Banned

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RESOURCE

For everyone at Wageningen University & Research

no 16 - 12 April 2018 - 12th Volume





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BARBECUE

A quarter of all Dutch students suffer from depressive thoughts and burnout symptoms, according to a major study published by Windesheim University of Applied Sciences this week. Work pressure, room shortages and rising debts all contribute to psychological problems. WUR psychologists and a representative of the student party Connect recognize this trend (see p. 26). The Executive Board is making 50,000 euros available for research on the factors underlying this phenomenon among WUR students and for a campaign to make it easier to talk about these problems. A good initiative, but work pressure depends in part on political decisions and that's not something you can easily influence. Perhaps attending the occasional Catalan barbecue could help. See the big photo on the left and the series of photos on the Resource website for an impression of how 300 students celebrated the start of spring by roasting Catalan onions over an open fire and then smearing one another with the blackened foliage. Seems like a great way to prevent burnout to me.

Anton van Elburg, acting editor-in-chief



>> Nature plus saunas make the Finns the happiest people on Earth. | p.27

JOURNAL BANS SOIL SCIENTISTS

The soil science journal Geoderma, which is headed by WUR professor Jan Willem van Groenigen, has banned fellowsoil scientist Artemi Cerdà for professional misconduct. The Spanish professor is guilty of citation stacking.

It became apparent one year ago that, in his capacity as a reviewer, Cerdà systematically insisted that authors include references to articles by himself or from journals he helps to run. This was a way of boosting his citation scores and the impact factors of 'his' journals. Cerdà denied all guilt but withdrew from the editorial boards of the journals in question. After that, it all went quiet.

Too quiet, thought professor of Soil Biogeochemistry
Van Groenigen. *Geoderma*, the journal of which he is editor-in-chief, was one of the victims of Cerdà's misconduct.
According to Van Groenigen, there has not been enough openness about exactly what happened, how it could have gone on for years, and what kinds of measures you can take against it.

In an unusual editorial, the editors of *Geoderma* have now sent a strong signal. The journal contains a list of all the articles affected by Cerdà's misconduct and of the unwarranted citations they contain. There are 13 articles and 83 unwarranted citations. Cerdà's name is not

mentioned but Van Groenigen confirms he is the person in question. 'We wanted to avoid giving the impression that we were out to damage his personal reputation. That is not our motive. What we want is to make clear what happened and that it is absolutely unacceptable.'

Actually *Geoderma* goes one step further than that. The editors call on all affected journals not to accept Cerdà as author, reviewer or editor for the time being. That amounts to a ban. Van Groenigen admits that this is a far-reaching and unusual step. 'But it is born of necessity. Cerdà thinks he has done nothing wrong. So we cannot trust him anymore.'



Artemi Cerdà

Resource offered Artemi Cerdà a chance to respond but he has not taken up the offer. **@ RK**

Professor Jan Willem van Groenigen explains Geoderma's actions in an interview on p. 18.

MAINLY SMALL ROOMS IN NEW TEACHING BUILDING

The new teaching building due to be erected on campus opposite Rikilt will mainly house small classrooms and rooms for practicals, says Peter Booman, director of Facilities & Services at WUR.

The building, which is scheduled to come into use in September 2021, will also house a restaurant and one large lecture hall for 225 students. 'The other rooms are intended for 60 students and can be combined,' says Booman. 'There will also be lots of space for practicals in the building; that's the biggest bottleneck in coping with growing student numbers.'

The new teaching building will not have any computer rooms but will have a lot of power sockets as students usually bring their own laptops to lectures these days, says Booman. The building will also have two innovative teaching rooms. 'They will be delivered as a kind of shell so that we adapt them to suit new teaching methods later.'

The addition of this new building should let WUR teach around



An artist's impression of the planned new teaching building opposite Rikilt.

15,500 students by 2021; it currently has over 12,000 students.

Booman doesn't know yet whether student numbers will stop growing after that. 'That is why the design allows for a second and third phase so that we can take action immediately as soon as we have more infor-

mation.' Architecture firm LIAG has therefore been commissioned to produce a design for three phases. Phase 1 will result in an independent, complete teaching building with a floor area of 7500 square metres in September 2021. Phases 2 and 3 will expand the space in such

a way that the building work does not disrupt teaching activities.

The new building will replace Triton, which now houses StartHub. StartHub will move temporarily to the lowest floor in Atlas at the end of the year. ② AS, FV

BOARD TO CHECK EFFECT OF NEW SCHEDULE

The Executive Board will be carefully monitoring the effects of the Extended Daytime Schedule next year.

Together with the Student Staff Council, the board wants to see how much additional capacity the extended schedule gives in teaching buildings and what the impact is on teaching quality. To do this, the board will be drawing up a monitoring procedure, it said in a letter to the council on 5 April. The

board will also evaluate the extended schedule in 2019 rather than 2020.

The Executive Board hopes these promises will lessen the Student Staff Council's criticism and lack of confidence in the extended schedule. Last month, the council was considering instigating a dispute procedure to stop the implementation. The council was unhappy with the independent external study of the capacity gains from the extended teaching schedule.

The new timetable will come into effect in September to enable WUR to cope with growing student numbers. The timetable has shorter periods for lectures, starts earlier in the morning and continues into the early evening.

The Student Staff Council discussed the letter from the Executive Board on Wednesday afternoon 11 April, after this magazine went to press. The council's response can be found at resource-online.nl. @ AS

COLUMN|VINCENT

Presidents

After some hesitation I chose 'Donald' over 'Obama'. The decisive factor was resistance to potato blight. No one who takes his vegetable garden seriously can afford to let political preference influence his choice of seed potatoes.

I don't know whether these varieties really were named after Donald Trump and Barack Obama - the name Donald has gone down in popularity in the past one and a half months, apparently, although in the case of 'Obama' it seems more like-

lv. I wouldn't automatically associate either president with agriculture. Nor many other presidents, come to that. They are rarely very interested in it. With the exception of Emmanuel Macron. Last month it was time for the annual visit of the French president to



le Salon International de l'Agriculture, a big agricultural show in Paris. We tend to look down on it in the Netherlands, seeing it as proof that in French politics, agriculture is primarily an image thing. Politicians adopt carefree poses for a photograph next to a cow, while angry farmers demonstrate outside.

But Macron didn't come to the agricultural show to cuddle cows. He did what he's been doing for years: persistently explaining the direction in which he wants to take French agriculture. For the demonstrating farmers, it might take a bit of getting used. But although he probably hasn't won them over, like me, they ought to appreciate the fact that a president gives so much priority to their sector. @

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



in brief

>> PLEA BY FRESCO

International food panel

WUR Executive Board president Louise Fresco has appealed for the establishment of an Intergovernmental Panel for Food and Agriculture. Following the example of the climate panel IPCC, the new panel should develop scenarios for the future global food supply. Fresco launched her appeal on 27 March at the Forum for the Future of Agriculture in Brussels. We need scientifically sound solutions to feed the growing world population, she said. But there is little confidence in governments or in science, so new understandings are not always put into practice. That is why we need international agreements and norms, says Fresco. (3) AS

>> ORGANIC AGRICULTURE

Virtual lecture

Thirty Wageningen students of Organic Agriculture stood on the land of an Irish farmer on 29 March. They were actually in a room in Impulse wearing virtual reality headsets to test the use of augmented reality in Wageningen courses. Teachers Rogier Schulte and Blair van Pelt of Farming Systems Ecology used the experimental lecture to show students a series of Lighthouse Farms, which stand out for a particular sustainable business model. The idea is that in future the students of Organic Agriculture will also be able to interact with the virtual reality and see the effects of different management decisions in a hologram. (3) AS

>> ORIENTEERING

Criss-crossing the campus

On Sunday 8 April, the campus was the backdrop for an orienteering race. Over 70 people took part, including five students competing in the Dutch student championship. The route was set out by Marco Mensink, associate professor at WUR and an orienteering runner himself. Orienteering is particularly popular in Sweden, the UK and the Czech Republic. The runners have to use a map and compass to follow a route through unfamiliar territory passing marked reference points. Selmar Woertel, a student at Radboud University Nijmegen, was the first student to cross the finishing line, making her the Dutch orienteering champion for this year. @ KvZ



'GIVE RISING STARS JOB SECURITY'

Recruiting and retaining enough talented young people over the next few years will require creativity and boldness, says the Refresh and Rejuvenate strategy working group. WUR needs to offer more permanent contracts and more flexibility.

WUR is ageing and a lot of staff will be retiring over the next 10 years. They will have to be replaced by talented youngsters, but what is the best way to do this? Ingrid van der Meer of Wageningen Plant Research says WUR needs to adopt a policy in which young employees spend three to five years working with seniors so that they can profit from the seniors' experience, expertise and network.

Van der Meer heads the Refresh and Rejuvenate strategy working group together with personal professor Gerlinde De Deyn. They are focusing on three questions: how to make WUR appeal to talented young people, how to keep them on board and how to keep the work innovative and interesting for all staff (young and old).

De Deyn thinks WUR can attract and retain talented people by being more flexible. By which she means letting staff determine their

Theme: Refresh and Rejuvenate

WUR intends to present a new strategic plan next autumn. One of the 10 themes in that plan is Refresh and Rejuvenate. If you would like to join in the debate, you have three options: 1. Drop your ideas in the 'bird boxes' in the entrance of the WUR buildings. 2. Send your proposal to cor.meurs@wur.nl.

