WUR from within: straight, sharp, transparent

No 10

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The journalism platform for all at Wageningen University & Research

New flats in Bornsesteeg

Outdoor gym at De Bongerd

Woodpecker mimic after 9 million years

Meat substitute more like meat

Major project on floods in India

Farms of the future

Strip cultivation not a cure-all

p.12

EN

Contents

NO 10 VOLUME 18

Read the latest news and background stories at resource-online.nl

FOREWORD

Mice

Many things don’t go as expected, especially in science. Eureka moments are rare, in Wageningen as elsewhere. It’s a question of hard work, the occasional success and the occasional failure or disappointment. Take strip cultivation. I will be experiencing that first-hand in my allotment next season when I take part in the CropMix programme. I will be part of a citizen science project set up by WUR researchers in which gardeners are asked to grow a mix of at least two crops. The aim is to see whether you can do without pesticides with smart crop combinations. The article about the farm of the future (page 18) makes me realistic about my gardening for CropMix. We visited the project site in Lelystad, where systems research is carried out to investigate new farming methods that could resolve the current problems facing agriculture. Strip cropping offers advantages but it is no silver bullet; mice love it for example as there is always something to eat. You live and learn, to quote the title of our delightfully realistic regular column on page 8, always worth a read. As regards the CropMix project, I will soon get my broad-bean and pumpkin seeds in the post. I will certainly be keeping an eye out for any mice during the growing season.

Willem Andrée
Editor-in-chief

LOW-METHANE

Can the methane emissions of cows be influenced by giving the calves fluid from the rumens of 'low-methane' donor cows? The provisional results of a study at the Dairy Campus innovation centre suggest they can. The rumen microbiome is a key factor in determining how much methane a cow produces. The study shows that by giving a cow at a young age the rumen fluid of another cow, it is possible to influence the composition of the microbiome – and therefore the methane emissions – to some extent. The fluid is administered via the mouth, making it a simple, short and animal-friendly intervention. With no adverse effects on the young cows' growth and appetite. Sixty heifer calves were monitored for one year. Given the encouraging results, monitoring will be continued until they start producing milk. ME

Photo *Resource*

The new flats of Wageningen Bornsesteeg 2.0 have been coloured in. Forum is on the left and to the right behind it are Orion and Atlas • Illustration SAB/Idealis

New flats on Bornsesteeg

Student accommodation provider Idealis wants to build two new blocks of student flats on Bornsesteeg, next to the current star-shaped block of flats. Combined, the new buildings will house 350 students. One of the buildings will also have the new Idealis office.

One of the buildings will be 33 metres tall and the other 20 metres tall. The tallest block will be built next to the star-shaped flat, which is twice as tall. The second building will be erected further along, on WUR land. The ditch between the two sites will be developed into a green ecological zone.
The new construction will change the look of the entrance to the campus. The current bicycle storage facility and parking places next to the star-shaped flats are due to go. 'We want all bikes to be stored underground, in a new bike basement under the block of flats,' says Idealis director Bart van As. The bikes will be stored underground in the new buildings too.

Barrier

A small car park – out of sight – will be built next to the flats. Van As: 'A lot of international students live in the star flats, and most of them don't have cars. At present, the parking spaces are often used by university staff, which is not the idea.'
The new car park (for 33 cars) will have a barrier to prevent unauthorized use.
According to Van As, the new buildings will replace the temporary housing, which will be phased out over the next few years. This means Kortenoord, part of the Haarweg complex and two buildings on the old Dreijen campus, currently housing 1100 students. The new buildings on Marijkeweg, Born-Oost and Bornsesteeg will make up for that loss.
Nature organizations are not pleased with the plans. The taller of the two blocks of flats will be in the middle of an ecological zone. Upgrading the ditch will not remotely compensate for this loss, they say. There will be more disruption during construction anyway due to the noise, lights and people. The nature organizations therefore want that building not to go ahead.

RK | ARNOLD WINKEL (DG)

Photo WSKOV

WSKOV, the Wageningen student choir and orchestral society, is celebrating its 105th anniversary with some special concerts. The first was last Thursday in Forum.

'We are all studying at WUR and are interested in nature,' says WSKOV chair Carolin Ellerkamp to explain the anniversary theme 'Echoes of Nature'.
'"Echoes" refers to sound and music, but also to reflecting and looking ahead.'
'The choir and orchestra each have their own repertoire, but we always play one piece together in a concert,' says Hylke Willemsen, in charge of promotion and acquisition at WSKOV and one of the orchestra's second violins. 'That piece always brings the house down.' The next concerts will be on 7 and 8 June. DV

46

The Winter AID is about to start. From 5 to 9 February, about 200 new students of 46 different nationalities will be getting to know one another and Wageningen. Some activities on the programme: Crazy 66 (fun games to explore the town), second-hand bike sale, traditional Dutch dinner, film evening, information fair on topics such as the Dutch health system, open mic session and a sports day. WA

New: outdoor gym at De Bongerd

As of this spring, you will be able to practise your deadlifts and pull-ups outdoors. The place where the climbing wall used to be is due to be turned into a space for individual exercising and group sessions by April.
The idea for an outdoor gym originated during the Covid period when some sports classes had to be held outdoors. 'People were really enthusiastic about this,' says Tijmen Oostenbrugge, the Strength Training and Elite Sports coordinator. 'They wondered why they couldn't always train outdoors.'
In the new outdoor space, people will be able to train individually with the equipment and loose weights. The plan is also to have 10 to 15 group lessons a week outdoors. That should also relieve the pressure on the indoor gym, which can get up to 120 people using it at any one time.
The outdoor gym can remain open most of the year. 'Working out in the cold is not a problem if your heart rate stays high the whole time.' CJ

'Teach first-years about sex issues'

Inappropriate sexual behaviour is more common that universities realize, warns Mariëtte Hamer, government commissioner for inappropriate sexual behaviour and sexual violence. Among other things, she recommends giving 'education on sex and relationships' a permanent place in the curriculum, starting with all first-year students.

In preparing the advice for the government, Hamer spoke to victims and perpetrators of transgressive sexual behaviour and sexual violence in higher education. She also talked to students, experts and representatives of academic and applied universities. The advisory report lists the problems in higher education. First, Hamer notes the gap between the relatively few formal complaints (300 in 2022) and the actual situation. While the transgressive behaviour usually takes place off university premises, there are regularly incidents at the university as well. Or the perpetrators are fellow students, which makes it a university matter.
Another problem is that the response to reports of incidents is often procedural and legalistic.

Relationship education

Care for victims is 'minimal or completely absent', writes Hamer. As a result, the complaints procedures sometimes do more harm than good. Also, various factors increase the risk of problems, such as the strict hierarchy, one-on-one work situations, the uncertainty created by temporary contracts, the high work pressure and fierce competition. PhD candidates and postdocs are particularly affected by all this, says Hamer.
Hamer recommends training, awareness raising, supervision, a duty of care, discussions and risk analyses to bring about a change of culture. The topic 'sex and relationship education' should get a permanent place in the curricula of all degree programmes. And the position of PhD candidates and postdocs should be strengthened. Furthermore, universities must not assume they have done their bit after setting up a complaints procedure, says Hamer. 'Aftercare is important. The reporting procedures should promote the change of culture rather than discouraging people.' HOP

Wageningen Marine Research scientists conducting fish research on the Marker Wadden islands, October 2023 ◆ Photo *Resource*

Fish like Marker Wadden

The Marker Wadden islands, which were created in 2016, offer an attractive habitat for various fish species. That is clear from three new publications resulting from joint research by Wageningen Marine Research (WMR), the Dutch angling association and the Netherlands Institute of Ecology.

The gentle, shallow zones on the banks of the Marker Wadden islands turn out to be particularly rich in species. The construction of the islands has increased the extent of this type of bank substantially. There is now 16 per cent more bankside in the Marker lake, and five times as much shallow bankside as before, even though the island group only covers one per cent of the total area of the lake.

The gentle, shallow banks have an important function as nurseries as they offer young fish protection, food and a high probability of reaching maturity. However, there are few fish around the bare sandy banks, especially the banks exposed to the wind and waves. Banks made up of pebbles with vegetation and space between the pebbles have more to offer.

