery and the colonial past are too serious and emotionally charged for them to maintain a pleasant atmosphere on their tours. So they don't do more than briefly touch on them,' she explains. Berg agrees that it is quite shocking that such an important aspect of Amsterdam's and the Netherlands' history still largely goes unmentioned. That is no coincidence, as Adu-Ampong's research underlines. You can't expect change to come from individual tour guides, says Berg. 'The big tour organizations decide what tourists are offered: which tours, with which stories. They've got to take the lead. But I don't see that happening soon.' ME

ERC Starting Grant

It was announced last week that the European Research Council had awarded Akwasi Adu-Ampong a Starting Grant for additional research on 'slavery tourism'. Four other Wageningen researchers received Starting Grants this year in addition to Adu-Ampong. They are George Iordachescu (Forest and Nature Management), microbiologist Nico Claassens, plant researcher Kin Pan Chung and hydrologist and modeller Lieke Melsen.

New methane-forming archaeon cultivated

Many different kinds of metabolism mechanisms are found in nature. Some microorganisms produce methane when combusting their food. Among archaea, the oldest microorganisms, all the methane-producing ones were thought to belong to the *Euryarchaeota* group. It turns out that was wrong. Microbiologist Kejia Wu, working at the group of microbiologist Diana Z. de Sousa isolated one in a completely different branch of the archaea. Text Roelof Kleis



Model of a methane molecule ◆ Illustration Shutterstock

It had already been suggested that there were methane-forming archaea outside that one specific group. That is to say, metagenome studies showed the genes involved in methane production were found outside the *Euryarchaeota* group. But that doesn't mean the genes are still functional. To show that, you first need to isolate and culture the archaeon. And that is notoriously difficult and time-consuming.

It took the teams of De Sousa and her Chinese counterpart Lei Cheng (Biogas Institute, Ministry of Agriculture and Rural Affairs) six years to isolate *Methanosuratincolia petrocarbonis*. A major achievement that resulted in a publication in *Nature* this summer. Wu will soon be getting her PhD for this work. De Sousa: 'She is doing a sandwich PhD and had already made considerable progress in China when she joined our lab. I am delighted for her that she was able to isolate the archaeon in a pure form. That kind of thing often fails.'

'It is important that you have proof for your theory'

'In fact,' continues De Sousa, 'When we sent the first version of the paper to *Nature*, we had a co-culture with a bacterium rather than the pure archaeon. We went to a lot of effort to separate the two. That process took a long time. We wanted to isolate the archaeon from its environment but this often doesn't work because they grow better in the company of other microorganisms. Fortunately we were successful before the article was published.'

Methane alone

The archaeon in question comes from the Chinese oil fields of Shengli. The strictly anaerobic microorganism lives off hydrogen and methanol, which it converts into methane and water in its 'respiration' process. The archaeon is spherical with a diameter of half a micrometre. Various tests show that it lives on methane alone. 'It doesn't convert any other substrates,' says De Sousa. 'The genome data had led to speculation that it did Grow on sugars, but that is not true.'

De Sousa sees the successful culture and isolation as 'a victory'. 'In the first place, it is important that we discover new organisms, especially if they are taxonomically different to the ones we already knew about. These days, the discovery is made with the aid of genomics. But that is the theory. It's also important to be able to prove the theory, and to do that you need to isolate and cultivate the microorganisms.'

As chance would have it, De Sousa has to share the accolade for the world first with the group of Roland Hatzenpichler at Montana State University. 'Two years ago at a conference, I saw a poster by PhD student Anthony Kothz on exactly the same topic we were working on. They too have an enriched culture with related methane-forming archaea. After talking to them and to *Nature*, it was decided to publish our articles at the same time.'

PhD theses in a nutshell

Mosquitoes' preferences

In the Netherlands, mosquitoes are most prevalent in the countryside, in higher lying areas with sandy soil. Research by Rody Blom shows this. He studied the prevalence of mosquitoes of the *Culex pipiens* group, the main carriers of viruses such as the West Nile, Sindbis and Usutu viruses. His studies show viruses get through the winter via mosquitoes in hibernation. Each mosquito species has its own preferences in terms of habitat. Some prefer dry crawl space in the countryside while others like flooded crawl spaces in the city. Each mozzie to its own. Which only makes fighting the diseases even harder. RK

Chasing Culex. **Rody Blom ◀ Supervisors Sander Koenraadt and Marcel Dicke**

Leakage

One risk when using pesticides is that some leaks away when it rains. The pesticide is carried off by the water and soil particles. Relief in the landscape makes the leakage worse. Meindert Commelin studied the extent to which this happens in arable fields in South Limburg during rainfall. Potato fields experience the biggest leakage of pesticides. Commelin also built a model to simulate the leaching, but its predictive value is not yet much good. RK

Pesticide transport during erosive rainfall-runoff events. **Meindert Commelin ◀ Supervisor Violette Geissen**

Growth

Smallholder farmers in sub-Saharan Africa are struggling. Their production and turnover have fallen by a third in the past decade, according to research by Philip R. Wollburg. The lower yields are largely due to climate change. Mixed cultivation can increase farms' resilience but is not enough on its own to put an end to the extreme poverty. Economic growth can, however, resolve the problem. The extra greenhouse gas emissions as a result of this growth are a marginal factor according to Wollburg's calculations: less than five per cent of total global emissions. So that shouldn't be an obstacle. RK

Poverty, climate change, and smallholder agriculture. **Philip R. Wollburg ◀ Supervisor Erwin Bulte**

THE PROPOSITION

PhD candidates explain the most thought-provoking proposition in their thesis. This time it's Maria Martin Pascual, who received her PhD on 19 April. Her study was about innovative genetic tools and metabolic engineering strategies for advanced biomanufacturing. Text Ning Fan

'Equal representation of women in scientific leadership roles is essential for driving comprehensive and innovative research.'

'When I was looking for a female professor as an opponent at my thesis defense, I realized that it wasn't an easy task. At WUR, only 16 per cent of professors are women, and 28 per cent of academic board members (who can play the role of acting rector at doctoral ceremonies).

'I believe that equal representation of women in academic leadership is crucial. Diversity promotes productivity, creativity and inclusive research. Ignoring the perspectives of half of the population limits research potential and restricts innovation.

'Many may assume that women in science receive less recognition because they have more family responsibilities and less time to devote to their work, but this does not explain it. Studies show that women in science often receive less recognition than men for the same work, with their contributions often overlooked in papers and patents.

'Although we are making progress in ensuring that women in science are valued as much as men, we are not there yet. To give an example, if you apply for a job in science, you will find that the interviewers are mostly men, which can lead to biased opinions.

I think it is important to create an environment where women can speak out, be valued and reach high positions just like men.'

Time is money

Sjoukje Osinga

Money buys you a lot of things. A degree for instance. You pay tuition fees and in return you get an education. Of course, you also have to support yourself — that costs even more money. Parents may be able to help out, but not all parents have the financial resources to do that. Or there may not be any parents. But don't worry, there is always a student loan.

Unfortunately, student debt can quickly mount up, even with the reintroduced basic grant. Before you know it, you've borrowed tens of thousands of euros. That used to be pretty easy to do, and was even encouraged. Regrettably, it has since become clear that student loans are a lot more of a burden than they were initially presented as being.

The group who will feel the slow student fine most are the students who try to keep their debt under control

And now there is the added threat of the slow student fine, putting students under pressure to graduate on time, or else pay an extra 3000 euros in tuition fees. Time is money. If you get a job, you don't have to borrow as much but you are more likely to get behind in your studies and have to pay the fine, so your debt goes up. Renting a room costs money, but commuting to university costs time, time you can't spend on studying or work. 'Enjoying student life' costs both time and money and further increases the risk of getting the slow student fine.