- Send your proposal to cor.meurs@wur.n
 Come to the working group meeting at
- 16:00 on 8 May in Impulse.



Ingrid van der Meer (left) and Gerlinde de Deyn have placed bird boxes in the WUR buildings, where staff can deposit their thoughts on the rejuvenation of the organization.

own working hours, keeping the buildings open 24 hours a day and making it easier for staff to temporarily work in a different group. This flexibility would let staff find their ideal work-life balance and help them have more contact with colleagues in other groups.

Van der Meer and De Deyn also think WUR should be bolder by giving talented young people a permanent job. At present, these talented scientists hop from one temporary contract to the next. The two women acknowledge that permanent contracts are a risk. So being bold also means that you should be quicker to dismiss people whose performance is not up to standard. ② AS

Read about the experiences of young WUR employees in Point of View on p. 22.

WUR BOOSTS COOPERATION WITH CHINA

Wageningen University & Research is accompanying the Dutch prime minister, Mr Rutte, on a trade mission to China this week. The rector Arthur Mol will be signing six research contracts over the next few days. Collaboration on organic crop protection is also planned.

Wageningen University & Research is accompanying the Dutch prime minister, Mr Rutte, on a trade mission to China this week. The rector Arthur Mol will be signing six research contracts over the next few days. Collaboration on organic crop protection is also planned.

The Wageningen delegation is visiting three Chinese cities and various knowledge partners. In China's former capital, Xi'an, Mol is the keynote speaker at a conference on the sustainable modernization of Chinese agriculture. He will also sign four research contracts. In the port city of Guangzhou, he will sign two contracts and attend a matchmaking event, as in Xi'an. The tour will end in Beijing, where the Wageningen delegation will mainly be looking to reinforce existing links with the Chinese Academy of Agricultural Sciences (CAAS) and Chinese Agricultural University (CAU).

WUR also plans to start a long-term collaboration with the Jiangsu Research Institute and the municipality of Taizhou for the sustainable control of disease and pests in Chinese agriculture. Gerben Messelink and Bert Lotz of Wageningen Plant Research will be working with these partners to introduce Integrated Pest Management, in which natural enemies are used to combat pests. The idea is that this approach will lead to a substantial reduction in the use of pesticides in Chinese agriculture. ② AS

Four familiar faces and one newcomer

TEACHER OF THE YEAR SHORTLIST ANNOUNCED

University Fund Wageningen (UFW) announced the five nominees for the annual Teacher of the Year Award this week. They are in the running to be declared the best teacher at Wageningen University & Research in 2018.

The five teachers on the shortlist are Jessica Duncan, Henry van den Brand, Fred de Boer, John Beijer and Arie Terlouw. They were ambushed at work during the past few days by *Resource* and by the student jury of the teaching prize. Both Duncan and Terlouw have won the prize before: Duncan last year and Terlouw in 2007. For Fred de Boer, this is his debut on the shortlist. Henry van den Brand and John Beijer were on it last year for the first time.

Duncan works in the Rural Sociology Group. Terlouw teaches in Animal Sciences. Van den Brand works there too, as associate professor. De Boer is associate professor in the Resource Ecology Group. Beijer is an aquatic ecologist at Environmental Sciences. They were all surprised and delighted by their selection. Van den Brand even confessed to feeling a bit emotional. 'I am astounded.'

The jury, which consisted of six students on different degree programmes, will be attending lectures given by the teachers over the coming weeks, to decide which of the nominees should eventually go home with the Teacher of the Year Award. This is new: in previous years, the jury made that decision at the same



The newcomer on the Teacher of the Year shortlist is Fred de Boer.

time as establishing the shortlist.

The Teacher of the Year Award is handed out every year by the UFW as a source of inspiration and a token of recognition for teachers. ② LvdN



WUR'S HISTORIAN HAS DIED

Jan van der Haar, WUR's 'own' historian, passed away at the end of March aged 91. He wrote the three-volume standard work on the history of Wageningen University, *De geschiedenis van de Landbouwuniversiteit Wageningen*.

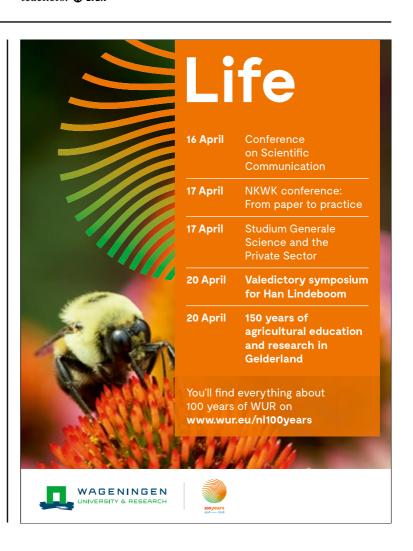
Jan van der Haar was born on 20 January 1927 in Utrecht. In 1965, he left his job as a history teacher in Winterswijk to come and work for the Agricultural College, initially as an administrator and later as the student dean. However, he achieved acclaim mainly as a historian. In 1986, the Agricultural College's board asked Van der Haar to write a history of the institution for the upcoming 75th anniversary.

This assignment became Van der Haar's magnum opus. He was given an office in the Jan Kopshuis, a building on Generaal Foulkesweg that has since been demolished, plus an assistant — the archivist Max de Ruiter. 'I would visit him at least once a week to de-

liver documents and discuss things,' recalls De Ruiter. 'Van der Haar was a friendly man and very conscientious in his work.'

Although Van der Haar was given plenty of time — until 1993 — it gradually became clear that he was not going to make the deadline. He eventually wrote the first two volumes. Emeritus professor of Economic History Joop Faber (University of Amsterdam) authored the third volume.

There will be a follow-up to Van der Haar and Faber's work this year. Volume 4 of the history of WUR, written by the journalists Martijn de Groot and Joost van Casteren, is due to appear soon. **© RK**



COWS DO NOT HAVE A BUILT-IN COMPASS

Cows do not lie with their heads facing north significantly more often than any other direction, and it is unlikely that they have a built-in compass with which they register the earth's magnetic field. This finding comes from experimental Wageningen research.

Many animals can feel the earth's magnetic field. This capacity is a big part of the explanation for migrating birds' amazing powers of orientation. But can cows do it too? And is that why they so often face north when they lie down? Some studies say so, but the evidence is meagre, says Ignas Heitkönig of Resource Ecology.

MSc student Debby Weijers set out to find a conclusive answer based on experimental research. Under the supervision of Heitkönig and statistician Lia Hemerik of Biometris, she studied the orientation of 659 cows on six difference farms in Portugal when they were lying down during the day, on one or more occasions.

There was no question of any preference for a north-south orientation. There was on average a slight preference for a position facing south-east. But there is another



Master's student Debby Weijers did not catch the 659 cows she studied showing any preference for a north-south orientation.

explanation for that. That alignment (130 degrees on a compass) correlates significantly with the position of the sun at the time the data was collected, and it reduces exposure to the sun, helping the cow to avoid overheating. This sun-avoiding orientation has previously been observed among wilde-

beests, impalas and elands in Africa, says Heitkönig.

Weijers also studied 34 cows to see what happens if you hang a strong magnet around their necks, which would disrupt any internal compass. She found this had no effect on the cows' orientation when lying down. Is this the last word? No, says Heitkönig. 'This is a first experimental study among large ruminants, and it suggests there is no reason to suspect the presence of an internal compass. But the study should really be repeated at night.' Any student who would like to do that should get in touch. **Q RK**

NO NEED FOR HIGHLY REFINED INGREDIENTS

The use of mild ingredients that have undergone minimum processing in the production of food is far more sustainable than using refined powders. Such ingredients also turn out to do a good job as thickening or emulsifying agents. These conclusions come from Marlies Geerts' PhD thesis.

Food producers often use refined powders, such as protein isolates or modified starch, in the manufacture of their products. But it costs a lot of energy to make these powders. What is more, chemicals are often required and the leftover products are unsuitable for consumption.

PhD candidate Geerts discovered that there are more sustainable options. Less refined concentrates — obtained by grinding the raw material, mixing it with water and using a centrifuge — turned out to work fine in composite food products. Geerts demonstrated this for yellow peas. She produced a less refined starch fraction that also contained fibres; it worked well as a

thickener. A less refined protein fraction was an excellent emulsifier.

The milder processing was also a lot more sustainable than the production of powders.
Thickeners made from yellow peas use up to 40 percent less energy and raw materials per unit of viscosity than a commercial starch powder. In addition to sustainability, Geerts sees the natural image of concentrates as a key advantage. Lots of consumers don't like E numbers and manufacturers that use a less refined

concentrate can put 'pea extract' on the packaging, for instance.

But concentrates have downsides too. Transport and storage costs are higher. 'And they contain impurities — in particular polyphenols — that can produce an undesirable colour, smell or taste. Yellow peas contain bitter components, for instance,' says Geerts. A follow-up project is being considered in which researchers will examine these impurities. **②** AJ



WOMEN WHO GET BUSINESS TRAINING MORE OFTEN LIE ABOUT THEIR INCOME

Vietnamese women who get training on running their own business and on equality are more inclined to conceal earnings from their husbands than other women. Especially if their husband takes part in the training course too. This finding comes from a study by researchers including professor of Development Economics Erwin Bulte.