Predatory fish

The waters around the Marker Wadden islands also seem to appeal to adult fish, although to varying degrees during the year. Species that feed on fauna on the lake bed leave the islands during the summer to spread out across the lake. But the area remains attractive all year round to predatory fish, like the perch and pike-perch, due to the large numbers of young fish in the shallows between the islands. Research with fish fitted with transmitters also shows that many fish regularly visit the 30-metre-deep pits created when sand was dug up for the new Marker Wadden islands. However, it is not clear why: are they looking for safety, food or somewhere quiet?

The gentle, shallow banks are important nurseries

WMR researchers will continue to study the fish around the Marker Wadden for the coming years as part of the Marker Wadden II Knowledge and Innovation Programme. They will be monitoring the extent to which the islands bring about the intended ecological recovery. Last October, *Resource* published a reportage article with WMR researchers Joep de Leeuw, Joey Volwater and Olvin Keeken on how they monitor the fish around the Marker Wadden islands. ME

WOODPECKER MIMIC AFTER NINE MILLION YEARS

In nature, some animals look similar without being closely related. For good reason: such mimicry can offer a species certain advantages, such as safety. But it takes a while before a species goes down this route. Nine million years in the case of woodpeckers, shows a study by evolutionary ecologist Jente Ottenburghs.

Ottenburghs studies sexual reproduction between birds of different species. When he read one standard work on the topic, he discovered various errors. 'There were examples of hybrids (birds where the parents are of different species, ed.) that were wrong or not backed up by solid evidence.' That sparked his interest. He focused on woodpeckers – birds he finds particularly interesting – and compiled a reliable list of hybrids. But what could he do with this information?

'Then I remembered a blog I once wrote on mimicry,' he says, 'and I started to think about the connection between the two.' According to Ottenburghs, there is not much point to mimicry if cross-breeding is still possible. That is because the offspring are not fertile or possibly not even viable. 'Hybridization basically stops mimicry. Mimicry can only arise once there is no more chance of cross-breeding.'

'Mimicry only arises once there is no more chance of cross-breeding'

This was the hypothesis he set out to test. Woodpeckers are known for the relatively high prevalence of mimicry. The best example is the hairy woodpecker and the downy woodpecker, two American species that look very similar but belong to two completely different genera. When you look at them they are different in size, but you don't notice that from a distance. The similarity protects the smaller downy woodpecker from the larger woodpecker.Ottenbrughs looked at which species produce hybrids, which not and which demonstrate mimicry. He also considered their joint evolutionary paths. He got some unusual support in this quest. Birds can only cross-breed if they live in the same area. But how can you find that out in a simple way for all 240 species of woodpeckers? A post on X brought a solution when the Belgian biologist Michaël Nicolaï replied.

Unambiguous

Nicolaï studies the evolution of colours in birds. He had written a computer program to do that, and was able to use it to come up with the data Ottenburghs needed within a week. The calculations produced an unambiguous result: Ottenburghs' prediction was correct. 'Almost too good to be true.'

'Nine million years after a species appears, the probability of hybridization becomes zero,' says Ottenburghs. 'Mimicry develops after that. It's a very clear turning point. And it happens quite late; the oldest species of woodpecker in my dataset is 23 million years old. So the turning point is almost halfway.' Incidentally, it is not clear why the turning point is at nine million years. Nor is it clear whether other birds also have such a specific turning point. Ottenburghs and Nicolaï co-authored an article on the woodpeckers for the *Journal of Avian Biology.* But they have never met. Ottenburghs: 'Everything took place via email. We didn't even need a Teams meeting. I knew him from X as we follow one another. I also know what he looks like because I've seen a photo. And now there's this publication. Funny, really.' RK

Left the hairy woodpecker; right the downy woodpecker ◆ Photos Shutterstock

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 Myrna Bunte, a PhD researcher in Nematology.

Text Nicole van 't Wout Hofland • Illustration Stijn Schreven

'It happened in May last year. At that point, I'd already been working on my PhD research into vaccines against parasitic worms for three years. As I was working in the lab, a lab assistant came up to me with a question about my DNA cutting and pasting. There was something wrong with the fragments of DNA (primers) that I had designed for her, she said. I promised to look into it later.

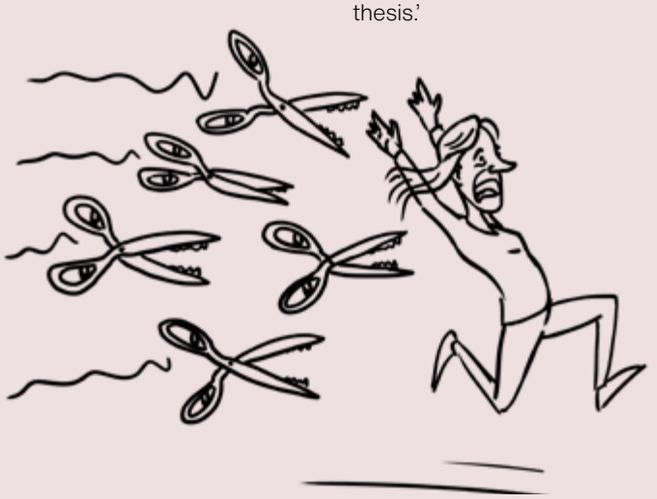
'In the dead of night, I jumped out of bed and ran to my laptop to check everything. The lab assistant was right'

That night I woke up with a start. I suddenly realized that I had used the same design strategy for the fragments of DNA for the lab assistant as for my own research. They were the basis for several experiments and student projects. All the results had been negative. Was it possible that there was something wrong with the fragment of DNA the whole experiment was based on?

In the dead of night I jumped out of bed and ran to my laptop to check everything. The lab assistant was right: two DNA letters were missing, which might explain the negative results. I felt pretty stupid. I was doing that sort of thing with DNA virtually every day as a third-year PhD candidate. I considered it to be second nature to me. How could I have done it wrong without realizing it? I felt ashamed of myself.

At the same time, the stress was mounting up because I was working on the last experiments in my research before writing my thesis. The next day I confessed it all to my supervisor. He calmed me down and said such things happen.

In the weeks that followed I had sleepless nights worrying about the planning for repeating the experiment. As it turned out, I worked very efficiently in those final months by concentrating entirely on that experiment. This time it went well and the tests produced great results. It gave me some grey hairs, but in the end I could still include that data in my thesis.'



Meat and meat substitute equally satiating

A few years ago, consumer research found that meat substitutes don't make you feel as full as real meat. But meat substitutes have improved a lot recently, so professor of Food Reward and Behaviour Liesbeth Zandstra has taken a new look at this question.

'Previous research showed that people were eating two veggie burgers for one meat burger because otherwise they didn't feel full,' says Zandstra, who is also a Science Leader at the Unilever Foods Innovation Centre Wageningen. 'If that is the case, it could be an obstacle to the protein transition that is so badly needed.'

Zandstra carried out a study on the feeling of satiation produced by meat and meat substitutes.

'Meat substitutes have more protein and fibre than in the past'

She tried to stay as close as possible to the actual situation for consumers. 'We made meat and veggie versions of chicken and vegetable curry and of pasta bolognese with mince and a tomato sauce. To make the veggie version, we replaced each gram of meat with a gram of meat substitute without considering the macronutrient composition of the meal. After all, your average consumer doesn't match nutrients: they simply replace a serving of minced meat with an equally large serving of veggie mince.'

No difference

Zandstra did not find any difference in feelings of hunger and satiation between meat and meat substitutes. 'Meat substitutes have improved enormously in the past five to ten years,' she says to explain the different results compared with the previous consumer studies. 'Veggie products often contain more proteins and dietary fibres than in the past, and those nutrients play a key role in making you feel full.'