The slow student fine won't be an issue for some students. People with rich, generous parents see money as a basic resource rather than a challenge — their parents will be happy to pick up the bill for the extra 3000 euros. And the fine won't make a huge difference to the students who borrow a lot anyway, as the 3000 euros will pale into insignificance compared to the size of their overall debt. Money becomes something abstract for them: 50,000 as a number sounds just as bad as 70,000 or 73,000. A huge sum either way.

The group who will feel the slow student fine most are the students who count every euro and try to keep their debt under control. If you are on a minimum wage, 3000 euros is the equivalent of about two months working full-time, or one day a week for a year — in other words, a proper part-time job. Perhaps they could have used that time to avoid getting behind in their studies at all.

So what exactly is the purpose of putting students under pressure like this?

Sjoukje Osinga (56) is an assistant professor of Information Technology. She sings alto in the Wageningen chamber choir Musica Vocale, has three sons who are students and enjoys birdwatching with her husband in the Binnenveldse Hooilanden.

Education, jobs and workloads

Budget cuts: radical pruning

The Dutch government will only reveal more details about its plans for higher education next week, on Budget Day. But it is already clear the sector needs to prepare for substantial cutbacks. WUR has accordingly announced its intention to make cuts of 80 million euros initially. That news has people worried, as *Resource* has discovered. What will the cuts mean for education, employment and the pressure of work at Wageningen?

Text Marieke Enter, Dominique Vrouwenvelder, Luuk Zegers and Roelof Kleis

Shortly before the summer holidays, WUR announced it would need to make cuts 'due to the changing financial context'. The first step will be to make savings of 80 million euros by 'critically assessing the expenditure this year' and by 'reducing the overall budget for expenditure in 2025 by five per cent', explained Executive Board member Rens Buchwaldt in a message on the intranet.
Other universities have also announced cuts, and have even taken concrete measures in some cases. For example, the University of Twente has stopped using student-assistants. All these announcements have prompted some worried reactions. What impact will the cutbacks have on teaching, jobs and work pressure in Wageningen (*Resource* will look at research at a later date)?

'We are using the cuts for a major overhaul'

'I hope we don't undermine the measures to combat work pressure'

Modest target

The cuts that have been announced will probably only have a marginal effect on teaching, says Dean of Education Arnold Bregt. 'The Executive Board asked whether a million euros could be cut in the cost of the courses we teach. That applies to the budget for 2025-2026. The budget for this academic year has already been fixed.'

According to Bregt, the target for the cutbacks is modest. One million euros in the budget for teaching courses amounts to cuts of 1.6 per cent. That is much less than the overall target of five per cent announced by the Executive Board.
Bregt says the reason the target for teaching has been specified already has to do with the method for determining the teaching budget. 'The budget for 2025-2026 has to be finalized in April next year. That money is only paid out in 2027. If you don't take action now, you will be too late. The degree programme directors have already been informed, and are now looking at how to implement the cuts.'
Not all degrees will be affected by the cutbacks. Bregt:

Illustration Valerie Geelen

‘We won’t be making minor, across-the-board cuts. Degree programmes that got extra funding in the previous budget cycle because they needed strengthening will be exempt. It wouldn’t be right to first give them extra money and then take it away again. The other programmes will have to find savings of 1.6 per cent, in proportion to the size of the programme.’

Not the same for less

Biology programme director Marjolein Coppens agrees that cuts of 1.6 per cent in teaching is not that bad relatively speaking. ‘I think the chair groups will manage that. But given this government, I expect more cuts in the future. The programme committee will then need to look carefully at what is essential and what not. We can also consider options for merging courses, for example. We need to make sure that if we cut costs, we therefore stop doing certain things, rather than doing the same for less money.’

Bregt sees the target for cuts as a good opportunity to take a critical look at the current range of course. ‘We will be using it as a reason for a major overhaul. Some of the courses have become very expensive. We discussed this with the programme directors and I didn’t hear many complaints. This is largely accepted. It’s true we know we have to find savings. Money has constantly been added over the past few years to keep the courses up to standard.’

Bregt says the cutbacks target will not be used as an excuse to abolish less profitable degree programmes. 'The new Strategic Plan announces an analysis of the degree portfolio but that is separate to these cuts. We will be reviewing the degrees on offer. At least, if the consultative bodies agree to the Strategic Plan.'

No fat left to trim

Edith Feskens, professor of Global Nutrition in the Agrotechnology & Food Sciences Group (AFSG) and responsible for the finances of the cluster group, fears WUR will not be able to avoid taking university-wide unwelcome measures. 'Eighty million is 10 to 15 per cent of the overall WUR budget. It's not unfeasible but it's still an awful lot of money. And we don't exactly have a lot of fat left to trim. That applies to all the chair groups.'

She does add the cuts can't be blamed entirely on the government. 'The collective labour agreements mean we are now paying 12 per cent more in wages than two years ago. If the funding doesn't keep pace with that, you have to cut back on overheads.'

Feskens hopes WUR will keep a sharp eye on the balance between what is essential and what is merely nice to have. 'WUR has a governance model in which chair groups have to earn money by teaching students, getting PhD bonuses and carrying out projects at decent rates. If you cut back on that, you will also have less income. I also hope we don't undermine the measures to combat work pressure.'

'We still have 80 jobs advertised at present'

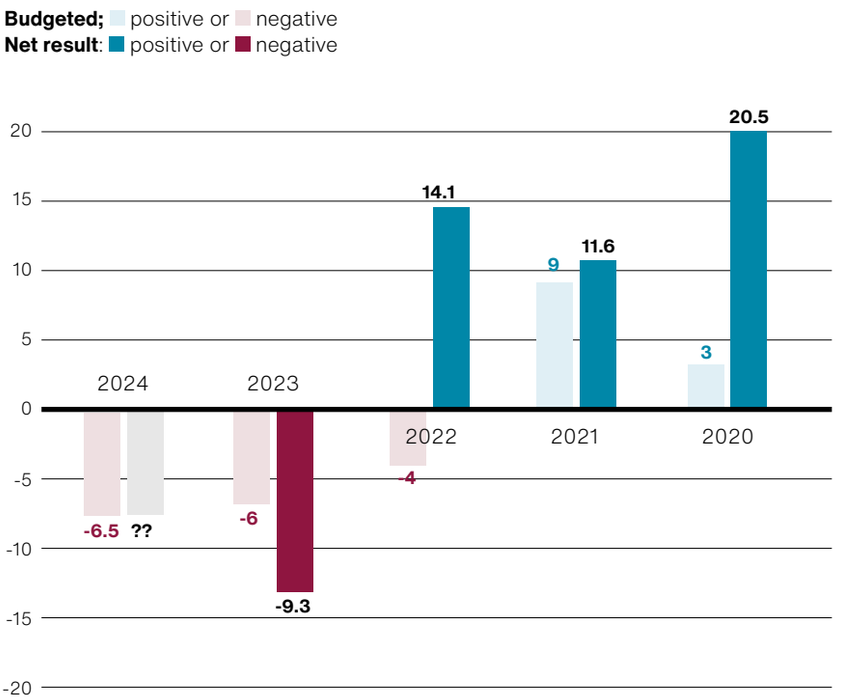
Low-hanging fruit

Nicole Jacobs is head of Practicals Support at Facilities & Services and the person who will have to deal with teaching cuts that affect practicals. She does see room for cutbacks. 'As support staff for practicals, we have been trying to save on materials and equipment for some years now for sustainability reasons. That means in effect we are ahead of the game in making cuts.' She agrees you can't save on materials and equipment indefinitely. 'Eventually I will need to review our support activities. We want to reduce the burden for teachers wherever possible, but that becomes more difficult if we have less money available. It would mean some tasks get handed back to the teachers, even though they already have a big workload.'