Imagine you could choose: pocket 50 euros without your partner's knowledge or receive 75 euros on your joint account. Bulte and his colleagues at the University of Groningen put this kind of choice to 339 rural Vietnamese women who were participating in a microfinancing project. In this kind of project, women get financial support and training in starting their own business. They also get courses intended to help them gain equal status in the household. Sometimes their partner is invited to these sessions too. Bulte: 'The idea is that this helps couples learn to collaborate and invest better. It may also help the men to respect their wives more as full partners in financial matters.'

SIDE EFFECT

But Bulte thinks it has an unintended side effect. 'Men also get an insight into their wives'

finances. In Vietnam, the man is in charge of the household budget. If the woman earns more from her business, the chances are that her husband will expect her to contribute more too.' This could make it more tempting for the women to keep back some of her income. Especially if she doesn't get much say in how the money is spent. On the other hand, says Bulte, a training course can help a woman to stand up for herself more, leading to her getting more say in things. They she might be prepared to contribute more to the household finances voluntarily.

In order to test the effect of the training courses, the researchers played a game with the women who were participating in the microfinancing project. Some of them had also followed the training courses (with or without their partners). In eight rounds of the game, the women could choose between a fixed sum of money that they could keep to themselves or a variable amount that their partner knew about. In the first round, this variable sum was lower than the fixed one, but it got bigger in each round. Most of the women (65 percent) opted for honesty. Bulte: 'We were surprised that a lot of the women were even prepared to pay for honesty. They opted for the lower joint amount. This is quite unlike what researchers

have seen in other countries.' It did turn out, however, that women who had done the training courses were likelier to be willing to lie, particularly if their husbands had attended the course too.

DOMESTIC VIOLENCE

This does not mean it would be better not to provide the training courses, says Bulte. Women who take the courses do better in their businesses. 'You also see that men make a positive contribution to the business and their commitment is important. It is a terribly complex issue.' Another study showed, for instance, that women who take part in this kind of training course are then more likely to be the victims of domestic violence. Why that is, Bulte doesn't know exactly. 'The training courses and financing currently target women primarily. Perhaps this breeds envy and the extra income might cause conflicts.' According to Bulte, that might be a motive to keep quiet about earnings. 'But it is very difficult to research that kind of correlation because research on abuse is carried out anonymously at the group level and we don't have any data on individual women. But in such cases, involving the partner might have a positive impact.' **® TL**

AIR CLEANERS DON'T REDUCE STINK MUCH

The combination air cleaners on pig farms that are supposed to reduce both the stench and ammonia levels perform much worse than thought, according to research by Wageningen Livestock Research.

About 45 percent of all air cleaners used in Dutch pig farms are combination cleaners. But they only capture 40 percent of the aromas in the air in pig sheds, rather than 81 percent as was thought. On top of that, they only remove 59 percent of the ammonia in the air, rather than the expected 85 percent. This has consequences for the legislation, says the state secretary for the Environment, Stientje van Veldhoven. The government plans to assume much higher levels of odour and ammonia emissions for sheds with these air cleaners. Pig farmers will therefore have to take more measures to reduce the stench and ammonia levels.

The Livestock Research scientists paid unannounced visits to 48 pig farms and performed odour and ammonia measurements on



Combination air filters do not remove 81 percent of the aromas from the air in a barn, as has been believed, but only 40 percent.

16 chemical air cleaners, 3 biological cleaners and 29 combination air cleaners. This showed that the efficiency of the chemical and biological cleaners was close to the values assumed in the legislation. But the combination air cleaners were much less effective in practice than on paper.

Wageningen Livestock
Research gives three possible explanations for the fact that the combination cleaners remove far fewer aromas from the air in practice than according to the standard values. Firstly, the standard values are based on German studies in aroma labs

that use a different measurement method to the Dutch labs. Furthermore, the German tests of the combination cleaners were under different conditions. Finally, the efficiency of the cleaners on the farms may have fallen over time due to poor maintenance, say the researchers. **Q** AS

EMOTIONAL APPEAL SELLS SEAWEED BEST

Seaweed is relatively unknown but not necessarily unappreciated. If you promote it in the right way, people are quite prepared to buy it, shows an exploratory study by Wageningen Economic Research and Wageningen Food & Biobased Research.

Anyone who has ever eaten sushi is familiar with seaweed. But it is not a generally well-known food product. 'Such unfamiliar products are not easy to introduce because eating behaviour is a matter of deep-rooted habits that are hard to break,' says Marleen Onwezen, a research of Consumer Behaviour at Wageningen Economic

Research. 'That is a pity because seaweed is a healthy and sustainable source of protein.'

One way of making seaweed more attractive is to integrate it into products people are familiar with, such as wraps. In a pilot study, the researchers investigated what was the best way to get people eating seaweed wraps. They served up pictures of different wraps to 612 participants in an online survey. The wraps contained 5, 50 or 100 percent seaweed respectively.

Strikingly, the percentage of seaweed had no influence on the consumer's willingness to buy the product. What did make a difference was the way the product was described. This

was done either with a cognitive appeal 'Seaweed wraps are a healthy source of vitamins and minerals' or with an emotional appeal – 'Feel healthy with these seaweed wraps packed with vitamins and minerals.'

It turned out that people exposed to the cognitive message had more negative expectations of the wrap made of 100 percent seaweed than of the other variants, in terms of smell, taste and texture. When the appeal was emotional, that negative effect disappeared. Onwezen: 'Emotions play a major role in food choice, especially when it comes to

new or unfamiliar products. By playing on emotions you can overcome those barriers.' **3** TL





Resource is looking for new Dutch and international bloggers for Resource Online.

Requirements: interesting personality, opinionated, good writer, student at WUR, funny, open minded, curious. Interested in the job? Please leave us a message at linda.vandernat@wur.nl



resource-online.nl



PROPOSITION

'Discrimination should be the norm'

Bastiaan Vroegindeweij is an enterprising scientist who has developed an egg-collecting robot to the point that it won't be long before the first one is in use. He defended his thesis at his graduation ceremony on 10 April. Here he defends his sixth proposition, in which he asserts that discrimination should be the norm in society.

'I did rack my brains over this proposition. My first version was: 'Discrimination should be applied by default'. But as soon as people hear the word 'discrimination' you are immediately 2-0 down in the discussion. And yet all it means is making distinctions. Full stop.

When I came up with the proposition I had the principle of Precision

Bastiaan Vroegindeweij got his PhD on 10 April for a study of the performance of an egg-collecting robot.

Livestock Farming in mind. That is based on the idea that you approach each animal as an individual. So every cow gets what she needs in order to function optimally, to grow, to live. There are already barns in which cows get fed individually according to their needs. After all, not all cows are the same. And the same goes for humans. You should look at each individual separately and ask: who are you

and what do you need in order to thrive? Then you get what you need, and no more than that either. At present what often happens is that the individual gets a label: this is who you are, you belong to this group. I think we could get a long way if we started living by this proposition. It is important to be aware of what is going on around you and what everybody needs. That would produce an ideal society, and that's what we should be aiming at. Only our society is in a hurry and keeps rushing ahead, and wants to fix everything in rules and regulations. And that isn't easy to combine with this proposition.' @ KvZ



Healthier recipes are a headache for scientists

Less salt, but then what?

The Dutch government wants ready-made food items to contain less salt, sugar and fat. But how can producers manage that without making their products tasteless or too expensive? Technologists from Wageningen Food & Biobased Research are helping to answer that question.

text Anja Janssen illustrations Pascal Tieman

y 2020 it should be easy for the Dutch to avoid eating too much salt, saturated fat and calories. To this end, the food industry and the government have signed a National Agreement to Improve Product Composition. But Secretary of State Paul Blokhuis is not satisfied about the progress being made. He would like to see the industry stepping up efforts to reach the targets set, as he made clear in a parliamentary memo at the end of 2017.

The improvements that need to be made to ready-made foods such as snacks, sauces, cookies, cheese and bread often generate tricky technical puzzles, says Miriam Quataert of Wageningen Food & Biobased Research (WFBR). She is expertise leader in the Product Physics & Application group and leads a lot of research into how to make food products healthier by changing their composition - product reformulation in the jargon.

NOT AS CRUNCHY

'Companies often start by trying to cut down the salt, sugar and fat in their products themselves by trial and error,' says Quataert. 'In that first phase they often take steps in the right direction but at some point they run up against their limits. And then they lack the expertise or the apparatus to get any further.' Some of these companies come to Food & Biobased Research for support, sometimes bilaterally and sometimes in the context of joint projects

with other producers or branch organizations.

But what makes it so difficult to make products healthier? 'A food item is a composite product,' explains Quataert. 'There is a great deal of interaction between all the ingredients, as well as between the preparation process and the ingredients. If you change just one ingredient, you often influence several things, such as taste, texture or shelf life.'

Quataert and her team have done a major study on reducing salt levels in snacks, for instance. It turned out that this not only made the snack taste less salty, but also changed other taste components. This is because salt is a flavour enhancer.

The technologists also discovered that lower salt levels means the snacks did not spread as well during preparation. 'That affects the texture,' says Quataert. 'And as a result, the snack is not as crunchy.' Reducing the amount of salt in bread has a very different effect, producing a stickier dough that doesn't rise as well.

