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Smart farming

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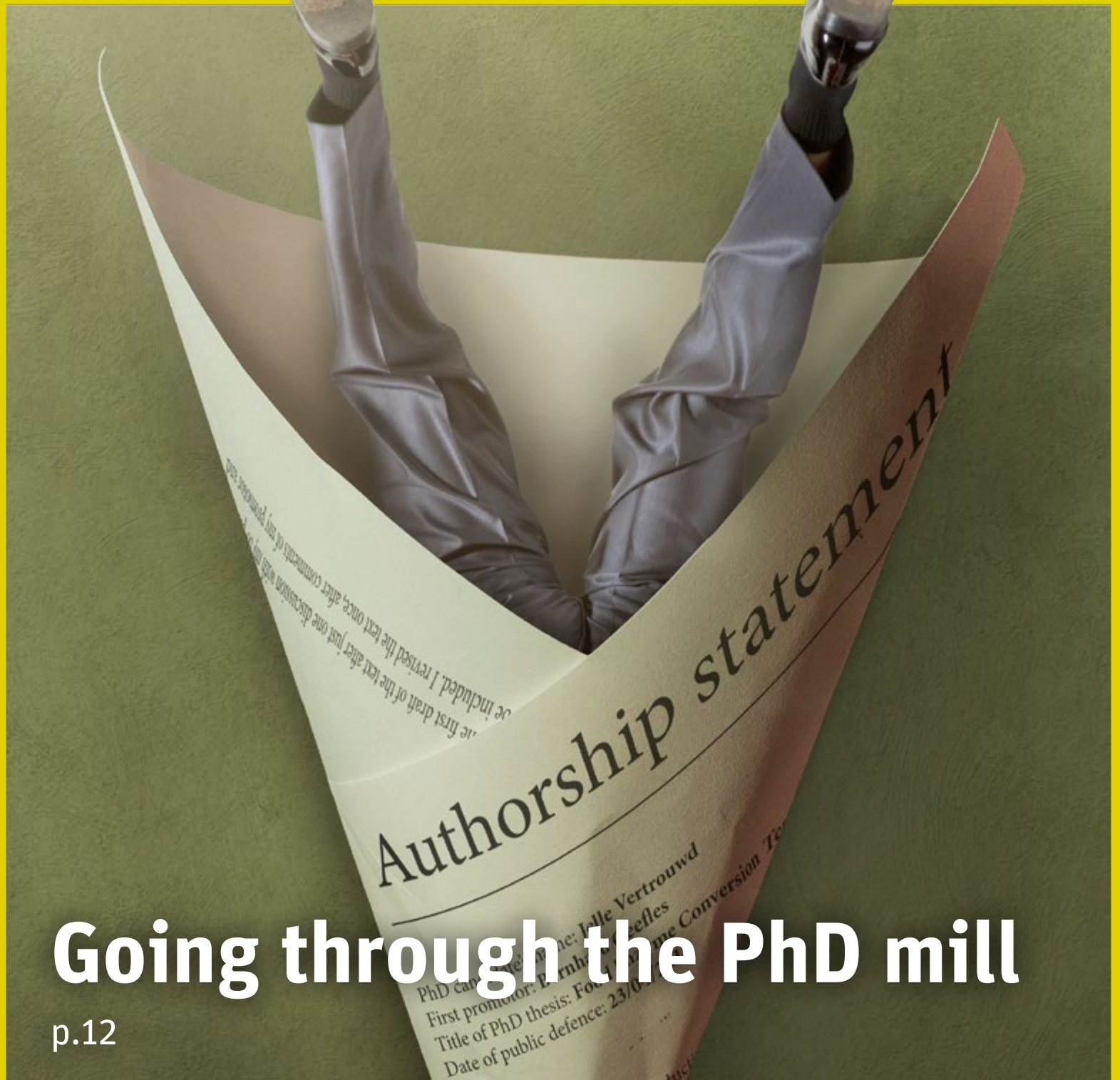
Laptop lectures

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RESOURCE [EN]

For everyone at Wageningen University & Research


no 12 – January 2017 – 11th Volume



Going through the PhD mill

p.12

SEED TRAIL

The first snowdrops put their heads above ground around the feet of the Sower last week. The flowers are growing in circles – a 'seed trail' – around the statue and will soon be joined by many more flowers and colourful grasses. The art project is part of the WUR centenary celebrations.  photo Sven Menschel



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RADU

With tousled hair and five minutes late, Jan Douwe van der Plieg entered a Wageningen classroom full of Rural Development Studies first-years. He had a strange object with him which looked like a kind of wooden oar. It was a radu, he told us on that September morning in 1990: a simple but ingenious farming tool from Africa.

In Van der Ploeg's eyes that implement stood for the intelligence of peasant farmers. They knew exactly what they needed and what they didn't. So if we were still naïve enough to imagine that we would soon be bringing useful knowledge to ignorant peasants in developing countries, we should think again.

It was an unforgettable introduction to the man who, two years later, became professor of Rural Sociology. I have often seen him cycling through Wageningen with that dishevelled hair and the radu on the back of his bike. He said goodbye at the end of January. Wageningen University will miss an inspiring dissenter.