One area where cuts are almost impossible, as *Resource* has heard from various quarters, concerns the excursi-

No uni-wide recruitment freeze

As Buchwaldt announced on the intranet, decisions about cuts will inevitably affect staffing as personnel expenses account for 70 per cent of WUR's costs. So far, there have been no consequences for recruitment, says Recruitment manager Johan Kanis. 'The Recruitment department doesn't decide whether to advertise job vacancies or renew temporary contracts; that is up to the directors. The Executive Board hasn't announced a recruitment freeze either. Each entity within the organization decides for itself how to achieve the required cuts. Having said that, more consideration goes into whether to open up a vacancy now. The number of vacancies has been falling for a while as everyone is being careful with their budget. We hired a lot of new people over the past few years. We won't be keeping up those numbers any more. But we still have 80 jobs advertised at present. There will always be jobs available: we're a big organization and the labour market is tight. That's why we also recruit abroad.'



Black figures, red figures

Wageningen University (so WU, not WUR) closed the financial year 2023 with a deficit of 9.3 million euros, on a total turnover of around 495 million euros. That result was 3.3 million below what WU had based its 2023 budget on, according to the annual report. The 2024 budget shows that WU expects a deficit of €6.5 million for the current financial year, on a turnover of around €538 million. WU has enough of a buffer to cope with such a deficit. Admittedly, the university will be drawing on its equity, but that 'piggy bank' is quite well-stocked. At the end of 2023, WUR's equity came to €249 million. In 2022 and the preceding years, WU stayed in the black, with net results of 14.1 million euros (2022), 11.6 million euros (2021) and 20.5 million euros (2020).

ons and field trips. That is partly because the amount of time reserved for fieldwork has fallen a lot anyway in recent years. For example Jeroen Schoorl, associate professor of Geomorphology and Landscape Evolution Modelling, says one of his foreign excursions has been reduced from 24 effective excursion days 20 years ago to 13 days now, while a field trip has gone from 6 weeks to 27 days. He warns: 'If the pandemic has taught us anything, it is that students' fieldwork knowledge and skills really suffered during the Covid period. All geographical and environmental programmes in the Netherlands found that. There is no more slack.'
Hydrology lecturer Roel Dijksma, who is just back from Iceland, shares Schoorl's concerns. 'Over the years, we have already trimmed what we could off the field-work courses. There is no low-hanging fruit left for the cutbacks; whatever you choose will hurt. Making the trips even shorter is not an option. That automatically means scrapping elements, which will be at the expense of the learning objectives.'
He continues: 'We are still trying to find some way of cutting back on the expenditure without it affecting the quality. But without success so far. For example, our only option for the Iceland excursion was to reduce the number of students by setting a maximum, with priority for "our own people". But that means people who aren't in the priority group only know whether there is room for them after the deadline has passed. You can imagine how difficult it is to decide on your Master's courses in those circumstances.' ■

Tips welcome

Resource will continue to monitor the cutbacks in the coming period – and of course that includes Wageningen Research, which is not talked about in this first article. The editors are keen to hear about examples and situations that should be brought to light in the press.

Living with beavers

It is over three decades since the beaver was reintroduced in the Netherlands, and there are now more than 6000 of them. What impact is that having on nature and on us? Text & photo Roelof Kleis

There is a dam across a little stream in Oosterbeek. The dam itself is overgrown with plants and is barely visible. But its effect is clear to see. The water upstream is still, and downstream it is a tiny trickle. This is not the work of human hands, but of beavers.

Before 1988, the chances of seeing a beaver in the Netherlands were zero. Europe's largest rodent had died out here, way back in 1826. Nowadays, you still won't see beavers on a daily basis, but that's not because there aren't any. Since the successful reintroduction in 1988, the Netherlands has had a thriving population of beavers. In less than four decades, there numbers have grown to an estimated 6000. And still counting, says PhD candidate Britt van Zelst, who is researching the animal's ecological and social impact in the Netherlands.

The main reason you rarely see a beaver is that they are nocturnal creatures. During the day they sleep in their den, or lodge. It is this construction, and perhaps even more the dam that beavers build for their lodge, that makes them an iconic species. The only species that could inspire Van Zelst to commit to a four-year research project. She's been crazy about beavers since she was a child. How come? 'My first soft toy was a beaver. It seems I decided then that the beaver would be my favourite animal. He was called Basje.'

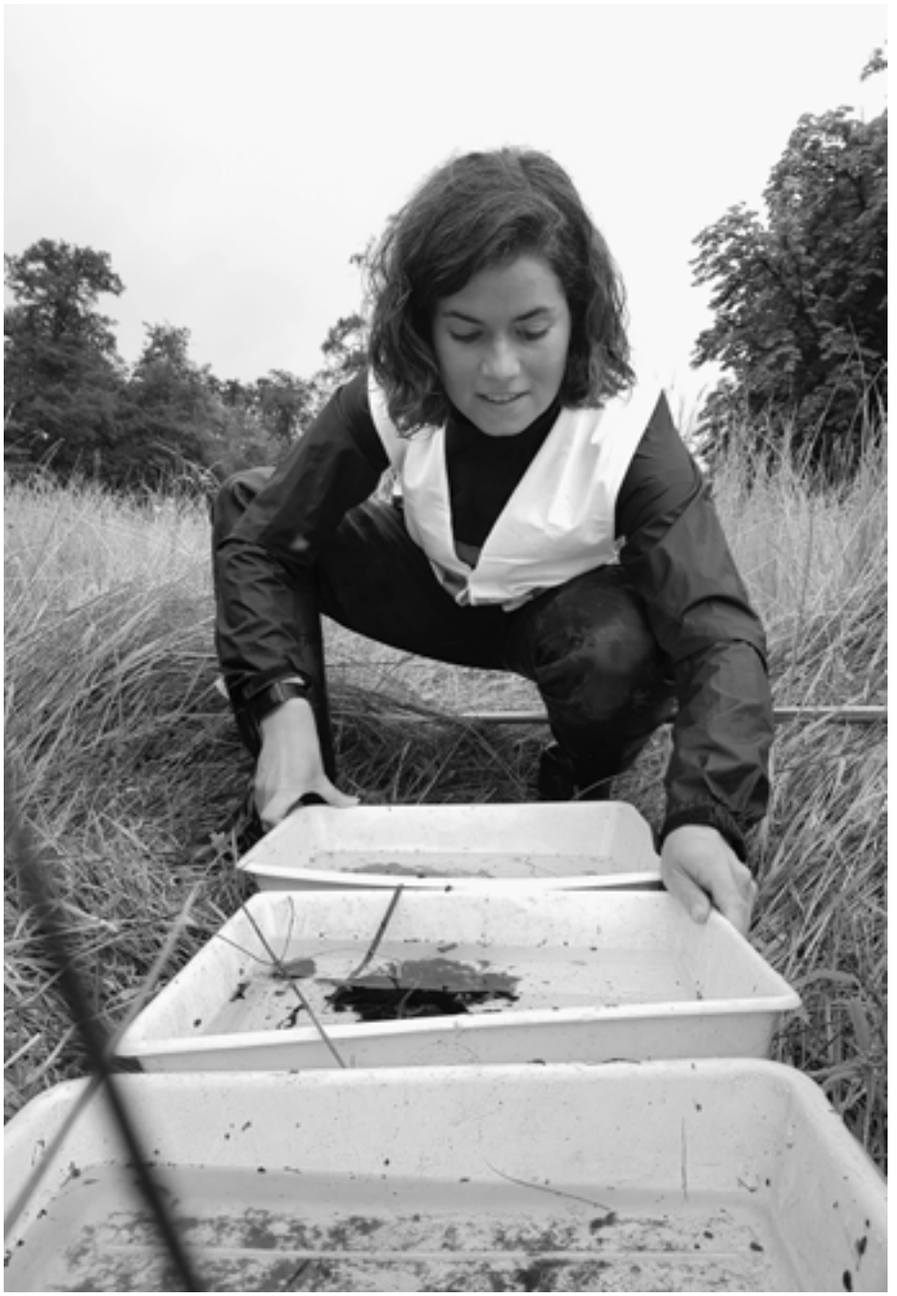
Sweden

Van Zelst did her Bachelor's in International Land and Water Management. Her thesis was about the effect of beaver dams on water quality in Sweden. 'That sparked off my interest in the beaver as the subject of academic study.' She did a Master's in Forest and Nature Management and then wrote a research proposal for a beaver study. For the past one and a half years, she has been working on figuring out 'how humans and beavers can live sustainably side by side in an anthropogenic landscape like the Netherlands'.

