Hesource

OCTOBER 2020 VOLUME 15

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FOREWORD

Just like cows

We're not yet back in full lockdown but it is now clear we have lowered our guard too much in the Netherlands. New measures aimed at halting the coronavirus were presented on Tuesday evening. The exact nature of those measures was not yet known when we went to press, but they will inevitably have big consequences.

How long will this last? What does it mean for campus teaching? Will student society clubhouses have to close? Will we have to wear face masks on campus (pages 18–19)? How many more online exams (pages 12–14) will we have to take? And can your new squeeze come to your student house, or is it housemates only for now? Each time there's all this uncertainty, all these questions. It's not surprising the student psychologists are getting busier (page 4).

Everyone reacts in their own way to this pandemic. Some people don't venture out at all so as to avoid getting the disease while others prefer to ignore the risk and live each day as if it was their last. In that respect we are just like cows, which also respond differently to the same challenges (pages 24–25). I personally like going for walks to clear my mind. As it happens, students have set up 72 field trips throughout the Netherlands (pages 26–27). Perhaps it's time to download that Peek app...

Luuk Zegers Resource editor



The campus is a building site again. A start has been made on building the Dialogue Centre near Atlas. The building will replace the Aula for ceremonial activities, receptions and gatherings. Work has also just started on a 1.6 kilometre long underground circular pipeline for heat and cold storage (photo). On 'the strip', Upfield is building an innovation centre, and the construction of the third education building is in full swing. Meanwhile it's time to put the finishing touches to the new greenhouses behind Radix. For the builders, the peace and quiet the coronavirus has brought to the campus is quite handy. RK

Master's students opt for big cities – and Wageningen

An evaluation of the Bachelor's-Master's system (introduced in the Netherlands in 2002) by the Netherlands Bureau for Economic Policy Analysis shows that more and more students are switching universities to do a Master's degree. The vast majority of them go to one of the big cities in the west of the country. But Wageningen is an exception to this national trend: here, more students come from other universities to do a Wageningen Master's than Wageningen Bachelor's students go to other cities for their Master's. 'Although it is noticeable that the gap between the "inflow" and "outflow" of students has become smaller since 2015,' says Geertje Braat of WUR. AS



Photo: Roelof Kleis

Billie the sustainable cup

The caterers in Orion and Impulse are introducing the Billie Cup, a kind of plastic hire cup. According to the Belgian company that developed Billie, the polypropylene plastic is fully recyclable, if still fossil-based. But what really makes the cup sustainable is the fact that you reuse it. You buy a cup of coffee or tea and pay one euro extra as a deposit on the cup. You can then reuse the cup or return it for the deposit.

The Green Office is behind the introduction of Billie. It wanted a cheaper alternative to the KeepCup (9.95 euros), which was introduced three years ago at the initiative of some students. RK



Photo: shutterstock

'Students are struggling with the lack of routine'

The student psychologists are getting busier: more students are having motivation problems.

tudent welfare manager Door van der Sloot tells me this. 'The waiting time to see a student psychologist is now three weeks and getting longer. So we are temporarily taking on an extra psychologist.' At the start of the coronavirus pandemic, there wasn't much demand for support from students. 'We actually found it quiet,' says Van der Sloot. 'But that's not the case anymore.'

Routine

There is always a rise in demand in September. Van der Sloot: 'I don't have any hard figures about the increase in problems due to the coronavirus. Most students don't give it as the reason for their difficulties. But the coronavirus is an additional factor that makes problems worse. For students who tend to procrastinate, for instance, and who had just found a good balance in their studies. When the routine of attending lectures on campus disappears, it's more up to them to create a routine for themselves. And they find that very hard.' The coronavirus also plays a role in

the kinds of problems students report, says Van der Sloot. 'More students are having trouble with loneliness, motivation problems and the lack of a clear structure.'

To help students, the university offers training courses like 'How to stay motivated when studying at

'I don't have hard figures about the increase in problems due to the coronavirus'

home' and modules such as 'Coping with loneliness' and 'Life in times of Covid-19'. In November, Joke Marinissen of the Writing Lab and student psychologist Anneke Aikema will launch 'Peer Coach', a new project in which trained students help their fellow students with planning, structure and other academic study skills. LZ

More information about the training courses and the Peer Coach project can be found on www.wur.eu/sts

Teachers can adapt course learning outcomes during pandemic

The Executive Board has given teachers the freedom to keep the teaching workload manageable by making adjustments. 'We have to accept that at present, not all learning outcomes are feasible for all courses,' says rector Arthur Mol.

The degree programme learning outcomes — the attainment targets for the degree itself — will remain intact. These decisions are the result of an online consultation exercise between the Board and over 100 teachers on 8 October. Wageningen teaching staff already had a high workload due to years of rising student numbers. Now there is the coronavirus crisis as well. The switch from campus teaching to online education cost a lot of extra time. Teachers also have to put in extra hours when combining the two: for example, the Covid rules mean that students have to be split into small groups, so staff spend more time teaching.

In charge

Mol says we need another debate about 'what we can cope with in coronavirus times. We know from a survey that teaching online increases the workload

'We need to do something. We don't want more teachers with a burn-out'

substantially — 80 per cent of teachers say that. So we need to do something. We

don't want more teachers with a burnout. We have to accept that not all learning outcomes are feasible for all education elements.'

The rector is keeping the learning outcomes for the degree as a whole, but he thinks that for individual courses, the coordinator should have the freedom to make adjustments after consulting the examining board and programme director. In other words, teachers should be put in charge of their own courses and be allowed to make changes, even if this affects the quality of the education. Mol: 'Learning outcomes are often achieved through several courses; if you make changes to one course, that won't immediately affect the quality of the degree.' AS

Typical Dutch **=** 'Have a good weekend!'



Since I moved to the Netherlands and became part of an international community, I have become intrigued by the different occasions when you wish the person you are talking to something. For example, in Greece, it is common to wish people 'a good month' on the 1st of every month. In the Dutch culture there is a similar occasion, which I am trying to get used to. On Friday evenings, everyone from your co-workers to the bus driver or the cashier at the supermarket will wish you '*Fijn weekend!*' Wishing someone a good weekend is such a nice addition to an otherwise mundane conversation, especially when

'Such a nice addition to an otherwise mundane conversation'

accompanied by a smile. In my opinion, it also shows the value of the weekend in the Dutch culture. From conversa-

tions I have had with some of my Dutch friends, I have realized that for the Dutch the weekend is the time to rest, eat some *kibbeling* at the local market, and enjoy your time with family and friends.

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 25 euros and Dutch candy.

This Typical Dutch comes from Eva Katsimpri, MSc student of Tourism, Society and Environment from Greece.

ANALYSIS



There's no more smoking on campus as it became completely non-smoking on 1 July. That switch is going well, the intranet tells us. Not surprising perhaps as so few people are on campus. Anyway, only two smokers a week were counted in August and September. 'Although those figures are too small for any statistical analysis,' says Wietse Willebrands, Safety & Compliance coordinator and responsible for enforcing the smoking ban.

Cooking plus research

Last week, primary school children got an online lesson from a real-live chef to teach them how to cook healthy food.

The *Cook in the Class* lesson was organized by the Taste Lessons Team at Wageningen Economic Research, which studies the eating habits of young people. The knowledge generated by this research is being used in projects such as Taste Lessons and EU School Fruit. 'The aim of the Taste Lessons is to get children interested in what they eat and teach them how to make healthy choices,' explains Marlies Willemsen-Regelink, the EU School Fruit and Taste Lessons project manager.

The idea is that children who learn to cook will find it easier to prepare healthy meals later on. The top three years of 80 primary schools



Photo: Arif Bovenkamp

followed the online lesson given by Dick Middelweerd, the chef at Treeswijkhoeve restaurant, which has two Michelin stars. He told the children all about a day in the life of a chef, taught them how to taste properly and then made a Vietnamese spring roll with them. In previous editions, the chef came to the classroom but the lesson was now online because of the coronavirus. TL

Good result in ring road question

The campus will not get a ring road, in part because WUR has now decided it doesn't want one. An analysis.

