

Resource

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Lisa Becking

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The whole team
wins

Brexit
More EU students
expected

Five tips
To help students
make ends meet

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In trial field

Still at home

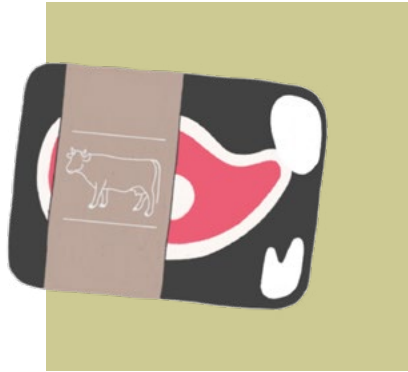
Colleagues on 10 months
of working online



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Spread the word

Unbelievable really — most of us have been working or studying from home for nearly a year now. During the first lockdown in the spring, we asked some colleagues how they found working from home. Fine, basically. But they did see some downsides. To me, that's an important part of what *Resource* offers: not just science updates and sharp investigative reports but also keeping one another informed, sharing the good times and the bad. Now that we face an extension of our hard lockdown, we decided to call those colleagues again: how are they doing *now*? You'll find it's like looking in a mirror. We also contacted student houses and asked how the housemates were coping with this situation. It turns out there has been a fundamental change in their social interaction. What hasn't changed is science at WUR. Life 'simply' goes on even in the Covid era, as the other news items and stories in this *Resource* demonstrate.

The pandemic has real consequences for us as we miss our readers on campus every day, and the magazine is no longer so easy to get hold of now people are working from home. But of course the *Resource* journalists are still producing daily news items and other articles at resource-online.nl. So if you know of colleagues or students who could use some *Resource*, spread the word!

Willem Andree

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





STERKSEL

WUR's pig innovation centre in Sterksel (Brabant) will close this month, bringing an end to 50 years of applied research there by Wageningen for pig farmers. Just last November, 16 sows gave birth to piglets at the centre. These pigs are being used to test a new 'family feeding system'. The pigs will be sold at the end of this month and the centre will close. The site is likely to be used for housing. WUR will continue to do research with pigs but no longer on its own experimental farm.

Photo Wageningen Livestock Research

Teacher of the Year Award will be different this year

This year, the prize for the teacher of the year will not go to a single individual teacher, says University Fund Wageningen in an email to the 250 teachers nominated for the Teacher of the Year (TOTY) Award.

‘Actually, the teachers came up with the idea themselves,’ says Susanne



Arie Nieuwenhuizen, winner of TOTY 2020. Photo Guy Ackermans

van der Vliet of University Fund Wageningen. ‘Several of the nominated teachers said that this year it would be better to sing the praises of the collective of all the teachers and the support staff instead of singling out one individual. On that basis, we have decided on a different approach to the prize this year, celebrating the joint effort rather than the individual! Exactly what this will look like is not known yet, says Van der Vliet. ‘We are working on an alternative, but that is still in development.’

Physiology teacher Arie Nieuwenhuizen won TOTY in 2020. He thinks it’s a ‘nice idea’ to put the collective in the limelight. ‘As long as the support staff are explicitly included in that limelight. Of course, it is true that in Covid times too some teachers go that extra mile, but the measures have led to a lot of extra work pressure for the teachers and the support staff in general. My job satisfaction has gone down quite a bit, because it depends a lot on the interaction with students. Despite all this, classes have carried on as usual over the past 10 months, and that is a feather in all our caps.’ LZ

Brexit: fewer Brits and more EU students expected

Renske van Dijk of Publicity and Recruitment expects to see a drop in the number of British WUR students due to Brexit. Around 10 to 20 British students start a degree programme at Wageningen each year. ‘Mainly Master’s. But Brexit means this group will now have to pay the non-EU tuition fees, which are a lot higher.’ Fewer British students are expected to come because of the higher fees, says Van Dijk.

On the other hand, it is highly likely that EU students who would previously have gone to a university in the UK will now look at other countries. ‘The Netherlands is high up that list because of the high quality of Dutch education and the fact that the teaching is often in English.’ LZ

For a longer article about the consequences of Brexit for WUR, go to www.resource-online.nl



Muscle man Hein

A bit of inspiration for New Year’s resolutions landed in our inbox recently.

‘This is our Hein. He is knocking 60 and can compete with our youngest participants,’ writes sports teacher Marcel Wubs. ‘I teach TRX, a form of suspension training that makes use of your weight and gravity. Half an hour is enough for most people, but for advanced candidates we offer an hour of agony. Hein has been coming twice a week for 10 years. A lot of students can’t keep up with him.’

For those who don’t do TRX: ‘our Hein’ is Hein Overmars, better known as a research and education assistant at Nematology, where he supervises practicals, works in the lab and does research on nematodes – tiny worms that live in the soil. ‘I go on a cycling holiday every year and I exercise every week. Everyone should do that; it makes you feel good.’

Sadly, the Bongerd is still closed. Hein hopes to get going on TRX again in February. He has a golden tip for anyone wanting to try it. ‘It’s a tough programme so don’t eat just before you start. Someone threw up not long ago!’ CJ

New columnist: Lisa Becking

Resource is pleased to welcome a new columnist. Lisa Becking will be joining Guido Camps and Vincent Oostvogels in writing columns for *Resource*. You can read her first one on page 11. Let's introduce Lisa...

Becking is a tropical marine biologist at Marine Animal Ecology (ASG) and Wageningen Marine Research. She is also on the board of the Young Academy (at KNAW). She does a lot of work in Indonesia and the Dutch Caribbe-

an, researching how marine life such as coral adapts in an environment affected by climate change. 'I haven't travelled since March,' says Becking. 'Covid-19 has forced us to find alternatives. Clearly, we academics could fly less.'

'I'm critical, but I also want to show the funny side and the beauty of things'

In her *Resource* columns, she shares the experiences of a 'mid-career' academic (her own words) on tenure track. She writes with humour and a hint of activism, looking at things from

a Wageningen angle and linking them to broader issues. 'I'm critical but I also want to show the funny side and the beauty of things so that people read my pieces with a smile.'

Becking has considerable writing experience, including as a columnist for the Dutch daily, *de Volkskrant*. She was also a founder of The Wageningen Young Academy's book club 'On the same page'. In her spare time she enjoys reading and photography. And once the coronavirus restrictions are over, she looks forward to going to an art exhibition or a concert. For now, she enjoys the street art in Amsterdam, where she lives. 'I'm still discovering new places.' TL

Typical Dutch Lunch walk



Illustration Henk van Ruitenbeek

In my first meeting with my supervisor, she invited me to join the WhatsApp group *Lunch Walk* in our research team. She said that the group is for people who like to walk around Wageningen and get to know each other. So I said 'yes' because I thought that would be fun.

But then she started to talk about work and my research. She mentioned different ideas to feed into my research proposal. It took about 30 minutes and during that time, I tried to remember the main ideas, suggestions, and the to-do list she gave me. I am used to taking notes in a work meeting, so I thought

Until the time she invited me for one of these lunch walks. I thought we would talk about 'light' topics outside work, such as life, our home towns, and other personal stuff. And to start with, she did indeed ask me how I was doing and raised other light topics.

about getting out my phone and taking notes while walking but it was difficult because it was cold and I had to watch where I was walking. So during the walk, my brain worked hard to respond to her

'The lunch walk was mental as well as physical exercise'

ideas and remember the discussion points. When the walk - from the Leeu-

wenborg building to the Hollandseweg, the Bosweg and back - was finally over, the first thing I did was to take notes of all the things I could remember. So now I know a lunchtime walk is not just for fun. It is mental as well as physical exercise :D

Do you have a nice anecdote about your experience of going Dutch? Send it in! 300 words max. Send it to resource@wur.nl and earn 25 euros and Dutch candy.

This Typical Dutch was sent in by **Ibnu Budiman**, a PhD candidate in the Social Sciences Group, from Indonesia.

Possibly a Plus Ultra III

The Plus Ultra series may get a third building, according to the initiator Kadans Science Partner in a promotional video about the multi-occupant hub Plus Ultra II. The video was distributed as an alternative to the official opening of the building, which did not go ahead at the end of last year because of Covid. WUR Facilities & Services director Peter Booman confirms the plans for a third building. 'Space has been left for it on the corner of the plot. At present, we are investigating the options offered by the zoning plan. Discussions have been started with the municipality.' Plus Ultra I was completed in 2016, and Plus Ultra II at the end of 2020. The buildings mainly house start-ups and established businesses with a link to the food and biobased industries. FKK

Quote

'If each life is of equal worth, then the fact that some people have already had a lot of that life and others have only had a little is also relevant.'

Marcel Verweij, WUR professor of Philosophy, last week in the Radio 1 programme *Stax&Toine* about the government's plan for legislation banning selection based on age for access to intensive care.

Agroforestry in the polder

At the start of January, WUR planted 1500 trees in Lelystad on 15 hectares of arable land in the first large-scale Dutch facility for agroforestry research. The Field Crops business unit will be combining the cultivation of arable and horticultural crops with rows of trees.