Lieke de Kwant



>> Even in Wageningen we are not safe from him | p.26 en 27

PHDS TO BE JUDGED BY SAME YARDSTICK

From now on PhD candidates will be assessed by a more uniform procedure, will have to submit an author's statement and have the right to place an embargo on their thesis. In another change, the final assessment of their work will no longer be made in public.

All this is outlined in the Academic Board's new PhD regulations that came into effect in January. The public assessment has long been a sore point for PhD candidates. Since 2007, the assessment has been accompanied by a classification: acceptable, satisfactory, good, very good or excellent. This classification can spoil a candidate's graduation day, says dean of research Richard Visser. 'At the request of the candidates, the assessment will therefore be shared with the candidate at a later date, unless there is any question of a distinction being awarded.'

To arrive at their assessment, opponents must from now on stick to a rubric. This is a scoring table with which a candidate's qualities can be evaluated. The table is intended to make the eval-

uation of a thesis more transparent. Visser: 'A rubric like this also helps you to explain the assessment better to the candidates.'

Another new feature of the regulations is the author's statement. From now on PhD candidates must produce a document in which they describe what their own contribution was to the thesis. According to Visser, foreign opponents are particularly keen on seeing such a statement. They find it hard to evaluate what the PhD candidate contributed and what was done by other people. The statement is controversial (see also p. 12).

From now on PhD candidates will be expected to publish the summary of their thesis in a maximum of three languages. Until one year ago it was compulsory to publish a Dutch summary as well as an English one. That rule has been scrapped because it meant some candidates and foreign opponents could not read part of the thesis. This decision has now been rescinded at the urgent request of PhD candidates. Visser: 'PhD candidates would very much like to have a sum-

mary in their own language so that at least their families can read what their thesis is about.' The Academic Board accepts the – small –

Risk that the summary in the candidate's own language might not be an exact translation of the English.

Lastly, PhD candidates are now allowed to place an embargo on their thesis if they need to do so in order to get the articles in the thesis published. Increasingly often academic journals reject articles on the grounds of 'self-plagiarism' because plagiarism software has detected the thesis online. To forestall this problem, the CvP recommends making it clear when an article is submitted that it is part of a dissertation. According to Visser, there are agreements with many publishers that this is not a problem. If a publisher does raise objections, an embargo is possible for one year, in which period the thesis is not available online. **RK**

Read too the article on p. 12: Their own work

ALL PHD CANDIDATES CAN VOTE THIS YEAR

The Student Staff Council (SSC), the representative body for Wageningen University, has revised its election rules. From now on all PhD candidates will get a vote, even if they are funded by an external organization.

The SSC together with the Central Employees Council at Wageningen Research (formerly DLO) make up the WUR Council. In the revised SSC election rules, all PhD candidates registered at a Wageningen graduate school will be allowed to vote, says Guido Camps, a PhD candidate in the Human Nutrition group. He represents the PhD candidates in the SSC and in the WUR Council.

In the last election for two PhD representatives for the WUR Council, only 990 of the approximately 1900 PhD candidates were invited to vote. No

invitation was sent to the externally funded PhD candidates. That prompted criticism. The critics said the council should amend its election rules to give the external PhD students the right to vote in the next election. The council did this in its meeting on 8 February. 'It was important for us that every PhD candidate should get a vote because the WUR Council is the only place where PhD students get a formal say on policy at the university,' says Camps.

The externally funded PhD candidates are allowed to vote from now on but they are still not able to stand for election to represent PhD candidates in the SSC. Only PhD candidates with an employment contract with WUR can stand for election because they are the only ones the university can compensate for their council activities. **AS**



NEW ANIMAL DISEASES

There are new animal diseases on the way which could endanger human health, said virologist Wim van der Poel of Wageningen Bioveterinary Research on 7 February at a farewell symposium for Andre Bianchi in Lelystad. Van der Poel mentioned the MERS-coronavirus, the tick-borne encephalitis virus and the Usutu virus. Andre Bianchi worked as a researcher and director at Wageningen Bioveterinary Research for 34 years. **AS**

Read the whole story and watch the video on resource-online.nl.



CRISPR-CAS HAS IMPLICATIONS FOR PATENT LAW

Authorizing the new Crispr-Cas technology for use in plant breeding could affect the patent law for new varieties. That became clear in the World Lecture on Crispr-Cas in Impulse on 25 January.

Crispr-Cas, which is a technology based on the natural immune system of bacteria that protects them against viruses, lets plant breeders make finely tuned interventions in plant DNA. They can incorporate new properties from other species but they can also steer the natural variation within a species. The first approach is genetic modification, but the second approach is not. It is a form of mutagenesis that plant breeders already carry out with the aid of chem-

icals and UV light, explains Arjen van Tunen from the plant breeding company Keygene.