'My studies gave me an interest in the beaver's effect on our managed nature,' explains Van Zelst. 'Beavers provide all kinds of ecosystem services. Studies in North America and Scandinavia show that they improve the water quality, they boost the biodiversity and they can help against climate change. In the vast tracts of nature there, they build huge dams, shaping the landscape in their interests. In our densely populated country, where the nature areas are also much smaller and more fragmented, we often don't let them do that. Here it is humans who decide what the landscape looks like. My ecological question is whether and to what extent those assumed ecosystem services actually materialize here.'

Beavers build dams so as to create an underwater entrance to their lodges, enabling them to keep undesirable intrud-

Photo Shutterstock



Britt van Zeist takes water samples upstream and downstream from beaver dams.

ers out. If the water is too low, the beaver builds a dam downstream, causing the water level to rise. That is not always necessary in the Netherlands, though, says Van Zelst. 'We keep the water level up with weirs, culverts and dykes. The level is often high enough, so there is no need for a dam.' She focuses her research on the locations where a dam has been built, and studies its effects. 'Beaver dams transform running water into an almost stagnant beaver pond, where sediment and organic material gets deposited and retained. That pond functions like a kind of filter, so the water downstream is cleaner that the water upstream, according to research in other countries. But does it work the same way here?'

The dam effect

Measurement data from the water boards seems to suggest there is such an effect, says Van Zelst. But the existing measuring points are often too far from a dam to enable proper monitoring of any effect.

Beavers can help against climate change

So Van Zelst goes out to take her own measurements at 15 locations in Brabant and Gelderland. She takes water samples upstream and downstream, make an inventory of the flora and fauna present, and measure the speed of the current in the water. 'That will give an impression of where interesting processes are going on. Depending on what I find, I am going to study that in more depth next year.'
The samples are analysed in the lab for their nutrients and resultant nutrient richness. 'The idea is that if a dam filters the water, the system downstream is poorer in nutrients. I measure the amount of organic matter in the water and the kind of sediment that is deposited. I also look at the accumulation of heavy metals. All of that is related to the insects, fish, plants and birds that are present. I am also going to talk with nature managers and organizations about the question of how we can establish a sustainable way of living with beavers. What is their vision of the future, and what needs to change to realize it?' ■

SCIENCE AT WAGENINGEN MARKET

The soggy weather put a bit of a damper on a lot of the mini-experiments and demos a week ago at the second edition of 'Scientists at the market', an initiative aiming to strengthen the ties between the campus and the town. Tasting five types of milk from different farming systems, as offered by Wageningen Livestock Research, is much more fun if it's dry. But the 'guinea pigs' for Evelien Bos's demo weren't at all bothered by the weather. In spite of the rain, Labrador Benji and others convincingly demonstrated how Bos's home-testing protocol worked for researching the tastiness of pet food. ME

Photo Guy Ackermans

Dark cloud of the slow student fine

The government wants big cuts in education and one way it plans to achieve that is by reintroducing the slow student fine. This measure means that students who take too long to graduate will have to pay 3000 euros extra in tuition fees, saving the government 282 million euros a year from 2026. But at what cost? Text Luuk Zegers

The idea of the slow student fine is that students who are more than 12 months late in graduating will have to pay 3000 euros extra in tuition fees. Universities will probably also get less funding from the government to cover these students, says Student Service Centre head Ingrid Hijman. 'As a university, we need to think about how to cope with this. A lot depends on the final details. For example, will exceptions be made for students who spend a year on a committee, are chronically ill or are informal caregivers? We don't yet know.'

Despite this lack of clarity, the slow student fine will have consequences beyond the extra pressure on students to graduate faster. It all starts with the choice of what to study, explains Daniëlle Vogels (degree choice guidance officer at WUR). 'Many young people are afraid of making the wrong choice because if you switch degree programme, you have a delay. You only get the basic grant for three years, so that immediately means you have to take out a loan. That you pay interest on too. Having a slow student fine on top of that will just increase the pressure to get through university as quickly as possible.'

'Students will be far less eager to spend a year on a society board'

This pressure is not good for students' welfare, an area where big investments have been made in recent years, says Hijman. 'It's frustrating to see how this government seems intent on undoing all this effort. Stress is a key cause of mental problems in the current generation and the slow student fine will only increase that. You have study stress *and* financial stress. Students already often have part-time jobs to make ends meet, on top of the 40 hours a week they spend on their degree studies. If you're afraid your part-time job will stop you graduating on time and land you with a slow student fine, you can take out a loan instead, but nowadays you pay interest on your student debt and it gets taken into account if you decide later that you want to buy a house. I can imagine this is stressful.'

Hijman also expects the fine will affect students who want to develop through extra-curricular activities. 'It got more difficult anyway after the pandemic to find students for the Student Council, society boards and committees or to organize the AID. At WUR, we think it's important for students to grow in other ways besides through their study. We encourage that through the Student Financial Support scheme (FOS).' This scheme compensates students financially if they get behind in their studies due to circumstances beyond their control, or if they join the Student Council, a society board or Thymos sports foundation. 'We ideally want to assure students as soon as possible that they can continue doing

these things without risking a fine. But as long as the details of the plans remain unclear, we can't guarantee students won't be affected.'

Societies

Which is why the cabinet's plans are also causing concerns among student societies, says Christel Konings, chair of the Wageningen Federation of Student Societies. 'Students will be far less eager to spend a year on a society board. They're already under a lot of pressure to graduate fast. Everything that keeps a society going – the time and effort invested by its members – will suffer.' The measure may also affect societies' membership numbers. 'Tuition fees have risen a lot, as has the interest on student loans. At the same time, the basic grant is being cut by about 150 euros and now a slow student fine is being introduced. The time you spend in your student society is time you aren't spending on your degree. So we may find fewer students wanting to join a society. Or they may decide not to move out because living with your parents while studying is cheaper and less distracting. In the most extreme cases, students may choose to skip all aspects of university life except the degree studies. I'm not saying everyone will do that, but it may go that way for some.'

Students are astounded by the government's plans, says Konings. 'After years spent investing in measures to reduce stress, now you introduce a fine that promotes a culture in which errors are punished mercilessly. That makes me wonder exactly what is expected from students. I realize that cuts are needed, but how about finding a middle way?' ■

How many slow students?
The details of the slow student fine are not yet known. However, to get an idea of how many WUR students would have to pay the fine, we asked Geertje Braat of Education & Student Affairs how many students are already more than 12 months behind in their Bachelor's or Master's programme.

Expensive degrees
WUR offers four two-year Master's programmes that only take one year according to the legal norm: International Development Studies; Development & Rural Innovation; Management, Economics & Consumer Studies; and Communication, Health & Life Sciences. Will students doing these degrees get a slow student fine the moment they have any delay?

Read the longer article with data and facts on students who get behind and on compensation for expensive degrees here.

A demonstration against the slow student fine in Utrecht last June ◆ Photo ANP

ESCAPING THE HEAT

Global warming is leading to huge migration flows, and we need to prepare for this, say Professor Marten Scheffer and international colleagues in an article in the journal *One Earth*. Text Roelof Kleis

The Dutch population recently passed the 18 million mark. The 18 millionth new inhabitant was probably an immigrant. And that is no coincidence. Climate change means the world is on the threshold of a period of mass migration. People will be moving from the south, where it is becoming too hot, to the cooler north. Four years ago, Scheffer and his colleagues introduced the concept of the human climate niche. This is the habitat in which humans have traditionally felt most at home and where we perform best. The optimum average temperature there is 13°C. The areas fitting those criteria have been much the same over the past four thousand years, but climate change is altering that. For many people in the south, their current home is becoming too hot to live in.