'You could say our conclusion isn't very exciting,' admits Zandstra. 'But it is a positive result as it means nowadays the issue of satiation doesn't have to be an obstacle to the consumption of meat substitutes.' DV

One of the project's focus areas is the Indian city of Guwahati, which regularly experiences hugely disruptive flooding ◆ Photo Shutterstock

NWO money for Wageningen/Indian water safety project

Lodestar, the Wageningen/Indian research project whose name means *LOw-cost Disaster & Emergency Services for communiTies At Risk*, is getting 1.75 million euros from the Dutch Research Council (NWO) Merian Fund. The project revolves around more effective early warning systems for flooding or drought in urban areas.

The project's core consists of Professor Anamika Barua, on behalf of the Indian Institute of Technology Guwahati, and Jeroen Warner and Sumit Vij, from Wageningen's Sociology of Development and Change chair group. Wageningen chair group Water Systems and Global Change is also involved. Warner: 'They are basically the project's tech guys who know everything about meteorological data and flood models. The work on water-related disasters is often either about human behaviour or about the (geo)technical aspects, but rarely about both. We aim to bridge that gap with Lodestar.'

The project team wants to improve the accuracy of the models that predict floods or droughts, in part by combining the use of a wide range of indicators of upcoming problems. 'They can vary from state-of-the-art satellite information to local knowledge, such as if the rats leave this area, that means the river will flood in less than 24 hours,' explains Professor Barua, who is currently in the Netherlands working on her new book.

The idea is to combine all these sources of knowledge in a kind of dashboard that warns local governments and residents in good time of a flood or drought, with the help of artificial intelligence. That needs to be done in an accessible and user-friendly way — for example, in the form of an alert app or web interface.

Apathy

Lodestar will also study how to improve the effectiveness of such early warnings. 'There are actually already a lot of early warning systems,' says Warner, who is an associate professor of Disaster Studies. 'But they often don't have the desired effect. Too often, the most vulnerable people don't get moving when an alert is given; they simply sit tight and hope for the best.' The project team hopes that by using living labs in both India and the Netherlands, it will gain a better understanding of the drivers of this behaviour.

In the Netherlands, Lodestar will be collaborating with the municipalities of Breda and Dordrecht and the water board that covers those areas. In India, Lodestar will look at the cities of Bangalore and Guwahati and their surroundings. The urban focus is deliberate: 'Cities are becoming increasingly vulnerable to flooding or drought. This is not only due to climate change, but also to the rapidly increasing population and the kind of structures being built,' says Warner.

Lodestar will start in June. The Dutch Research Council funding will be used to pay for four postdocs and six PhD candidates, who will mostly be based in India. A 'gender-conscious' recruitment process will be adopted for those positions, says Barua. 'The water sector is male dominated in both the Netherlands and India. It could use some more female role models. That is why we are deliberately creating opportunities for women.' ME

See resource-online.nl for more information, including about a second Wageningen/Indian project getting Research Council funding.

PhD theses in a nutshell

Uncharted territory

Nowadays, explorers sit at computers and distil maps from satellite images. Timon Weitkamp studied how to reliably map irrigation in the fields of small farmers in Mozambique. Literally uncharted territory. His work shows that mapmaking involves making choices. As it always did, even in times gone by. A slight change to the algorithm, and the map looks quite different. So you need to be very clear about those choices, otherwise you could be guilty of manipulation. RK

Unchartered Territory. **Timon Weitkamp ◀ Supervisor Charlotte de Fraiture**

Extractor fan for cows

Cows produce a lot of the greenhouse gas methane. People are continuously coming up with new measures aiming to reduce these emissions. So a good method for measuring the results is crucial. Cécile Levrault, from France, trialled an improved version of the cubicle hood sampler. This is a kind of square extractor fan that captures and analyses the exhaled air. After many ups and downs, she came to the conclusion that the thing did work to some extent but was far from applicable in practice. For reliably measuring the methane output of cows, there is still no method that beats a respiration chamber. RK

Practical monitoring of enteric methane production from individual ruminants.
Cécile Levrault ◀ Supervisor Peter Groot Koerkamp

Protein from rice bran

White rice is obtained by removing the bran from the rice. The bran (which is about 10 per cent of the whole grain) contains protein. Sirinan Lasrichan, from Thailand, developed a method for extracting the protein from the bran using enzymes. At present, this is currently done chemically, using sodium hydroxide, which uses a lot of water and generates a lot of waste. Now there's an alternative, thanks to the successful processes Lasrichan developed. Result: high-quality plant protein and a more sustainable process. Win-win! RK

Enzyme assisted extraction of rice bran protein.
Sirinan Lasrichan ◀ Supervisor Remko Boom

THE PROPOSITION

PhD students explain their most provocative statement. This time it is Xinyuan Min's turn. She received her PhD on 22 December for analyses of the economic feasibility of different types of greenhouses in China.

'Period products should be readily available in every workplace'

'I noticed when I came here as a student that you can hardly buy menstrual products anywhere on campus. The closest now the Campus Plaza mini-supermarket. It is also a bit more expensive than a regular supermarket. I have often had to ask fellow students or colleagues if they had anything with them. There are vending machines everywhere, filled with chocolate and cola. Why can't a few racks be filled with tampons and sanitary pads?

Some people may find that a bit uncomfortable, but that also shows how important this is. Menstruation is perfectly normal and we have to get used to it. At my new workplace in Shanghai I have already created a stock, in my desk drawer and a set in each bag, including different sizes of tampons for the different days of my cycle.

It may not be a big, urgent problem, but I think it's unfair that only women have this problem. If men had periods, the products would be free and available everywhere, just like toilet paper.' TS

Alarm

Sjoukje Osinga

The alarm goes off. The familiar voice comes out of the public address system: leave the building immediately, don't use the lifts. A collective sigh resounds through the corridors, because it must be another fire drill. The law requires us to hold one at least once a year, so we've already had a lot of them. It's a bit like Aesop's fable, 'The boy who cried wolf'. The boy was supposed to warn people if he saw a wolf but he raised a false alarm three times just for a joke. Then when the wolf really came, no one believed him – and that didn't end well.

'I'd rather surreptitiously stay behind. But the safety officer is adamant'

One evacuation that is etched in my memory took place when I was teaching in the Forum. The alarm went off and the whole group had to go down narrow staircases from the seventh floor. And 15 minutes later, back up the same stairs, because all the lifts were full of course. Nothing came of that class, and you never catch up on lost time like that. Most of us cooperate dutifully but a few linger in their rooms. Do they struggle to drop everything and go, or do they struggle with obeying orders? I'm the worst of the lot. It's just going so well, and I'd rather surreptitiously stay behind. But a safety officer who is checking all the rooms is adamant. I've got to go. I shove my laptop into my bag and take it with me, against the instructions.

Once I'm downstairs I stand shivering outside with everyone else, wondering how long this is going to take. Do I dare get my bike from the basement and cycle home to carry on working there? When I make a move in that direction, I'm stopped straightaway – and rightly so, of course. The health and safety team that organizes the drill is made up largely of support staff – they are now in charge of us, and that includes professors and me. This time it turned out to be for real. It wasn't too serious in the end, but it could have been. So how important was my work actually? When it comes down to it, stubborn scientists are not much use.

Sjoukje Osinga (55) 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

FARMING WITH A FUTURE

Agriculture has got to be done differently in the future. The options are being tested at the Farm of the Future in Lelystad. And in the course of this year, elsewhere as well. 'In the former peat colonies strip cultivation would be a strange concept.'

Text Roelof Kleis

There is not much to be seen in winter on the 20 hectares of farmland on the Edelhertweg road in Lelystad. Most of the crops have been harvested. As far as possible, at least, given the wet autumn we had. But the farming system does jump out at you, even on a cold winter day. This is not a standard large-scale agriculture location: crops are grown here in strips.

The Farm of the Future, that's strip cultivation, isn't it? Pieter de Wolf gives a little sigh. He is aware of that notion. Yes, those strips. 'Those narrow strips dominate the image people have. The plus side of that is that we've put something out there that looks innovative. The downside is that for four years, we've been doing our best to make clear that there's more to the Farm of the Future than growing crops in narrow strips. We've also got strips 16 metres wide, but photographers are always drawn to those narrow strips.'

He understands it though. 'It *is* a lovely sight. Eight crops side by side in strips three metres wide. All those different colours.'