Van Tunen hopes that the Dutch government will soon accept the mutagenesis form of Crispr-Cas as a safe breeding technique. If it does, there is still the question of how plant breeding companies will be able to protect the new varieties they obtain by using Crispr-Cas. There is a consensus in patent law that no patent is possible on 'essential biological processes', such as genetic variation that was already present in the plant. If it is not possible to distinguish between a Crispr mutation and a natural mutation, that means plants developed developed using Crispr-Cas cannot be patented, or only in part. **AS**

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Oral exam

She stares ahead of her with a frown. I smile at her. She smiles back. That is: she regards me with a mixture of panic, concentration and a hint of a smile. In her sweaty hands she holds a file with her PowerPoint and her Master's thesis. The result of months of hard slog. 'Shall we?' I ask gently.

We walk to the classroom where she is to give her presentation, followed immediately by her oral examination. I pity her and count myself lucky that I don't have to go through this ever again. I can just relax. All I need to do is ask a searching question, and then sign. What luxury.

The room fills up slowly. The panic on her face gives way to a nervous smile. I look around me anxiously. I see the slides I helped her with and realize I am powerless now. I can't help with anything else. And there is no need to: she's doing great. Then the oral examination begins. The examiner leafs through her thesis and asks a critical question about a careless error. Shit, I think: I could have spotted that. Should have spotted it. Another error is pointed out. I'm annoyed. Wait: let me ask a question that she can answer very sharply, and then everything will be alright.

'Errrr...', she stammers.

She passes, with a fair result but it could have been better. I stare ahead of me with a frown. I should have checked her work better, I should have been sharper. Then she would undoubtedly have got a higher grade. I leave the corridor head bowed. I sigh. Which of us was really being examined here, actually? **AS**

in brief

>> MARTEN SCHEFFER

Frontiers of Knowledge Award

Professor of Aquatic Ecology Marten Scheffer has won the Frontiers of Knowledge Award for ecology. The annual 200-euro prize is awarded by the Spanish bank group BBVA. Scheffer shares the prize with the American Gene Likens. Both scientists have received the prize for their efforts to understand how nature responds to human interventions. Scheffer demonstrated that in response to gradual change, ecosystems can abruptly shift from a stable state to a totally different one. Likens made his name with research on acid rain in the US. Scheffer feels honoured. 'The others who have received this ecology prize before me are all big names. So I feel flattered.' **RK**

>>MOL AND FRESCO

Two honorary doctorates

Two members of the executive board of Wageningen University & Research have received honorary doctorates this month. Last weekend rector Arthur Mol received an honorary doctorate from the Swedish Örebro University, in recognition of his work as Professor of Environmental Policy. Board chair Louise Fresco will accept an honorary doctorate on 15 February at the Catholic University of Leuven in Belgium. The university is paying tribute to Fresco for her contribution to the public debate on sustainable food production. **TL**



PHOTO: MARTE HOFSTEENGE

>> UNILEVER

Bus to Wageningen

Unilever Research, which will be moving to Wageningen campus in two years' time, is offering its employees in Vlaardingen bus transport to Wageningen for the first couple of years after the move. This was announced by the union *CNV Vakmensen*, which holds consultations with the management about the relocation of the R&D centre. The bus transport is part of a social plan intended to ensure that all 800 employees in Vlaardingen can hold on to their jobs. Researchers who don't want to commute more than 100 kilometres each way to the Wageningen campus can make use of a generous relocation arrangement to move to the Wageningen area. And if staff don't fancy that either, and want to leave, Unilever will help them find a new job. **AS**

Stijn van Gils (29) is doing doctoral research on ecosystem services in agriculture. Every month he describes his struggles with the scientific system.



'MINISTRY IS BLOCKING COLLECTIVE RESEARCH'

The ministry of Economic Affairs is blocking collective research on crop farming by not making farmers' data available, say arable farming branch organization *Akkerbouw* and Ernst van den Ende, the director of the Plant Sciences Group.

Until a few years ago, it was compulsory for all Dutch arable farmers to pay a contribution to the arable farming product board, which put some of this funding towards research. Now that parliament has abolished the product boards, arable farmers have established a branch organization with the aim of organizing the collective research. The organization asked arable farmers whether they wanted to invest in research and a clear majority said 'yes'. The government has now made the research levy compulsory for all arable farmers. But the branch organization cannot collect the money.

The organization wants to combine the levy with the annual 'combined declaration' of the Netherlands Enterprise Agency. But minister of Economic Affairs Henk Kamp says it is up to the branch organization to collect the money. Unnecessarily expensive and complicated, says the organization. Director of Plant Sciences Van den Ende finds the situation that has arisen 'extremely frustrating'. 'There is now less funding for pre-competitive research in several sectors.' **AS**

CANDIDATES ANNOUNCED FOR TEACHING AWARD

Sixteen lecturers at Wageningen University & Research are in the running for the Teacher of the Year Award 2017. The University Fund Wageningen has announced the longlist.

The University Fund's Teacher of the Year Award is intended as a source of inspiration and a sign of recognition for teachers. Last November and December, students were able to have their say by picking three lecturers from a list of 250. Eventually, 4718 students — a quarter of all students — took the trouble to choose their favourites. This resulted in the longlist. Those teachers were told they were on the list in the past week.