After weighing up the alternatives of a new ring road or upgrading the existing roads, the provincial executive has gone for the second option. That choice is surprising. For a long time, the province seemed to be in favour of a ring road, against the wishes of Wageningen municipality. WUR too has played a role in this dispute.

In recent years, the Executive Board has teamed up with the W12, the 12 largest employers in Wageningen. The W12 has been calling for a campus ring road for years. But WUR's support for the W12 position crumbled as the impact of such a road became clearer: WUR stood to lose valuable land and some of its sheds. Officially WUR continued to stand firm with the W12. But when invited to respond to the plans in the summer, the Board said it had no preference and in fact raised countless objections to a new route over its land. The province appears to have got the message. It should be noted that the two options are not that different in terms of the traffic effects. But the province's change of mind is costly. A split-level crossing will have to be built in Nijenoord Allee to enable cyclists to bike to campus safely. That solution makes the overall costs of this option (38 million euros) almost twice as high as the ring road. Interestingly, a split-level crossing was deemed infeasible five years ago because of the cost. The lengthy saga of the ring road has winners

and losers. It is a good result for WUR: there will be no more traffic jams around campus, it won't cost WUR a thing and the campus will get a new access road on the west. And cyclists will be able to cross Nijenoord Allee safely and without delays. All of this is with the proviso that the provincial council has yet to approve the plans. ROELOF KLEIS

Read more about the ring road on resource-online.nl

That's why crickets sing

Researchers have discovered that crickets started singing 300 million years ago, initially to escape from predators.

The researchers conducted a major study aimed at understanding how the sense of hearing and production of sound developed during the insects' evolution. It turned out these features were initially important in avoiding predators; only later were they used to attract a mate. 'There has been a lot of research

'Sexual communication can't be the reason for the large number of singing species'

on how insects communicate,' says Sabrina Simon, a Biosystematics researcher. 'But we didn't know when, how or in what context the specialized hearing and sound-producing organs evolved.' The researchers reconstructed the complete family tree of *Orthoptera*, a group of insect species that includes crickets. 'By going through their entire history, we were able to determine that acoustic communication developed about 300 million years ago. It started as a defence mechanism and was later used for sexual communication,' says Simon. 'Insects also turn out to have been the first animals to use acoustic communication.'

The results open the door for further research, says Simon. 'The family tree we compiled can be used to study other properties and how they developed during evolution, for example dietary changes or the evolution of wings.'

The study also disproves one key theory. 'The Orthoptera group has a lot of different species,' says Simon. 'Darwin proposed that sexual selection could play a role. But we found that Orthoptera subgroups that use sound for sexual selection don't diversify faster than other subgroups. So sexual communication can't be the reason for the large number of singing species.' TL

Student consultants help 'De Gieterij' get going

Part of the Academic Consultancy Training (ACT) module involves WUR students doing research for external clients and giving them advice. One such client is 'De Gieterij', a new sustainable shop in Wageningen that opened on Saturday 10 October.

'We investigated which consumer groups could become regular customers,' explains Communication & Innovation Master's student Juul Kappelhof (24), one of the students in the ACT group. 'Then we interviewed people from those groups to find out what their wishes are.' 'For example, the shop wants to sell a lot of goods without packaging but some consumers are afraid that fruit and veg will go off more quickly then. You can solve that issue with a cooling system or by using sustainable packaging materials.' The students also recommended organizing information evenings in which local farmers talk about their products. WUR alumnus Linde van der Knaap (MSc Organic Agriculture) is one of De Gieterij's two owners. 'On the recommendation of the ACT group, we also have a delivery bike that students can use to transport their bulk purchases back to their student houses.' LZ

Check out pages 16–17 for a photo of the opening, and read more on www.resource-online.nl.

'We saw it coming and we're fine with it.'

John van der Oost, WUR microbiologist and the man who discovered the principle of CRISPR - Cas in bacteria, was overlooked for the Nobel Prize in Chemistry. It was awarded to the CRISPR - Cas researchers Emmanuelle Charpentier and Jennifer Doudna.



If you leave young cheese to ripen, will it turn into mature cheese?

ature cheese is quite expensive compared with young cheese. It would be handy if young cheese automatically matured if you let it ripen at home. Can you do that? 'Yes,' says Kasper Hettinga, associate professor in Dairy Science at the Food Quality and Design chair group. 'The basis of every cheese is the same, from Roquefort to Gouda: milk, rennet and lactic acid bacteria, which convert lactose into lactic acid. The specific combination of bacteria species is the main determinant of the type of cheese.'

That basic mix gets pressed and stored in brine for a few days, which halts the growth of bacteria. The ripening process then continues on the shelf. 'Bacteria gradually break down fat and protein in the cheese, releasing odour and taste compounds,' says Hettinga. 'That's why mature cheese has a stronger flavour. The breakdown of protein also causes it to lose the rubbery structure typical of young cheese. The cheese dries out and that is why mature cheese contains more fat and salt per kilo. The plus sign on cheese doesn't refer to the absolute quantity of fat, but the fat content per quantity of dry matter. So a mature 48+ cheese is fattier than a young 48+ cheese.'

There are legal standards for the ripening times for Dutch cheese: four weeks for young cheese, eight weeks for medium cheese, four months for mature cheese, seven months for extra-mature, and 10 months for vintage cheese. Hettinga: 'Some manufacturers speed up the ripening process - to make Old Amsterdam, for instance. But then they are not allowed to call it mature cheese. Many cheeses ripen at between 12 and 16 degrees Celsius. 'Because the sugars have already been broken down, cheese won't go bad because of bacteria,' says Hettinga. 'But mould can grow on lactic acid. So use a whole cheese, because the outer coating contains an antifungal product called natamycin. You can ripen Camembert too. But soft cheeses also contain more fluid and moulds that break down the proteins, so they become liquid faster.' Conclusion: You can ripen cheese yourself, but you must use a whole cheese. TL

'Because the sugars have already been broken down, cheese doesn't go bad because of bacteria'

Kasper Hettinga, associate professor in Dairy Science

Every day we are bombarded with sometimes contradictory information. So what are the facts of the matter? In this feature, a WUR scientist answers a reader's burning question.

Asking questions is the way to gain wisdom. Do you dare to ask yours? Email us at redactie@ resource.nl

Genetic resistance found against potato wart disease

PhD student Charlotte Prodhomme found several resistance genes against this fungus.

Potato wart disease can be recognized by the warty bulges on potatoes tubers and is caused by the parasitic fungus *Synchytrium endobioticum*. Wart disease is the main quarantine disease for potatoes in the Netherlands because there are no effective fungicides and most potatoes are not resistant.

Prodhomme looked for resistance genes against the fungus. She focused on the resistance to four different pathotypes of potato wart disease that occur in Europe, namely pathotypes 1, 2, 6 and 18. A resistance gene had already been identified for pathotype 1, but not for the other types. The French PhD student scanned the breeding materi-

Multiple genes involved in resistance against potato wart disease

al of several potato breeding companies and found five important resistance genes. She also located

these resistance genes on the potato genome, so that breeders can use molecular markers to check whether these genes are present in the descendants in breeding trials.

Prodhomme also discovered that resistance against potato wart disease is complex, with multiple genes involved. As an example, she could only create full resistance against pathotype 18 by combining one dominant gene with a couple of minor genes. 'Each minor gene is not very important on its own, but together they provide full resistance.'