'There are now six long rows of trees with variations in the distance between them,' says research leader Maureen Schoutsen. 'We want to measure the effect of the rows of trees on the microclimate, for example the wind speed – trees break the wind – but also the temperature and soil moisture content. Our hypothesis is that such hedge banks improve growing conditions and therefore yields, but only from a certain distance from the row of trees; plots close to the trees may actually have lower yields. The overall effect should be positive, though.' The experiment should also show how far apart the rows of trees need to be for the optimum effect.

Hazel trees

The researchers are using a cropping plan that includes potatoes, winter wheat, carrots, cabbage and spinach in rotation. Fast-growing trees – elms and poplars – were planted in January and hazel trees will follow at the end of the year. 'The fast-growing trees should

shield the hazels from the wind as they don't like the wind. In eight years' time, we'll take out the fast-growing trees.' During the experiment, the Field Crops unit will investigate whether the tree rows impede down the spread of disease. The researchers will also be assessing the soil fertility, biodiversity, CO₂ uptake in the soil and any income benefits to the arable farmers from the hazelnuts. 'You have less area for your

'You have less area for your crops with the hedgerow trees but the remaining land may be more productive'

crops with the hedgerow trees but the remaining land may be more productive,' explains Schoutsen.

The agroforestry project is part of the Agroecology and Technology Test Location, which was set up two years ago. The research facility is funded by WUR and the four-year research programme gets funding from the Agrifood Top Sector. Schoutsen hopes for long-term funding. 'It will take 15 to 20 years before we have a mature agroforestry system.' AS



Researchers plant trees in Lelystad for the agroforestry project. Photo Oene de Hoop



Photo Luuk Croijmans

Rare beetle in trial field

A rare ground beetle has been spotted in a trial field near the campus.

This beetle of the species *Harpalus signaticornis* had not been seen in the Netherlands for about five years, says PhD candidate Luuk Croijmans, who found the beetle. He bases this on information from the Renkum ground beetle expert Hans Turin. The insect is known to be rare and was thought to have died out by the turn of the millennium. The last examples were caught in South Limburg in 1960, but in 2000 entomologists spotted the beetle again in the Planken Wambuis nature area near Ede, not far from Wageningen. After this, the insect was seen in Wageningen and even on campus (the Droevendaal experimental farm). According to Turin, it looked as if the species was making a comeback. But for the past five years there have been no more sightings — until Croijmans saw his ground beetles last summer. In a trial field next to the campus of all places. 'It was a wheat field that hadn't developed properly due to disease, so you got an open field with a variety of herbaceous plants.' Croijmans says the finding demonstrates the resilience of nature. 'Last year, that field was a flourishing wheat monoculture, the kind of place this species would probably not do well in at all. This year the habitat is more diverse and suddenly the species has reappeared.' RK

Brain is key to recovering sense of smell

PhD student Elbrich Postma examined the brains of patients who had lost their sense of smell.

'About 5 to 20 per cent of the Dutch have a diminished sense of smell and/or taste,' says Elbrich Postma, a PhD student at Human Nutrition and Health. Postma studied a group of 105 people who have not been able to smell well for years. The patients indicated that they enjoy their food less, but their diets were found to be just as healthy as those of people

'It could be that the brain reacts in a reflex, but that the patient doesn't register that consciously'

with a good sense of smell. Postma: 'Loss of smell seems to have less effect on the actual intake food; it mainly affects the experience. But these people have suffered from loss of smell for a long time and it could be that they make a conscious effort to eat well even though they don't enjoy their food so much.'

Postma put the patients in an MRI scanner and had them 'smell' various aromas. 'Even though the patients had said in the smell test that they don't smell anything, their brains did react to smells: it seems that the brain does pick up odours, but people are not conscious of them. These people were able to smell things in the past, so it could be that the brain still reacts in a kind of reflex, but that the patient doesn't register it consciously.'

Training

Postma thinks this suggests therapeutic possibilities. 'You can train your sense of smell. It would be interesting to do further research on where exactly in the brain things go wrong!' The PhD student is now doing research on the loss of smell and taste in coronavirus patients. She is going to look at whether it can be used to diagnose cases at an early stage of infection. At this point, that looks likely. TL



Photo Shutterstock



A little wiser

Why do New Year's resolutions rarely work?

Stopping smoking, losing weight or getting more exercise. January is the time when we start improving ourselves. Sadly, most of these good intentions have bitten the dust within a month, says Emely de Vet, professor of Consumption and Healthy Lifestyles.

It is incredibly hard to change your behaviour, says De Vet. 'A lot of people set the bar too high. They start out enthusiastic, but they want to change everything at once, and they want results fast. But your behaviour is largely a matter of habit, so changing it requires a lot of adaptation. You've got to be on the alert all the time, and that takes an awful lot of energy. It doesn't make it any easier to start on 1 January, when it is dark and grey and most of us are not feeling at our best.'

You should take the route to change in small steps, says De Vet. 'For instance, you could start by saying "from now on I'll drink water instead of coke". Then you could gradually add more changes as the year goes on.' It also helps to involve the people around you. 'If you're having dinner with other people, let them know in advance that you've stopped drinking alcohol. It's important for other people to be able to help you resist temptation at moments when you might easily cave in.' That kind of social support is also why people persevere better if they join challenges such as Dry January (no alcohol for the month of January). De Vet: 'The

goal feels manageable too: one month without a drink. It gives people a chance to experience how that feels, and that can motivate them to keep it up after the month is over.'

But it's normal to lapse into your old habits now and then. 'The trick is not to see that as failure, but just as a hurdle on your way towards your goal.' TL



The trick is not to see every lapse as a failure

Emely de Vet, professor of Consumption and Healthy Lifestyles

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

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

Illustration Marly Hendricks

Biodegradable plastics pollute agricultural land too

Biodegradable agricultural plastics are not the solution for plastic pollution in agriculture, according to PhD research by Yueling Qi.

Qi has provided experimental evidence for the first time that both conventional and biodegradable farm plastics affect the physiological, chemical and biological processes in the soil.

Agricultural plastics are the main source of microplastics in farm soil. When the consequences of microplastics became clear, biodegradable agricultural plastics were developed to halt the accumulation of plastics in the soil. But to date it was not known what ecological effects the biodegradable plastics have on that soil.

Yueling Qi carried out lab tests and greenhouse experiments to measure the effects of these plastics on wheat plants and soil life.

Microplastics

In a four-month-long experiment with pots, Qi used soil with 1 per cent microplastics, from either polyethylene or a biodegradable bioplastic consisting of Pullulan, PET and PBT. The trials showed that the presence of microplastics adversely affected

Biodegradable plastic had a bigger negative effect on growth than traditional plastic

the growth and development of the wheat plants. And biodegradable plastic had a bigger negative effect than traditional plastic. In a following experiment, Qi discovered that the presence of plastic led to a big change in the bacterial community around the plant roots. The biodegradable plastics in particular had a large effect on the soil bacteria. The plastics also affected abiotic soil properties such as the acidity and the electrical conductivity, while the microplastics restricted the uptake and storage of water in the soil. Lengthier experiments are needed to figure out the long-term effects of the plastics on soil life, says Qi. Her supervisor was Violette Geissen, professor holding a personal chair in Soil Degradation & Land Management. AS



Photo Shutterstock

Insects replace fertilizer in raspberry cultivation

Growers can increase raspberry production by using ecosystem services instead of fertilizer, according to research by the Plant Ecology & Nature Conservation chair group.

The Wageningen researchers grew raspberries under a range of different conditions, with variations in pollination by insects, the organic matter in the soil and the application of artificial fertilizer. Insect pollination increased yields by 33 per cent and led to raspberries that were 11 per cent heavier. Higher soil organic matter attracted more insects and resulted in berries that were

Insect pollination increased yields by 33 per cent and berry weight by 11 per cent

20 per cent heavier, but it did not increase yields. Adding fertilizer increased yields and the

weight of the fruits but had no effect on insect pollination or the amount of organic matter in the soil.

The researchers conclude that growers can use pollination by insects and soil organic matter to reduce the use of artificial fertilizer without harming production. This will let the growers reduce the impact of food production on the environment. According to the authors, this is the first study to measure the interactions between insects, soil quality and fertilizer in food production. They published their findings in the journal *Agriculture, Ecosystems & Environment*. AS



Better together

Mixes of green manure do a better job than each kind of green manure on its own.

Green manure, ground cover or so-called 'catch crops' are crops that farmers plant between the main crop harvests to improve the soil. These interim crops absorb nitrogen so that it doesn't leach away during a downpour, enrich the soil or provide protection against parasitic nematodes.

But should you use a single green manure crop or is a mix better? Previous Wageningen research

showed that plants grow better if you grow different species next to one another. That applies to green manure crops too, shows a

Mixes with vetch reduce nitrate leaching

study by Rima Porre with combinations of oats, vetch and Chinese radish.

According to Porre, farmers often use Chinese radish and oats because they grow fast. That rapid growth means they take up relatively large amounts of nitrogen, which stops nitrate leaching into the soil. Vetch fixes nitrogen but does not grow so fast. The risk of leaching is therefore greater.

Growth

But mixes that include vetch are effective in preventing nitrate leaching, says Porre, who recently obtained a doctorate for this research. 'The nitrogen losses during growth were just as low for the mixes as for radish alone or oats alone.' However, contrary to expectations, the mixes did not lead to more growth. Porre's research shows that the mixes do perform well though in terms of carbon sequestration in the soil. RK

'Let people do the right thing themselves'

People should be given as much chance as possible to stick to the coronavirus measures of their own free will, says WUR PhD student of Philosophy Steven Kraaijeveld. He argues for an approach that appeals to altruism, rather than a strict lockdown.