The jury for the Teacher of the Year Award, consisting of eight students, will now decide which five teachers will be selected for the shortlist. Over the next while, the jury members will be interviewing the 16 candidates, attending their lectures and practicals, and talking to their students.

Students who want to help their favourite can send fun facts and anecdotes to the jury via ufw@wur.nl; they have until the end of February. The jury can use that information when drawing up the shortlist, which will be announced in March. **VK**



PHOTO: SVEN MENSCHER

Hydrogeology lecturer Roel Dijkema won the Teacher of the Year Award last year.

Teacher of the Year Award Longlist

- | | |
|-----------------------|----------------------|
| • Noelle Aarts | • Jessica Duncan |
| • Harm Batholomeus | • Maria Forlenza |
| • John Beijer | • Marleen Kamperman |
| • Henry van den Brand | • Arie Nieuwenhuizen |
| • Marleen Buizer | • Jan den Ouden |
| • Frits Claassen | • Gert Peek |
| • Fons Debets | • Gosse Schraa |
| • Julia Diederer | • Jet Vervoort |

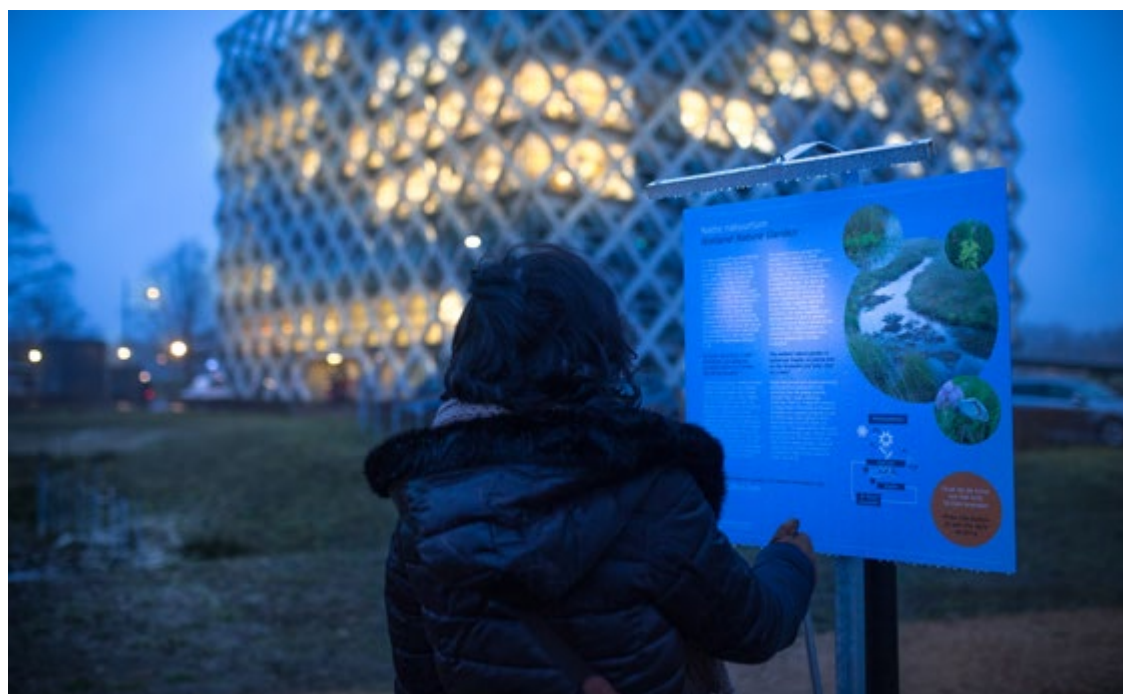


PHOTO: SVEN MENSCHER

ROOT POWER

The wild wet garden near Atlas is providing light. Plant-e, a WUR spinoff company, has placed an information board there which lights up at night at the push of a button, powered by the roots of the plants. Plant-e has been working away at plant power for years. There are trials dotted around the Netherlands but until now the Wageningen campus, the cradle of plant energy, was not among the locations. That has now been rectified. **RK**

Read the whole story on resource-online.nl.

WAGENINGEN NUMBERS GROWING FASTEST

Wageningen is a popular university. Figures from the universities association VSNU show that the fastest-growing disciplines in Dutch universities are those related to the agriculture sector – in other words all the degree programmes at Wageningen University & Research.

The VSNU lined up the growth statistics of all the Dutch universities. These show that Wageningen is popular. The number of first-years here increased by 39 percent in five years: from 1068 in 2012-2013 to 1486 this academic year. The technical degree programmes (up by 24 percent) and the nature-related programmes (up by 22 percent) follow at a distance.

Likewise, the growth in the total student population is greatest by far in Wageningen, at 43

percent: from 7406 to 10,568 students. Of all the other fields, the technical programmes and nature-related ones come closest again (up by 25 and 20 percent respectively). This is relative growth. In absolute numbers agriculture-related degrees form the smallest field in higher education in the Netherlands.

There are 2276 international students at Wageningen this year. That is almost one third more than five years ago. Yet the proportion of international students in Wageningen has remained fairly steady, at 22 percent. Dutch student numbers have kept pace with those of international students. International student numbers have gone up by 17 percent this year, a lot more than the preceding years.