The strength of her research, says Prodhomme, was that she had input from both the Plant Breeding group (with expertise in potatoes) and the Biointeractions & Plant Health group (with expertise on pathogens). She also collaborated with Dutch, German and Danish breeding companies. Her research was funded by the Dutch Horticulture top sector and her supervisor was Richard Visser, professor of Plant Breeding. She will defend her thesis on 22 October. As



Participants in the wilderness trail. Photo Boy van Droffelaar

Wilderness trail makes for better leaders

A period in the wild under primitive conditions changes people. The Foundation for Natural Leadership uses a method based on that kind of wilderness experience. PhD student Boy van Droffelaar (71) organizes training courses for the FNL.

Van Droffelaar got to know the work of FNL after he retired from management roles at Akzo and Sara Lee. He took part in a leadership trail and was sold. Authentic leadership is based

'People arrive at deep insights about what makes them tick'

how they come across to others; their own norms and values are well-defined, they listen non-judgementally; and they are clear about what they think and feel. 'All those qualities come into the picture on that kind of trail,' says Van Droffelaar. For example, during the daily sharing circle about what the participants are experiencing and the effect it has on them.

'People arrive at deep insights into what makes them tick,' says Van Droffelaar. 'Everyone has such moments of clarity and understanding sometimes. It can just come over you: "That's it", or "That's what I'm going for."' But you can create that kind of experience as well. In this case, by spending a week in the middle of nowhere in unspoiled nature. Van Droffelaar studied the effects of a taking part in a trail. He read through 120 reports by participants and followed 66 of them for a year to see how they scored on the four aspects of authentic leadership mentioned above. The effect proved significant, sizeable and lasting. 'I see that something changes in those people. It is enormously reassuring if in times when you are under stress and have to make difficult decisions, you are in the frame of mind to do the right thing.' RK

on four qualities. Authentic leaders know themselves and know

Microscope makes genecutting visible

CRISPR-Cas cuts up genes to order. With a microscope he developed himself, Koen Martens can follow the process closely.

he awarding of the Nobel Prize to the CRISPR-Cas technique came just at the right moment for Koen Martens. The next day, he defended his (cum laude) thesis, in which the genetic scissors Cas9 play an important role. The microscope he developed, miCube, literally reveals how Cas9 roams along DNA. The technique in question is called single-particle tracking microscopy, and

it follows a single macromolecule. The principle behind the technique has been established for more than ten years. Martens improved the technique and applied it to a living cell. He also built a fully open-source microscope to do so, which is already in use in eight places around the world.

Flickering lights

You can follow individual proteins under a microscope by hanging a lamp on them, in this case a flickering fluorescent protein. Martens and his colleagues produced lactic acid bacteria which manufacture dCas9 (Cas without the scissors function) with this lamp. As a result, about 400-500 of these flickering lamps are constantly active in the bacteria. That creates a chaos of flickering spots of light.

So Martens developed a new algorithm that can calculate the location of the lights very precisely. Further calculations can then reveal the route taken by the fluorescent protein in the cell. And



Koen Martens with the microscope he developed himself. Photo Roelof Kleis

'In theory you can keep track of any protein in a living system this way. We couldn't do that before.'

it turns out that Cas9 jumps along the DNA to get to where it needs to be. To be precise: it looks for the PAM, a short sequence of code that is indispensable for gene-cutting.

Tracking proteins

Martens' research showed that Cas9 sticks to the PAM for an average of 17 milliseconds before letting go and continuing its search. That happens about 25 times per second. 'The nice thing is,' says Martens, 'that you can describe the dynamics between Cas9 and the infecting virus. You can calculate how long it takes before a single Cas9 finds the virus, or how many Cas9 molecules it takes to eliminate the virus before it multiplies.'

'You can also predict how many Cas9 molecules you need to use to modify a gene,' says Martens. This kind of microscopy has countless uses. 'In theory you can keep track of any protein in a living system this way. We couldn't do that till now.' Martens now has a postdoc position at the prestigious Carnegie Mellon University in Pittsburgh (Pennsylvania), where he will continue working on applications of this technique. BK



Financing by industry doesn't influence alcohol research

Studies financed by the alcohol industry don't come up with different results concerning health effects, discovered Annick van Soest and her colleagues at the Beer and Human Nutrition Research Institute. The researchers based their study on a total of 386 observational studies used in establishing international alcohol guidelines, which looked at the effect of moderate alcohol consumption on health. The researchers found that the source of financing had no effect on the studies. Van Soest: 'We saw for example that studies on moderate alcohol consumption and death reached the same conclusions regardless of whether they were financed by the alcohol industry. That was true of all the other health outcomes we looked at. It does not appear that the alcohol industry has withheld negative results. Of course it is important to keep a critical eye on the way research is done.' TL

Read the full report on www.resource-online.nl

Healthy algae-based fish feed could be cheaper

Algae for use in aquaculture can be produced much more cheaply. Specifically, more efficient use of light in algae reactors could cut costs, claims PhD researcher Pieter Oostlander, who got his doctorate on 6 October.

Oostlander did tests using the alga *Rhodomonas* sp. working with aquaculture companies in Zeeland Province. They use the algae as fish feed in the farming of turbot and oysters. *Rhodomonas* sp. is suitable for fish feed because it produces fish oil with the

'With cheaper fish feed, farmed fish can compete better with wild fish'

right proportion of omega-3 fatty acids. The aquaculture companies have a choice of two different reactors

for growing algae in. They use traditional bubble column reactors – large plastic bags two metres high and filled with water and algae, which they blow air though. And they use modern tubular reactors, horizontal glass tubes. Oostlander compared these two production systems combined with two different kinds of light: lamps in an enclosed space, and sunlight in a greenhouse.

Algenreactor van AlgaePARC. Foto WUR

He calculated that the current production costs of the algae come to between 300 and 600 euros per kilo of algae. 'The traditional bubble column is cheaper to buy than the advanced tubular reactor, but it also produces much smaller quantities of algae per reactor volume.' In the end, this makes the tubular reactor the cheaper option per kilo of biomass, claims Oostlander – both when using artificial light and when using sunlight.

He also investigated how production costs could be reduced. The biggest saving can be made if the algae convert light into biomass more efficiently. Increasing the light can reduce the costs per kilo of algae by 30 per cent. The growers can also save on labour costs and optimize the temperature in the algae reactors to boost the yield. With these measures, the cost price goes down to 100 to 200 euros per kilo of algae. 'At the moment, farmed fish is more expensive than wild fish from the sea,' says the PhD graduate. 'With cheaper fish feed, farmed fish can compete better with wild fish, which makes fish consumption more environmentally friendly.' AS



Online exams throw up new questions for assessors

FRAUD IS... A PILE OF CAR MAGAZINES ON YOUR DESK?

Something suspicious was spotted in 1500 of the 28,000 online exams taken at the university over the past few months. But in the end only 10 of these cases were identified as fraud.

Text Albert Sikkema

his raises questions about how the assessment process for the online exams works: when are you looking at a case of fraud? We asked the Education & Student Affairs department, where staff hold weekly consultations on the organization and format of digital exams at WUR. We talked to: Gerard Folkerts, IT Design Digital Exams; Jetske ten Caat, policymaker at Education & Student Affairs; Vera van Limpt, representative of the Examining Boards; Matthijs Harmsen, secretary for the Flexibilization of Higher Education team; Marianne Kootstra, communications officer at Education & Student Affairs; and Rolf Marteijn, programme director at Nutrition & Health.

How did you go about assessing the exam footage?

'The first check was done by PSI, the provider of the recording software. They looked at the footage after-

'AT FIRST WE WERE LENIENT BECAUSE EVERYONE WAS STILL GETTING USED TO IT' wards and said what they had seen. Because these people knew nothing about students or the exam, they reported every irregularity that could indicate fraud. For example: one student had used a pile of car magazines to raise his screen. That gets reported, because the assessors don't know what exam the student is doing. Maybe it's about car mechanics. Or there's a poster in the background with literary texts that might come in handy during a Dutch exam. Or someone comes into the room and asks: "cup of tea?" All these things were reported.