Why do you argue for that?

'By forcing people to stay at home, you take away a lot of their freedom, and that has serious consequences in the long term. Restricting freedoms can be justified morally, but the means should be in proportion. A lockdown, with its serious impact, is morally hard to defend. Also, a lockdown can be unfair when it doesn't have the same sort of impact on everyone. One person lives in a big house with its own office and garden, while another is in a flat on the fifth floor. A lockdown affects people differently. Not enough attention has been paid to that.'

But that altruistic approach didn't seem to work here.

'I think it's good that the Netherlands gives people a chance to take responsibility for themselves. You do need measures and the government should also actively stimulate people to stick to them, but in so doing you can leave people free to decide whether to stay at home or not, as long as they follow the general rules. That way you respect people's autonomy, and they get the chance to do "the right thing". That often gives people a stronger motive than making something compulsory. And people usually keep it up for longer too.'

Is enough attention being paid to these ethical considerations?

'I don't think so. It may be that a temporary lockdown is justifiable, but then you shouldn't lose sight of the ethical implications. A lockdown demands a lot of people. The more people see its importance and opt in themselves, the better they will stick to the measures. Then you achieve the same goal as with a strict lockdown, but people do keep some of their freedom.' TL

Paper: 'Covid-19 against a Lockdown Approach', Steven R. Kraaijeveld



Trust



Lisa Becking

'Awesome!' The last word of a long thank-you email from a student. Heartwarming, all the love letters for our work over the past year. In departmental WhatsApp groups and on Twitter, I've seen all forms of expressions of appreciation for teachers - handwritten letters, drawings, videos. The solidarity was palpable. The recognition of our commitment helps fire up the energy to keep going in the new year.

Switching to 100 per cent online education sure did require an excess of energy. Creating digital alternatives to practicals and field trips, recording lectures, arranging new internships

'I check my emails. series of corrective administrative messages'

for students who were supposed to go abroad... The urgency of these sudden changes brought stress, but also gave freedom. We could let go of the administrative micro-management for a bit. The focus lay squarely on the primary task: collaboratively providing good education. Normally, I run practicals on ecological analyses in a computer room, where I can easily tell how students are doing based on their body language. In the digital academic universe, you are blind. In Brightspace, all you see is lists of names. No faces, no

expressions. So we decided to do the computer practicals on the gaming platform Discord. Gamers don't tolerate friction, they switch between groups readily, and it's all about smooth interaction. During a course I try, at least once, to talk to every student one-to-one. When I see them on the screen, a name on a list suddenly becomes a person with particular academic interests, worries and ideas.

After yet another intense long day with overtime, I am tired but satisfied with what the students are learning. I quickly check my emails. A series of corrective administrative messages, most of them automated. 'You have listed too many hours in myprojects', 'Expense claims rejected due to digital signature'. Suddenly I feel like a name on a list. How do you keep creative scientists in academia? Not with bureaucratic chains. At the university, we can't compete with the business world in monetary terms, but we can attract people with academic ideals such as intellectual freedom and scope for curiosity. Fortunately, WUR recognizes the problem and aims to reduce the administrative workload. My advice for any reform committee: assume trust and solidarity. You'll get some *awesomeness* in return.

Lisa Becking is an assistant professor at the Marine Animal Ecology Group, a researcher at Wageningen Marine Research and a board member of the national Young Academy, part under the auspices of the Royal Netherlands Academy of Arts & Sciences. She has an eye for art above and below sea level.

Sand Motor relies heavily on marram grass

The Sand Motor, an artificial peninsular-shaped sandbank on the Dutch coast near The Hague, is working: the dunes are growing fast. Largely thanks to marram grass.

This finding comes from Corjan Nolet's study of how the Sand Motor works, for which he recently got his PhD. The peninsular was created 10 years ago as a natural alternative to standard sand replenishment methods used to shore up the dunes along the coast. Because of rising sea levels, it takes more and more sand to maintain the coastline. Constantly replenishing sand is costly and time-consuming, and the Sand Motor was thought up as an answer to that: deposit piles of sand in one go and let the wind and water spread it so the dunes grow. Building with nature, in other words. But does it really work?

Growth through sand

Yes, says Nolet with conviction. 'This kind of passive dune formation is comparable with that elsewhere along the coast, where people actively add sand. What with the increased ecological and aesthetic value of the area, it is a successful experiment all round.' And that is in spite of the fact that dune formation is going more slowly than expected. 'The projected growth by 38 hectares of dunes won't be achieved.' Nolet focused mainly on the interaction between wind-blown sand and marram grass. Marram grass is crucial to dune formation because it fixes the sand. Nolet has documented



The Sand Motor on the coast near The Hague. Photo Rijkswaterstaat/Jurriaan Brobbel

that process precisely with new measurements. He did this using a drift sand sampler developed with colleagues from the chair group, which measured how much sand blew past it every 10 minutes. Nolet linked these measurements with the growth of the dunes and the vegetation, measured using drones. 'Dunes with marram grass turn out to grow faster than bare dunes.' In fact, marram grass needs sand in order to grow.

Wind

Nolet succeeded in capturing marram grass's growth in response to sand in a formula. Marram grass grows fastest when about 30 centimetres of sand falls on the grass per season. This makes it a key plant for coastal protection. In fact, Nolet believes the safety of the Dutch coast strongly depends on the unique growth characteristics of marram grass. With his measurements, Nolet has also

made a significant contribution to the theory of sand transport by wind. 'The amount of sand that is moved increases with the wind force on the ground. But the mathematical relationship is to the power of two rather than the power of three, as is often assumed. That means that wind moves much less sand than was thought.' Nolet proved that this is partly a matter of how wet the sand is.

'Wind shifts much less sand than was thought'

Overall, only a small amount of the sand from the Sand Motor actually ends up forming part of a dune. Most of the sand does land on the dunes but is then blown or washed away again. ^{RK}

Fungus gets inside plant by manipulating soil life

PhD candidate Nick Snelders discovered that the soil fungus *Verticillium dahliae* attacks plants by eliminating good microorganisms in and around the roots.

Plants try to build up resistance to pathogens not just above ground but below ground too. Plants attract microorganisms around their roots to form part of what is known as the plant microbiome. This microbiome plays an important role in the plant's health. For example, fungi and bacteria help provide nutrients or keep pests away. Conversely, some diseases and pests also try to invade the plant underground. Snelders thinks that they affect the beneficial microorganisms in and around the roots when they do so.

'We are opening up a new field of research'

With this hypothesis in mind, he determined the effect of the soil fungus *Verticillium dahliae* on the plant microbiome. This problem fungus causes a wilting disease in strawberries, tomatoes and cotton, among other crops. Like other pathogens, the fungus uses effector proteins that knock out the plant's immune system. However, Snelders wanted to know whether these effectors also influence other microorganisms in and around the plant to get inside the plant. This turned out to be the case.

'The fungus secretes three effector proteins to attack the good microbes in the plant and soil,' says Snelders. 'First, the fungus grows towards the plant roots in the soil. The effectors create a path. Then they attack microbial competitors

in the host as the fungus grows up the plant's vascular system through the roots. Thirdly, as the plant dies and the fungus gains access to the rotting plant tissues, effectors make sure the pathogen can go into a dormant state. The fungus can then survive underground for 15 years without a host plant.'

Antibiotics

Snelders thus showed for the first time that pathogens also use effector proteins to influence microorganisms in the plant and soil. That insight led to a fine publication in *Nature Plants*. 'We are opening up a new field of research. These effector proteins with their anti-



The fungus *Verticillium dahliae* causes a wilting disease in crops including strawberries. Photo Shutterstock

microbial functions have potential as beneficial antibiotics for our healthcare,' says the PhD candidate. Snelders hopes that by studying effector proteins that the fungus secretes inside the plant, he will be able to find antibiotics with new activities.

Snelders will be carrying out that follow-up research not in Wageningen but at the University of Cologne, where his PhD supervisor Bart Thomma, previously professor of Phytopathology at WUR, is starting a new Evolutionary Microbiology chair group. Snelders obtained his doctorate on 4 December and is now a postdoc in Cologne. AS

Food Prices Monitor gives nuanced picture of complex process

SUPERMARKET PROFIT NOT ALWAYS BAD FOR FARMERS

The Farmers Defence Force recently blockaded distribution centres in an effort to force supermarkets to pay farmers higher prices. Do the activists have a point? The answer is not straightforward, as is clear from the Food Prices Monitor that Wageningen Economic Research published late last year.



Text Albert Sikkema

In the past three years, the price of chicken in Dutch supermarkets has risen by 30 per cent but there has been no change in the average price paid to poultry farmers, concludes WUR market researcher Michiel van Galen on the basis of the Food Prices Monitor. That seems to support the claim by farming activists that supermarkets are making big profits on meat at the expense of Dutch livestock farmers. But Van Galen adds an important nuance: 'The chicken meat on sale today is not the same as the chicken three years ago. Back then, farmers exclusively produced fast-growing broiler chickens

for supermarkets and the global market, but supermarkets have now switched to slower-growing birds. That chicken meat comes with a label that supermarkets pay extra for. The contract prices that abattoirs negotiate with supermarkets and farmers for the slow-growing chickens are not public knowledge but they don't seem to have fallen. On the other hand, prices have fallen for regular broiler chickens destined for export and the food service sector.' Poultry farmers who supply the supermarkets are doing better financially than the other farmers without a label, concludes Van Galen.