Along with his fellow project leader Wijnand Sukkel, De Wolf was the initiator of the Farm of the Future. The concept came into being in 2019. 'At that point, there were three trials going on: one with strip cultivation, one with inversion and non-inversion tillage, and one about sustainable crop protection. Wijnand and some of his colleagues thought: this is effectively an Agro-ecology and -technology Field Lab. That label covered a number of existing experiments. Civil servants from the ministry of Agriculture, Nature and Food Quality (LNV) visited a few times and then the name Farm of the Future emerged.'

That name proved a public relations hit. The project has attracted a lot of attentionever since the official launch in 2020, held online due to the pandemic. 'Covid was an opportunity,' says De Wolf. 'Everything had to be online and because of that, we shared what we were doing in the field on Twitter (now X) from the start. A weekly update with photos. We soon had a big group of followers in the agriculture sector. We came in for a lot of media attention, and that's where that association with strip cultivation grew up. It's had a big effect on the Farm of the Future's image.'

No blueprint

On closer inspection, the name doesn't really cover it. Anyone looking for a 'farm of the future' in the Flevo Polder looks in vain. There is no farm as such.

'STRIP CULTIVATION IS NOT JUST NICE FOR BIRDS, IT IS ALSO A FANTASTIC SYSTEM FOR MICE'

There are big harvest losses due to mice, especially on the narrow strips ◆ Illustration Valerie Geelen

‘I WOULDN’T ADVISE ANY FARMER TO DO IT LIKE THIS’

The project takes a systems research approach, trialling new farming methods which might offer a solution to the current problems faced by the agriculture sector. ‘Not *the* solution, but *a* solution,’ stresses De Wolf. ‘It is definitely not about finding a blueprint for *the* farm of the future, but about exploring various possibilities for future agriculture in this region. We and the ministry are not out to decide here what farming should look like in Flevoland Province or in the Netherlands. The minute people get the feeling – and this is very strong among farmers – that other people are deciding their future for them – they go on the defensive.’

A single uniform future for agriculture is not even possible, says De Wolf. ‘Strip cultivation is a design for this area and the conditions in the polder. The soil here is made up of fertile clay, and the land is parcelled out using straight lines. What are the challenges here for the coming 10 or 15 years, and what are the possibilities? Soil compaction is a big problem here.

Crop health is a challenge: how do you create a good product with fewer means? And can you combine productive agriculture with greater biodiversity? Crop diversity could be the answer. We opted for cultivation in strips of at least three metres wide as the most practical form of crop diversification.’

The strips in the polder are narrow (three metres) or wide (16 metres). In both systems, seven crops are rotated: four grubbing crops (early and late potatoes, onions and carrots) and three mowing crops (winter wheat, field beans and biennial grass-clover). The

width of the narrow strips matches that of the existing machinery. The system offers indisputable advantages. To name but one, the number of bird species shoots up due to the diversity of crops. ‘Each of the selected crops has its own growing season,’ explains De Wolf. ‘So there is always something growing, meaning that there is year-round cover for birds and other animals. In conventional agriculture, a whole field gets ploughed over after harvest and everything’s gone. In strip cultivation, you plough a little section at a time.’ Also, strip cultivation works with fixed lanes so that the crop beds do not get driven over. ‘In this system you always drive over the same bit of soil, so you save the rest of the soil from compaction. We saw the effect of that within two years: in the past wet year there was no water standing on the field. That is fairly unique in this area.’

But there are disadvantages as well. Serious ones in fact. ‘We have a massive mouse problem here,’ says De Wolf. ‘Strip cultivation is not just nice for birds, it is also a fantastic system for mice. They have a place to live all year round and a constant food supply. The mouse population is exploding.’ You can see that as soon as you walk into the field. The ground is perforated with mouse holes and scattered with nibbled stalks. Mice cause big harvest losses, especially on the narrow strips. De Wolf: ‘Mice make their holes in the grass-clover, not far from the potatoes and carrots. Funnily enough, they eat the outside row first. And the smaller the strips, the more outside rows there are and the bigger the damage.’

De Wolf tells it straight. ‘There are more disadvantages than advantages to strip farming with strips three metres wide and these crops. I wouldn’t advise any farmers to do it like this. What is

Pieter de Wolf: ‘The system offers indisputable advantages. The number of bird species shoots up due to the diversity of crops, and there is always something growing, providing year-round cover for animals.’ ◆ Photo *Resource*

‘WE AND THE MINISTRY ARE NOT HERE TO DECIDE WHAT AGRICULTURE SHOULD LOOK LIKE IN FLEVOLAND AND THE NETHERLANDS’

more, narrow strips are a lot of work. Wide strips are much more practical, while you still have the positive effects. In fact, you can say: the narrower the strips, the greater the disadvantages. Strip cultivation is sometimes seen as a silver bullet, a panacea. But it’s not. There are no solutions without any downsides.’

Regions

Meanwhile, De Wolf is involved in initiatives to start Farms of the Future in other regions. Projects have been launched or are under preparation not just in Flevoland Province but also on the sandy soils of Brabant, Limburg and the eastern Netherlands, the peaty soils of Drenthe, the clay soils of Groningen, and the South-West Delta. They are all based on the same principle: offering solutions to specific regional problems and challenges. De Wolf: ‘In the former peat colonies, for example, the soil varies a lot in terms of altitude and levels of organic matter. There, strip cultivation would be a strange approach because you’d be cutting across the existing diversity with additional crop diversity. Instead, you should make the most of the existing diversity. Also the water board wants to raise the water table, and that will make the lower areas too wet for farming, while the high areas become more productive. Our solution is to stop production in those low-lying areas in the interests of nature or water storage, and optimize production on the higher parts. A plot organized along those lines is being set up this winter in Valthermond.’

Photo Shutterstock

Strip cultivation at the Farm of the Future ◆ Photo OANEvents

Does this mean the Farm of the Future is going nationwide? Maybe, says De Wolf cautiously. ‘New initiatives in various regions have expressly sought our collaboration. These are independent projects that work together informally, possibly going by the name of Farm of the Future. WUR is involved in several initiatives, whether from existing WUR locations or as a knowledge partner. A lot is going to happen in the next few years in the regions. After years of centralization, it is important for WUR to invest regionally now. Starting with the existing locations.’ ■

THROUGH DIFFERENT EYES

It may not be surprising that Amsterdam, home of the Dutch East India Company, has visible traces of its colonial past. But little old Wageningen? And yet it too has a colonial history, with signs that are still visible today. At least, if you know where to look. The stained-glass windows of the Aula, for instance, testify that this iconic building for agricultural education in Wageningen was built with generous donations from Wageningen graduates and plantation owners in the colonies. Last Monday, the Aula was the starting point of the first Decolonial Walking Tour of Wageningen. The tour was developed by students doing the Tourist Experiences module as part of the MSc in Tourism, Society and the Environment. Mayor Floor Vermeulen was one of the people who went on this first guided tour. ME

For more about the tour, see resource-online.nl

Photo Guy Ackermans

Lessons on Nitrogen

What is nitrogen exactly, why is too much of it a problem for biodiversity, how can you see that, and where in the Netherlands is it obvious? Interested nature-lovers who wonder about such things can't always find the answers easily. But that should change soon, thanks to a few Wageningen Master's students

Text Marieke Enter

In eight intensive weeks the students applied themselves to their ACT assignment on developing material for a module on nitrogen. (ACT is Academic Consultancy Training, a compulsory component of most Wageningen Master's programmes.)
The request for a module of this kind came from a private organization called Natuuropleiding (Nature Course), which provides courses for adults who are curious about nature. Nitrogen should definitely be included in the teaching material, thought Natuuropleiding founder Monique Könings. 'Nitrogen is really important to nature in the Netherlands, but for a lot of people it remains a rather vague concept. And it's not easy for a lay person to learn about it: in the fierce public debate, those for and against a stricter policy often proclaim totally contradictory things. Good luck with sorting fact from fable in all that,' she says.