Climate niche

In an article last year in *Nature Sustainability* ('Quantifying the human cost of global warming'), Scheffer and his co-authors calculated that if policies didn't change, by the end of the century a third of the global population would be living outside the optimum climate niche. By that time, the Earth might be 2.7°C hotter and home to 9.5 billion people. That would inevitably lead to huge migration flows, argue Scheffer and his colleagues in the recent article in *One Earth* ('Anticipating the global redistribution of people and property').

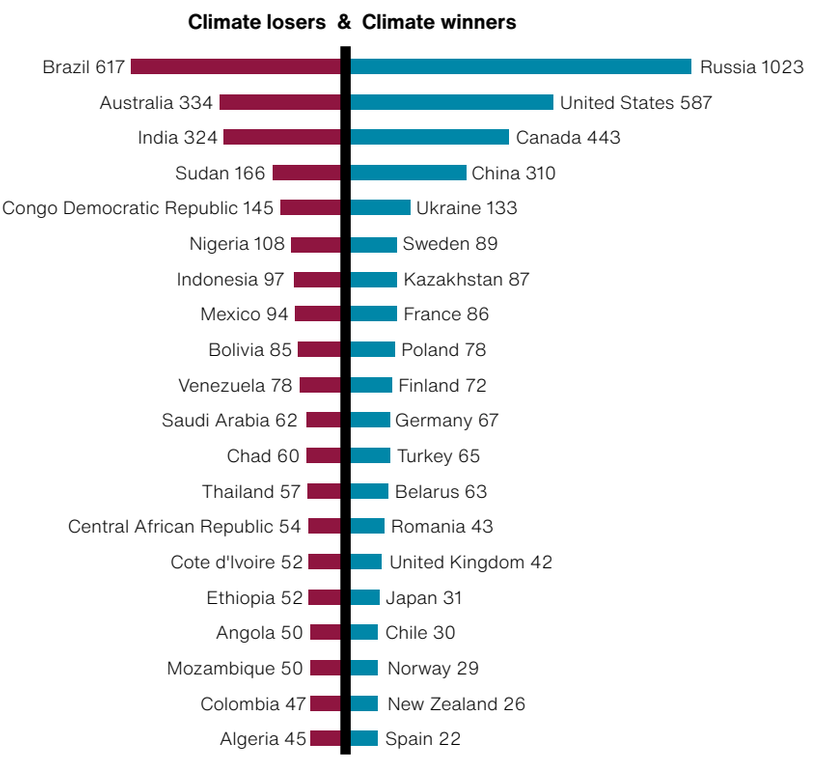
A new feature of this latest article is a chart that shows where those climate migrants might end up. It is based on calculations of how much habitable territory each country gains (or loses), expressed as the number of inhabitants involved (see inset on the next page). Russia, the USA and Canada are the biggest climate winners. Global warming could make it possible for Russia to accommodate one billion (!) extra inhabitants. The USA could take an extra half billion and Canada almost another half billion. In countries such as Brazil, Australia and India, large tracts of land would become uninhabitable.

The numbers are dramatic. Does that mean we are on the threshold of a disaster?

'Not necessarily. We shouldn't be too downhearted about this. That is also the message of our article. We don't say exactly how many people will move, but it is likely that an awful lot of people will be forced to go and live somewhere else. That doesn't have to be a disaster as long as we prepare properly for it. There are a lot of countries that need people of working age because they have ageing populations. Global warming will make

'NOW THERE IS AN OPPORTUNITY TO GO BACK TO THE DRAWING BOARD'

Photo Shutterstock



Climate losers (red) and winners (blue). The numbers show the loss or gain in habitable area, expressed as area for a million inhabitants, given a rise in temperature of 2.7°C and population growth to 9.7 billion people.

a lot of new areas potentially productive. But people are needed to realize that potential.'

The calculations assume the global population will grow to 9.5 billion by the end of this century. If places get too hot for people to live, isn't population decline more likely?

'No. The highest birth rates are seen in sub-Saharan Africa. Rates are lowest in countries with a pleasant climate. So it's not the case that people have fewer babies if it gets too hot; there is no proof for that. People have fewer babies when education improves, especially women's education. Areas that are too hot will see their population decline, but mainly due to migration.'

You and your co-authors call on us to prepare for mass migration. How?

'International agreements are needed about migration. How can you help make sure people end up in the best places? Can you use education in the countries people will be moving from to prepare them for the occupations for which there is a lot of demand in the countries they will be moving to? How should you set up the newly available land for agriculture and production? That last question would be a good one for Wageningen to tackle. Our modern agriculture has had a lot of disastrous consequences for nature and the soil. Now there is an opportunity to go back to the drawing board and start again. Social integration is also important. Segregation leads to prejudice and tension. It is high time to start thinking about all this.'

Right-wing parties are doing well in Europe and xenophobia is at a peak. Is the time ripe for this?

'There are a number of persistent misunderstandings about immigration. One is that it causes xenophobia. There is hardly any evidence for a link between the number of migrants and support for extreme right populism. Xenophobia also doesn't have much to do with poverty as such. Western Europeans are among the richest people in the world. Tensions in society arise because people have a sense of unfairness. After 50 years of neoliberal politics, some people have become incredibly rich whereas a lot of people have lost public services and have difficulty making ends meet. Populist rhetoric channels that tension and steers it towards xenophobia.'

How do you deal with that?

'We need to make society fairer again and restore public services. That is the crux of the problem: not the number of migrants but the unfairness in society and how it is framed.' ■

New name for ‘Kaffir’ plants

Hundreds of plants with the word ‘Kaffir’ in their name have had the name changed to ‘afra’. Completely justified, says professor of Biosystematics Eric Schranz.

Text Roelof Kleis

Schranz was present at the International Botany Congress in Madrid in July where this was decided. The reason is the racist connotation of the word Kaffir.

Did you vote?

‘No, I wasn’t at this nomenclature meeting. It doesn't surprise me though that this was brought up. The time is ripe, as it fits into the broad ongoing discussion around colonization. Two issues were discussed: the hugely racist reference to Kaffirs and the naming of plant after controversial naturalists. No decision was made about the latter.’

What would you have voted?

‘I would absolutely have been in favour. The word Kaffir clearly has racist connotations. I see a strong similarity to the Dutch Black Pete debate. When I moved from the USA to the Netherlands 17 years ago, I was shocked by Black Pete. It reminded me of the problematic “Black Face” era in American jazz, which was clearly linked to racist Southern segregation policies. To see the same practice here was very unsettling. Kaffir is similar. It is very offensive to many people, whereas the word afra has no such connotation.’

The word kaffir comes from Arabic, where it means ‘infidel’. That has nothing to do with race?

‘True, but the meaning has changed. For example, in the US terms such as black or African-American are generally accepted, but the n-word is taboo. That word also had a different meaning originally. It is now clearly racist and there's no excuse for using it. This also applies to Kaffir. For me, such a word has no place anymore.’

Can we expect more such changes? What’s next?

‘When the Dutch colonized South Africa, they gave their own names to plants that already had a name. Should we give up those Afrikaner names? The discussions about how Western societies deal with their colonial past is in full swing. You see it everywhere. Museums deciding whether to return objects, or street or building names being changed.’

What does it mean for the field of taxonomy when new names are introduced?

‘It is a change, but one we are used to. The purpose of phylogeny and taxonomy is to identify natural groups that represent evolutionary events. In that process, names are constantly changing, usually because new connections are discovered. So it’s not a major problem, especially since this is a uniform change to afra.’