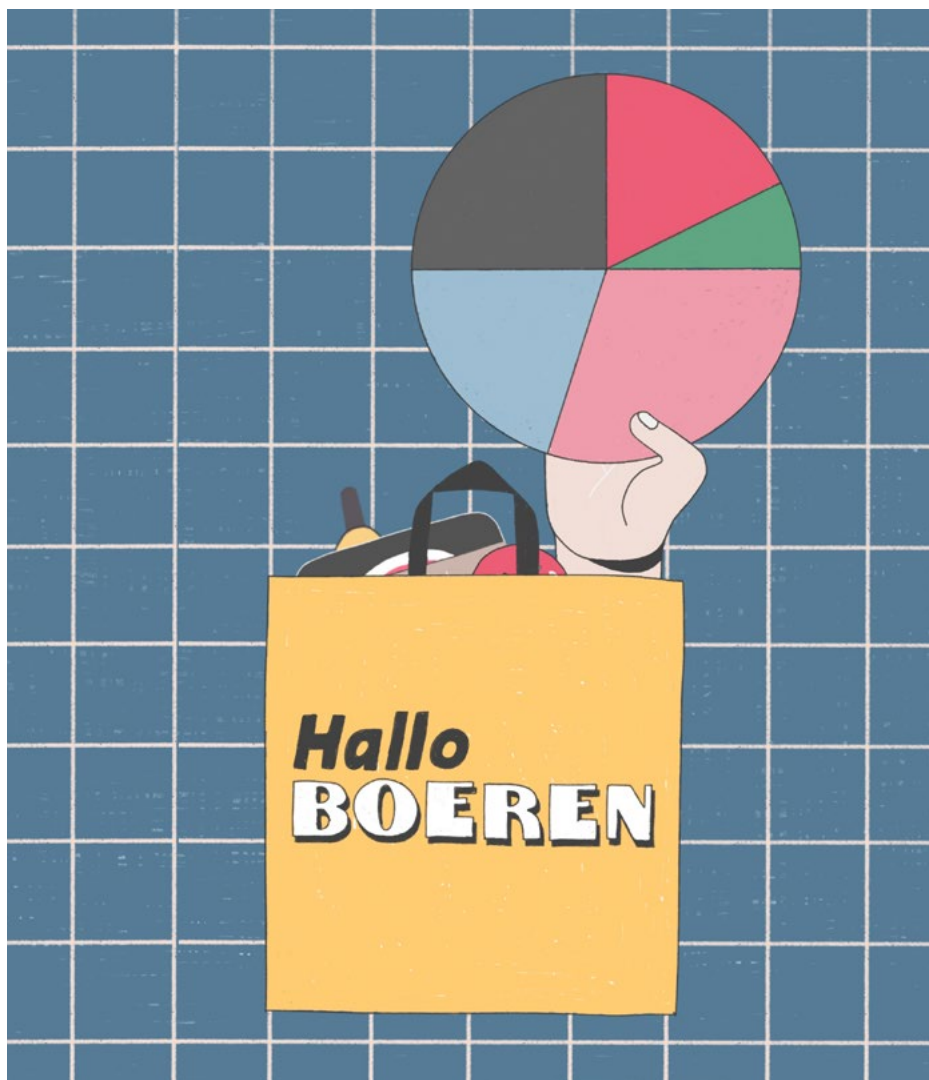
Swine fever

How the profit margin is shared between the various players in the food supply

chain is a complex issue. You can limit the scope to the Dutch supply chain, looking at the price paid to the farmer, the food processor and the supermarket. Three prices that let you then calculate who pockets the margin. But there are multiple supply chains, for example the organic sector, butchers and grocers, all with different prices. Developments in the global market also play a role, as expressed in export prices.

Pork is a good example. Both the price paid to pig farmers and consumer pork prices were high in 2019 because of huge demand from China, which was struggling with swine fever. Everyone in the Dutch pork supply chain benefited. But 2020 was a completely different story: China closed its borders to pork from various abattoirs because of Covid-19 while the European food service market collapsed. The price paid to farmers fell

'Competition between supermarkets could heat up again once the Covid crisis has ended'



How the profit margin is shared between players in the food supply chain is a complex issue, as work by Wageningen Economic Research shows. Illustration Studio Geniek

as a result, says Van Galen. He expects supermarket prices to follow suit but with a lag.

That lag can mean two things. The first option is that the supermarkets delay passing on the price reduction to consumers in order to temporarily boost their own profits. But supermarkets may also have contracts with suppliers that were made at the older, higher prices and this may be why consumer prices are slow to drop. So it is not clear here either that supermarkets are making profits at the expense of farmers.

Fruit and vegetables

Fruit and vegetable prices are usually more volatile than meat and milk prices. Van Galen: 'The weather has an influ-

ence and you don't have a constant supply. That causes price shocks.' Consumer prices and prices paid to growers go up and down, driven by the global market. 'We've been seeing fluctuations in supermarkets' margins too since 2017. But I don't see evidence of a gradual increase in supermarket profits on fruit and veg.' Van Galen does find friction in markets that have sustainability labels and exposure to the global market. 'More and more growers have the sustainability label *On the way to PlanetProof*. Buyers assume that growers' production is in line with this label but the growers don't usually get a mark-up on the price in return. This is causing dissatisfaction among growers.'

There are better arrangements for meat

Wageningen Economic Research keeps track of developments in prices in the food sector. The Food Prices Monitor, which the Wageningen institute publishes jointly with Statistics Netherlands, tracks the sales prices of farmers and market gardeners, food processing companies, wholesalers and supermarkets. In the Sustainable Food Monitor, the institute looks at the proportion of food products sold that have a sustainability label.

and milk, says Van Galen, because big food companies in those supply chains, such as FrieslandCampina and VION, negotiate sustainability programmes with the supermarkets in which the participating farmers get a premium price. But there is irritation in those sectors too. 'The farmers see how the requirements are constantly being tightened up. They may get a premium price now but what will happen in the next round of negotiations with the supermarkets?' So do farmers have a viable business model for sustainable food? 'We look at the average figures, but they represent dozens of different underlying business models. The average farmer who produces for the global market will have good years and bad ones but will not make a huge profit in the long term. Farmers face fluctuating prices that are determined by other parties, whereas they bear the risks. If you can add value as a farmer and your buyers pay for that, you can earn a decent income with sustainable produce. But it's not easy.' ■



Verkocht
f 900

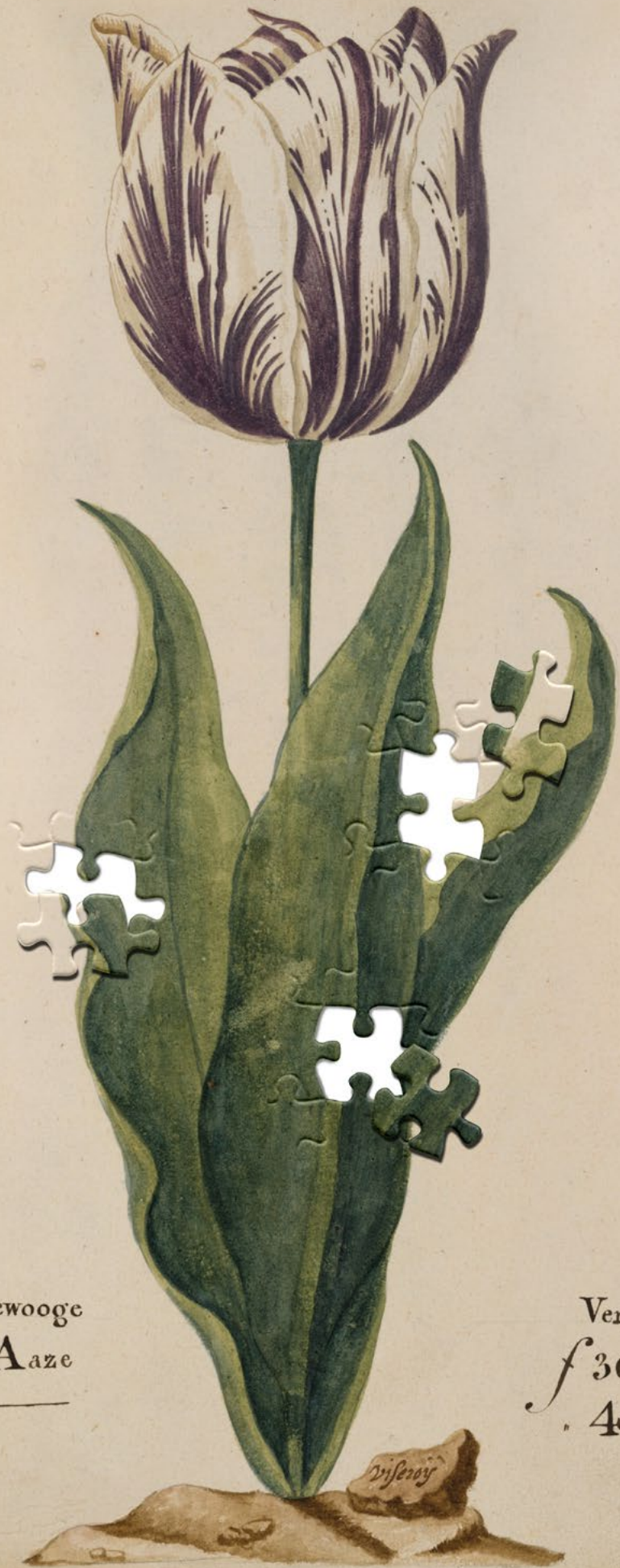
DeBol
240

Gewooge
Aasen



PUZZLE OVER LIBRARY TREASURES

Jigsaw puzzles are trending during the lockdown. Special Collections at the library has jumped on the bandwagon with nine puzzles on the website Jigidi. The puzzles, with around 100 pieces each, depict some gems from the library's collection. The idea is to make Special Collections more visible. 'We are better known outside Wageningen than within Wageningen, which is a pity,' says curator Liesbeth Missel. The tulips on this page come from the *Tulip Book* (1637) by the Haarlem florist P. Cos. RK