Senses

Könings knew what she wanted: lesson material that explains clearly and objectively how nitrogen in nature works, in a way that fits in with the Natuuropleiding philosophy: not a boring classroom lecture but active and experiential, using all the senses. She started her search for help from Wageningen with ecologist and nitrogen expert Wieger Wamelink. As well as offering valuable expertise on nitrogen, he posed a sobering question: 'do you have funding?' When the answer proved to be no, a solution was found by the Science Shop: Könings' question met the criteria for a Science Shop project.
An ACT project is part of every Science Shop project. And very interesting it was too, say the Master's students who signed up for it: Moon van Asseldonk (Resilient Farming & Food Systems), Vera ten Bruggencate (Earth & Environment), Janne de Haan (Biology), Floor Hoevers (Ecology), Marieke Smit (Plant Sciences) and Douwe Klein Swormink (Earth & Environment). They spent eight weeks delving into the world of nitrogen and nature education under the supervision of Ecology researcher Lian Grabijn. Hoevers: 'We didn't know each other before this and we're a group with pretty diverse backgrounds. It was interesting to combine all those different perspectives in an end product that we're quite proud of.'

No half measures

And rightly so, says their client, Könings. 'I was impressed by the students' thorough approach. They consulted several Wageningen nitrogen scientists, freed up a number of Saturdays to join Natureopleiding classes, interviewed current and former participants, polled people around them about what they knew and thought about nitrogen, asked me searching questions and went out scouting for potential lesson locations. They definitely delivered no half measures.'
The project led to a 64-page advisory report for

Natuuropleiding with detailed recommendations on the contents, structure and learning methods of the nitrogen module, appropriate to Natuuropleiding's own learning style. 'The students explain very clearly how Natuuropleiding can make the subject of nitrogen comprehensible in an appealing way – in spite of the often negative associations it carries.' For example, the students describe the use of mini-experiments that increase people's basic knowledge about nitrogen – tests on plants, say, giving some of them nitrogen fertilizer and others not. And they use methods that make room for the learners' attitudes and emotions in relation to the subject. And 'fieldwork' plays a key role: locations like the Ginkelse heide, a heath near Ede, which literally make nitrogen deposition visible. There you can see thriving clumps of moor grass alongside languishing heather bushes. Hardly any lichen, while carpets of heath star moss stretch for metres. That makes the Ginkelse heide the perfect place for an outdoor lesson, say the Master's students.

Ticking clock

With a 9 as the final grade and a very satisfied coordinator and client, the project can be called a success. The students agree. 'Besides enjoying it, we learned a lot from the project,' says the recently graduated plant scientist Smit. Her eyes twinkle when she's asked what was the biggest learning experience: 'I think we all learned a lot about working effectively. At first, we tended to discuss every aspect of the project at length in the whole group, without ever getting to the point or reaching a decision. Until we realized how fast the clock was ticking. Then we made our meetings more efficient, keeping an eye on the broad lines of the assignment and aiming for conclusions.'

The final report – and an interactive presentation of it – winds up this ACT project. The overarching Science Shop project is still going, and aims to run a pilot version of the nitrogen module next autumn – and possibly launch a MOOC-like variant in the longer term too, says coordinator Grabijn. Könings: 'This is already much bigger and better than we could have dreamed of. I'm extremely pleased with the help we've had from Wageningen.' ■

'It's not easy for a lay person to learn about nitrogen'

On the Ginkelse heath, a group of Master's students work on their ACT (Academic Consultancy Training) assignment, an educational module on nitrogen. From the left: Janne de Haan, Moon van Asseldonk, client Monique Könings, Marieke Smit, Vera ten Bruggencate, coordinator Lian Grabijn and Floor Hoevers. Not in the photo due to his exchange in Finland: Douwe Klein Swormink ◆ Photo Guy Ackermans

‘Research needs entrepreneurs’

From concept to product: who can get us going?

Researchers hoping to have an impact on society with their knowledge often get stuck due to lack of funding, time and entrepreneurial skills. ‘I don’t think WUR is currently very well equipped for the commercial work.’

Text Dominique Vrouwenvelder

Floor Boon, a researcher at Wageningen Food & Biobased Research (WFBR), launched a project aiming at fruit juices with less sugar about 15 years ago.
‘My office-mate at the time had young children and was worried about their dental health. Fructose in fruit juices damages your tooth enamel. That is actually how our project started.’
Boon and her colleague’s research soon led to a successful technique for extracting the fructose and acids from orange juice. ‘We already had patents for similar technology because we had studied how to extract sugar from sugar beets. We then successfully applied that knowledge to orange juice.’
But 15 years ago no consumers – with the possible exception of that colleague with young children – were eager to be able to buy low-sugar orange juice, explains Boon. ‘The market wasn’t ready for it yet. Over the years, several producers expressed an interest but the problem was that no one was willing to pay for the production of juice for taste tests. And we couldn’t fund that ourselves.’
To make juice for testing, the researchers have to start up their experimental apparatus all over again. ‘That costs time and money: cleaning the whole system and preparing the adsorption pipes, as well as carrying out microbial quality control so we can have the juices tested safely. Once everything’s up and running, we can make about five litres of juice per day.’ That is enough to run three tasting sessions for interested parties. ‘The point was really the starting costs, which we had no money for.’

Right moment

Boon and her colleagues recently got money to make new juice from WUR’s Road to Innovation grant. ‘That money came through the Value Creation department, and businesses came to our tasting sessions through them too. The juice producers reacted positively to the quality. Now that a sugar tax is in the pipeline and the Nutri-Score has been introduced, it’s the right moment to revive this technology.’
Although Boon is pleased about this step, she is fed up with how long the process has taken. ‘WUR needs to be better equipped for taking research to the market. That way, ideas can more easily take root in society and a researcher is not left frustrated. It ought to be more logical to follow up on research like this. What you’re aiming at is for a business or an innovative organization to take over your work and upscale your idea, because not all researchers have an entrepreneurial mindset or want to go into business.’

‘Finding funding is time-consuming and frustrating’

The experimental apparatus Floor Boon and colleagues use to extract fructose and acids from orange juice ◆ Photo Wageningen Food & Biobased Research

Associate professor of Consumption and Healthy Lifestyles Annemien Haveman-Nies shares the frustration with the sluggishness of such processes. Haveman-Nies is the driving force behind the implementation of ProMuscle, a lifestyle programme started and further developed at WUR. 'Professor Lisette de Groot saw in 2013 that a resistance training programme in combination with a certain amount of dairy protein in the diet was effective for increasing muscle strength in the elderly – in a controlled clinical setting. In follow-up research, we got the programme ready for application in a real-life setting.'

Haveman-Nies and her colleagues demonstrated that this practice-based intervention, guided by external physiotherapists and dieticians, was also effective for boosting muscle strength in elderly people. On the basis of these results – and extensive consultation with the Value Creation department, the programme was then included in the intervention database of the National Institute for Public Health and the Environment (RIVM). 'But that's not the end of the story,' explains Haveman-Nies. 'What it means is that from then on, Wageningen University is the owner of this intervention and must provide training for professionals, issue and renew licences and maintain the programme. Quite a job. We couldn't have done it by ourselves, but luckily our colleagues at Wageningen Academy stepped into the breach.'

'If I see that other parties do succeed with similar projects, my heart sometimes sinks'

'The tricky thing with the ProMuscle intervention is that it targets disease prevention. There are hardly any short-term benefits,' says Haveman-Nies. 'When people get fitter, it reduces health care costs. So it would be logical for health insurance companies to contribute, but that hardly even happens.'

Haveman-Nies is pleased that so far, the project always managed to get subsidies in time from companies or government

bodies. ‘But looking for funding is very time-consuming and frustrating, which makes it hard to keep everyone motivated.’

Motivation

Berber Dorhout has been involved in ProMuscle for over seven years now. ‘At first, I really liked it and I wanted to do a lot for it. Now that I keep coming up against closed doors, that is harder.’ Dorhout got her PhD in 2021, building on the research results of previous PhD candidates examining ProMuscle. She is now working at HU University of Applied Sciences in Utrecht, where she works on the implementation of the muscle programme alongside her research on behaviour change.