BREAKFAST CAKE

These examples make it clear how much difference a seemingly small change in a recipe can make. And in most cases, salt is only a minor ingredient. Tinkering with the main ingredients in a recipe is even trickier, says Quataert. 'Cakes, for instance, are full of sugar. Imagine you replace the sugar with a calorie-free sweetener such as stevia. You will need very little stevia to achieve the same degree of sweetness.' So how, then, do you get a







good batter and end up with a firm, voluminous cake? That will require more changes than simply replacing sugar with stevia.

Quataert: 'So you have to opt for other low-calorie molecules with characteristics similar to those of sugar, in terms of texture, structure, colour and so on. Through our research, we are able to identify suitable candidates based on a few molecule characteristics.'

This is the approach that was taken when the manufacturer of the spicy Dutch 'breakfast cake', Peijnenburg, came knocking at the door

of research organization TNO – which has now joined forces with WFBR for nutrition and biobased research. Peijnenburg wanted to make a breakfast cake with no added sugar. The researchers started by analysing the function of the sugar in the gingerbread, paying attention to the way sugar contributes to things like colour, crumbliness, taste, crunchiness and sweetness. Then, for each of these characteristics they looked for alternative, low-calorie ingredients that would provide them. Those ingredients were then added and the cake was tested for consistency and fla-

vour, among other things. The best alternative for fulfilling the function of sugar proved to be a combination of the sweetener xylitol and the slightly sweet nutritional fibre oligofructose.

STATISTICAL MODELS

The complicating factors for reducing the fat in cheese are the creaminess and softness – known in the cheese world as malleability. With less fat and more protein, cheese becomes drier, as was seen in a project with Arina goat's cheese. Nevertheless, recalls Quataert, a tasty light variant was eventually devel-

oped. 'In this case we looked for and found the solution in a smart choice of ferments, the bacterial cultures used in cheesemaking for converting lactose into lactic acid. This enabled us to develop a goat's cheese with less fat and more protein.' To get a better understanding of product reformulation, and to speed up the process, the food technologists make use of models. Things like the function of sugar in cake and that of salt in snacks are expressed in physical and statistical models. Such models provide insight into the relation between the ingredient in question and the characteristics of the end product. The technologists use these insights to formulate rules which will ensure the recipe and preparation method yield a good end product. Those rules can then be applied in the development of other products with reduced sugar or salt levels.

TASTE TESTS

The researchers test the healthier alternatives they have developed on consumers as well. After all, in the end the point is that people should enjoy the adapted products, otherwise they won't switch to them. 'One of the things we want to understand is exactly which aspect of an eating experience makes a product enjoyable,' says Quataert. The researchers use physical measurements to try to estimate sensory characteristics such as crunchiness, smoothness and creaminess, in order then to find how this correlates with the results of consumer tests. For this they used various different techniques and machines, including the tribometer. This new piece of apparatus, researcher Marcel Meinders explains, measures the friction between two surfaces, with a thin film of the product being tested between them. The outcomes tell us something about the creaminess of the food product, among other things. Meinders: 'The creaminess correlates strongly with the amount of fat. Fat reduces the friction between the tongue and the palate. Exactly how that happens, we are trying to ascertain with the tribometer.' With the help of these measurements, the search is on for fat substitutes that give the same 'mouthfeel' as real fat.

COMPENSATION

Consumer preferences do not just depend on taste and mouthfeel, however, but also on things like packaging, price, the environment and the information on the packaging. How important that can be was clear from a large consumer study on bread with reduced salt levels. 'Here it made a big difference whether we had told consumers in advance that we had reduced the amount of salt,' says Quataert. 'The people who were told about it proceeded

to compensate for the reduction in salt. We discovered that from the urine tests. The sodium levels in their urine didn't go down. But in the people who didn't know the bread was low-salt, sodium levels went down more.'

Expertise leader Garmt Dijksterhuis adds that consumers say they can 'taste' what they are told on the packaging: 'Label something "reduced salt" and people will say they can taste that – sometimes even when the salt level is the same. This has serious consequences for the response to reformulated foods.'

TRANSLATING KNOWLEDGE

In order to support food producers in the often complicated quest to make their products healthier, several large research projects have been going on for some years, says Quataert. The latest project is a pilot in which Wageningen experts visit companies to give advice. It is an initiative of WFBR, the ministry of VWS and branch organization FNLI. Twenty producers submitted their problems. These problems were evenly distributed over the topics of salt reduction, sugar reduction, and fat

reduction or alternatives to unhealthy fats. This indicates that companies still face problems in all these areas. The experts are now putting the finishing touches to their recommendations. The pilot is expected to be extended this year. According to Quataert, this is one way to get closer to the targets of the Agreement to Improve Product Composition. 'Our role as scientists is to translate knowledge for companies so that more companies get access to that knowledge and more new knowledge is developed. We have already made great strides in expanding our knowledge about sugar reduction, but we know a lot about salt and fat reduction too.'

So what are the biggest challenges now for the reformulation of food products? 'With reduction and replacement, the first few percent are the easiest,' says Quataert. 'But the further you get, the harder it becomes.' **6**

'ADAPTING RECIPES IS GOOD FOR PUBLIC HEALTH'

To what extent can adapting the composition of ready-made food items contribute to improving public health? We put this question to WUR professor of Nutrition and Cardiovascular Diseases Marianne Geleijnse. 'It depends a bit. If you make a product that people don't eat much super-healthy, it won't be reflected at population level. But if you are talking about products such as bread and cheese, food we all buy in large quantities in the supermarket, it makes a difference. And the more of those kinds of products are improved, the more you will see it reflected in disease outcomes among the population.

One example: if you cut back salt consumption in the Netherlands from the current average of nine grams per person per day to six grams, it would make a difference of 6000 fewer new cardiovascular cases per year. But you would have to achieve that reduction from nine to six grams across the population, and you can't do that by improving a single product. You have to make improvements to food products right across the board. And if you don't just do that for salt, but also take away the bad fats, don't break down the fibres too much and don't add too much sugar, it all adds up. Then the reformulation of food products can make a

difference. I really believe in that. It's difficult to push people into changing their eating habits. So make sure the products they are used to eating become healthier. Then you've already made great strides.'



'In products we all buy in large quantities in the supermarket, such as bread and cheese, it makes a difference'

Marianne Geleijnse professor of Nutrition and Cardiovascular Diseases



HYPERMODERN

'In 1993 the Agricultural University's library was housed in an unusual building on the Generaal Foulkesweg: the Jan Kopshuis. It was equipped with state-of-the-art resources – for that time – for tracking down books and articles in print form. In the foreground is a Microfiche Reader with which you could browse the library catalogues. The man wearing glasses is seated at a terminal with which you could search the catalogue system directly. And the people in the background are using PCs to search the internet. Now I can conjure up almost any text in a couple of clicks on my telephone. Even though it is eight years old. Ancient, in fact.'

Editor-in-chief of Geoderma explains the ban on Spanish professor

'Misconduct must be corrected'

Citation stacking, academic misconduct with references, is almost impossible to correct. But the journal *Geoderma* is making an attempt, led by Jan Willem van Groenigen. In an editorial, the journal has identified all the affected articles and has banned the culprit. The editor-in-chief explains.

text Roelof Kleis photo Guy Ackermans

an Willem van Groenigen, personal professor of Soil Biogeochemistry, had been editor-in-chief of the soil science journal *Geoderma* for precisely one week when the Cerdà issue landed on his desk, over a year ago now. Professor Artemi Cerdà of the University of Valencia turned out to have been boosting his citation scores for years by suggesting unwarranted references to his own articles, in his capacity as reviewer. *Geoderma* was one of the journals he reviewed for.

After the conflict, the Spaniard withdrew from his positions with the journals in question. Some journals reported the number of articles published by him with a questionable reference list. But that was about as far as it went, much to the dissatisfaction of soil scientists, particularly the younger generation. They wrote an open letter to the journals and to the European Geosciences Union (EGU) asking them to improve the reviewing process and to rectify the offence. With their remarkable editorial (see p.4), Van Groeningen and other *Geoderma* editors have responded to this request.

Do you agree that not enough lessons have been learned from what happened?

'Yes. Some journals, especially the EGU's journals such as *SOIL* and *Solid Earth*, initially took fast and effective action to publicize the matter. But after that we didn't do enough together. The

'This wasn't just someone who suggested references with a bit too much enthusiasm'

citation scores were not corrected, nor were comments added. It is not clear what kinds of measures most journals took. And that is really damaging. I have the impression that some people don't realize this wasn't just someone who proposed references with a bit too much enthusiasm. This really was systematic misconduct. If you don't correct that, if you don't mobilize the scientific world's capacity for self-correction at a moment like that, we might as well all give up and go home.'

How did Cerdà go about it?

'The reviews he wrote for us consisted of a couple of brief, vague comments: "A fantastic paper, I suggest a few minor revisions". But the devil was in the details, because in the attached PDF there were usually loads of comments on the introduction and the discussion in the article, where Cerdà suggested a lot of references should be added in order to "place the study in a wider context" or to "bring it up to date". Nearly all those references were from his own work or jour-

nals where he was editor. And he always signed his reviews, which is not customary as the review process is supposed to be anonymous. Given his prominent position, mentioning his name is likely to have nudged authors to follow his suggestions.'

Doesn't an editor keep an eye on that?