Verkocht
f 235 —

De Bol Gewooge
410 Aaze
658 —

Verkocht
f 3000 —
4200 —



Ten months of remote working

‘Those endless Skype meetings’

Back in March, during the first lockdown, we asked a few WUR colleagues to take a snap of their home office and tell us how they were liking working from the kitchen table or the attic. Now, after months of the pandemic and online classes, we phoned the same colleagues again. How are they doing, and how do they feel about working from home now? *Texts Resource editors*



Carl Timler

Farming Systems Ecology teacher

‘A lot has changed for me. My former study is now my little boy’s bedroom and I work in the attic. My seven-year-old son couldn’t cope with lessons online so he carried on going to school during the lockdown. There is a silver lining to working at home: I would have made several trips to Ethiopia this year for a project, but they were all cancelled. That left me with more spare time and I managed to finish my PhD in October. I have also found I have more contact with colleagues overseas because they more often take part in meetings online. Before the second lockdown I worked at the office for a few weeks, and that made such a difference! I can’t wait till we can see each other face-to-face again. Even if it’s only for one or two days a week.’ TL

Inge Ruisch

Communication, Philosophy and Technology secretary

‘I haven’t worked from home since June. I couldn’t cope with it; I got depressed. I’m not married and don’t have children, and my world became so small. Literally even, because I don’t have a separate study and my house is dark. The reason I took this job was because I so enjoy contact with students, and that disappeared. Instead, I was staring at a computer screen for 36 hours a week... When my car had to go into the garage, I worked at the

office for a morning and it made me so happy that I asked if I could come into the office more often. Eventually I started to enjoy life again, but it’s different now with the second lockdown and the time of year. And my job is busier than ever because I’m standing in for a colleague. But I try to count my blessings – imagine getting Covid if you live in a poor neighbourhood in Kenya.’ MVDH



Irene Koomen

Wageningen Centre for Development Innovation

‘The world has shrunk considerably. I used to travel a lot to our projects abroad and that’s gone completely. I am curious to see what the new normal will be like – with less travel. In the past year I’ve had more consultation with our Ethiopian partners than I did before, thanks to Zoom and Skype, and our relationship has been strengthened. But that’s only possible if you know each other from the start. The endless Zoom and Skype meetings take a lot of energy, but I’m learning to deal with them better, making shorter appointments and planning in breaks. I take more walks around the block than I used to. I dislike sitting still even more than sitting at the computer. And I miss the interaction with students – you don’t get to know students and their world as well online. On the other hand, I worked in the vegetable garden a lot this summer. When I can travel again, I’ll go to Ethiopia, Ghana and Kenya to discuss follow-up projects.’ ^{AS}

Klaas Metselaar

Soil Physics and Land Management teacher

‘I’ve been working from home since March because I am a carer and I don’t want to take any risks of getting infected. My attic is still my office, except in the summer months when it got too hot. That’s when you realize what a luxury a workplace with a constant temperature is. I have noticed that work and private life are more intertwined, and that freedom is nice but it’s tiring too, because you never switch off work. There are more signs of strain now and we could do with a holiday since we

couldn’t go away in the summer because of our carer role. I miss the informal chats with students, and video calling takes a lot of my energy. I’m now working on making a podcast for a field trip by bike – it’s nice to get some experience of new ways of teaching. When period 5 starts, soon, we will have been teaching online for a whole year, and we won’t have the extra work of making videos anymore. That will be less hectic.’ ^{MVDH}



Wim van der Poel

Research leader at Wageningen Bioveterinary Research

‘I found the first lockdown heavy going. Working online wasn’t easy, and sometimes I was in meetings all day. They are more tiring online, and I missed the contact with people. Various things have changed now at home. My eldest son lived with us for a while because he had lost his job. But he’s moved out again now and has even found a new job in times of Covid. The past few months have been very hectic in the lab: we were busy with coronavirus testing and then with the avian flu. So I’ve been into the lab every day. I much prefer that, because I have more of a sense of what we are working towards.’ ^{TL}

Science information officer Jac Niessen is retiring

‘IT’S THE SCIENCE THAT INTERESTS ME’

Science information officer Jac Niessen is retiring after 18 years at WUR. Both science and the media have changed a lot in that time. And many modest Wageningen types can’t handle all the loudmouths on social media, says Niessen.



Text Albert Sikkema

The world looked very different when Jac Niessen started work as a WUR science information officer in 2003. The journals *Nature* and *Science* had published the human genome in 2000 and genetic research picked up speed. ‘We went from the microscope to the building blocks of life.’ At the same time, researchers and society at large were making the switch from analogue to digital ways of working. ‘It was a period of great expectations,’ recalls Niessen, ‘but the much-feted scientific breakthroughs didn’t always deliver. In spite of all the genetic knowledge we have, we still can’t cure many genetic diseases.’ Niessen came from the Dutch Research Council (NWO). ‘We thought NWO was a complex organization, but WUR was a lot more complicated! You had the university and the research institutes, contract research and statutory research tasks, the science groups and then Rikilt. I gradually found my way around, thanks to we@wur and contact with researchers about questions from the media. And once you’re at Wageningen, you belong.’

Niessen studied biology himself. ‘I got some insight into science. It’s very important to communicate about the scientific method, because all sorts of claims are made. The public sees a scientist in her white coat, but not her ideas and hypotheses. Luckily there are TV programmes such as *De kennis van nu* [What we know today], which do show the scientific process at work. A process that can be hard to understand. PhD students’ families often only tell them after their talk at their graduation ceremony: “Oh, now I get what you’ve been working on all those years!”’

Social media

The media have changed a lot in the last 20 years as well. ‘I got a Twitter account in 2009. At first there was a lot of rubbish on Twitter; scientists didn’t take it seriously. But then a plane crashed at Schiphol and the news was on Twitter first. That was a breakthrough: eyewitnesses became reporters.’ Now, social media dominate the news. And that’s problematic for a lot of researchers, Niessen believes. ‘I was

talking recently to a researcher who is coming off LinkedIn to protect himself. People often post unfounded claims on the platform and he had to think about whether to respond. And you have to respond fast, so it interrupts your real work. Plus, on social media issues get polarized. There are researchers who engage with social media successfully. But a lot of researchers I know don’t like social media at all.’ You’ve got the loudmouths on one side on social media, and modest researchers on the other side. Niessen: ‘Wageningen people should be prouder of what they achieve: they have a tremendous impact. They are too modest, but maybe that

‘Wageningen people should be prouder of what they achieve’



In his spare time, Jac is building a pointless construction – a ‘folly’ inspired by the artist Hundertwasser. He is using discarded materials such as the roof tiles he was given by Saint Stephen’s Church in Nijmegen. Photo Eric Scholten

goes with the territory: things like soil and microbiology are not high-profile. Image and appearances are more important than the subject matter these days. But at WUR, people think the subject matter is more important. Me too — it’s the science that interests me. The public image is two-dimensional, whereas the substance of what we do is 3D.’

Press

Niessen does have some advice for scientists on how to deal with the media better. ‘You should train young researchers to tell their story to a lay audience. Researchers already do that much better than they used to, partly thanks to initiatives such as Famelab, in which you learn to describe your research in a nutshell, and how to pres-

ent it. You’re asked to state what your research is about in one sentence, and why it is useful in two sentences.’ Dealing with the press is an art in itself. ‘Journalists often only write down half of what you say, and then they frame your research in their own way. The media do a lot of copy-pasting too, but not many journalists check the source of the story. You might well deplore that, but the papers have fewer and fewer journalists these days yet they still have to fill their pages or website. No one wants to pay more for news now that it’s available everywhere, free. So it’s almost impossible to earn your keep from writing. If you want quality journalism, you’ve got to pay for it. Everything has its price.’ For the past 10 years, Niessen has cycled to work almost daily from his home in

Nijmegen on his e-bike. ‘I have felt part of a village community on the campus. WUR is a global village, with disciplines and students from many different backgrounds, and they are all enthusiastic. I have sometimes shown critical journalists around, and they tend to ask random students probing questions about WUR. The students then come out with fantastic advertisements about how much they love Wageningen, which no amount of publicity could beat. It’s an honour to be part of it.’