‘When I see that other parties do manage to reach the implementation phase with similar projects, my heart sinks. We really did develop something good, which a lot of people are enthusiastic about. The scientific evidence is strong and there is a lot of practice-based evidence that our intervention works for keeping elderly people fit for longer. But it is a stumbling block that ProMuscle isn’t even partially covered by their health insurance.’

Dorhout sees some glimmers of hope, though. ‘Since we’ve been offering a training day through Wageningen Academy, there’s been more response. I hope that will spread like an oil slick.’ The researchers use the money people pay for the training to implement the intervention more widely. Haveman-Nies: ‘I would prefer it to be even bigger, but I am also proud of what we can offer now.’

Help with the business side

‘These examples are very familiar,’ says Brechtje Vreenegoor, manager of the Knowledge Transfer Office (part of the Value Creation department). ‘It is our task to help scientists have a social impact with the knowledge obtained from their research. Our department has doubled its staff in the past year, but I still often hear that people are not aware of our existence.’ And Vreenegoor can imagine that: ‘You often only look for us if you need support. But we can also help with obtaining financing, for example through further development or applying for a patent. So it doesn’t always have to be your ambition to become an entrepreneur.’

‘We help people break down the big step from research to enterprise into smaller steps. One option is to hand the innovation over to an existing company. But if that doesn’t work out, the only other option is to start up a company yourself.’

But not every researcher wants to be an entrepreneur. ‘There is certainly a tension there. If you have a good idea, the first question is whether you want to take on the work of running a business. The next question is how much time you have, since this comes on top of your current work. If a scientist has a stab at entrepreneurship but then realizes he or she prefers to work in the lab, I still consider the process a success. At least we’ve tried, although a researcher might feel differently about that.

‘If you ask me, WUR is not doing badly on the entrepreneurship front. We get two to three spin-off companies per year, which is par for the course for a knowledge institution. But there is certainly room for improvement. Anyway, you can never guarantee that your project will successfully take root in society, even if you go through all the hoops successfully. ‘In my experience, scientists are very modest and often don’t even realize what a brilliant idea they’ve got. And I hope that the new Rewards & Recognition programme will stimulate researchers’ enterprising side.’ ■

‘WUR is not doing badly on the entrepreneurship front’

ProMuscle, a lifestyle programme that helps the elderly improve their muscle strength, was created and developed further at WUR. ‘Looking for funding is time-consuming and frustrating.’ ◆ Photo ProMuscle

New software can track particles in bacterial cells

A new program, called TARDIS, is revealing the movements of multiple particles in a bacterial cell for the first time. It lets scientists monitor proteins and DNA in living cells and study their function, explain biophysicists Johannes Hohlbein and his former PhD student Koen Martens.

'You could see it as an aerial view of a flock of sheep. The computer can predict how the flock will move but it doesn't follow the path of each individual sheep' ◆ Photo Shutterstock

The software opens up new opportunities for biological research, for example in testing the effectiveness of antibiotics and other medicines. 'Some antibiotics work by blocking molecular machines in the cell,' says Martens. The software lets scientists study the behaviour of several of these machines at the same time. That will give researchers a quicker and clearer understanding of how an antibiotic works.

All the TARDIS program needs is coordinates of the molecular particles at various time points, which can be obtained using a microscope. Then the program calculates all the possible paths of the particles. 'TARDIS does this taking into account the biological dynamics and physical forces,' explains Martens. The result? An accurate mapping of the routes taken by the particles in a cell. As a proof of concept, the researchers let the program loose on known patterns of movement, such as diffusion. 'Our software calculated the correct movement exactly,' says Martens. It even managed this for more complex conditions than had been previously possible.

Jerky film

Previously, researchers were able to make particles in a cell visible by using biological techniques, for example by attaching a minute fluorescent ball to a particle. But that only let them track one particle at a time. That is because biomolecules move so fast, faster than can be captured by a camera. The result is like a jerky film with jumps between the frames. That is not a problem if you are only tracking one particle as you fill in the missing movements. 'But if you get jumps with two or more identical-looking particles, you can't be sure which particle in the first frame corresponds to which particle in the second frame,' says Martens.

Now, for the first time, scientists can get clear measurements of the pattern of movements as a whole using computational power. Hohlbein does however point to a limitation. 'The software lets us process the data faster but we can't use this method to track one specific particle, such as a protein, in real time,' he explains. 'You could see it as an aerial view of a flock of sheep. The computer can predict how the flock will move but it doesn't follow the path of each individual sheep.'

DNA repairs

The idea for the program started back in 2020, when Martens was doing his PhD research in Wageningen with Hohlbein as his supervisor. 'His thesis was already so lengthy that there was no room for this study,' says Hohlbein. So Martens and Hohlbein worked on the idea later, together with colleagues at Carnegie Mellon University and the University of Bonn, where Martens now works. Martens has already used TARDIS in his current research project to study DNA repairs in single-celled organisms. 'I don't have a biological interpretation yet, but this software lets me track the cell's repair kit minute by minute – for the first time,' says Martens. ■ NVTWH

A flying start for novice activists

‘Gluing yourself isn’t compulsory’

Student editors Felix Landsman and Imme Voordendag are concerned about the climate crisis and want to work for change by becoming activists. But what is ‘change’, actually? And how do you become an activist? Do you have to glue yourself to a road to make yourself heard? Text Felix Landsman and Imme Voordendag

People become activists because they want something to change. But how do you make change happen? And what do we actually mean by change? Bram Büscher, professor of the Sociology of Development and Change, sees two types of change: structural and short-term transformations. ‘You can busy yourself with practical forms of change such as renewable energy. But the point is the direction in which those practical steps are going. Short-term improvements should always be linked to a long-term vision.’

According to Büscher, our present system revolves around endless growth, and the quest for ever more efficiency is really a curse. Just look at the roads, where widening a motorway usually leads to heavier traffic, not less. We really need to learn to think outside the dominant logic of the system: ‘If you do something that is realistic in the current system, you are not working towards structural change. Think big, be unrealistic: that way the norms can slowly shift.’

A good example is the abolition of slavery: during the Dutch ‘Golden Age’, a slavery-free economy was considered absolutely impossible.