There are currently 264,838 stu-



PHOTO: GUY ACKERMANS

dents attending Dutch universities. At 2.6 more than last year, that is an all-time record. With

10,568 students, Wageningen accounts for a modest 4 percent of that total. **R RK**



IN THE NEWS

Who? Peter van Horne, poultry economist at Wageningen Economic Research

What? Talked about the economic consequences of the requirement to keep poultry indoors because of avian flu | **Where?** On NOS news radio 1 and in *Boerderij* magazine

Whether to keep poultry indoors is 'tricky dilemma'

Why were you asked?

'The indoors requirement means that free-range eggs laid after 2 February can no longer be sold as such. The question now is what this will cost poultry farmers. I could answer the media's questions straight away because I had already done the calculations previously for the Ministry of Economic Affairs.'

So, what will it cost them?

'There are about 200 poultry farms in the Netherlands with around 6 million free-range hens, producing around 36 million eggs a week. If they have to be sold as barn eggs, poultry farmers affected can easily lose out on 3000 euros per week, which is about 700,000 per week for all the farms combined. The consequences for

the egg traders are more difficult to estimate.'

Is it possible to limit the damage?

'It's a tricky dilemma. If you keep chickens indoors, you hurt egg farmers and the supply chain. But if you put an end to the indoors requirement, we'll get an outbreak of avian flu like we did in 2014 and 2016, hens will have to be

culled and there will be export bans. Then the total damage for the poultry sector could be up to 25 million euros. It is also not clear what the supermarkets will do. At the moment, they are steering a middle course by provisionally giving the eggs a different label. I think consumers appreciate the situation and the ministry has already given permission.' **TL**



FREE-RANGE CHICKEN TASTIER

Broiler chickens that can forage for food in a willow coppice are tastier and juicier than chickens that are kept inside the barn, according to the findings of a team of Flemish and Wageningen researchers.

The researchers compared three flocks of 200 broiler chickens for ten weeks up to slaughter. The first group were kept indoors, the second had access to a grass field with artificial shelters and the third group could go to a willow coppice with plenty of plants. The study was carried out by Lisanne Stadig, a Wageningen graduate who now works for the Institute for Agricultural and Fisheries Research (ILVO) in Flanders, Belgium. Bas Rodenburg of the Behavioural Ecology group at Wageningen was involved in the research on the chickens' behaviour while Belgian colleagues investigated the flavour and quality of the meat.

The meat from the chickens able to roam outside was distinctly better, concluded the researchers. It had a higher pH value than the meat from the barn chickens. This measure of acidity affects the moisture content. The meat from the barn chickens was indeed drier. Furthermore, the free-range chickens were more muscular from all the exercise and lighter than the barn chickens. Their meat was yellower and had a higher concentration of healthy unsaturated fatty acids.

A taste panel gave scores out of 10 for the three categories of (unflavoured) chicken meat. The panel judged the free-range meat to be more tender, juicier and less stringy.



PHOTO: WIM KOPINGA

The researchers let one group of chickens forage in a willow coppice during the day.

The chickens that were allowed to forage in the willow coppice scored best on all fronts, the barn chickens worst. Rodenburg thinks that the 'coppice chickens' ate more greenery than the chickens in the field, which was reflected in their tastier meat.

The Flemish government financed the research. It is looking to test new combina-

tions of animal and plant production. Willow coppices next to chicken barns are seen as a promising combination. Chickens like to forage in them because the coppice provides shelter and safety. On top of that, the poultry farmer can harvest the willows for energy generation, and the chicken manure helps the willow trees grow more rapidly. **AS**

RATE OF CONTAMINATION DETERMINES EVOLUTION

The rate at which the environment changes had a big effect on genetic adaptation in organisms. PhD candidate Florien Gorter demonstrated this by simulating the evolution with *Saccharomyces cerevisiae*, otherwise known as baker's yeast.

Cadmium is extremely toxic: even a small dose is harmful. Zinc and nickel are harmless or even beneficial in small doses but harmful in large quantities. Gorter let her yeast populations evolve through 500 generations in the course of 75 days, with gradually increasing concentrations of metals and with high concentrations from the word go. At regular intervals, she compared the fitness (reproductive

success) of the yeast with that of the original yeast. That relative fitness shows how the yeast has adapted.

It turned out that the baker's yeast reacted differently to the toxic cadmium than to zinc and nickel. When cadmium was present, the yeast showed the same adaptations regardless of whether the concentration was high from the start or increased gradually from a low level. The same fitness end point was reached in both cases. However, when cadmium concentrations are high, the yeast has to find that solution quickly or else it won't survive. The yeast adapts much more slowly if the contamination is increased gradually.

In the case of nickel and zinc, low and

high concentrations led to different genetic adaptations. Gorter demonstrated this by analysing the genomes in the final yeast: the mutations were on different genes. Furthermore, the order in which those mutations occurred depended on the concentrations of the metal. With cadmium, all the mutations were on the same gene.