Niessen has been working at home since the pandemic started, and he misses all the interaction on the campus. He also finds working online, at home on his computer, much more tiring. And that is why he is stopping early, 18 months before retirement age. ■

SHE'S GOT IT COVERED

Looks matter. That's true of books too, so PhD students often put a lot of thought into the cover of their thesis. And Monica Aguayo-Mendoza's was the best of 2020.



Text Roelof Kleis

The Mexican PhD graduate won *Resource's* 12th Cover Prize with the cover of her thesis *Chew on it*, which was popular with both the jury and the public. Online, 1565 people voted for *Chew on it*, which is 27 per cent of all the 5789 votes cast. And that total was a record: never before have so many 'voters' taken part. The result was by no means a foregone conclusion, however. Right to the last, *Chew on it* was neck and neck with the Spanish Mariola Acosta's thesis on *Doing Gender*. Between them, these two covers netted more than half the votes.

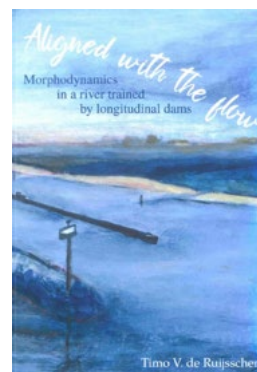
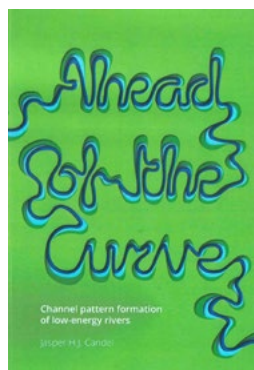
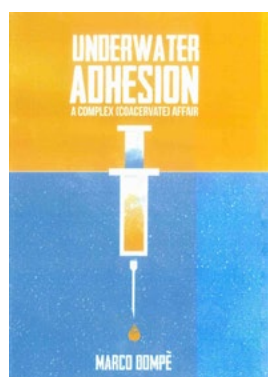
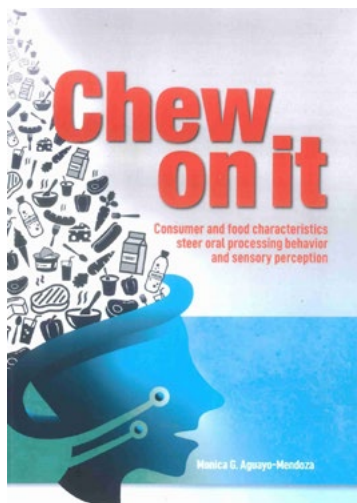
The jury (see next page for the members) ranked *Chew on it* second. 'The subject stands out beyond the level of a picture with a title,' says Special Collections curator Liesbeth Missel. 'In a specially constructed image, the subject is illustrated in detail, and the title itself is visualized.' *'Chew on it* sounds like a psychiatrist's advice

to a patient, which a tabloid newspaper got hold of,' is how Jac Niessen expresses the association the title has for him. Education Dean Arnold Bregt thought the cover 'lively with a good link to the subject of the thesis'.

Design

For the winner Aguayo-Mendoza, the Cover Prize is a nice recognition of all the work she put into the appearance of her thesis. 'A catchy design is typical of all my PhD presentations. Each chapter of my thesis starts with an infographic summary, for instance. And I carried that through to the cover, in the same colour scheme.'

The winning thesis explores the relationship between chewing and the perception it produces. This involved a lot of experiments in which test subjects had to spit out their food. 'But of course, I didn't want to put that



on the cover. Spitting is disgusting.’ What other options were there? ‘Well, it’s hard to capture perceptions of food in a picture. So I used the little icons for foods from my experiments. I had them jumping out of a head, as it were.’ She thought up the concept and the colour scheme together with her husband, and designer Wendy Schoneveld then produced the cover. And a lot of lobbying on social media through friends, family and colleagues took care of the rest.

For the jury, the cover of *Chew on it* was surpassed by that of *Underwater Adhesion* by Marco Dompé. He did research on glue that works well even in wet conditions, such as in medical applications in the body. ‘This design is beautiful in all its simplicity, and it is strong graphically, with the text supporting the image,’ explains Missel. ‘An elegant and simple depiction of the research in two colours: how do you stick the yellow drop of glue into the blue area?’ says professor Liesje Mommer. ‘For me, everything about this cover works,’ is *Resource* graphic designer Alfred Heikamp’s view. ‘The complementary colours blue and orange reflect the relationship between water and glue perfectly. In theory they are totally incompatible, but the syringe filled with glue shows that it’s possible to change that. If I saw this cover on a bookshelf, it would make me pick up the book.’

The jury

The 2020 Cover Prize was awarded by a combination of a jury and an online public vote. Both assessments produced a top five, and these were with combined to give the final result (using a points system of 20, 15, 12, 10 and 8 points). The jury was made up of Arnold Bregt (Dean of Education), Liesbeth Missel (Special Collections curator at the Forum library), Alfred Heikamp (graphic designer at *Resource*), Jac Niessen (Science information officer at WUR) and Liesje Mommer (professor of Plant Ecology and Nature Management). ■

The jury’s top five

- 1 Underwater Adhesion – Marco Dompé
- 2 Chewing – Monica Aguayo-Mendoza
- 3 Stream Whisperer – Jasper Candel
- 4 Snacking Behaviour – Femke Damen
- 5 Breeding Success – Pascal Duenk

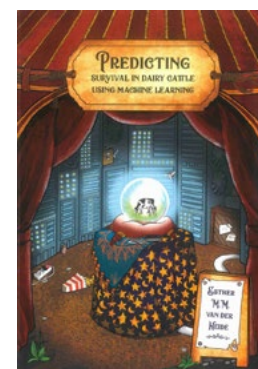
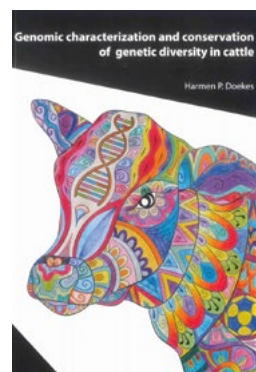
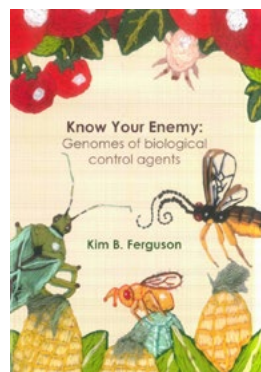
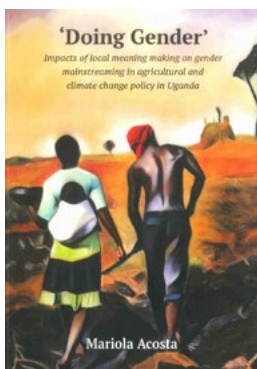
Top five online

- 1 Chewing – Monica Aguayo-Mendoza
- 2 Doing Gender – Mariola Acosta
- 3 Long Live the Cow – Esther van der Heide
- 4 Diverse Bull – Harmen Doekes
- 5 Longitudinal Dams – Timo de Ruijscher

Colouring in

The 2020 candidate who took the most trouble over his cover may have been Harmen Doekes. He visited 133 colleagues, friends and family members with his cover drawing to colour in, as a way of thanking them for all their support. ‘You don’t complete a PhD on your own. You need the support of family, friends and colleagues. So I thought it would be fun to ask all those people to colour in a bit of the picture.’ And that fitted nicely with the subject of his study: the genetic diversity of bulls in the Netherlands as all the colours of the rainbow. Doekes found a colouring page on the internet, added a few personal elements (the double helix, the ball and the musical notes) and set off. He had the first 80 contributions quite quickly, but then came the first lockdown. ‘Then I started to visit everyone at home. Safely, yes. I had a bottle of hand gel with me and I kept a safe distance.’

He is more than satisfied with the result. ‘The creative side of the project is important to me, and it really was a joint effort by young and old together. The youngest was six and the oldest 70.’



New Year's resolutions:

Five tips for making ends meet

Is it always a bit worrying towards the end of the month when you get to the checkout? And have you been unable to pluck up the courage to look up your student debt on Mijn DUO for years now? Would you like to get to the end of the month a bit more comfortably in 2021? We've got five tips to help you do that! Tips from some old hands, *Resource* editor Coretta Jongeling and budgeting blogger Emma Moutaah.

1

Look for the leak

The satisfaction with which you look at your bank account on the 24th of the month can turn to slight panic two weeks later. Already spent so much? Where did it go? Kindle your inner scientist and figure it out. There are numerous apps for keeping track of your spending. Try out a couple, see which one works for you and keep a record of what your money goes on for about three months. That's your baseline. You might be shocked at how much you spend in the pub (remember that time...?) or you might have ordered pizza more often than you realized. Think about whether these things are really necessary, or whether you could cut down a bit. And are your fixed monthly outgoings such as rent and subscriptions on the high side? See tip 2.



2

Invest time

Time is money, and that is true for you too. Invest a few hours in identifying your fixed costs. Could your phone subscription or health insurance be cheaper, and do you make much use of your gym subscription or are you mainly paying it for the sake of good intentions? This analysis is not exactly fun but it could save you some money.