'We went wrong by not always checking that. We are going to do that differently from now on. But on the other hand, it has to do with trust as well. It is quite usual for a reviewer to say he has a few suggestions in a PDF. But they are at the level of commas and full stops. The review process is based on mutual trust and taking responsibility. We were misled. If a reviewer suggests an additional 20 or 30 citations, something is seriously wrong with the referencing. It means the author didn't do his homework properly and the reviewer should propose rejecting the article, or major revision at the very least. And if the suggested references are nearly all to the reviewer's personal advantage...'

Can the unwarranted references still be corrected?

'No, and that is what is so frustrating. Databases such as Scopus and Web of sciences don't adjust their citation records retrospectively. On the one hand, I understand that. Articles that have been published have been published. At the time, we as editors took responsibility for them. You can't rewrite history. In extreme cases of authors doing something wrong, you can withdraw the article. But that would be totally unjustified in this case. A rectification in our journal would have been possible too, but that won't change those citation scores in Scopus or Web of Science. What is more, I don't think it would be fair to the authors to add a correction to their article.'

Your alternative was to publish a list of the affected articles and the unwarranted references. What is solved by doing that?

'This is in fact a collective *erratum*, in which we show what happened. For future reference, we have established what went wrong. This is the best we can do. If there are questions about individual citation scores or the impact factors of journals, we now have something with which to prove that it might be the result of citation manipulation. Certainly if other journals follow our example.'

You have also banned Cerdà as a reviewer, editor and author. Isn't that going too far?

'To create a good journal, you need reviewers and editors who take their responsibilities seriously. Cerdà has shown that he doesn't do that. He has a very strange idea of the reviewing process, which goes against everything we stand for, and he defends that view publicly. So we can't rely on him anymore. Not as an author either. If he decides he wants to work by the same yardsticks that apply to all of us, he is welcome back.'

The ban affects his co-authors too. One of them is a Wageningen colleague who had her knuckles rapped by the Committee on Scientific Integrity last year for inappropriate academic behaviour. Did that play a role?

'The colleague in question was not a reviewer or author for our journal; the only person who has done anything wrong with us is Cerdà. Of course, it is a fact that a number of people have "profited" considerably, if you can put it like that, from his misconduct. I think it is reasonable to put those references in perspective. If it had happened to me, I would be appalled, but ultimately I would feel it was better for it to be corrected. And that is in fact the response of other Wageningen researchers who – to a lesser extent – benefitted from these citations.'



Jan Willem van Groenigen: 'If you don't mobilize the scientific world's capacity for self-correction at a moment like this, we might as well all give up and go home.'

Do you expect other affected journals to follow Geoderma's example?

'The journals were informed in advance about what we were going to do. Nobody said it wasn't acceptable. But whether they will follow suit themselves, I don't know. In any case, there is now more pressure to be clear about exactly what happened. That is a plus in itself.'

Read too the news bulletin on p.4.



Hans Jansen was 16 in 1968, when he got a job at WUR in one of its previous incarnations. He would stay for half a century. 'My father worked in horticulture too, so it was logical for me to follow in his footsteps.'

text Stijn van Gils photo Sven Menschel

ans Jansen studies the tractor part carefully. It is a filter element and a big chunk of the steel has broken off. How did that happen? Jansen has no idea. 'But I will find out,' says the technician at Unifarm, the Wageningen University farm, located behind Radix.

On 16 April, Jansen will have been working for Wageningen University & Research – or its predecessors – for 50 years. He started his career in 1968, at the age of 16, at the then Institute for Breeding Horticultural Crops (IVT) on the Mansholtlaan, roughly where the Friesland-Campina research centre stands now. He grew up in a house just a few streets away on the Vergersweg.

EVENING CLASSES

Jansen's father worked in horticulture too. 'It was logical at the time to do the same,' says Jansen, who focused on the mechanics of farm machinery because that interested him. He took evening courses and trained as a mechanic. 'If I

could choose again now, I would opt to go straight on to college, but I didn't have that option then.' There's a tinge of regret in his voice. 'The Netherlands was still in the post-war reconstruction phase. There wasn't much money and if you could earn your keep, you had to do so. We did have a lot of discussions at home. The vocational college was just 25 metres away but I didn't get to go there. I had to go out and earn. I made about 450 guilders a month. That was a decent salary.'

He has taken off the giant back wheel of the tractor – a New Holland. Today Jansen wants to replace the damaged part and he can't do that without taking the wheel apart. How long does a job like that take? Jansen has no idea. 'So many other things come up in between.'

All that other work has increased over the years, he says. Thanks to all the reorganizations, his team has become broader and broader. Now Jansen not only tinkers with tractors but with all



Mechanic Hans Jansen will retire in September after more than half a century of working for WUR.

'I would rather have gone to college but that wasn't an option then' kinds of technical installations as well. This week, for example, he was still working on a GPS system with which researchers can determine their precise location.

OVERTIME

The work has become more stressful too, Jansen feels. 'Experiments have a shorter time span. So if the weather is bad or a machine breaks down, a solution has to be found immediately. Leaving the work for a while is hardly an option anymore.' This also means that Jansen regularly works late to get something finished. Too late sometimes, thinks his boss Gerard Derks. But Jansen says: 'You've got to help your colleagues, haven't you?'

In 1980 the IVT – which created the Elstar apple, among other things – was merged with other horticultural institutes. Another merger followed in 1998, and this time the Wageningen research institutes merged with the university. Teams expanded and relations with colleagues became less close. Jansen: 'In the old days we knew exactly what we could expect of each other. You could crack a lot more jokes, too.'

With his colleague Evert Jan Haalboom, for example. Jansen starts to laugh at the thought of him. 'He was always such a joker. One day his colleagues got their own back. Just before he went off for lunch, they smeared grease on the inside of his helmet. He was very late back from lunch and his hair was standing on end like a punk's. He had washed his hair twice but it didn't help.' Jansen grins.

Just as Jansen wants to start putting in the filter element, his telephone rings. It is a colleague who wants to mow one of the trial plots and can't get the mower open. Jansen drops his work, gets in the company car and drives off.

CLOSE

Jansen regretted the loss of close working relationships over the years, he explains in the car. Each reorganization had an effect. Especially around 2000, when he had to apply for his job again. Things were not going well financially in those days, and there wasn't always enough work. About half the jobs on the experimental farm were slashed. Twice, Jansen thought about leaving. Once to go to an agricultural college, and once to a mechanization company. 'Our work here is sometimes undervalued. Everything you do is taken for granted, and the pay is better elsewhere too.' But in the end, WUR's good pension scheme held him back.

And at the same time, Jansen does think there is something special about working for a university. 'Standard solutions hardly ever work here, and that makes for plenty of challenges.' For example, he adapted harvesters so they could be used for small quantities. That is ideal

for small trial plots. And nowadays, Jansen thoroughly enjoys helping students with the projects. 'When I first started I had no contact at all with students. They belonged to a different world.'

And there haven't been any more reorganizations in recent years. That period of calm has done Jansen good, his colleagues say. And he got more chance to do things his own way. Like arranging his workshop, shed 6, the way he wanted. He's one of the few employees at Unifarm to have an office of his own, even if he has recently had to start sharing it with the new drone team.

RETIRING

His colleague's problem in the field proves easy to solve. After some pushing and shoving, and a drop of oil, the mower opens out. Jansen drives back to the workshop and devotes himself to the tractor again. In order to place the filter element, he has to take out a few other parts. He takes hold of a gigantic pair of pliers.

Jansen will be retiring in September. Much to his colleagues' regret, as they have no idea who can succeed him. They asked if he would like to go on working a couple of days a week after retiring, but he declined. 'No, if I worked two days, my colleagues would have so many questions and I'd have to do even more overtime. Anyway, I've got enough to do at home.'

Half an hour later, the filter element has been replaced and Jansen puts the tractor back together again. He'll never know exactly what went wrong. But the tractor will go again now. ③



Hans Jansen test-drives a maize picker.

HOW CAN WUR ATTRACT NEW TALENT?

While promising young staff hop from one temporary contract to another, WUR is ageing. That has to change, says a working group tasked with pondering WUR's new strategic plan (see p.6). How can we draw in high potentials and make sure they stay?

text Tessa Louwerens and Albert Sikkema illustration Henk van Ruitenbeek

Marion Kemperman



Communication specialist at Education and Student Affairs

'What I like about working at WUR is the freedom I get. For example, I can organize my time myself and bring in new ideas. I am proud of my work, but I'm insecure too because after

nearly six years I still don't have a permanent contract, and this contract can only be extended one more time through the agency. There is talk of a permanent contract, but no action yet. I don't feel as though I am 100 percent WUR, even though I do put 100 percent into my work. Over the years I've learned a lot and built up a considerable network, and I would have thought it would be a pity for the organization to lose that. Also, it is not easy to find information about career development within WUR. That should be offered more actively, if you ask me. Because if you want to hold on to talented young people, you have to offer them clear prospects.'

Karin Schroen



Personal professor of Food Process Engineering

'Young talent makes me think of tenure trackers. An awful lot is expected of these young people. They have to design and teach courses, write project proposals and do research. That way you create a lot of tension, and we should be aware of that. We certainly don't have to hold their hands, but it is important that they have a contact person and coaching, for instance, so people don't get overwhelmed from the start. Now it is up to the chair groups to arrange that sort of thing, but perhaps WUR should take more responsibility for it, by establishing clear guidelines, for example. Extra funding for PhD positions would help too, giving tenure trackers a less hectic start.'