According to Gorter, her fundamental research on yeast has implications for higher organisms. 'If we want to fully understand the consequences of contamination or climate change and take appropriate action, we need to take into account not just the absolute extent but also the rate at which that change takes place.' **RK**

EXERCISE RAISES INTAKE OF PEANUT ALLERGEN

Physical exercise increases the permeability of the gut for particular proteins, Wageningen researchers have discovered.

The search for sustainable sources of protein raises questions about their potential health implications. It is therefore important to learn more about the absorption and digestion of proteins. 'It has been known for some time that physical exertion can lead to an increased permeability for sugars, says PhD researcher Lonneke Janssen Duijghuijsen. 'The same thing was suspected for proteins, but had not been proven.'

In the study, which is part of the IPOP Customized Nutrition programme, researchers studied the effects of exertion on absorption of proteins. This was done using the allergen Ara h 6, a peanut protein that can cause severe allergic reactions. Ten healthy test subjects had to eat 100 grams of peanuts – about three handfuls – and wash them down with a sugar solution. Then they were allowed to read or use the computer. The test was repeated one week later but this time the test subjects had to cycle for an hour after eating the peanuts.

Blood samples were taken at intervals during both tests. The researchers ascer-

tained the levels of peanut allergen and sugar solution in the blood. The solution contained two sugars: lactulose and L-rhamnosus. The proportions of these two in the blood, the L/R ration, is a measure of gut permeability. Finally, the level of FABP2, a protein released when the gut is damaged, was also measured.

After exercise, more peanut allergen was found in the blood of nearly all the test subjects. Big individual differences were found, ranging from no increase to an increase to 150 times the amount.

Janssen Duijghuijsen: 'We found a clear link between the gut permeability and the level of peanut allergen in the blood. There were also signs of damage to the gut.'

Why the gut becomes more permeable after exercise is not yet understood, says Janssen Duijghuijsen. 'We think it is because less blood flows to the gut. This causes damage to the gut and reduces the amount of energy that goes to the gut. This can cause the connections between intestinal cells to be broken, so that larger molecules can get through.' According to the researcher, this mechanism could also play a role in exercise-induced anaphylaxis, an extremely serious allergic reaction triggered by exercise. **TL**



PHOTO: SHUTTERSTOCK

VISION <<

'Old' tomato not necessarily tastier



The taste of tomatoes has deteriorated in recent years due to breeding for characteristics such as resistance to disease, stated researchers from countries including the US in *Science* at the end of January. The 13 substances which make tomatoes tasty are less often present in new varieties than in old ones. The scientists claim that we can breed for the 'original taste' by selecting for 'old' genes. Taste researcher Wouter of Wageningen Plant Research is not convinced.

Did tomatoes taste better in the old days?

'Not necessarily. From our own research we know that the flavour of old varieties is not better by definition. I wonder whether the sample was representative enough to be able to make statements about the differences between old and new varieties, partly because the average taste score of the tasting panels was extremely low. A second striking point is that the researchers approach taste as the sum of the aromatic substances and sugars, whereas we now know that the interaction of these substances with the texture of the fruit plays a big role in the taste experience.'

Are the researchers wrong in saying the breeding has had a negative impact on flavour?

'On the basis of my own taste research on old and new varieties in greenhouse horticulture, I don't get the impression that the flavour of tomatoes has deteriorated. If anything, I get the impression that, on average, the flavour has improved. There are old varieties which taste nice, but there are also old varieties which don't taste so good. The same goes for the modern varieties. So it just depends on which one you pick for your study. I couldn't find out which old and new varieties the researchers had given the panel. My guess is that the new, flavoursome varieties from modern greenhouse horticulture were underrepresented. The study is extremely interesting, scientifically, especially the biochemical and genetic aspects of it. But I don't think we can apply the results to the types of tomatoes we have here in Europe.' **TL**



PHOTO: SHUTTERSTOCK

'DISCUSSION ABOUT CONVENTIONAL VERSUS ORGANIC IS OUTDATED'

The Wageningen biologist Rogier Schulte left for Ireland 20 years ago. Now he has returned as professor of Farming Systems Ecology. Schulte wants to combine several sustainable crop systems. 'The discussion about conventional versus organic is so outdated.'

Schulte looks at agriculture through the eyes of a biologist. 'I see a farm as an ecosystem. I see soils, animals, crops, farmers and markets – all links in that ecosystem. And the fundamental question for a biologist is: what is the coherence between those links? And how do we organize a biological system like that efficiently, with enough resilience?'

After studying biology in Wageningen Schulte went to work at an ecological research farm for research organization Teagasc, the Irish equivalent of Wageningen Research. There he got his PhD on grass-clover mixtures, and went on to lead soil and environmental research and to develop his vision of a sustainable agriculture sector.

In 2012, Schulte was proposed as scientific advisor to the Irish government in the field of sustainable agriculture. He worked on a government programme together with the ministry of Agriculture and the Food Marketing Agency. 'Ireland is the first country to have a national sustainability certificate. Ninety percent of Irish food exports already have this certificate.' Schulte also stimulated the development of a Carbon Navigator for farmers, with which they can figure



PHOTO: GUY ACKERMANS

out for themselves how they can reduce their ecological footprint and earn more money.