Because of the privacy rules, the images could only then be looked at within WUR by a review team – a select group of people with no links with the student. And they had to sign a non-disclosure document, agreeing not to spread information about the images. The review team at WUR took a second look at the suspicious shots and concluded that the pile of car magazines or the poster were not suspicious. They passed on to the examiner any situations they did think suspicious, ending up with 1500 cases.'



'There was something on the student's desk that wasn't supposed to be there.'

Did those images go to the examiners? 'No, because of the privacy law, the teachers didn't get to see the images. A report was made, saying for instance: the student looked something up on Wikipedia. Then it was up to the examiner to say whether that was a problem. But there were also cases of students going slightly over the allotted time with their exam. At first we were lenient about that because in most cases the student didn't realize they were doing it, and everyone was still getting used to the new way of working. Or there was something on the student's desk that shouldn't have been there. The examiners assessed those reports.'

Were there any serious cases?

'Examiners got reports of a student making a phone call during the exam. Was that fraud? No, that student was having problems with the internet and phoned the helpdesk, as the student explained and the helpdesk confirmed. The figures: over recent months, WUR has recorded 28,500 online exams by Wageningen students. 1500 of these were flagged up as 'suspicious'. Examiners and examining boards assess those cases and the university established fraud in 10 cases. In 64 cases, the university issued a warning: the case was suspicious but fraud could not be proven.

In another case, the student's behaviour was thought suspicious, but the student in question failed the exam, so any fraud had no impact on the result. Due to time pressure, cases like that were not investigated further. A conversation with the student did follow, though: don't do it again, obey the rules. There was that kind of leniency first time round, because everything was new, but it's not going to be so easy-going in the next exam period.

But the examiners also discovered instances of fraud. There were suspicious circumstances or answers, so the teacher contacted the student to find out exactly what went on.



What distinguishes the fraud cases from the cases that just got a warning? 'It's difficult to establish proof of fraud; it's often a question of suspicious circumstances. The student leaves the room for too long, like taking seven minutes to go to the toilet. Or the student has not provided a clear image of the room where he or she is doing the exam. That makes it impossible for us to detect fraud. In such cases, we issued a warning. A warning is a yellow card. The examining boards are considering bringing in a rule like 'two yellow cards means a red card'. That would mean: if we notice any more irregularities concerning students who've had a warning, their exam will be invalidated.'

Are identical answers fraud?

'Not necessarily. In some cases you can prove that students were in touch with each other during the exam – that's fraud. But in other cases students can convincingly prove that it was because they revised for the exam together. So you have to take a close look at the context.'

Have there been learning points?

'Yes. We've brought the starting time for the exam forward. If the exam starts at nine o'clock, students will now be able to log in five minutes before that, just as they can normally come into the room to install themselves before an exam starts. We also want less variation in the rules. The last time round, there were lots of different rules about things like rough paper, books and calculators. So it was unclear for the students. Less variation is important for the students, the reviewers and the examiners.

'THE STUDENT WHO MADE A CALL TURNED OUT TO BE PHONING THE HELPDESK'

'IT'S DIFFICULT TO ESTABLISH PROOF OF FRAUD'

And we have learned from the toilet breaks. Hitherto it's been allowed for students to go to the toilet once during a long exam, but now we have the technical possibility of splitting exams, with a short toilet break between the sections. The software is designed so that after finishing the first part, you can't go back to those questions. And now too, the software stops when time runs out, so no one will go on too long. We also advise students to do a room scan using a mirror. All these measures, combined with the fact that students and examiners are getting used to online exams, should reduce the number of reports from the software company, we think.'■



Tips

Teachers who want to make use of remote proctoring for their assessments, or who are looking for an alternative, can use Brightspace. See 'What's up, what's new' in Brightspace: (brightspace.wur.nl/d2l/home/47074)

Students who want to know what the rules are for the upcoming online exams will find what they are looking for on Brightspace too: 'Corona and my education' – information page for students: (brightspace.wur.nl/d2l/home/10209)

There is more information on the intranet about privacy regulations (intranet.wur.nl/ project/wurisseriousaboutdata), and about digital examinations (intranet.wur.nl/project/ digitalassessment)

COLUMN

Recycling as a hobby

Outside most Wageningen student residences is a designated place where bulky waste items can be deposited. These spots are full of laminate, mattresses and Ikea furniture, often things that are only a year or two old. I once even saw a fridge that was still full of food. It's a sorry sight, and it doesn't go with the image of the sustainability-minded Wageningen student. Nor indeed with the image of the hard-up student.

Thanks to these scrapheaps, some items get a second lease of life — fortunately. People rummage around and pick out all sorts of things, including things you

'Your chances of finding a nice piece of trash are not the same at all the student residences'

wouldn't necessarily expect to find at a student residence, from chicken wire

to horse saddles. But you do need to strike lucky. Your chances of finding a nice piece of trash are not the same at all the student residences. In that sense, it's very like beachcombing.

And beachcombing is none too simple an activity. A couple of years ago, I set off from Wageningen early in the morning with some of my course mates. We were head-



Vincent Oostvogels

ing for the Wadden Sea, where the container ship MSC Zoe had lost part of its cargo. There were car parts and flat screens floating in the sea, but we managed to drive to a deserted beach where nothing whatsoever had washed up. That wouldn't happen to real beachcombers, because they know what they are doing.

There's a professional in Wageningen too. He drives between the student residences nearly every day in his grey delivery van, and fishes stuff out of the trash: things that still look in good condition, old iron, deposit bottles, you name it... Most of it goes into the van, which is usually stuffed to the roof. While he's at it, he cleans up rubbish that's been dumped around the bins. I reckon he's been doing this for years.

'That junk, what do you do with it all?' I asked him recently. He explained how he sorts the various materials and repairs items. And he stressed that I mustn't worry about him because recycling was just his hobby. If only we all had that as a hobby, I thought.

Vincent Oostvogels (25) is in the first year of a PhD on biodiversity recovery in dairy farming. His dream is to be able to keep a few cows of his own one day.

VERY HANDY

PE

ALLE

PICTURE

The official opening of 'De Gieterij', a new sustainable shop in Wageningen. The people who own the shop — all WUR alumni —asked WUR students to investigate Wageningen consumers' wishes in their ACT project. The shop has taken a number of the student consultants' recommendations on board: there will be information evenings telling consumers where products come from; you can buy in bulk (sacks of five kilos) at a discount, which is handy for student houses; and you can hire a delivery bike to take the bulk sacks to those student houses. LZ

Read more about the ACT project on page 6 and www.resource-online.nl



Not much to ask, but not the answer



FACE MASKS ON CAMPUS?

Education on campus is coming under renewed pressure now the second wave of the coronavirus outbreak is upon us. We asked students and staff if they think face masks would help keep the campus open. 'I would feel a little safer, but still not safe.'

illustration Guy Ackermans/Alfred Heikamp

tudent Irene van der Boom, who represent VeSte on the Student Council, thinks that the new government policy on face masks might benefit the quality of education. 'At the moment the university is looking into the scope for expanding the capacity of the campus so that more students can attend classes in person. If face masks are a good option for increasing the university's occupation rate, VeSte would not be against it. Face-to-face classes are important for the quality of the education and for students' mental health.'

'YOU SHOULDN'T TEMPT FATE'

receptionist on campus, who would rather stay anonymous, always wears a face mask in shops and public buildings, but not at the reception desk because there she sits behind plexiglass and 'people need to be able to understand me'. She is quite anxious because she belongs to a vulnerable group. 'If I got coronavirus I would probably end up in intensive care.' She was scared when the outbreak started in March too. She worked at home for three months, but felt very guilty because that meant her colleagues had to do extra shifts on campus. 'Since they installed plexiglass screens, I have felt confident enough, also because the outbreak seemed to be under control. But now that cases are going up, I feel quite anxious again. But I'm still working on campus, partly because some of my colleagues are sick or on holiday.' Would it be helpful for her if everyone wore face masks? 'I would feel a bit safer, but still not really safe.'