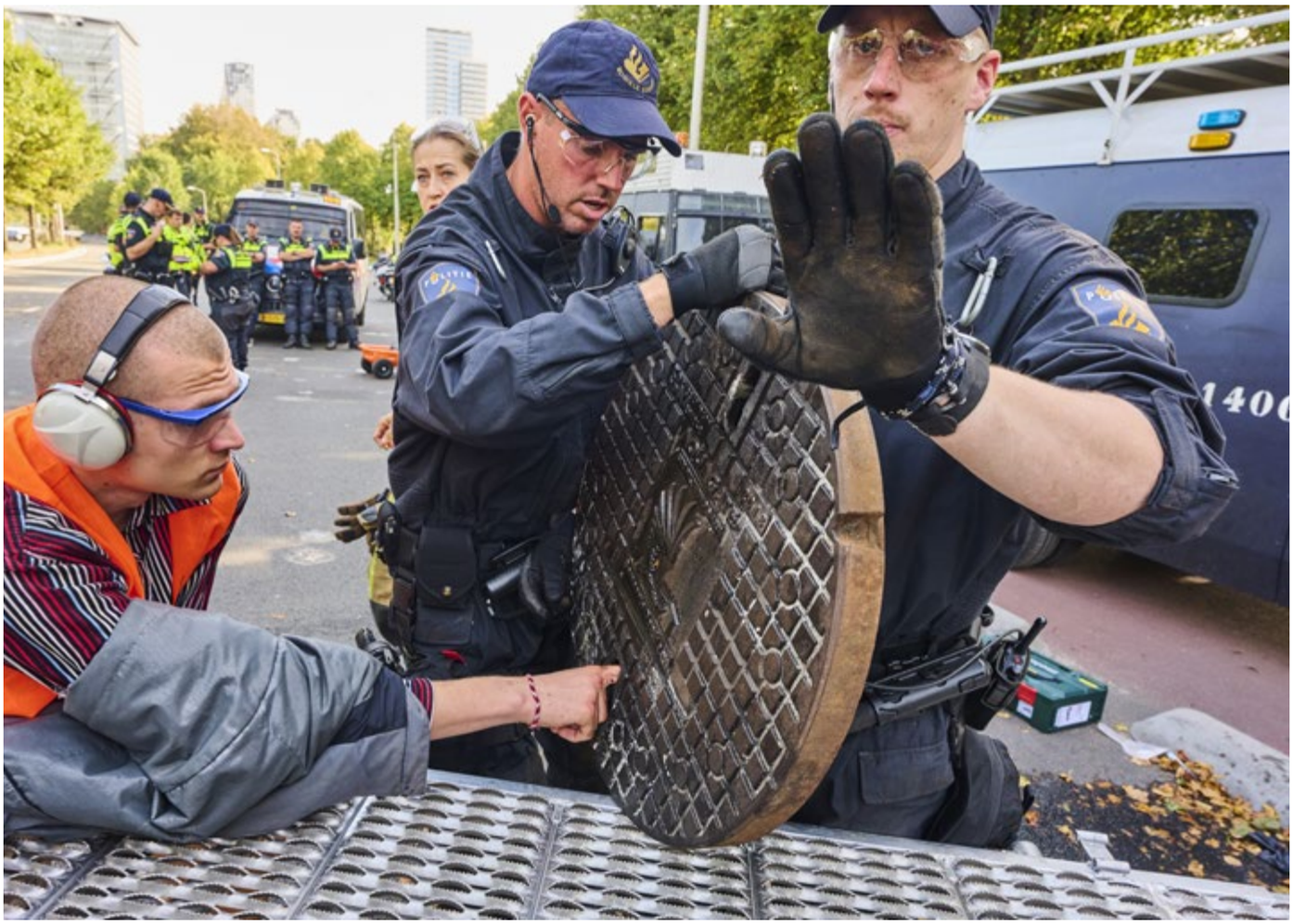
So how do you then become an activist in the interests of those big, unrealistic ideas? According to associate professor of Cultural Geography and Scientists4Future member Martijn Duineveld, it’s really quite simple: ‘Everyone is an activist, you can’t avoid it. But most people are activists for the status quo. So if you want to change something, you don’t have to become an activist – you already are one. You just have to change the way you relate to the status quo.’

‘THINK BIG, BE UNREALISTIC: THAT WAY NORMS CAN SLOWLY SHIFT’

Too extreme

The idea that an activist is someone who uses extreme methods to make their point (like gluing themselves to a road) distances people from that role, says associate professor and anthropologist Elisabet Rasch. ‘Then people don’t want to be activists and see themselves as concerned citizens or residents instead.’ Lecturer, researcher and activist Michiel Köhne, who teaches the course Power, Resistance & Movements with Rasch, adds: ‘Discussing the climate with your parents is a form of activism too.’

In short: activism doesn’t have to determine your entire identity. And to make a difference you don’t have to smear an artwork with mashed potato, confirms Duineveld. ‘An activist movement needs protesters, but it also needs website managers and people to organize debates. Start experimenting a bit, don’t be scared of trying things out and pick a role that suits you. And don’t underestimate your power as a student: doors often open more easily for students.’



Start by campaigning in a way that stays within your comfort zone. You don't have to go straight off and glue yourself to something, like this demonstrator at the A12 protests. 'If you take up running, you don't start with a marathon either.' ◆ Photo ANP Nico Garstman

5 tips for novice activists

1 Focus on one issue.

You may be concerned about all sorts of issues, but you can't be active in three different campaign groups, says conflict anthropologist Rasch. 'There's a lot wrong with the world but if you try and fix everything yourself, you won't have any time for the other things in your life.' Picking a single issue also means you can bring enough attention to tackling that issue.

2 Stay close to your heart

If you really care about something, you are extra motivated to put your all into it, says sociologist Büscher.

3 Find your community

Kristina Smieskova, student and involved in the Green Office: 'It gives you hope to have people around you who share the same ideals. And a community like that connects you in valuable ways.' Scientist and activist Köhne: 'The present system is so dominant that people have trouble imagining how it could be any different. We've got to find out together what a new society can look like.' In other words: you're stronger together.

4 Which kind of activism is up your street?

Start by going into action in a way that is within your comfort zone, says PhD candidate and Scientists4Future member Anne-Juul Welsink: 'If you take up running, you don't start with a marathon either.' For a lot of people, it's a big step to start by gluing themselves to the Unilever building, or to start their own project. Good news: you don't have to. 'If those sorts of activities make you nervous, you can start by joining a support demonstration or visiting an organization that organizes such things.'

5 Take care of yourself and others

A major pitfall for an activist is the feeling that it's all pointless. That makes it important to take good care of yourself and others. Rasch: 'If you want to achieve something, you must keep things pleasant. So don't cross your boundaries or anyone else's, and make sure everyone feels at home in the project.' That reduces the risk of an activism burnout. Büscher has a tip in this area too: do have a bit of fun while you're working for change. Much nicer that way. ■

In the online version of this story, student editors Landsman and Voordendag reflect on what they learned in the course of this investigation. You'll also find an overview there of Wageningen organizations that strive to make the world a better place.

The Sower is a poetic optimist

DREAM BIG, START SMALL

Joost Baars is a teacher and an optimist. The statue of The Sower on campus inspired him to write the poem that accompanies this story. He explains why.

Photo Guy Ackermans

Text Roelof Kleis

Joost Baars is a poet with several volumes of verse to his name. But that is the Leiden literary scholar Joost Baars. Wageningen's Joost Baars teaches plant breeding. But he too occasionally puts a creative pen to paper. After a tough long-distance run, for example, or, in the case of his poem about The Sower, during a performance by Syrian musicians in Impuls. But no, he has no ambitions to become an established poet. 'Though I am looking for my voice. Writing is a nice way of expressing your thoughts. If you do it well, you reach a lot of people.'

Does that voice have something to say?

'Yes, I think so. I am a seeker and a thinker. I'm not aiming to become another Joost Baars the poet, but my whole life I've felt the need to express myself. And I'm trying to find the right form for that. Trying is learning, says my five-year-old daughter. That's what I'm doing here. I have an open mind and I ask questions. And I'm very optimistic. That's where this poem comes from.'

Aren't the other WUR folks around you open-minded?

'There are a lot of experts working at WUR who know so much about their subject that they have developed a closed mind. They know exactly how things are and they are so convinced they are right that they don't ask any big questions anymore. The heavy work pressure doesn't leave room for doubts, exploration and posing philosophical questions. That distances them from the people who are just starting out. I am keen to be a beginner, someone who asks questions. And I wish our students the same.'

Does our education system suppress that kind of open mind in students?

'I don't see much discussion in our education. Someone tells a story but no questions are asked. The personality type I see a lot in WUR only speaks if they are sure about what they're saying. Whereas I want to ask questions, to dare to entertain doubts and to change my mind if my opinion turns out to be wrong. I form my opinion by expressing it and assessing the responses I get. That's not what our students here in Plant Sciences are taught. We learn to conduct a debate and to identify the counterarguments but not to engage in real dialogue, in which you learn to see each other's points of view. If we stand opposite each other, your 6 is my 9. Yet we're looking at the same thing.'

The Sower in the poem – is that you, actually?

'Yes, of course it's about me. It came to me when I was thinking about who I am, what I do, and how I look at education. I am someone who likes to sow. I have lots of ideas, which I send up like trial balloons. Quite often, you don't get the

'I HAVE LOTS OF IDEAS, WHICH I SEND UP LIKE TRIAL BALLOONS'


The Sower
The sower is optimistic
The land prepared
The soil worked
Nutrition added
The time has come to sow
The seeds have been picked
The sower is optimistic
Lets go of the seeds
Scatters them openhandedly
Accepts the results as they come
Trusts the work that has been done
The sower hopes
The sower is optimistic
About the weather
About the sun
About the rain
About the resilience of the crop
About the plasticity of plant
The sower is optimistic
The seeds will germinate
The plants will grow
Weeds the unwanted
The yield will come
Without hope no food
The sower is optimistic
Has hope
Trusts
Accepts
Feast or famine
The sower lets go
The sower is optimistic

response you were hoping for, which is fine. But if you do it properly and a seed lands on the right field, something good can come of it.'