So Schulte worked for all farmers and not just for organic farmers. 'We need to take the next step in making farming more sustainable. In the first phase you had the pioneers who put organic farming on the map; in the second phase this sector was professionalized with rules and certification. But now we need to prevent that same certification from

getting in the way of further progress. I see a lot of initiatives that are comparable with organic agriculture but don't qualify for certification and are excluded. Take permaculture, for instance, or urban farming, hightech smart farming and even insect farming. People pursuing these approaches can all learn from each other. Anyone is welcome to help design new or better sustainable production systems.' **AS**

CHEWING SENSOR KNOWS WHEN YOU'RE EATING

Janet van den Boer of Human Nutrition has developed a sensor with colleagues that uses an LED light to give new insights into eating patterns

Obesity is a growing problem for public health. One way of encouraging a healthier lifestyle is to measure people's eating patterns. But how do you do that? 'At present, people have to report on their own behaviour,' says Van den Boer. 'That's not very reliable.'

There are already sensors that use a microphone to pick up chewing sounds but they also record a lot of extraneous noise. In the SPLENDID EU project, researchers developed a more sophisticated chewing sensor that has a photoplethysmography (PPG) sensor in addition to a small microphone. It measures the blood perfusion in tissue. Van den Boer: 'When someone chews, the movements in the jaw muscles cause variations

in the blood perfusion of the ear. The PPG sensor on the ear measures these variations using light.' An LED light is placed on one side of the ear and a detector on the other that measures how much light the ear lets through.

As soon as the person wearing the sensor starts chewing, a message is sent to their smartphone asking whether they are actually eating and if so, what and how much. The signal

is filtered beforehand with the help of algorithms, explains Van den Boer. 'That way, you know someone isn't talking, for example. That also lets you correct for sudden changes in the amount of light in the environment.'

Van den Boer does not expect the sensor to come onto the market straight away. 'We will have to develop it further first. It's currently rather uncomfortable, for instance, if you wear it for a long time.' **TL**

Do you want to be up to date at all times about what is going on at Wageningen University & Research? Then check out resource-online.nl every day. This is a selection of what you can find online.

MEANWHILE ON...



RESOURCE-ONLINE.NL

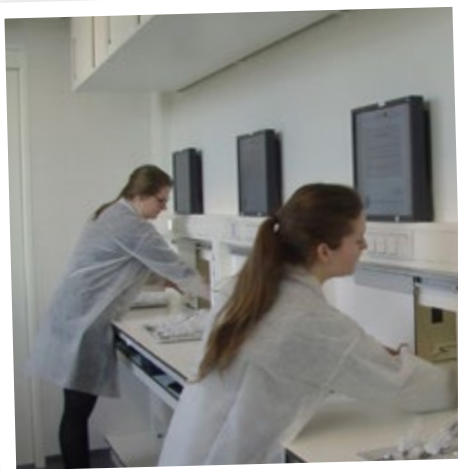
SENSITIVE TO CHOCOLATE

Wageningen nutrition researchers want to investigate people's emotional responses to chocolate. Subjects are offered five different sorts. They then have to indicate on a computer screen whether they are satisfied, for instance, or repulsed. *Resource* took a look behind the scenes.

Watch the video
on resource-online.nl.



PHOTO: VINCENT KOPERDRAAT



Researchers in Helix test what emotions are evoked by chocolate.

100 PERCENT VEGETABLE?

A proper circular food economy is not possible without livestock farming, wrote Martin Scholten, general director of the Animal Sciences Group, recently in an opinion article on wur.nl. Organic arable farmer Jaap Korteweg, better known as the Vegetarian Butcher, disagrees with this statement. He sent a response to *Resource* in which he advocates 100 percent vegetable food production. Read his argument on resource-online.nl.

DISTINCTION?

Meanwhile, blogger Carina Nieuwenweg wonders why there isn't a single nationwide norm for the qualification 'distinction', or *cum laude*. 'A glance at the student rules for the different universities reveals some big differences in the conditions for a distinction: from no grades lower than a 7 (so no fails) and passing your BSc in three years (Utrecht) to an average grade of 8 regardless of the number of fails and no time limit on your BSc (Wageningen).'

JAN-WILLEM HAS NO OPINION

Our other Dutch blogger, Jan-Willem Kortlever, has just started his internship. In his first week, the talk was mainly about the new coffee vending machine at the company where he is an intern. 'The new coffee is on trial and everyone can have their say to see if this new coffee should be kept.' Jan-Willem decided to stay silent, which is entirely out of character. 'I'm neutral because I reckon it's taboo for a newcomer to have an outspoken opinion in the first few weeks.'

DARWIN CAFÉ

People all over the world celebrate the day on which Darwin was born but so far not in the Netherlands. But that is about to change, says biologist and science editor Gert van Maanen, starting in Wageningen. The idea is that the first Darwin Café, next Sunday at 15:00 in the café Rad van Wageningen, will be the start of a new tradition. Read the interview online.