Text Albert Sikkema

lmost all the desks in the Forum were occupied by students on Tuesday last week. Hardly anyone was wearing a

face mask, in spite of the government's strong advice to wear them indoors. Just one Master's student of Food Technology, who also doesn't want her name in Resource, was wearing a face mask. 'It's not much to ask and it makes it a bit safer, so why not? If more people wear masks, it restricts the virus transmission, although I don't think you can prevent the coronavirus spreading by doing this.' The student wasn't attending lectures on campus, she only came for a compulsory practical and happened to be working here because she couldn't go home at that point. 'I come to campus as little as possible. That is for safety reasons: I'd rather not fall ill.' But surely most infections are passed on in student houses? 'In my student house we are very careful. We hardly have any visitors.'

Master's student of Organic Agriculture, who also doesn't want to be named in *Resource*, hasn't been on campus for five months (including periods 5 and 6). The reason: her parents needed a carer and because of shortages in the health service, that task fell to her. 'I was pretty stressed at that time. If I had contracted coronavirus, we would have had a big problem in my family.' Now that her parents have home care again, she comes to campus. 'Twice a week on average, but everyone should

'IF PEOPLE ARE GETTING INFECTED ON CAMPUS, FACE MASKS STRIKE ME AS A LOGICAL STEP'

keep well away from me. At the lectures that is no problem: then there are 15 of us in a room for 30 people. It's only crowded when you are looking for a work station, as there is a shortage of those on campus.' Would face masks help? 'As I understand it, most infections in Wageningen are passed on off-campus. If it turned out that people were getting infected on campus, then I would see it as a logical step to go for face masks to reduce the risks.'



cology teacher Elmar Veenendaal is in a vulnerable group too. He keeps his teaching on campus to a minimum. 'You shouldn't tempt fate.' He teaches Ecology I, a course in which 500 students go on a field trip. 'We've set that up online now, with films and extra exercises, because we didn't think we could guarantee safety. You don't want 100 students all standing on a small ferry together.' In another first-year practical for 35 students, Veenendaal has added extra field practicals. 'Three teachers do that between us. It is very important that students get to know each other and the teachers, and that is perfectly possible in such a small practical.' Would he benefit from the use of face masks? 'They help a bit, but they don't solve my problem. I want to divide students into small groups so I can operate safely. I'm on campus now, and I wear a face mask, but soon I'll be going into the field again with a group of students. I don't need the campus to get enough contact time with my students. Whether you're a teacher or a student in a vulnerable group, we should organize things so that everyone can join in.'

THERE IS ENOUGH **FOR EVERYONE**

Is it going to be possible to feed 10 billion people sustainably in 2050? Wageningen scientists have lined up the options in a readable book for the general public.



Tekst Roelof Kleis

e needed a book like this - written for the general public in readable Dutch, thought the initiators, historian Ingrid de Zwarte and governance expert Jeroen Candel. Many of their colleagues proved eager to communicate their ideas for solving the world food problem in 2000 words. The result is a varied array of the latest scientific findings and perspectives on the food system.

'Everyone in Wageningen is working on the same theme,' says De Zwarte, 'but that knowledge is rarely brought together. Let alone in a form that's accessible to a wider audience.' 'Not many of the scientific insights we gain in Wageningen find their way into the public discourse,' adds Candel. 'We scientists often don't invest enough in that, either. Scientists don't find that dialogue with society easy. This book is meant as a contribution to that.'

The book reads like a sampler of Wageningen know-how. But it is not a corporate product, the compilers emphasize. De Zwarte: 'It is not a book by WUR for WUR. It is not promotion material, in which particular solutions are put forward. What we want to show is precisely the diversity of ideas. So we leave space for debate, including debate between Wageningen researchers. There are some big established names among the authors, but there are also young researchers and PhD students, who sometimes have a very different take on the issue.'

Politics

10 miljard monden (10 billion mouths) has 41 chapters. Out of that abundance of - sometimes partial - solutions, De Zwarte and Candel have distilled five pathways towards a sustainable food system. Make the system circular, use the potential of nature, keep on pursuing technological innovation, stimulate people to initiate change, and learn from each other at a global level. Each of the insets accompanying this story outlines one such example.

FIVE PATHS TO A SUSTAINABLE FOOD SYSTEM



MAKE THE FOOD SYSTEM CIRCU-LAR

Human livestock feed

Circular agriculture is well represented in 10 miljard monden, which includes a thought-provoking contribution by the philosophers Bernice Bovenkerk, Eva Meijer and Hanneke Nijland. They make a case for a non-anthropocentric perspective on the food system: one in which humans and other animals are equal. The world food problem is as much of a problem for all the animals that we exploit as it is for humans. What gives us the right to eat animals? This line of thought can lead to a vegan form of circular agriculture in which only plant products are consumed. But that's not the only option. A form of circular agriculture can also be envisaged in which the consumption of animal products is limited. And there's the rub, admit the philosophers. 'It is highly questionable whether they (animals, RK) would choose to provide humans with meat, milk or eggs.' As for being slaughtered, no animal (including humans) would agree to that for fun. Not that it is necessary anymore. Animals can provide cells for producing in vitro meat without having to bite the dust. The authors go furthest at the end of their appeal for equality: in the cycle of eating and being eaten, humans can play their part. Humans as part of the cycle, for instance offering their bodies to wild animals after death. Or, less extreme perhaps, producing in vitro meat from human cells to use in animal feed.

USE NATURE'S POTENTIAL Seaweed, the green engine

A lot of potential farmland is still lying fallow. Not on land but at sea. Reinier Nauta (Marine Research), Sander van den Burg (Economic

Research) and Adrie van der Werf (Agrosystems Research) explore the potential of seaweed as the crop of the future. The seaweed burger already features on many menus. But there are many more possibilities. In the Netherlands we consume plenty of food additives made out of seaweed, including thickeners such as agar-agar. The authors dream of new products such as wraps and pastas made of seaweed. The advantages of this alternative source of protein are obvious. There is plenty of room at sea and growing it doesn't require any scarce fresh water. What is more, seaweed captures carbon, nitrogen and phosphate. Does this make seaweed 'the green engine' of the future? Not yet. The technology for seaweed production is still in its infancy, say the authors. The production methods used in Asia are artisanal and labour-intensive. A lot of research needs to go into upscaling. And to farm seaweed on the rough waters of the North Sea would require new production techniques. A lot of research is needed before safe foodgrade seaweed can reach our plates.



WE WANTED A BOOK THAT OFFERS SCOPE FOR ACTION'

The tone of the book is optimistic. And that was a conscious choice, says Candel. 'We wanted a book that not only describes the scale of the problem, but also offers scope for action.' And yet the pair are not particularly optimistic about the chances of finding a simple solution to the food supply problem. 'One of the UN's Sustainable Development Goals agreed in 2015 was to wipe out hunger in the world by 2030,' says Candel. 'But the number of people suffering from undernutrition has only increased since then. It is very urgent, but it seems hard to translate that into political action. I am optimistic about the development of knowledge and the scientific possibilities, but governments and society should take action faster.' De Zwarte, who does research on hunger and conflict, agrees. In theory we can solve the problem of famine, but in practice all kinds of hindrances, such as war, conflict and the distribu-





KEEP UP THE TECHNOLOGICAL INNOVATION Less potato disease

Potato cyst nematodes are one of the three main pests for the potato. Until recently, plant-breeding had made the potato resistant. But the nematodes fought back and now natural selection has led to the emergence of new variants that can infect potatoes. Nematologists Mark Sterken and Hans Helder are playing the genetic detective in an attempt to track down the genes behind this. It is a bit like looking for a needle in a haystack, one gathers from their account of their work. But they report that they are close to finding the needle. Identifying it will make it possible to develop diagnostic tests with which farmers can check their fields for the presence of 'bad nematodes'. It will also furnish plant-breeders with a more precise focus for the development of resistant potatoes.