Sander van de Geijn



ICT manager, Facilities & Services

'WUR is an unusually supportive employer, and treats its personnel well. Before I came here I worked for a large commercial organization, where I just felt like a number. I've already been working here for

seven years now, but I am still one of the youngsters in my department. They are working on attracting younger people, through a training programme and by taking on interns, so a start has been made. When I had just begun, it was hard to find my way at times. I did get to know my immediate colleagues but there was no induction programme for getting to know the organization better. That kind of programme could have helped me. Now I've found my feet and, partly thanks to YoungWUR, I have expanded my network and got to know a lot of people my age.'



Simone Ritzer



Communication specialist at University Fund Wageningen

'I've been working at WUR for a year now. What I like is that I get a lot of space to grow. But then I do have to figure out for myself what I want and how I can achieve it. **To attract young**

talent it is important to communicate clearly about the career prospects and to show that you can do a lot more here than research alone. At present a lot of people feel – incorrectly – that WUR doesn't provide many opportunities for growth. It would be good to offer more traineeships and talent programmes, for instance, because we have enough in-house expertise among our experienced staff. I think WUR could make clearer how a talented young person can grow in the organization, which steps you need to take to do that, and what guidance is available.'

Marin van Regteren



Researcher at Wageningen Marine Research

'I've been doing PhD research in Den Helder for three years. I would love to get together with other PhD candidates to get some fresh insights and to hear about how they solve their

problems. There are only a few other PhD candidates at this

institute, and they are working in a completely different field. That means you learn a lot about other subjects, but sometimes you miss discussions about your own professional field. To me, one down side is that colleagues don't always have much time if you want to consult them about research. I often get asked: do you have hours for that? That's because they have to log billable hours. It would be better for the atmosphere and cooperation if they could be a bit more flexible.'

Jose Gonzales Rojas



Researcher at Wageningen Bioveterinary Research

'I think Wageningen Research should establish a tenure track, just like the university, so talented young researchers can develop there. You could have a 'research track' or a 'project leader track',

requiring participants to improve their performance constantly. You've got to challenge young talent. I come from Bolivia and I've been working at this institute since 2015. I was very pleased that I got a three-year contract straightaway, rather than a one-year one. That provides some peace of mind and stability. I've had a lot of support in the past few years and one month ago I got a permanent contract. This year I started a personal leadership training. Up to now I've had good opportunities to develop, but I hope to see a career path for all young staff.' Θ



Hot on the heels of the wolf, its lesser known little cousin, the golden jackal, is advancing on the Netherlands. 'But it is not clear yet where it can live exactly, and how it can coexist with the wolf,' says MSc student of Forest and Nature Conservation Joliene Wennink. She will be looking into this over the coming months during an internship with the Dutch Mammal Society.

'I'm really thrilled with this unique internship position. I ended up at the Mammal Society through Alterra, because I wanted to do research on the migration of the wolf. But it turned out there were already lots of people working on that.' Wennink was then offered a similar research topic on the golden jackal (canis aureus). 'To be honest, I had never heard of it. But the more I read about the golden jackal, the more awesome I think it is. It is a super-flexible animal and it is actually quite difficult to identify the limiting factors that could prevent it from being able to live somewhere.'

QUEST

Unlike the wolf, which was indigenous to the Netherlands in the Middle Ages, the jackal is a stranger to this country. Wennink: 'That is really exciting because everything is new.' She is now combing the literature to find out what is already known about the animal. 'That is quite difficult as there has been a lot of research on the wolf but not much on the golden jackal. On the other hand, I'm enjoying precisely that quest because I'm learning so much from it.'

The golden jackal's original habitat stretches from the Balkans and the Middle East to Bangladesh. The jackals have been spreading further afield since the 1980s. It is not entirely clear why that is, says Wennink. 'It is thought to have something to do with protective legislation, climate change and changing land use, as more and more people are moving to the cities.' The migration is going very fast and the golden jackal is already found in Germany and Italy. The first 'Dutch' golden jackal was sighted with a camera trap on the Veluwe in 2016. But Wennink says there may well be more of them roaming the country. 'They are extremely timid so they are not easy to see.'

OMNIVORE

Golden jackals live in packs, just like wolves, and the young from previous years help bring up the cubs. When they are

MSc student Joliene Wennink is going to look for suitable habitats in the Netherlands for the golden jackal.

about two years old, they set off in search of a new territory of their own. Unlike the carnivorous wolf, the jackal is a true omnivore. It preys on small animals such as rabbits, rodents, reptiles and birds. It also eats eggs, fruit and garbage. Wennink: 'In India, jackals are a pest on rubbish dumps. Luckily we deal with our garbage differently here, and they could even make a positive contribution – by getting rid of rodents on farmland, for instance.'

On the basis of the data she has collected, Wennink is going to use a geographical information system (GIS) to make maps on the computer giving an overview of suitable habitats for the golden jackal. She sees this as important information – for drawing up a management plan for a particular area, for instance. 'It is something special when a new species of animal comes to the Netherlands and it would be a real pity if it went wrong because we weren't prepared.' **3** TL

Distance-learning students visit Wageningen

Meeting the teacher at last

For a few years now, students who, for various reasons, cannot come to Wageningen University, have had the option of doing a Master's online. They follow most of their lectures on their computers, but once a year they come to the campus. The distance-learning students of Plant Breeding were in town at the end of March. Resource asked them about their experiences.

At first there were ten of them, but three of the students on the online Master's in Plant Breeding have fallen behind and haven't come to the Netherlands. The seven remaining students from countries including Switzerland, France, the Netherlands and India have been doing a practical for the past week in the Unifarm greenhouse behind Radix.

'It's quite special to actually meet and get to know each other now'

Some of the students already work in plant breeding, but want to deepen their knowledge or increase their career chances. They are doing the online Master's alongside their jobs. Others are doing the online Master's as a second string to their bow alongside a regular Master's. For this reason, the workload has been reduced to 20 hours a week. 'But in practice it can be a lot more sometimes,' says Redouan Adam Anaia. He is doing the fulltime Master's in Molecular Life Sciences in Nijmegen, and has been looking forward to this practical. 'I think it's quite special to actually meet and get to know each other now. At the start of the course we had to make a little introduction film about ourselves, but the contact has become much more personal now.'

IN PERSON

Piet Lautenbag confirms this. He works as a junior breeder at the seed-breeding company Bejo Zaden in Warmenhuizen. 'And it is nice that I can now discuss things with my



Redouan Adam Anaia, lecturer Guusje Bonnema, Piet Lautenbag and Aubry Moret (from right to left) in the Unifarm greenhouse.

teachers and ask questions in person, which goes a lot faster than through an online environment.' Lautenbag says he sometimes sits down to study in the evening after a day's work, and has questions about the material. 'Usually I only see the teacher's reply the next evening. So a whole day goes by between the question and the answer.' But Lautenbag emphasizes that the teachers are very accessible. 'I got study leave from my boss for this period in Wageningen, so I don't give up any holiday for it. I pay for my B&B myself. It's only seven nights so it doesn't cost a fortune.' Studying part-time alongside his job has not affected his social life much, he says. 'Although I shouldn't push the boat out with friends at the weekend if I have to do an online exam the next dav.'

SEEING EXAMS

Aubry Moret works in Plant Breeding too. He studied Biochemistry near Paris, and ended up a few moves later at a hemp company, Hempflax, in Nijmegen. There, he runs the laboratory and analyses medicinal plant extracts. He is very happy to be in Wageningen. 'Sometimes I feel the need to discuss something with a teacher, and then I miss the face-to-face contact. It's nice to be able to kick ideas around with a teacher now.'

12 April 2018 — **RESOURCE**

TOP!

Is it lonely at the top? No, suggests a study by researchers at the University of Aarhus (Denmark). The number of plant species on European mountains is increasing visibly. Over the past ten years an average of five species per year have gone up in the world. Five times more than fifty years ago. The increase is attributed to climate change. It is warmer and therefore nicer at the top.

PLASTIC SOUP (1)

Are microplastics in the sea a danger to humans? That remains to be seen. Researchers at Heriot-Watt University in Scotland studied the incidence of microplastics in mussels and found an average of two particles. Given the average mussel consumption of a Western European, that would mean 100 particles per person per year, say the scientists. Might sound a lot, but it isn't.

PLASTIC SOUP (2)

Actually, we ingest a lot more microplastic every year through our daily meals. Somewhere between 13,731 and 68,415 particles, to be precise. The researchers discovered this by placing petri dishes with adhesive on the dining table. As we eat, lots of microfibres fall with the dust out of the air into our food. The term plastic soup takes on a whole new meaning.

FUNNY G

We see it thousands of times but we don't know exactly what it looks like. The letter g. Just look at the picture. Which one is correct? Most people don't know, reveals a study by Johns Hopkins University. That is because we don't learn to write g the way it is printed, say the scientists. But

> we do all recognize all these shapes as a g. At least. Thts bcse wr smrt.

WUR tackles study-related stress

The management at WUR has allocated 50,000 euros to a campaign against stress, depression and burnout among students. The campaign is the initiative of the Student Council.

The Student Council held talks with the WUR's student psychologists. 'They indicate that a lot of students seek psychological support,' says Jaap Kerr, Student Council member. 'That is how the idea arose of a campaign for wellbeing and against stress and depression.'