The coral tree originally had the Latin name *Erythrina caffra*, where ‘caffra’ referred to ‘Kaffir’, but the name has changed to *Erythrina afra*, where ‘afra’ refers to Africa • Photo Shutterstock

Science at Lowlands

‘The effect goes on longer than the three-day festival’

Conducting serious science at Lowlands: is that possible, how does it work, why would you want to, and how do you get hold of such a prime location at the festival? Resource took a peek and talked to the Wageningen researchers who have sampled the festival vibe in the name of science. Text & photo Marieke Enter

Bleep, ding, kggg, toodoodoo, bleep, ding. There’s a cacophonous recycling game underway not far from the large Alfa main stage at Lowlands pop festival. Players have to use XXL objects at ever higher speeds to make packages suitable for recycling – with sound effects. It’s a hit: half the folk at Lowlands are keen to test their reaction speeds. And it’s busy next-door too, in the locale of the Wageningen project Hooked on Plastics. PhD researcher Rick Fransman is doing research there, as part of a larger Dutch Research Council project (Munition). He wants to know how well festival-goers separate plastics, and what they know and think about it. Near his ‘Lowlands lab’ are another 12 converted shipping containers where festival-goers can do things ranging from line dancing to watching porn* – all in the name of science. Welcome to Lowlands Science.

Fringe programme

With 65,000 attendees, Lowlands is one of the biggest festivals in the Netherlands. As well as music, it offers an extensive fringe programme, which since 2015 has included Lowlands Science. Last year, Sigrid Wertheim-Heck ran her Free Lunch Free experiment (see inset); this year Fransman was there with his Hooked on Plastics. ‘A unique experience that I would recommend to any researcher,’ he says about it. Neither of the Wageningen researchers came to Lowlands Science via the customary procedure – The Dutch Research Council issues an open call for proposals every year – but were invited to submit a proposal through the National Science Agenda, due to the link between Lowlands and their research areas. This year, recycling was an important theme for the Lowlands organizers. At the festival campsites – notorious for the rubbish left behind after the weekend – sets of five different rubbish sacks were handed out, to prompt the campers to separate their waste properly. ‘My research fitted in with that very well,’ says Fransman.

Not child’s play

Research at the festival has to have entertainment value, otherwise nobody will take part. Fransman and his supervisors had to give that some thought (‘Lowlands thought our first idea was a bit dull’) but eventually came up with a successful formula: getting festival-goers to fish for numbered plastic bath ducks in an inflatable paddling pool. The numbers correspond to different pieces of garbage – an empty deodorant can or a scrunched-up piece of aluminium foil – which they then have to deposit in the correct bin: for recycling or for residual waste? A perfect round earned you a bright yellow duck cap – a great hit with the Lowlanders: Fransman got constant comments about his headgear.

* Line dancing took place in the context of research on learning processes by the University of Amsterdam. The ‘Pornfessions Lab’ was used for research by Erasmus University on pornographic stereotypes and their impact on sexual and social experience.

The Lowlands lab of PhD student Rick Fransman (right).

Only two Lowlanders won a cap that weekend. The citrus fruit net proved to be a curve ball: it's made of plastic but because it snags on the sorting machines, it has to go into the residual waste bin.

Alcohol consumption

Like Wertheim-Heck (see inset), Fransman found the three-day festival more productive than he had dared hope. He went home with 288 complete data sets ('I could never have collected so many so quickly in a lab setting'), hundreds of behavioural observations around waste separation, and a lot of spontaneous input about attitudes. 'Festival-goers from Amsterdam talked about how frustrated they are that they don't get a chance to separate their waste because the municipal council doesn't collect it separately.'

When asked about the quality of the data, he admits laughingly that it goes downhill in the course of the day, as alcohol consumption goes up. 'Of course, we take that into account in the analysis. But the later data are not necessarily unusable. As a researcher, I want to find out how much effort people put into recycling plastic, and how much effort they are prepared to put into it – and not just when sober. If people are sorting their rubbish at home, I'm sure they sometimes do it when under the influence too.' ■

'Fantastic in every way'

With the help of comical, Monty Python-like video clips, consumption sociologist Sigrid Wertheim-Heck posed a few food-related dilemmas to Lowlanders last year. Such as: never choose for yourself what you eat again, or never eat together with other people again? The experiment revealed that the social side of eating is more important than freedom of choice. 'An important insight, from the policy angle too. People are quite prepared to sacrifice some freedom of choice as long as the social benefits are big enough,' says Wertheim-Heck.

She says being involved in Lowlands was 'fantastic in every way'. She explains: 'You can do things there that you're not likely to do in regular research. And Lowlanders are a group of people that you can't always reach so easily for research purposes. Participating in Lowlands Science was a lot more productive for me that I expected beforehand: large amounts of usable data, useful insights relating to methodology; a tremendous level of engagement, and useful new contacts – after Lowlands I was able to repeat the experiment at several other events. I could never have got all that from a regular lab experiment.'

Her food-related dilemmas turned out to make more of an impression on people than expected. 'Beforehand, I thought: we'll play the game and we're done, but a lot of festival-goers stayed behind afterwards to talk about it. We really set people thinking about food issues. That effect lingers much longer than the three days of the festival. I see it as one of my tasks to help update academic practice. That makes a festival like this a hugely attractive context. The festival approach proves that science is not dry, but is all about real life and can be playful enough to involve nearly everyone.'

FINGER-NL: Five cities, one study

‘Collaborating with so many partners is one hell of a job’

The first article on the FINGER-NL study, published this summer, had no fewer than 22 authors. This study is being carried out in five towns and cities simultaneously, including Wageningen. How do you manage such a big research project? And how do you collaborate with so many people?

Text Dominique Vrouwenvelder

Study adviser Ondine van de Rest heard about the Finnish FINGER study about 11 years ago while working as a postdoc at WUR. FINGER was a two-year randomized controlled trial in which elderly people with a high risk of dementia got a lifestyle intervention in the form of a diet, exercise, cognitive training and vascular risk monitoring. After two years, their cognitive performance was compared with that of a control group who only got general health advice. ‘The results of that study made a big impression on me,’ says Van de Rest, ‘and I wanted to start a Dutch FINGER trial. As a postdoc that meant writing applications for funding.’

That was in 2016. In the years that followed, Van de Rest submitted various applications in an attempt to get a grant to reproduce the FINGER study in the Netherlands. Her applications were rejected time and again. In 2015, Van de Rest had started work as an assistant professor and later she decided to make a career switch and become a study adviser. ‘In 2018, the Dutch Research Council made nine million euros available for the project, so together with some colleagues I reworked my original proposal and submitted a more detailed version.’ The proposal got the go-ahead in 2020. The money could be used to fund the MOCIA research consortium set up during the application procedure and in January 2022 the Dutch version of FINGER could finally start.

‘By the time we got the money from the Dutch Research Council, I was already retraining as a study adviser. There was no longer room in my diary for the research project. So it was decided to let researchers at Amsterdam and Maastricht take the lead.’ Even so, Van de Rest is still an expert on the project and involved in it because she was the person who wrote the original proposal. However, Van de Rest has positioned herself on the sidelines and tries to interfere as little as possible with the project. Does she find that difficult? ‘No, not at all. I really enjoy my job as a study adviser and I can’t say I miss the research much. Anyway, collaborating with so many partners is one hell of a job,’ she laughs. ‘It is a lot of work and it’s difficult to get everyone

FINGER

The acronym FINGER comes from **Fin**nish **Ger**iatric Intervention Study to Prevent Cognitive Impairment and Disability. The original Finnish study showed that a combination of physical exercise, a healthy diet, proper control of cardiovascular health and memory training could prevent deterioration in the cognitive performance of elderly people. After two years, the group that got the lifestyle intervention experienced a 25 per cent greater improvement in cognitive performance than the control group.

‘Involving many centres does more than spread the workload’

on the same page. I’m really impressed with how they manage to do that, and I’m pleased it’s not my task.’