STIMULATE CHANGE A fair price

Cheap goods come at a price. That is certainly true of food, say Willy Baltussen, Geert Woltjer and Katja Longatcheva of Economic Research. The planet pays the price in the end for special offers and two-for-the-price-of-one. A fair price that includes environmental and social costs could be the solution. The researchers describe a way of arriving at that kind of fair price. By working in closed chains (cooperatives), for example, or in open chains with quality labels, or by means of government intervention using subsidies. But none of this is easy. The rather sad conclusion was that it is almost impossible to calculate an objective fair price for food. But you can distribute the costs and benefits of making production more sustainable more fairly among all parties. As long as there is mutual trust and transparency.

LEARN FROM EACH OTHER AT THE GLOBAL LEVEL Lighthouse farms

Farms already exist that operate in line with principles of sustainability and circularity — shining examples of what is possible. Professor Rogier Schulte (Farming Systems Ecology) set up a global network of such Lighthouse Farms. The network serves as a kind of 'global classroom' for researchers, students and policymakers. The network includes 11 of these beacons of light, among them ERF, the biggest organic farm in the Netherlands, with its 1800 hectares. ERF practises strip cultivation on a large scale, with crops alternating. Schulte and his colleague Annemiek Pas Schrijver do research on Lighthouse Farms around the world. These farms have three things in common: their cultivation system is complex, it requires a lot of collaboration and it requires smart use of technology. Plus they are way ahead of their time.

'IT IS VERY URGENT, BUT TRANSLATING THAT INTO POLITICAL ACTION SEEMS HARD'

tion of resources, ensure that there is still hunger in the world. In that sense, I am not optimistic that we can put an end to it with our pathways to a solution. It will take more than that. But hopefully this book can be a starting point for a debate on these issues between scientists, society and politicians.



Hoe we de wereld gaan voeden in 2050

10 billion mouths: how we will feed the world in 2050. With a foreword by Louise O. Fresco

Authors: Ingrid de Zwarte and Jeroen Candel Publisher Prometheus ISBN: 9789044646009 Price: 24.99 euros

THE MOMENT OF TRUTH

Outgrown the job

'In 2018 I came back from a three-week summer holiday totally happy. We had been sailing in Friesland and I had been to Paris with the children. But the Sunday before I was due to start work again, I suddenly felt very stifled. I went for a walk and as I walked, I realized that my job at *Resource* was not a good fit anymore.

I said to myself: "it's time to move on." I had been a journalist for nearly 25 years, for most of that time in the editor's role. I spent the whole day at my computer analysing and correcting texts and playing with headlines. Very nice, but at some point I had got as far with that as I felt I could. And deep down I had known for a long time that I would like to do something else. But what?

I got in touch with careers coach Geraldine Sinnema that very evening. We met three or



Turning points: sometimes you recognize them straightaway, and sometimes only in retrospect. In this series, WUR folk talk about a moment they will never forget. This time, Lieke de Kwant, former editor of *Resource* and now a study advisor at International Development Studies.

four times, and she set me thinking about questions like: "which places and people have the kind of atmosphere you are looking for in your work?" A market trader, a bookshop, a farm I once worked on, and so on and so forth. We matched these answers with my qualities and came up with a list of possible jobs I might like. We could cross a lot of them out: I didn't want to go back to college again before I could start, and for the family's sake I didn't want to halve my salary.

I went for a cup of coffee with 10 people who

'Now I looked forward to going back to work after my holiday'

do the jobs on the list I ended up with. One of them was a study advisor. Straightaway, I thought: wow, a job in which you have meaningful discussions with people, you

can lend a sympathetic ear and you can help students with practical matters. That's nice! **The Health and** Society programme director gave me the chance to do an internship for one day a week. That went well and both sides were happy, so when someone went on maternity leave I was taken on as a 'roving' study advisor. Then through an internal vacancy I ended up at International Development Studies, where I've been working for six months now.

On the last Sunday of my holiday this year, I found myself really looking forward to starting work again on the Monday. I would get to listen to students in my – currently digital – consultation room, to accompany them briefly on their path, and to help them on their way a little bit.' ${}_{\rm LZ}$

Illustration: Marly Hendricks

We should make much better use of animals' resilience

You can play to a cow's strengths too

'Animals are more resilient than you might think,' says Annemarie Rebel, special professor of Healthy and Resilient Livestock. She thinks it is time we made better use of that fact.

Photo Eric Scholten

ndividual animals and people react differently to similar challenges, such as pathogens or stressful changes to their environment. Animals that can cope with such challenges – those that make a fast recovery – are labelled resilient.

Annemarie Rebel, professor by special appointment of Healthy and Resilient Livestock, does research with her group on why individual animals react differently. Her aim is to increase the health and resilience of animals. 'We hope that this will improve their wellbeing, make them less vulnerable to disease and reduce the use of antibiotics and other drugs. That has a positive effect on the health of both humans and animals.'

A dip is OK

'Animals can cope with more than we think they can, but our present livestock farming systems don't make the most of their qualities.' Rebel thinks an animal should be given the chance to adapt to circumstances. 'A question of changing the way we think about it. In today's livestock farming, everything is controlled: the animal lives in a system in which temperature, diet and air quality are kept constant, and where disease must be prevented. But we don't have to intervene at the slightest glitch. An animal can have a bit of a dip and come through it alright. The same thing goes for people: sometimes you need to take it easy. No one can be on top form all the time.'



There should be scope for this even in intensive livestock farming, Rebel thinks. 'We shouldn't stop vaccinating animals, but nor should we hermetically seal them off from the outside world, giving them no chance to activate their own immune systems. Give animals the chance to deal with minor challenges such as changes of feed, illness, or a change in the climate in the barn. They will develop resilience that way. We are researching where improvements could be made within existing farming systems, so that we make more use of animals' intrinsic characteristics, such as their immune systems. Then they will cope better with challenges.'

Mothers

Those intrinsic characteristics are influenced by various factors, such as experience at a young age, housing, diet, genetics and the experience of the mother animals. 'We know from human research that children born during the Dutch famine of 1944-45 need less food as adults because the mothers didn't have much to eat. And we know that elephant calves born to mothers that were pregnant during a dry period need less water than others. These are biological adaptation mechanisms in which the conditions the mother experiences prepare



Give animals the chance to deal with minor challenges such as changes of feed, illness, or a change in the climate in the barn.

her offspring for life. In livestock farming, mother animals and their offspring are two different supply chains that we look at separately. But this natural mechanism is at work here too. We discovered for example that the diet of a sow influences the development of the gut and the immune systems of piglets, which affects them later in life and not just in the period that they are with their mother.'

According to Rebel, increasing animals' resilience calls for a good understanding of their needs. There is more to health than not falling ill. It is also a matter of wellbeing. 'There are rules for safeguarding wellbeing, concerning housing for example. But that doesn't meant that if you meet all the conditions, the animals' welfare will be fine.'

It is not easy to measure health and wellbeing. 'But by placing sensors in the shed, for example, we can see if an animal eats less, lies down a lot or becomes aggressive – things that can point to it not feeling good. And we don't just look at the absence of negative behav-

'There's more to health than not falling ill'

iours; we also try to measure positive emotions. For example, we know that pigs enjoy playing with a metal chain, but that a hard ball frustrates them. That we humans like playing with a ball doesn't mean a pig will like it too.'

Go with the flow

Rebel hopes these insights will help the livestock sector make optimal use of animals' resilience. In an ideal system, animals would be stimulated and their wellbeing facilitated, rather than controlled. 'By looking at the factors affecting an animal's health and wellbeing, we have put the first pieces of the puzzle in place.' To finish off the puzzle, Rebel wants to bring as many different disciplines together as possible. 'So we are working on circular feed concepts within the Food Valley Region, together with technicians, feed manufacturers, environmental scientists, both human and animal health scientists, plant scientists, and so on. You can't take that kind of interdisciplinary collaboration for granted in the sciences, and it's not easy. But it is good and enjoyable, and we learn a lot from each other. It's not just animals but people too who sometimes have to learn to go with the flow.'