Does something need to change in order to prepare that 'field', the students, better?

'We rarely ask students what they want to learn. Students sign up for a course and the learning goals set for it, but there's no discussion about those goals. As a teacher, I want to be a guide who takes students along on a learning journey. I am keen to hear what the students want to learn. In an ideal world, I would discuss that with every student individually. The sooner you take control of your own goals, the better prepared you are to do that in your work after graduating too.'

The sower in the poem is optimistic. Are you?

'Certainly. I think it's our moral obligation to be optimistic. Optimism breeds hope and without hope, you might as well do nothing. A lot of people suffer from burnouts and depression. They are all people who have lost hope. I've been through that phase in my life as well, but now I'm in a phase of drive and optimism. The time is ripe for that too. There is so much happening in the world that it's easier than ever to get things moving. The fantastic thing about Wageningen is that there are so many international people living here. Wageningen is a global city. There are so many points of view here that it's easy to think bigger than just Wageningen. I like to dream big and start small. WUR's big mission will be achieved with small steps. I get satisfaction from small steps. That is how an optimist keeps going.' ■

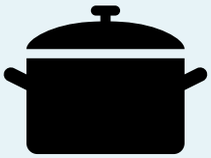
'I GET MY SATISFACTION FROM SMALL STEPS. THAT IS HOW AN OPTIMIST KEEPS GOING.'

You see the most fabulous looking people and the coolest outfits on the Wageningen campus. We shine the spotlight on them here. This time, Belle Swanenberg, a Bachelor's student of Biology.

Photo Linde Klop

'The way some people can put together a whole outfit the day before, from shirt to socks, doesn't work for me at all. Only when the time comes can I decide what I want to wear, what I fancy today. Sometimes I want to dress up, but if I'm going to be toiling in the library all day, I'm more likely to go for the tramp look: a big shirt, an even bigger jumper and wide trousers. I always wear my jewellery, though, to brighten it up a bit. I made some of my jewellery myself – a Covid hobby that got out of hand. It started with putting dried flowers I made as a child in epoxy, and now it's grown to butterfly wing earrings and shell rings. Like that, I express my own style a bit even on those boring days at the uni.
That said, my style is largely dictated by my bank balance these days. Not to let my style suffer too much from being a broke student, I frequent second-hand shops and sale rails. And if something's torn or stained, I fix it or I go on wearing it. But my favourite trick is to go shopping with my mother. Our tastes don't often match but when they do, my mother will sometimes treat me to something. This whole outfit came from one of those trips. Thanks, Mum!' LINDE KLOP

You encounter all the flavours of the world in the WUR community. *Resource* editor Luuk Zegers takes us to his grandparents' farm for an old-fashioned Dutch mashed potato dish.



Flavours of WUR

Traditional Dutch *stamppot* with runner beans and leeks

'As a child I loved staying with my grandparents on the farm. They spoke a local dialect so I could hardly understand what they said. But I still felt at home there: playing outside around the farm, walking Siska the dog in the woods, or riding on the tractor with my grandfather. We often had *stamppot* for lunch. And I still enjoy it very much, especially in the winter. Serve this *stamppot* with a nice piece of meat (or a good meat substitute), some gravy or perhaps some apple sauce.'

Ingredients (for 4 persons):

- 1 kg floury potatoes, washed and sliced (and peeled if you prefer)
- 1 large carrot, peeled and sliced
- 3 leeks, halved, washed and cut into rings
- 400g runner beans, finely sliced
- A little olive oil, salt and pepper

Preparation

1. Boil the potatoes and carrot in plenty of water until soft.
2. Meanwhile, heat some olive oil and fry the leeks for two minutes. Add the runner beans and 150ml of water and cover the pan. Turn down the heat and simmer for 10 minutes.
3. Drain the potatoes and keep one cup of the liquid. Mash the potatoes with a masher (a fork will do if necessary). If the puree is too dry, add some of the liquid. You can also add some butter or good-quality olive oil to improve the texture.
4. Once the beans and leeks are cooked, add them to the mashed potato, stir well and season with salt and pepper.

Luuk Zegers
Resource editor

Which dish reminds you of home? Share it with *Resource* so we can all enjoy it! resource@wur.nl

Limelight

Not much culture in Wageningen? Not true! In the limelight in Resource this time: Master's student of Molecular Life Sciences Ietje Jenniskens, who sings in the Dutch Student Chamber Choir.
Text Steven Snijders

SUN
11-02-24
Junushoff (Plantsoen 3)
20:00 to 22:00

Tickets
nskk.nl or at the door
(€22.75, students €12.50)

Ietje sings in the Dutch Student Chamber Choir

For a few months a year, Ietje Jenniskens is not in the lab all the time, but also often with the Dutch Student Chamber Choir (NSK). This 32-strong amateur choir is now 50 years old, and is celebrating that with the show 'Till the sun comes up' about the night life of the young. 'As well as sleeping, that also means studying, partying, stress, sex and drugs,' says Jenniskens. 'That diversity comes out in our pieces. For our anniversary show we've hired a lighting technician to help visualize the story. That makes it even more gripping.'

The show is preceded by an intensive rehearsal programme. 'They are complex pieces. Everyone has to audition again every year. In January we go away together for a week in group accommodation. It is lovely to practise really hard with a group of dedicated people. Singing is not just pressing a button. You have to listen really carefully to all the others to create a harmonious sound together. There is something vulnerable about singing. People don't usually sing as they walk down the road; singing for other people makes us nervous. My neighbour on stage hears it straightaway if I don't do something quite right. Making music together from that vulnerability creates a deep emotional connection.'

The concert is not just for fans and classical music experts. 'We also perform gentle, accessible pieces like folk choral music. Pieces based on Estonian lullabies, for example. But we also perform complex 16-part pieces as opposed to the usual four-part harmonies. Or things with strange, unconventional chords which can make the unsuspecting listener wonder: is it meant to sound like that? Yes, it is. I can promise you it won't be dull.'

A performance by the Student Chamber Choir in the Dominicus Church in Amsterdam in 2023 ◆ Photo Quinn Broers

TIPS

SUN 11 February
Balfolk dance afternoon with workshops and performances
De Superette, Churchillweg 27, Wageningen. **From 14:00; free**

TUE 13 February
Kabaal Regionaal
Loburg, Molenstraat 6, Wageningen
With seven local heavy bands.
19:30 – 24:00; free

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.

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Photo Joaquina Acosta

GIVE STUDENTS MORE CREDITS

Students should get credits for serving at the bar too, says rector-to-be Caroline Cruise.

For academic staff, the new system of Recognition & Rewards comes into force this year. In the new approach, researchers are assessed on more capacities than just getting cited and obtaining funding. The new rector – says the still secret memo *Make a point of a point* – wants to bring in something similar for students.

Officially, there is no comment from Cruise right now. 'I don't want to steal my predecessor's thunder.' But reliable sources have it that she does want to start her term of office with a bang. From now on, you'll be able to get study points in a range of ways. The binding study advice won't change, but the assessment will be more broad-based. Quite what this means is still a mystery, but it appears that you're going to be able to score points for serving at the bar, being creative with ChatGPT, or being hyperactive on social media. What is more, you can compensate for a poor performance in one area with a better one in another. So doing the dishes regularly in your flat could make up for a poor grade for Computer Modelling or Biomolecules.

'Yes, well, I'm not sure what to think of it,' says Joyce Minor of the Student Council. 'I hate doing the dishes and I've just closed my X account. My parents won't be happy about it, I'm sure about that. My grades are very important to them. I think it's lousy timing. I've just been revising so hard for Advanced Statistics. Was all that for nothing?'

'Students are human too. Let's treat them as such and evaluate the whole person'

But Arnie Right, chair of the Recognition & Rewards committee, applauds the idea. 'This shows tremendous appreciation of our committee's work. Students are human too. So let's approach them as such and evaluate the whole person. After all, a credit is only an opinion.'