One way the money will be used is for research on the extent to which WUR students suffer from stress and depression. 'We don't actually know

exactly who has symptoms and what causes them,' says Kerr. And from September there will be a public campaign to make it easier to talk about depressive thoughts and burnout, says Kerr. What that campaign will look like is still under discussion.

'It is a big topic,' confirms
Mark Reijerman of student party Connect Wageningen. Combatting psychological problems among students is on his party's programme. He recognizes the results of a national study published by Windesheim University of Applied Sciences last weekend. The study showed that one quarter of students suffer from depressive thoughts and burnout symp-

toms. One in five students was said to have suicidal thoughts. Work pressure and worries about life after higher education appear to be the main factors causing depression. High rates of student debt are also blamed for low spirits among students.

WUR has four student psychologists in service, who offer short courses of therapy. There is currently a waiting list of two weeks. In an effort to shorten the waiting list, a daily surgery was started in February. 'This meets a real need,' says student psychologist Ineke Leenders. She too recognizes the trend described in the Windesheim study. **@ KvZ**



Hoorah for diversity!

People from more than 100 countries study or work in Wageningen. That diversity was celebrated last week during the annual One World Week. Students could taste Chilean wine and African snacks, see traditional dress from different countries on the catwalk, and try out various dance styles. Creatively clad country teams competed with each other in the WUR Olympics (in the photo). ①

g g

Argo to run rowing camp for youth

Student rowing club Argo will be running a rowing holiday for 12-to 16-year-olds from 22 to 28 July. The students hope this will raise some interest in rowing among Wageningen youngsters.

The rowing holiday will be run for the first time this year. Argo tried last year but there was not enough interest. This time the club has taken a different approach: the members made a start on publicity back in December. 'A maximum of 30 young people can take part, but we'd be happy with 15,' says Olaf, Heckert, one of the six Argonauts on the committee that is organizing the rowing holiday. The first campers have enrolled and the committee is trying to reach more potential participants through Facebook, Instagram and flyers.

'We thought it was a pity that our grounds are hardly used in the summer, whereas that is when it is at its most beautiful here,' says Heckert. 'Other goals for the week are making Argo better known, linking up with young people locally, and raising interest in rowing.'

Argo is not the first rowing club to do this: in Delft there has been a youth rowing club for some years. In fact, Laga Rowing Club is running four camps there this summer, each for about 30 young people.

The camp in Wageningen runs from Sunday afternoon to Saturday lunchtime, 'So parents can bring and collect their children out of work hours,' says Heckert. The youngsters will sleep in tents in the grounds, and they will row, of course. Other activities have not



This summer, rowers from Argo will teach Wageningen youngsters the ins and outs of the sport.

been planned yet. Heckert: 'A campfire, games on the water, a mountain bike tour: all the options

are still open.' More information about the youth camp can be found on roeivakantie.nl **@ EvK**

MEANWHILE IN... FINLAND

'Spending time in nature cleans the mind'

Finnish people are the happiest humans on earth, according to the World Happiness Report 2018. Joonas Kauppinen couldn't believe it at first. But then he realized that there is balance in Finnish society.

'No way! That is what I and many other Finns thought when we heard this. That is the kind of reaction expressed in the most typical Finnish sentence "ei minua varten tarvii keittää", which translates literally as "you don't have to make me coffee". This illustrates that Finns are humble and do not want to bother anybody. I am also a bit uncomfortable about speaking too well of my country as it feels like showing off.

The key to my happiness is maintaining good relationships with my family, friends and girlfriend. In addition, keeping a healthy balance between freedom and responsibility towards society and nature makes me happy. In Finland I feel free to be myself and to pursue the things I want in life. I greatly value being able to express my

thoughts since I think criticism is essential for a socie-

We pay high taxes, providing for free education and healthcare for Finland's 5.5



million inhabitants. Paying taxes and doing meaningful work are important ways to support each other in society. Almost every Finnish family has a cottage in the woods with a sauna next to a lake. Spending time in the quiet of nature and the sauna cleans the body and mind. This makes the cottages very precious to me and the vast majority of Finns.

While living in the Netherlands I learned two customs I would like to integrate into my life, as they have contributed to my happiness. The first is the custom of regularly sharing food and other items. Secondly, I admire how openly the Dutch talk about apparent taboos, as Finnish people tend to shy away from that. An example is the Dutch Brownies&downieS project, which gives people with a handicap the opportunity to play a vital part in society. At first I questioned whether this straightforward name was appropriate. Then I realized it is a way of humorously addressing an issue in public.' ③ JS



Joonas Kauppinen, is a Finnish MSc student of Food Science.



In the eyes of David Nekam (28) Wageningen and the entire Netherlands is full of inventiveness and innovation. 'Innovation is in the small things too, such as the bike lanes and the free coffee in the supermarket.'

The Master's student of Biotechnology arrived from Vienna, Austria, in February for six months on the Erasmus exchange programme. He is struck by the innovative power he sees in Wageningen. 'Now that I am here, I realize how many projects Wageningen University is involved in and how many patents are held by Wageningen students.'

David mostly wanted to go abroad to get new perspectives on the topics that interest him. And he is not disappointed. 'The university has so many people from so many countries. We interact in group work and other activities. That way I meet lots of new people to exchange ideas with.'

He travels back and forth from Ede, where he has found accommodation. 'I hardly ever go into the centre of Wageningen, only to meet with friends or go out'. Still, he does like the city. 'For a

'I meet lots of new people to exchange ideas with'

city of 40,000 there is quite a lot going on.' An example is the monthly jazz jam sessions in De Zaaier café. 'I was there last time and I would like to go again this Sunday. Maybe I'll even join in with drums, but I haven't done any drumming for a while.'

For now David is mostly doing his coursework, visiting the sports centre and meeting up with friends such as those from his AID



group. Before his time in Wageningen is up, he plans to go sightseeing. 'Paris, Copenhagen, Rotterdam... the same as everybody does. Everything is close from here.' He is looking forward to better weather. 'I haven't gone sightseeing yet, it was too cold.' **@ AvdH**

PARTIES

In the party mood? Wageningen Party Promotion (WUP) tells you where to find one. See too www.wageningenup.nl.

Wageningen

VREEMDE STREKEN - RAW STONER BLUES

Saturday 14 April from 21:00 to 23:00

Enjoy swampy blues from the Gelderland delta, and tasty snacks. All the ingredients for a great night out!

LUCA - UNITAS: 90S 00S PARTY

Thursday 19 April from 23:00 to 04:00

Back to your childhood? It's possible at Unitas. You can come dressed up as your favourite Spice Girl or Backstreet Boy. You'll certainly have to sing along with all the popular hits of your youth.

LUCA - CLUB DOWNSTAIRS BRANCO BOAVISTA

Saturday 21 April from 23:00 to 04:00

An attractive option for those sticking around at the weekend, with a happy hour from midnight to one a.m. First some cheap drinking, then dance the night away. •



A Mexican ambiance at KSV Franciscus on Tequila Thursday on 5 April.

OTO: SVEN MENSC

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

Back to basics in Rwanda

'When we walked around the village, everybody looked at us. We were amazed by that extreme staring. People on their way to market with those big baskets on their heads could really stop, stand still and stare at us until we were out of sight.

We lived in a little house in the middle of the village. We had one of those camp showers, a big bag which you fill with water and put out in the sun to warm it up. As soon as it is warm, you hang it up and you can stand under it, slightly bent over. If we wanted a shower we had to think about it in the morning, and then we could have a shower in the late afternoon. But not too late, or it would be dark. There was no electricity so it really was pitch dark in the evenings. Washing and cooking all took longer so our days easily filled up with the basics.

THE DEVIL

The study had been going on for some time and it was about child development from birth and to one year. We looked at various aspects of the babies' diet, and at their length and weight. We had to fill in questionnaires about what the children had eaten the previous day, and about how things were done in the household. We also took samples of saliva and breast milk.

Research is something very strange for people there. One of the mothers actually wanted to drop out because she was afraid we would give her samples to the devil. And they really have no idea what is done with that research. And yet as a researcher you

More interviews on resource-online.nl

have to fulfil the informed consent requirement, so we had to tell them something about it. But they didn't really understand.

NO HERO

We had formed a picture of how it would be, but it is very different once you are actually there. We find it difficult to explain to people how life is there. You learn a lot from the experience, above all that there is more than this world that we know. That there are also people who have so much less, and yet are happy. Probably because they don't know any better.