Innovative education app fast-tracked due to coronavirus

STUDENTS OUT AND ABOUT WITH PEEK

Peek – a Wageningen education app developed to make fieldwork more enjoyable and informative – is getting quite a boost from the coronavirus situation. 'The possibilities are endless.'

Photo Eric Scholten

Text Luuk Zegers

eun Vogel teaches Soil Physics and Land Management. In 2019, he and his then colleague Jerry Maroulis thought up the app. 'The idea was to create a fun and interactive way of sending students into the field,' says Vogel. 'You can plan a route with Google Maps and GPS and add precise locations where students have to be to answer questions. You can only answer the questions when you are actually there. Then teachers can download the answers, come back to particular questions, and give feedback.' The two teachers were given an educa-

tional innovation grant to develop the app. Vogel: 'We had a look at what other subjects this app could be used for. And then came the coronavirus and online education, and everything went into overdrive. Other teachers have set out Peek field trips that students could do in their own time. Teachers of Restoration Ecology even went and stood along the route. When the students came by, the teachers could do what they are good at: teaching. In Marine Systems, there was a field trip for which stakeholders recorded short podcasts. When a student arrives at a location, they listen to what a stakeholder has to say about it.'

Excursion

During the Design in Land and Water Management course, a group of students normally go on a two-week excursion to Limburg, but that was cancelled due to the coronavirus. Vogel: 'In that course, students studied a case, which was usually in Limburg. As an alternative, we asked them to study a case in their own area.' And that was where Peek came in again. 'We thought: what if we got students to plan their own field trips about their case studies?' No sooner said than done; students were given the login details for the app, and a couple of assignments. 'Each field trip had to include a vlog or a podcast, for example,' says Vogel. 'Normally speaking, teachers plan field trips and think through what the best way to explain things is. By doing that work themselves, students do more interpreting of data, and they learn how to communicate clearly about their research.' Student Carlo van Oijen (19) planned a field trip in the Bergen op Zoom area, where his parents live. 'We were divided into small groups. My group looked at the impact of water engineering works on agriculture and on nature areas. I did research on the Philips dam, in which fresh water and salt water are separated. My field trip goes through agricultural areas that are affected by that dam, and nature areas that used to be unique for their brackish environment, but where the water is gradually becoming less salty. The disappearance of salt water can have a big impact on the plant diversity there.'

'WE WANT TO ROLL OUT THIS APP ON A LARGER SCALE'

Freedom

Van Oijen thought it was a pity that such courses had to go online. 'During that field trip in Limburg you really form a bond with your fellow students. On the other hand, this alternative gave us all the freedom to ask ourselves "What do I want to study, what interests me?" Normally you visit farmers who get regular visits from people on field trips. Now I just looked up stakeholders myself: farmers, a nature conservation organization, etcetera, and integrated that into my field trip.' Camu Prins (19) planned a field trip in De Schammer nature reserve, which lies between the towns of Amersfoort, Leusden and Hoevelaken. 'About 10

'THIS GIVES STUDENTS THE FREEDOM TO DECIDE WHAT THEY WANT TO RESEARCH'

years ago, that was farmland; now it's a nature reserve and a place where water can be stored. When planning a field trip you ponder questions like: "What have I researched? What do I want to say? And where's the best place to do that?" Because it was close to home, my parents could do the field trip too. If we'd gone to Limburg, that wouldn't have



been possible.'

Marnix Van den Maegdenbergh (19) planned a field trip by bike in the Wageningse Bovenpolder. 'I researched how flooding and high water in the Rhine is regulated by all the stakeholders: the municipality, the nature management organization Staatsbosbeheer, and the water board. Who is responsible? What kinds of measures for managing high water in the river are visible in the landscape?'

Van den Maegdenbergh had just moved into student accommodation when the coronavirus pandemic broke out. 'I live near the water meadows. That was a good opportunity to get to know the area better. At first you read the landscape very critically – what am I seeing now, actually? And then you take an extra step: what do I want to tell people about, and where can they see it reflected in the landscape? Planning a field trip yourself is a very nice addition to the course.'

Startup

A successful experiment? Vogel: 'We have invested a lot of energy in the Peek app. It is working very well and the possibilities are endless. Now we want to roll out the app on a larger scale, so that other departments and universities can more easily start using Peek.' With a view to achieving that, the app now no longer belongs to the department; a startup has been created for it. Vogel is still involved: he teaches two days a week at WUR and works on Peek alongside that.

You can find more information about Peek on www.peek-app.nl

Student Marnix designed his own field trip in the Wageningse Bovenpolder.

Key people: Kees Laban

They are indispensable on campus: cleaners, caretakers, caterers, gardeners, receptionists – the list is long. *Resource* seeks out these key people. This time, meet Kees Laban (53), a librarian in the Forum. Text Milou van der Horst Photo Guy Ackermans

'My mother used to say I should go to sea because I was such a free spirit. But I also spent a lot of time in the library, where reading calmed me down. I'm an extravert type and I do a lot of sport, but with its calm atmosphere and space, the library suits me too – certainly the one in the Forum. After training as a librarian I worked in legal aid for a while, but I found an office too claustrophobic as a workplace.

To me the library is anything but dull – in fact it's very lively, with a lot of people passing through it. My work is dynamic too. I help people with a practical glitch, giving them quick, brief advice. I pass on the more complex problems to our information specialists. The combination of practical and broader knowledge suits me. I have variable shifts too, and I often move around between the back office, the front office and the bookshelves. I feel a strong bond with students, especially Wageningen students. In general, they are very nice, serious and responsible. Just my types. Some people in service jobs have a much harder time with their clients. Because we're in a building that's open to the public, stray people wandering into the library can sometimes be a nuisance. But I don't find that difficult and I could count the number of times it's happened on the fingers of one hand.

A few years ago, I looked up and saw a lot of water coming down from above. It looked like a waterfall. That was surreal. The sprinkler system had started spouting water. Students helped save as many books as possible, which I thought was so good.

'I found an office too claustrophobic as a workplace'

I hope the library can stay open. We're keeping one and a half metres' distance here now, and the ventilation is good. So the library might be safer than a student house. It was hard for me when the library had to close in March: this place is the heart of my job. Before the coronavirus, there were 650 work stations in the library. Now there are 220. Actually, it feels more like a library now, and I like that. I've been working here for nearly 30 years and I won't ever leave. The library goes on developing all the time, but will continue to exist with physical books for the time being. Books meet a deeper emotional need.'





Campus companies

Track32

WUR researcher Joris IJsselmuiden and a mate of his set up Track32 two and a half years ago. The company develops software based on artificial intelligence (AI) and automatic image processing. Track32 has already delivered the software for a weeding machine that can distinguish between the weeds and the crop. The company also wrote the software for drones that monitor the development of seedlings in a greenhouse.

IJsselmuiden worked in the Agricultural Technology chair group, where his tasks included supervising research on robots that pick bell peppers and on egg-collecting machines. Track32 is commercializing this knowledge. 'Our strength is that we deliver made-to-measure solutions, bridging the gap between the client's question and the technology,' says the company's founder.

Five people work at Track32, and the company also offers three internships, mainly for Wageningen students. The company works

'The researchers used to have to count seeds. Now our software does that' for seed producers and plant-breeding companies, as well as for the ecology institute NIOO. 'The researchers used to have to count weed

seeds and observe the characteristics of birds themselves. Now our software does that.' Track32 started out in the Starthub but the company grew and has now moved to Ede. 'We've got very cheap accommodation in a building in the grounds of the former military barracks near the World Food centre.' As

There are about 100 companies located on campus. We introduce you to one of them in every issue of *Resource*. This time: Track32, which has now moved to the former military barracks near the World Food Centre. All the flavours of the world can be found in our WUR community. Geena Charmansyah, Master's student of International Development studies, takes us to her homeland, Indonesia.