Twelve hundred test subjects

The researchers wanted 1200 test subjects to take part so they could draw meaningful conclusions about the effect of lifestyle on cognitive performance. ‘You need several research centres to get that many participants,’ explains Van de Rest. ‘You won’t manage with just Wageningen. Now all the major Alzheimer’s centres are involved, which has more advantages than just sharing the workload: now we have participants from Maastricht, Amsterdam, Groningen, Nijmegen and Wageningen in our study, the population is more representative of what happens throughout the Netherlands.’

But there are also disadvantages to having so many people collaborating. ‘Everyone has their own ideas about how a study should be carried out, but if everyone does their own thing you won’t be able to compare the results from the various centres. All the centres have to perform the measurements and give advice in the same way, using the same protocols. It was quite a challenge to get everyone on the same page,’ says Van de Rest. ‘For example, the way we take blood samples here in Wageningen for nutritional research differs from the more streamlined infrastructure most university hospitals have for this. But it went well once we all had protocols and had got down to work.’

Moreover, the Finnish study couldn’t be simply replicated. To give an example, Finnish words were used in the memory tasks to test the cognitive performance. ‘And we use the American MIND diet in our project rather than the Finnish guidelines for a healthy diet. We also adapted the diet to suit the Dutch food culture, with cheese sandwiches and more dairy products, for instance. Those results have now been published. We also chose activities that fit better with Dutch habits, such as cycling, rather than the typically Scandinavian sports of cross-country skiing and Nordic walking.’

The FINGER study researches lifestyle interventions - in the area of exercise, for example - among elderly people with a raised risk of dementia ◆ Photo Shutterstock

Long haul

‘FINGER studies are being carried out in a lot of countries and regions in addition to Finland and the Netherlands,’ says Van de Rest as she takes an enthusiastic look at the future. ‘Imagine you can combine all the data from those studies around the world and draw conclusions. Then you can make statements that are statistically solid because the results apply to a lot of people.’

At the end of August, the first 60 participants of the 240 participants in total in Wageningen completed the two-year study. With a bit of luck, the study should be completed around this time next year. ‘It is long-haul research,’ concludes Van de Rest. ‘In the meantime, publications are appearing. There is also a publication about the recruitment campaign – with leading light Erik Scherder as one of the authors – in the pipeline.’ And the results of the study as a whole? ‘I expect them only in 2027 at the earliest. But they will be unique results that could have an impact on future research and treatments around the world.’ ■

Centre for Genetic Resources seeks seeds of heritage varieties

The lost cauliflower has been found

In June, the 'Delft Green Short Stalk' cauliflower was put on the list of five 'most wanted' heritage varieties by the Centre for Genetic Resources, the Netherlands (CGN). In an appeal that made the eight o'clock news, WUR curator Lana de Bruijn asked people to send in seeds of the roughly 50 heritage varieties that are missing from the collection, naming a top five of highly sought-after varieties. The response was tremendous.

Text Roelof Kleis

'It's not that those five are more important than the rest,' explains de Bruijn. 'The top five is really about what makes a variety interesting as a heritage variety. It might be the name, or the reference to where the plant was cultivated or bred. Like the "Big Leiden Winter" leek and the "Delft Green Short-stalk" cauliflower, varieties that came from those places and were grown and enjoyed there. The "North Holland Raisin Pea" is still eaten at summer markets with raisins and bacon.'

The CGN uses the term 'heritage variety' for old varieties with a story, which are seen as part of Dutch heritage because of their history. The list includes 350 varieties, and there were no seeds available in the collection of 50 of these varieties before the appeal was launched. Three of those 50 are back now. Which is not many, admits De Bruijn. 'Half of the varieties that were sent in are already in our collection. But people also sent us a lot of seed of old varieties that we hadn't earmarked as heritage varieties yet.'

Seeds in the attic

'We had a tremendous response to the appeal,' says De Bruijn. 'In the first week, I was working through my inbox every day to go through the responses. Many of them contained tips about historic vegetable gardens I should visit. We are going to act on that. And six people came by with pots full of seeds that they had lying about in the attic or a cellar. Four people sent in seeds by post.'

De Bruijn shows me a letter a woman sent her enclosing a couple of bean pods. 'Her father, who is now 94, grew those beans in his garden until four years ago. Now he's in a care home and she came across the pods in a drawer somewhere. Unfortunately, the seeds are too old to germinate now.' One man promised to send her seeds of peppermint he is growing at the moment.

De Bruijn: 'He had been given the seed by an elderly lady whose father grew the plant commercially about 100 years ago. You really can't find it anywhere anymore.'

Six wooden crates stand out for their size. They contain a total of 96 identical pots of seed, with yellowing typed labels on them. 'Really amazing,' says De Bruijn. 'The collection comes from the former agricultural college in Utrecht, where the seeds were used for teaching purposes. The man who brought them in had worked at that college for 35 years. He rescued the pots when they were

'Germination tests should show whether the seeds are viable'

going to be thrown out. They include very old varieties that were still being grown at that time, in the mid-twentieth century.'

Art

Equally impressive are the six boxes of test tubes full of seed that were delivered by botanical artist Trudy Beekman from Warffum. Beekman was born and raised in Wageningen and in the early 1980s she worked at the RIVRO (National Institute for Varieties Research) in its building on the Mansholtlaan near Bennekom. That is probably where the seeds came from: she took them into her care when they were due to be discarded there. 'They are so beautiful because they have such varied shapes and beautiful colours,' she says.

Beekman exhibited the seeds for a long time in her 'finds museum' in Amersfoort. The museum no longer exists and nowadays Beekman live and works in Warffum in Groningen Province. The seeds lay in a chest in her attic there until a couple of weeks ago when Beekman heard the appeal. Beekman: 'Then I realized that they are not just beautiful, they are also valuable as seeds. I love them, but really they are Wageningen heritage.' So she brought the seeds back to her birthplace.

'We'd love to be sent stories about these old varieties'

The Delft Green Short-stalk • Illustration CGN

And then there is the 'Delft Green Short-stalk' cauliflower. 'Another funny story,' says De Bruijn. 'Someone used ChatGPT to track down the "most wanted" seeds. The "Short-stalk" turned out to be available from a German seed producer, going by another name. In Germany, the cauliflower was known as the Erfurt Dwarf. It is a small cauliflower that can be harvested early, which can be of interest for further cross-breeding. Changes of name always make it hard to find a plant.' So the dwarf cauliflower was not easy to track down, but had not disappeared off the face of the earth.

De Bruijn is very satisfied with the outcome of the appeal. But how useful it will prove remains to be seen. De Bruijn expects that many of the seeds will be dead. 'They are old and were not stored the right way, chilled and at low oxygen levels. Germination tests should show whether there are still any viable seeds among them.' De Bruijn also calls for attention to the value of the old varieties in terms of cultural history. 'We'd also love to be sent stories about these old varieties and recipes using them. That part of our appeal got a bit drowned out, and we haven't received anything like that yet.' ■

Meanwhile in... Argentina

WUR is highly diverse, with hundreds of international staff and students. In Meanwhile, we ask them for their views on something happening back home. This time, Lucía Fernández (24), a Master's student of Biology from Argentinia, on the current political unrest and economic reforms going on there.

Text Youssef el Khattabi

Political turmoil and economic reform

Fernández: 'Argentina is facing a turbulent period following the election of Javier Milei, a far-right politician. His radical economic policies, including deep cuts to public spending and subsidies, have sparked widespread protests across the country. Many people are worried about the severe social impact these reforms could have, particularly on the most vulnerable.

The economic situation in Argentina has been dire for years, with skyrocketing inflation and a devalued peso. Milei's measures are intended to stabilize the economy, but the lack of social protections is causing significant concern. Internationally, there's fear that Argentina's political landscape could become more polarized, affecting relationships with other nations.