You have to go there with the attitude that you are going for yourself, to get a better understanding of the research and of people there. You shouldn't expect to play the hero, or that people are eagerly waiting for you and you are going to make the world a better place. Because that's impossible.' **@ FJ**



Eva de Groot, MSc student of Nutritional Physiology and Health Status, and Floortje Kanits, MSc student of Epidemiology and Public Health

Research for MSc thesis on the relation between nutrition and growth in length in babies

Where: Rutobwe, Rwanda





Orion Irregular Opening Hours May 2018

	2018	The Building	Bike basement	The Spot	Restaurant	
Monday - Friday	30 April - 4 May	8 am - 6 pm	8 am - 8 pm	8 am till at least 8 pm	11.30 am - 1.30 pm	
Saturday Liberation Day	5 May	Closed	Closed	Closed	Closed	
Sunday	6 May	Closed	Closed	Closed	Closed	
Monday - Wednesday	7 - 9 May	8 am - 6 pm	8 am - 8 pm	8 am till at least 8 pm	11.30 am - 1.30 pm	
Thursday Ascencion Day	10 May	Closed	Closed	Closed	Closed	
Friday	11 May	8 am - 6 pm	8 am - 8 pm	8 am till at least 8 pm	11.30 am - 1.30 pm	
Saturday	12 May	Closed	Closed	Closed	Closed	
Sunday	13 May	Closed	Closed	Closed	Closed	
Monday - Friday	14 - 18 May	8 am - 6 pm	8 am - 8 pm	8 am till at least 8 pm	11.30 am - 1.30 pm	
Saturday	19 May	Closed	Closed	Closed	Closed	
Whit Sunday	20 May	Closed	Closed	Closed	Closed	
Whit Sunday	21 May	Closed	Closed	Closed	Closed	

Leeuwenborch Irregular Opening Hours May 2018

	2018	Coffee Bar/ The Building Restaurant		The Library	
Monday - Thursday	30 April - 3 May	7 am - 10.30 pm	8 am - 5 pm	8.30 am - 10 pm	
Friday	4 May	7 am - 10.30 pm	8 am - 5 pm	8.30 am - 5 pm	
Saturday Liberation Day	5 May	8 am - 5.30 pm	Closed	Closed	
Sunday	6 May	Closed	Closed	Closed	
Monday - Wednesday	7 - 9 May	7 am - 10.30 pm	m - 10.30 pm 8 am - 5 pm 8		
Thursday Ascencion Day	10 May	Closed	Closed	Closed	
Friday	11 May	7 am - 10.30 pm	10 am - 2 pm	8.30 am - 5 pm	
Saturday	12 May	8 am - 5.30 pm	Closed	Closed	
Sunday	13 May	Closed	Closed	Closed	
Monday - Thursday	14 - 17 May	7 am - 10.30 pm	8 am - 5 pm	8.30 am - 6 pm	
Friday	18 May	7 am - 10.30 pm	8 am - 5 pm 8.30 am - 5		
Saturday	19 May	8 am - 5.30 pm	Closed Closed		
Whit Sunday	20 May	Closed	Closed	Closed	
Whit Monday	21 May	Closed	Closed	Closed	

After 6 pm entrance is only possible after registration at the reception des





Forum - May 2018 Irregular Opening Hours

	2018	The Building	The Library	Student Desk	IT Service Point	WURshop	Restaurant	Grand Café	Wageningen in'to Languages
Monday - Thursday	30 April - 3 May	8 am - 12 am*	8 am - 12 am*	10 am - 12 pm	9 am - 10 pm	9 am - 4.30 pm	8 am - 7 pm	8 am - 5 pm	9 am - 5 pm
Friday	4 May	8 am - 11 pm	8 am - 10 pm	10 am - 12 pm	9 am - 5 pm	9 am - 2.30 pm	8 am - 7 pm	8 am - 5 pm	9 am - 5 pm
Saturday Liberation Day	5 May	9 am - 7 pm	9 am - 7 pm	Closed	Closed	Closed	Closed	Closed	Closed
Sunday	6 May	9 am - 7 pm	9 am - 7 pm	Closed	Closed	Closed	Closed	Closed	Closed
Monday - Wednesday	7 - 9 May	8 am - 12 am*	8 am - 12 am*	10 am - 5 pm	9 am - 10 pm	9 am - 4.30 pm	8 am - 7 pm	8 am - 5 pm	9 am - 5 pm
Thursday Ascencion Day	10 May	10 am - 6 pm	10 am - 6 pm	Closed	Closed	Closed	Closed	Closed	Closed
Friday	11 May	8 am - 11 pm	8.30 am - 5.30 pm	Closed	Closed	9 am - 2.30 pm	Closed	Closed	Closed
Saturday	12 May	10 am - 6 pm	10 am - 6 pm	Closed	Closed	Closed	Closed	Closed	Closed
Sunday	13 May	10 am - 6 pm	10 am - 6 pm	Closed	Closed	Closed	Closed	Closed	Closed
Monday - Thursday	14 - 17 May	8 am - 11 pm	8 am - 10 pm	10 am - 5 pm	9 am - 10 pm	9 am - 4.30 pm	8 am - 7 pm	8 am - 5 pm	9 am - 5 pm
Friday	18 May	8 am - 11 pm	8 am - 10 pm	10 am - 5 pm	9 am - 5 pm	9 am - 2.30 pm	8 am - 7 pm	8 am - 5 pm	9 am - 5 pm
Saturday	19 May	10 am - 6 pm	10 am - 6 pm	Closed	Closed	Closed	Closed	Closed	Closed
Whit Sunday	20 May	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed
Whit Monday	21 May	10 am - 6 pm	10 am - 6 pm	Closed	Closed	Closed	Closed	Closed	Closed



WAGENINGEN UNIVERSITY & RESEARCH

During working hours, the building is opoen to the public. After working hours, entrance is only possible with a WUR card





In memoriam

ALEX SUPER



Our colleague Alex Super passed away unexpectedly on Tuesday 3 April. Alex was only 64 years old. He had been ill

Wageningen in to Languages

since the beginning of this year and was on the waiting list for a stomach operation. Only last week he joined us for an anniversary celebration for a colleague. Then he talked about his experience of medical bureaucracy. As always, he could laugh about it.

Alex started work in the Horticultural Plant Breeding chair group on 1 May 1978. He moved into staff housing and took on a number of caretaker tasks alongside his work in the greenhouse. At the end of the 1990s, he moved to Unifarm's new greenhouse complex at Kortenoord. There he was responsible for the fertilization unit. He moved again in 2008 and Radix Serre on Wageningen Campus became his workplace.

Alex was not someone you could fail to notice. As the Uniform driver he moved around between various locations in Wageningen. He always made time for a chat, he was helpful and he was keen to make the best of things. And this in spite of the fact that his health had been shaky for years. In recent years he took care of the production of clean plants for Entomology, which brought him in contact with students and PhD researchers. He got on with these young people like a house on fire, and they will miss his cheerfulness, his interest and his humour. The whole of Unifarm will miss Alex, in fact. At the coffee table he often did most of the talking. He loved a joke at his own expense - always followed by his characteristic belly laugh. It will be hard to get used to not hearing that anvmore.

We send our condolences to Alex's wife Carla and the family, wishing them strength in coping with this great loss.

André Maassen and Dolf Straathof, Unifarm

Start April

opens up new worlds

agenda

Thursday 12 to 26 April

FILMS FOR STUDENTS

I Tonya: a biopic about a foulmouthed figure skater. Doof Kind: a portrait of a deaf young man. Phantom Thread: a drama in which the life of a tailor is disrupted by a muse. Sweet Country: an Australian western about an Aboriginal who shoots and kills a soldier. Ava: an original French movie about 13-year-old Ava, who realizes on holiday that she is losing her sight. Venue: Wilhelminaweg 3A, Wageningen. €6.50/€5.

MOVIE-W.NL

Thursday 19 April, 12.30-13.20

LUNCH WORKSHOP WAGENINGEN WRITING LAB / WUR LIBRARY 'REVISING OF TEXTS'

It's a myth that a well-written text is written in one go; revising is crucial! At first you fully concentrate on the content of your text and only in the second stage do you concentrate on all the other aspects of academic writing. We will offer you practical strategies for revising your text. Do bring the draft version of your text with you! Be on time, as participant numbers are limited to 20. Admission: free. Venue: 259 Forum Library. Info: info.wageningenwritinglab@ wur.nl.

Deadline for submissions: one week before publication date (max. 75 words) Email: resource@wur.nl



WAGENINGEN The mail will be o The mail will be <mark>deliv</mark>ered on Mondays and Thursdays at your home by courier. You have to sort the post at home The mail must be delivered on Tuesdays and Fridays between 8:00 and 18:00. For 20 years Post Service has been providing

For 20 years Post Service has been providing services in the field of mail and parcel delivery in the region of East- Utrecht and Central- Gelderland. Almost 900 mail deliverers ensure that almost two million items are being delivered each month. Since 2000 Post Service is partner to Sandd.



colophon

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>>TYPICAL DUTCH



Balls in the bike racks

A few months ago, I joined a beach volleyball competition with my friends. We played once a week in matches with different teams. The volleyball court was located near a parking lot and some bike racks. Every time someone hit the ball too hard, it got lost in between the bikes. It always took time for the players to find the ball again.

One Dutch team member once said that losing balls in bike racks is typically Dutch. At first, I didn't really believe that, yet later I found that indeed the same thing often happens in Holland when people play soccer and basketball, too. Bike racks are everywhere as the Netherlands has a long-standing bike culture – the Dutch even think all cycle routes lead to Holland. In fact, there appear to be more bicycles than cars in this country, where people of all ages enjoy cycling – so much so that it has become almost synonymous with Dutch culture.

The Netherlands has built fabulous infrastructure for bikes, including huge bike racks. But since bikes are literally everywhere – chained to every lamp post or tree – more and more racks are required. In Utrecht, city officials recently unveiled the first section of the world's largest bike parking garage for 6000 bikes. If you lose the ball in this garage, you may need to take a long break from the game to find the ball. **① Ibnu Budiman, MSc student of Environmental Sciences, from Indonesia**

Do you have a nice anecdote about your experience of going Dutch? Send it in! Describe an encounter with Dutch culture in detail and comment on it briefly. 300 words max. Send it to resource@wur.nl and earn twenty-five euros and Dutch candy.

Every time someone hit the ball too hard, it got lost in between the bikes