Flavours of WUR

Sweet Corn and Mushroom Egg Drop Soup

'This dish is a real family classic. My grandmother used to make it for brunch every Sunday. If you add rice, it's nice for dinner as well. Before the war, my grandma told me, shark fin was used in the soup, but you really can't do that nowadays, especially not in Wageningen. Indonesia has always been a trading nation, and you can see that in this soup. The ingredients come from many different places.'

- 1 Dice the onion and the garlic. Chop the mushroom.
- 2 Blend half a tin of corn coarsely in the blender. The rest will go into the soup whole.
- **3** Break the eggs into a bowl and whisk.
- 4 Heat the oil at a moderate heat and add the onion, frying it until it softens. Add the chopped garlic and sauté until it is fragrant.
- **5** Add all the corn, a dash of salt, some pepper and nutmeg, and mix well.
- 6 Add the water. When the soup begins to boil, add the stock cubes.
- 7 Add the mushrooms and stir.
- 8 Meanwhile, mix the cornflour with 3 tsp water in a bowl. Add to the soup and stir well.
- **9** Once the soup has thickened, add the beaten egg slowly as you stir so it forms long strands.

Ingredients (Servings:2-4)

- 1 large onion
- 3 cloves of garlic
- 2 cans of sweet corn (800g)
- 300g button or other mushrooms
- 2 vegetarian stock cubes
- 11 water
- 2 medium eggs
- 2 tbsp corn starch (Maizena)
- salt
- white pepper
- 1 tsp sugar
- 1 tsp grated nutmeg
- 1 tbsp cooking oil



Geena Charmansyah Master's student of International Development Studies

10 Let the soup boil for a few minutes. Taste for sugar, salt and pepper, and serve!

In other news science with a wink

🔶 NEANDERTHAL

Sensitivity to coronavirus is genetically determined, shows a study by Okinawa University (OIST). People who are badly affected have a gene that strongly resembles one carried by Neanderthal humans that inhabited Southern Europe 50,000 years ago. The researchers think the variant in question was passed on to modern humans through cross-breeding. So whoever looks most like a Neanderthal is screwed.

🔶 THINK

Exercise is good for the brain, shows a study by the University of Geneva. In this context, short and intensive (15 minutes) is better than longer but more leisurely. The drivers of this effect turn out to be endocannabinoids, which are released by effort and make us feel good (the runner's high). But they are also behind better connections between brain cells, which tests have shown to improve memory considerably. So exercise first, then study.

EARTH 2.0

There are better planets than Earth, say researchers at Washington State University. Better in terms of the conditions for life: a bit warmer, a bit wetter, that kind of thing. They have identified 24 such planets, but there is one problem – the distance. The planets are found outside our solar system, a light year away. The grass is always greener...

🔶 DOGGIE

People tend to focus on recognizing faces. Not so dogs, according to findings at the Hungarian Eötvös Loránd University. The researchers studied the brain activity of dogs and humans who were watching films of dogs and humans. For people, whether they are looking at the front or the back of someone's head is crucial. For a dog it doesn't matter. Good to know next time Fido turns his faithful doggie gaze on you, full of understanding. Are you really looking at me? BK



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The conformist

Biking along the busy Mansholtlaan that marks the eastern border of Wageningen campus, I came across a curious sight. There, in the cycle lane, next to the FrieslandCampina building, stood a lonely figure smoking a cigarette, quite sadly I might add.

He watched the traffic passing a few metres from him, his dark blue jacket buttoned to the top against the cold of the cloudy autumn afternoon. It struck me as odd as I swerved around him, and we mumbled our greetings. As I had nothing better to do on my bike, I pondered why he would pick such a depressing spot to smoke. Then I suddenly understood: no smoking on campus.

Now I think it is hilarious and ironic that this law extends to the businesses on campus, but I see two problems here. First, a point of semantics: is FrieslandCampina et al. really located on a university campus? Increasingly, it seems as if the Forum and the other university buildings are part of a business park instead.

The second problem is the nature of this campus-wide smoking ban. Most people here are legally considered adults; they are allowed to drink, drive and vote, which apparently constitutes adulthood. On top of that, aren't campus dwellers ostensibly the smartest bunch in the country? Shouldn't these people decide for themselves whether or not they smoke? Maybe you think the state knows better regarding what is best for us, it is a scientifically informed decision, this will reduce the cost of our healthcare insurance, and who are those few idiots still smoking anyway etcetera. Well, those may be valid arguments, but I fully disagree. I think our freedoms are far more important than blindly chasing better health statistics. If I want to kill myself in whatever creative way, at whatever speed, isn't that up to me? Protecting



Luuk Slegers Luuk Slegers is a Master's student of Sociology, majoring in International Development. He lives on Droevendaal in Wageningen with his five housemates and likes to start the day with a walk through Bennekom forest.

citizens against the marketing of the tobacco industry is great, but banning smoking on campus seems a bit paternalistic, doesn't it?

And what about stress, sitting, loneliness, pollution and depression? Why don't you go ahead and ban working overtime at universities as well then, if you care so much?

That guy, standing there next to a busy road, staring at the cars, breathing in the smog, the smoke and the shame, is he going to be dying sooner with this new law or later? And who cares if he dies sooner anyway; is life expectancy really the most important thing? The blame is also partly his for conforming — dignity is taken, never given.

Well, at least this smoking ban might teach these companies a lesson for being on campus, meddling with our education and science. I hope this poor bloke will maybe start questioning the location of his office, but I'm guessing he may not be the type.

Colophon

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[no]WURries

'My housemate has just started an internship, so she has to get up at six in the morning. No matter how quiet she is, and how good my earplugs are, she always wakes me up, whereas I only need to get up at eight o'clock. Does anyone have a solution?

> Myrthe, student Nutrition & Health

Early bird

'Living in a student house sometimes calls for a bit of give-and-take. Your housemate is already getting up quietly, and I would see that as a sign of good intentions! Consider getting up at the same time as her a couple of times a week. Who knows, you might be very productive early in the morning. Don't let's forget: the early bird catches the worm!'

Harm Ligtenberg, MSc student of Earth and Environment

Understanding

'You should be happy for your housemate that she found an internship, as there aren't many of those now because of the coronavirus. And it is very important to get some practical experience and be able to round off your degree programme. An internship is hard work, so your housemate could use a bit of moral support. Show her some understanding and discuss how to solve this. Maybe your housemate could have her shower and make her sandwiches before she goes to bed?'

Astrid van Noordenburg, Student Career Services coordinator

Nice and clean

'For most people aged between 18 and 64, seven to nine hours of sleep per night is enough. If you know your roommate will wake up at six am, make sure you go to bed by 11 pm. Physical exercise helps improve sleep quality, so make sure you get enough exercise. It is calming if both you and your bed feel nice and clean. Turn off the lights and relax. Good night!' Stefanus Mega Prabawa, MSc student of Food Technology

Analyse it

'Analyse together where the problem lies: what exactly wakes you up, Myrthe? And what would it be impossible for your housemate to do without any noise at all, however hard she tries? And what might she do or get ready the night before, so she can be quieter in the morning? Think up solutions together.' Joanne Leerlooijer, education coordinator at Strategic Communication + Knowledge, Technology and Innovation



'Since you say she is already doing her best to be quiet, nothing more can be done from her side. You can try to get back to sleep (but I know a lot of people find that hard). Or just start your day early. Hey! There's no harm in having an extra couple of hours a day.'

Monika, MSc student of Food Technology

'The last while, I've been finding it difficult to stay motivated in my studies. It's hard to get into a routine with online teaching and my social life isn't what it was. I've been thinking a lot about this problem and I don't have a solution. Asking for help seems too excessive. What should I do?'

> International Development Studies student (name known to the editor)

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