My friends and family studying abroad are anxious about these changes. Many of our families are struggling with the immediate effects of these reforms, especially those on fixed incomes, like retirees. It's hard to watch from afar, knowing the challenges they face. I and my friends living abroad don't know if we want to go back to Argentina. There's a part of us that wants to help the country and support the Argentinian people in the struggles they have been facing for a long time.

The future of Argentina is uncertain. The next few months will be critical in determining whether the government can manage these reforms without further destabilizing the country. We hope for the best, but the situation remains precarious, and we fear for the social and economic well-being of our people.'

Column Ilja Bouwknegt

Student grandma

It's amazing: having been enrolled as a student in Wageningen for more years than I care to specify, I've finally turned into a good student. It is week one of my thesis, and on day one I set off by bike for the Forum library, where I intend to take up residence for the next six months.

I crank up my thesis engine, but I soon get distracted. My desk by the window has a view of the bicycle racks where all the freshly scrubbed – and tired-looking – students are hobbling in. I instantly change into a people-watching windowsill cat. All the varieties of WUR folk pass by. First-years with soil drills, people walking barefoot, internationals on bikes that are too small for them, a handful of familiar faces that I see everywhere I go... In my first break I take a walk around the campus and come across more amazing WUR things. An outdoor class under the trees, a long procession of first-years queuing up for a white lab coat, a stand full of greenhouse plants outside in the sun, two people getting very cosy on a lounger under the canopy on the occupied Gaza bridge, and another 10 people I vaguely know and see everywhere.

Sometime last year I decided I was done with WUR – I wanted to finish my degree as fast as possible. That's partly because I've been hanging around here for so long that I've become some kind of student grandma, with all the wisdom (and nonsense) I've accrued over the years. I mean, on day 2 of my thesis, someone asked me if I was in for a game of bowls.

And yet, and yet... I still like the campus: a crazy, unique place, which can make me nostalgic already. Maybe it wouldn't be so bad to stay a bit longer. And for the next six months, this spot in the library is mine.

Ilja Bouwknegt (25) is a master's student in Forest and Nature Conservation. Ilja is interested in the relationship between humans and nature and would ideally like to try every hobby at least once. Currently, she's into crochet, but writing remains the undisputed favourite.

You encounter all the flavours of the world in our WUR community. Arohi Natu (22), a Master's student of Food Technology from India, shares a recipe for Poori Bhaji.

Flavours of WUR

Poori Bhaji

'This dish holds a special place in my heart. It brings back memories of the festivals we celebrate in our culture. Poori is a type of deep-fried bread, usually made with whole wheat flour. Poori Bhaji is loved by everyone and easy to prepare, making it a staple during festive occasions. This potato dish is mostly eaten with a dessert on the side, like basundi: slow cooked milk with sugar.'

Ingredients (For three people):

- 4 potatoes
- 1 cup whole wheat flour
- 1/2 cup water
- 2 green chillies, finely chopped
- 1 red onion, one half finely chopped, the other half thinly sliced
- 1/2 tsp cumin seeds, mustard seeds, curry leaves
- pinch of asafoetida
- 1/2 tsp turmeric powder
- 1/2 tsp chilli powder
- salt to taste
- 1 tsp ginger-garlic paste
- lemon

Preparation (± 45 min)

1. Boil the potatoes until cooked, then peel them. Cut into cubes.
2. Put the flour in a bowl, add a teaspoon of hot oil and gradually add water. Knead it into a dough. Let it rest for 5 minutes.
3. Start rolling the dough – the pooris – into discs about 6-7 cm diameter and about 1-1.5 mm thick. Sprinkle some flour between them to stop them sticking together.
4. Fry the pooris. Once one side turns light brown, flip and fry the other side until it is nicely brown. Flip once more and fry until the poori is done.
5. Heat some oil in a pan. Add mustard seeds, cumin seeds, curry leaves and asafoetida.Add the turmeric powder, green chillies and ginger-garlic paste. Stir.
6. Add the chopped onion and fry until the onion softens.
7. Add the chili powder, stir again. Then add the cubed potatoes and mix. Cover and let the mixture cook for 5 minutes.
8. To serve, put the pooris and the potatoes on a plate. Garnish with raw onion slices and a quarter of lemon.

Limelight

Thurs
3-10-2024
Wageningen town centre
From 19:30
Free admission

More than 25 acts in one evening sounds like a recipe for stress. In Popronde, 14 venues in Wageningen town centre will host performances by new bands. Biology student Myrthe van Dok is the person responsible for figuring out this complex puzzle.
Text Coretta Jongeling

Popronde

'Popronde is a showcase for new musical talent,' explains Van Dok. 'The bands that take part are relatively unknown. They can apply for Popronde and a committee then selects the bands they think have the potential to make it big. Rondé and WIES took part in previous editions, for example.'
This year, you can see the bands not just in the usual cafes, the public library and the Unitas youth centre, but also in more unusual venues such as the town hall and the new cinema Visum Mundi. 'Elsa Birgitta Bekman will be performing in the cinema. She makes video clips and we will project them on the big screen while the band plays in front of it.'
Wageningen concert organizer PopUPop is running two of the Popronde venues. One, the Binnenstadwinkel, will start with 'jazzy electronic music' by Quanza, says PopUPop member and Resilient Farming & Sustainable Food Systems student Jes Kallen. This will be followed by Blackbeach, a three-person act from Amsterdam that play techno with synthesizers and live drums.
Instead of the queues for new passports, the town hall will have electronic duo Enjako Yoyo performing from the balcony. 'They are originally from Japan, which you can hear in their music,' says Kallen. 'We think it's really cool to be able to have an act perform in this unique location.'


Femme Fugazi during Popronde 2023 ◆ Photo Jessie Kamp

Fancy helping? Popronde is always on the lookout for volunteers willing to lend a hand during the evening. Email wageningen@popronde.nl for more info.

TIPS

FRI 13 September
Xtort (industrial/dark electro) in the Superette.

SUN 15 September
Rotfest (an ode to the art of fermentation) in Proeftuin Ede.

ZAT 21 September
Barbaboefjes (house, techno, drum 'n bass) in Loburg.

Colophon

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Squatter in cauldron

One of the seven cauldrons that make up the artwork outside the Atlas building is occupied. Room shortages have forced first-year Pieter to take up residence.

You can hardly tell during the day. The cauldron Pieter has selected as his night-time abode looks the same as the other six, scattered at random in the field outside Atlas. The hollow vessels that make up this artwork by Bas Maters, entitled *The Dance of the Cauldrons*, calmly mind their own business. It was that calm that struck Pieter.

'I took a good look at them during the AID week and I was impressed by how quiet and spacious they were inside,' says Pieter (full name known to the editors). 'I don't have a room yet and it occurred to me I could easily sleep in one of these. Which I have been doing since lectures started. Every evening, I unroll my mat and sleeping bag, and the next day I go to lectures. I return to my parents for the weekends.'

Landscape Architecture student Pieter says he has been forced to take this step. 'I live in Friesland, which is not quite far enough from Wageningen to qualify for priority in getting accommodation through Idealis. But commuting every day from Friesland by public transport isn't an option. I would be spending half a day travelling and wouldn't have time to study.'

That his temporary accommodation is an artwork is news to Pieter. 'I didn't realize. We have a completely different name for this kind of thing in Friesland.' So far, no one has noticed Pieter has set up home in the cauldron. 'But I reckon that might change now. Do many people read *Resource*? On the other hand, if the tents on the bridge are tolerated, this should be allowed too.'

'If the tents on the bridge are tolerated, this should be allowed too'

To prepare for every eventuality, Pieter has made a banner that says: Down With Room Shortages! 'If necessary, I'll hang that up and then I'll officially be a squatter. If that's the case, they'll probably leave me alone.' While he's at it, Pieter adds: 'There are still six unoccupied cauldrons. And it gets a bit lonely here at night. So anyone who wants to join me is welcome.'