Is your rent too high? The national student union LSVb has an online tool with which you can calculate how much rent your landlord should be charging. If you are paying too much, you could try to get it down, possibly with the help of the Rents Commission if you don't think your landlord is going to respond very enthusiastically.

Another money saver: sourcing course books, furniture, clothes or your phone secondhand. It could mean a bit of hunting around on Student Plaza, the Emmaus secondhand store or on Vinted, but you can save a lot. Want to become a real pro? Follow blogs or websites about saving for your daily dose of inspiration.

3

Do it yourself

Getting your bike repaired, your hair cut, or a new zip put into your jacket all has to be done and all costs money. You can probably do it yourself. Look up some YouTube videos to learn how and give it a go. If you don't manage, you can still go to the bike repair shop/hairdresser/tailor. A bridge too far? Start smaller with do-it-yourself then. Take your own coffee or lunch into uni instead of buying it there. You can save hundreds of euros a year like that.

4

Save on everyday things

Now you've taken the biggest steps, you can start paying attention to more minor spending too. Do your shopping at a cheaper supermarket, buy rice and pasta in bulk at the 'toko', and your veg and cheese at the market. Make a shopping list before you go, to avoid a lot of extra impulse buys. And as a bonus, the year group won't need to consult each other in the middle of the supermarket, complete with six trolleys. This will make a lot of people happy.

It's cheaper and more sustainable to eat together, so invite someone over or eat with your housemates more often. Put leftovers in the freezer and use them up on a lazy day. That saves on pizza deliveries.

Keep an eye of the ThuisWageningen website as well. Not only can you get free plants from the plant rescue centre here, or swap clothes in the swap shop, but they also regularly offer free courses –Dutch lessons, for instance.

5

Be creative with your money

After all these tips, have you got money left over? Think about the best thing to do with it. Maybe you can lower the monthly amount you borrow, or maybe you would rather save up to travel after you graduate. If you want to buy a house one day, do your best to pay off your loan. Not in a hurry? Invest your money! It's not nearly as complicated as people think, says student investor Emma Mouthaan. You can start small, from 20 euros a month, and see if you like it. Interested? Emma has written a book about it, which you can download for free on her website. ■



The student house as a family

These are difficult times but the Covid pandemic is also bringing people together. As in these three student houses. 'With the coronavirus, your house becomes the main place for your social activities.'



Text Luuk Zegers

'You have breakfast, drink tea and watch TV together'

Animal Sciences Master's student Monica van Leeuwen (23) and Environmental Sciences Bachelor's student Konrad Peckolt Fordal (23) both live in Huize 12 Hoog in the centre of Wageningen.

Van Leeuwen: 'There are six of us: three guys and three girls. It was quite a bustling place before Covid. Everyone is in a student society or study association in addition to their degree studies. It meant we sometimes led quite separate lives. But with the coronavirus, your house becomes the main place for your social activities. That's a big difference.' Peckolt Fordal: 'We've been spending a lot more time together since the coronavirus. We eat together more often. We'd do that occasionally before but not often as a whole group. We also talk to one another much more. So you really get to know one another.'

Van Leeuwen: 'I actually like that aspect of the coronavirus crisis: we've become

a kind of family. We also have all sorts of activities we'd never have done without the pandemic, such as a *Tour de Chambre*: everyone decorated their room with a certain theme and thought up an appropriate activity. One housemate even put on a pool party in his bedroom!'

Van Leeuwen: 'We also organized a treasure hunt through Wageningen and in the summer we went on "home



holiday". We were planning to visit Konrad's family in Norway but of course we couldn't because of Covid. So we changed the plan and visited all the parents of housemates who live in the Netherlands instead.'

Peckolt Fordal: 'But it's also the little things. Breakfast together, lunch together, cups of tea together. Watching *Lubach* on TV. Doing things like that together makes you closer as a group.'

'It feels like we've become a family'

Annebel Jonker (22) is an Aquaculture and Marine Research Management Master's student and lives in the Big Five student house.

'For the past two and a half years, I've been living in a close-knit house in Tarthorst with four other girls and a cat called Eevee. Before Covid, everyone led busy lives: going to uni every day and with something on every evening. Often a few of us would eat together or go out on the town, but rarely the whole group. In other words, it was sociable but we had our own active lives.

'We've all been at home much more since the pandemic. We eat breakfast, lunch and dinner together, we watch TV together all evening and we hang out together. At one point we started buying books of Japanese puzzles and doing them together. We watch Formula 1 and

Ajax matches together. Often in the evening, someone will ask "Who fancies a beer?" and before you know it it's four in the morning and we've spent the whole evening chatting. We were already friends before we moved in together. But if you spend a lot of evenings together like that and have really deep conversations, it brings you closer.

'After the gym closed the first time, we started fanatically exercising in the living room. We put on an exercise class on YouTube and join in. At Christmas, we had a Christmas dinner: we decorated the living room, everyone wore some-

thing special and made one dish. Afterwards, we played games. 'Before Covid, we would often study together in the library. Now everyone studies in their own rooms, but we often drop in on one another to relax a bit. It really feels like we've become a family.'



'Music brought us closer together'

Stefanus Mega Prabawa (26), Food Technology Master's student, has a corridor of fellow students in Bornsesteeg rather than housemates.

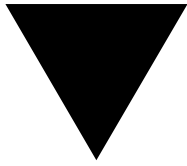
'There are nine of us living on a multicultural corridor in Bornsesteeg. We have Dutch, Chinese, Vietnamese, Italian and Indonesian students. We eat together more often since the pandemic started. At one point we came up with the idea of organizing a karaoke night after dinner. Hannah, one of my Dutch friends, brought her guitar. She was nervous but I could see she had talent, could play the guitar well and could sing. I also enjoy singing and it all clicked very nicely.

'After many evenings rehearsing, we performed for the first time during one of our corridor dinners. We played the song "Best Part" by H.E.R. for the people on our corridor. It was an emotional moment, also because it was the final evening for Flavio on our corridor. He was returning to Italy the next day as he had finished his studies at WUR. The music brought us closer together.

'Since the farewell performance for Flavio, Hannah and I have continued rehearsing.

Sometimes we knock on friends' doors in the flat and give a mini concert. Of course we're not perfect but it's a nice distraction and a little surprise for friends who miss live music.' ■





Key people: Tom Spanings

They are indispensable on campus: cleaners, caretakers, catering staff, gardeners, receptionists — the list is long. *Resource* seeks out these key people. This time, meet Tom Spanings (54), a biotechnician in the Carus fish facility. Text Milou van der Horst Photo Guy Ackermans

‘You have to want the best for your animals in this job. *You* have a choice but *they* don’t. If you’re overworked, don’t have the time or know-how or aren’t in the mood, that affects the animals. Caring for the animals properly also means you need to use fewer lab animals. That’s the best part for me: making sure my fish do as well as possible. I get a kick out of seeing them healthy, growing well and laying lots of eggs. That’s the basis.

As a senior biotechnician, I’m responsible for the zebrafish and carp section. We’ve been rearing carp for 30 years or so. We euthanize the fish before they become too old and a potential disease source. I never like doing that, even though it’s done humanely with a large dose of a sedative in the water. The two times in the day when I feed the fish are another regular part of my job. My activities in the rest of the day vary

depending on the ongoing experiments. One day I may be weighing a couple of hundred fish and another time I may spend an hour on the water quality of the coral. I also help researchers figure out the best design for an experiment, taking the fish and staffing into account. I consider what external factors, such as light and water quality, are best for the fish and make sure those factors are the same for each experimental setup. I enjoy the simpler tasks too. I don’t have to be quite so alert when cleaning an aquarium. People always have a lot of questions about my job. They often have a simplistic view of what managing lab animals

‘You have to want the best for your animals in this job’

involves. They think we kill the animals for research but these days you can study a lot using the eggs of zebrafish. When I was a boy, I used to spend a lot of time fishing in canals. I still do that but I don’t get the same enjoyment because I spend my working hours with fish too. I spent 34 years working with fish at the Radboud University and I’ve been at WUR for a year now. I like variety and challenges but I was getting that less and less at Nijmegen. Here at WUR, I do get that. I don’t think I’ll ever leave this job.’





Campus ♦ companies

InsectSense

The Iranian Aria Samimi had already seen a lot of the world before he started his business on campus in Wageningen. In Germany he used insects to predict earthquakes, in Croatia he trained bees to find land mines, and in Brazil he got inspired about trees as a source of green energy. He came to Wageningen to learn more about generating electricity from plants. During his research he saw that science often fails to make an impact on

Samimi wants to use insects' sense of smell to detect diseases

people's lives; he wanted to connect up scientists and entrepreneurs, but he couldn't put his matchmak-

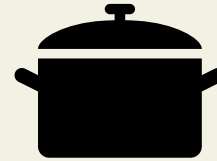
ing plans into practice because of Covid-19. Instead, he set up his own start-up at Starthub in the Plus Ultra II building.

His company InsectSense aims to use insects' sense of smell to detect volatile compounds associated with diseases. For instance, he wants to use honeybees to identify people with Covid-19. 'I'm designing a technology platform that can detect various compounds,' says Samimi.

In addition to the insects, InsectSense is also developing a chip with the olfactory receptors of insects to do the same trick. His start-up and the WUR Bioscience group have received a grant for this. InsectSense is now six months old and consists of the two co-founders and five employees and interns. 'I like the atmosphere here on campus. Nature is a source of inspiration for me and a lot of research in Wageningen is nature-inspired.' AS

There are about 100 companies on campus. We'll be introducing one of them in each issue of *Resource*. This time: InsectSense in Plus Ultra II.

All the flavours of the world can be found in the kitchens of the WUR community. PhD student Asma Kherfi-Nacer, at the Laboratory for Molecular Biology, takes us to her home country Algeria.



Flavours of WUR

Couscous with 'snake'

'A friend of mine gave me an unusual vegetable known as "Italian snake" (cucuza). It grows in southern Algeria, where we both come from. I made this couscous dish with it. Couscous is very popular in our hometown, Guerrara, and is always served with a vegetable (and meat) sauce.'

- 1 Fry the onion and meat for about 15 minutes on a low heat together with 2 tbsp oil, 2 tsp salt and ras el hanout.
- 2 Add the other ingredients in the list from the onion to the 'Italian snake' and cover with boiling water, let the sauce cook for 45 minutes on a medium heat.
- 3 Meanwhile, in a different pan, mix the couscous with 1 tbsp oil, 1 tsp salt and 200ml cold water and let it soak for 10 minutes. Then stir and steam the couscous over the simmering sauce.
- 4 After 15 minutes, remove the steamed couscous, stir 150ml cold water into it and let it stand for 15 minutes. It should be soft but not soggy.
- 5 Steam the couscous for another 10 minutes, stir butter into it and put it on a big dish;
- 6 Pour the sauce over the couscous and top with fried peppers.
- 7 Eat for lunch with buttermilk (followed by a siesta!)

Ingredients (for 4 people) :

- 1 tbsp ras el hanout
- 3 tsp salt
- 3 tbsp sunflower oil
- 2 pieces of lamb
- 1 finely chopped onion
- 1 carrot, quartered
- 1 potato, quartered
- 1 swede, quartered
- 250ml tomato purée
- 2 red peppers
- 20g chickpeas
- 20g fava beans
- 20g cowpeas
- 100g pumpkin
- 100g of Sicilian squash ('Italian snake'!)
- 40g butter
- 400g medium-sized couscous
- 2l boiled water
- 350ml cold water
- Fried peppers



In other news science with a wink

◆ WEBS

Spiderwebs are asymmetric with the centre higher than the midpoint. Because of gravity, this lets the spider reach prey caught at the bottom just as quickly as prey at the top. But what do spiders do in space? They build symmetrical webs, shows a study by the University of Basel. The experiment was carried out on board the International Space Station.

◆ TINKERING

American researchers at the John Innes Centre have developed a tomato that produces

L-DOPA, used in medicine for Parkinson's disease. They tinkered with the genes and got the tomato to make L-DOPA from the amino acid tyrosine. L-DOPA is currently produced synthetically. Tomatoes could be a simple alternative for developing countries. Tinkering with genes isn't allowed in Europe.

◆ MOONWALK

We won't have to wait long for the first woman on the moon. In the Artemis project, NASA plans to send a group of astronauts consisting of nine men and nine women to the moon. The last

man on the moon was Gene Cernan on 14 December 1972.

◆ WEIGHTY

For the first time, the weight of what humans build in a year is exceeding what nature is creating in biomass. Scientists at the Weizmann Institute of Science in Israel did the calculations. The year's new roads and buildings combined weigh more than the new plants and animals. Our building frenzy is never-ending. In 1900, man-made production was only 3 per cent of bio-made production. Bye-bye, planet. RK



Diary of a caretaker

Single/singular

A woman who is about to sign a contract with Idealis for a self-contained flat in Wageningen phones me to ask if we could view the flat together before the contract comes into effect. We meet up there in the late morning and I show her the living room, bathroom, kitchen and bedroom. She's incredibly pleased with the flat and gives me a big hug. That's rather unexpected and I'm a bit flustered but also happy that she is so enthusiastic about the flat.

Then she regales me with her life story. I listen with interest,

but after an hour I really have to leave for the next appointment.

In the weeks after she gets the key, she phones me, texts me and sends me emails every day with all kinds of questions. So often that I

start to wonder what is really going on. Then she asks me to drop in on her flat. 'The flat's finished but I still have some issues,' she says. I go round and when she opens the door,

I see she's heavily made up and wearing nice clothes, and there's a strong smell of perfume. Everything in the flat looks neat and tidy — no visible issues — and some candles are lit, giving an inviting ambience. I'm so naive that I think to myself: 'Candles during daytime?'

The woman comes straight to the point the moment I'm inside the door. 'Eugene, would you like to go out on a date with me?' This has never happened to me before and I'm lost for words at first. I become a little restless as I search for the best way to put it. I recently became single again and I'd prefer to keep it that way for the time being, so I tell her sorry but I'd rather not. She is very friendly about my response, saying, 'If you change your mind, you know where I live.'

Eugene van Meteren works for student housing provider Idealis as a caretaker. He writes about his experiences for *Resource*. Read all his columns on resource-online.nl.



WEEKLY UPDATES ON STUDENT LIFE AND WORKING AT WUR?

Go to resource - online (Contact page) and subscribe to our digital newsletter .

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Resource

WUR from within: straight, sharp, transparent

IN MEMORIAM

MONIQUE NUIJTEN

Dr Monique Nuijten passed away on Saturday 2 January at the age of 59. Although her death was not unexpected, it causes us much grief to lose a beloved colleague from the Department of Social Science. Monique was at Wageningen University from the mid-1980s. She studied Non-Western Agrarian Sociology and was awarded both her MSc and her PhD *cum laude*. Monique's work has had a lasting impact on the fields of anthropology, development studies, urban studies and social theory, both through her astute contributions and how she engaged with colleagues and peers as a person.

To pay tribute to Monique's life and work, a Liber Amicorum has been published under the title *Engaged Encounters. Thinking about Forces, Fields and Friendships with Monique Nuijten*. The volume is open-access and can be found on www.wageningenacademic.com (search for 'Nuijten').

Thinking about Forces, Fields and Friendships with Monique Nuijten. The volume is open-access and can be found on www.wageningenacademic.com (search for 'Nuijten').

We will miss Monique as a dear and respected colleague, mentor, supervisor, researcher, lecturer and friend.

On behalf of all Monique's colleagues, Jack van der Vorst, Bram Büscher

Colophon

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

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'I started my PhD about six months ago but I'm not enjoying it at all. While I don't want to be a 'failure', I'm increasingly thinking of quitting. But people around me tell me that quitting is career suicide. Who has some advice?'

PhD student N.
(full name known to the editors)



Job satisfaction suicide

'To quit your PhD is career suicide?! In my view, carrying on puts you at risk of 'job satisfaction suicide'. I believe people flourish when they love, or at least like, what they do. Don't quit after just a week of course, but if a job doesn't give you any fulfilment or joy I would encourage anyone to look for something else. If you can afford it, put job satisfaction above prestige, salary or even your educational qualifications. However, my view may be a privileged Western/Dutch perspective...'
Maartje van der Knaap, Lecturer in the Environmental Policy Group

Alternatives

'Most PhD students feel like giving up sometimes. If you are permanently fed up, it could be because of your topic, or because doing research doesn't suit you or you have annoying colleagues or a difficult supervisor. You could adjust your topic or ask for an additional supervisor. And of course, you could stop too! If you have a passion for research, you will certainly stand a good chance of getting a different PhD position. And there are plenty of nice jobs outside academia too. Also, all the graduate schools offer support for PhD students. If you're in WIMEK, you can get in touch with me or Peter Vermeulen.'
Judith Westerink, WIMEK PhD mentor

Long-term happiness

I would advise you to reflect on what aspect of the PhD you dislike exactly. Perhaps your problem could be fixed by making a few changes. Otherwise, try to figure out what kind of work, topic or atmosphere would make you happy and what kind of professional future you envision. Quitting your PhD may help you to invest your time in something that will benefit your career and make you happy in the long term.'

Ixchel Gilbert Sandoval, PhD student of Toxicology

Does it suit you?

'I advise you to discuss your problems with your supervisor. If that's too daunting, you could also confide in a friend or someone else at WUR. Someone who has experience with PhD students, for instance. If it turns out that PhD research doesn't suit you, I think it would be sensible not to go on with it.'

Wijbrand Ouweltjes, Animal Welfare and Health researcher

Talk about it

'My advice is to ask yourself why you are not enjoying your work. And talk about it with people you trust, like a good colleague or your supervisor. They might see possibilities you haven't thought of or offer you a new perspective. And it's important to realize that stopping is not the same thing as failing. With every step along your career path, you learn something about yourself.'
Etske Bijl, assistant professor of Food Quality and Design

NEXT WURRY

You can share your science stories via social media, but how should you deal with the many inane and sometimes downright disappointing comments? Responding to everything is pointless and costs a lot of time. So should you ignore them?

Herbert Prins, professor of Resource Ecology

If you have advice or tips for this WURrier, or if you need some help yourself, email your tips or question (max. 100 words) by 19 January to resource@wur.nl with subject 'noWURries'.