TOP-LEVEL SPORT AND DIET

Athletes need to consume enough nutrients in order to deliver the best performance and recover properly. But many top-level athletes don't get the recommended quantities, as PhD candidate Floris Wardenaar discovered. For his research, he spent three years collecting data on 553 Dutch competitive sportspeople from different disciplines.

WUR IS SKIPPING THE PILOT

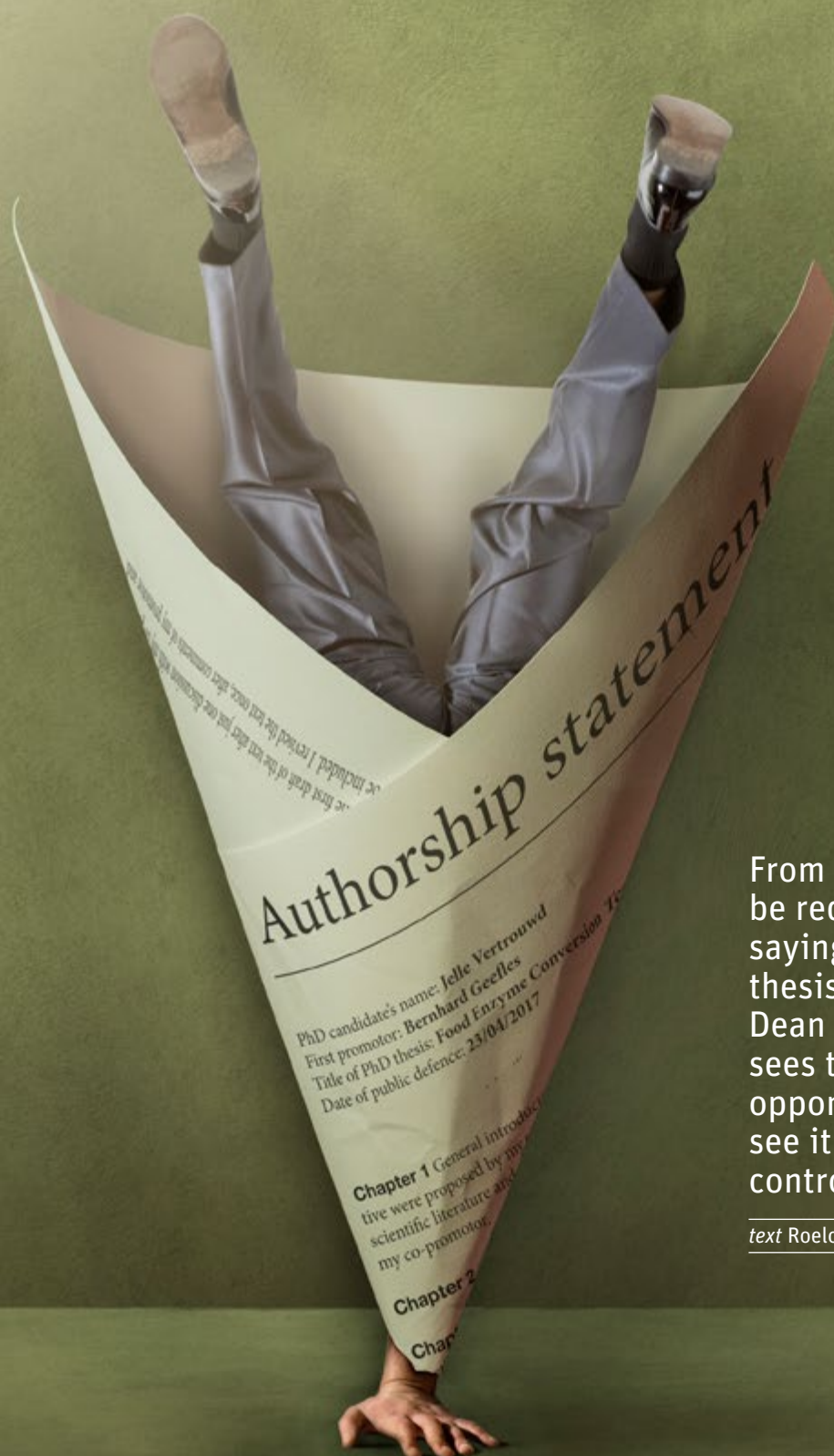
Wageningen University & Research is not taking part in a trial in which students can pay for their tuition fees per credit. The Dutch Parliament has passed a motion stating that students who take longer to complete their degree for reasons beyond their control will pay lower tuition fees. But WUR has not registered for the pilot. Spokesman Simon Vink says taking part would be too complicated. He also says there are other ways of helping students who spend longer on their degree due to their circumstances.

PROPOSITION

Women in science don't have fewer opportunities, they make different choices.

Proposition in the thesis of Leonie Verhage, who graduated with a PhD on 17 January.

All my own work



From now on, PhD candidates will be required to sign a statement saying exactly how much of their thesis they wrote themselves. Dean of Research Richard Visser sees this as a useful aid for opponents at the defence. Others see it as a symptom of distrustful control freakery.

text Roelof Kleis *illustration* Pascal Tieman

A PhD is a slog, especially in the final stages. And then you reach the finishing line, the public defence to a group of four colleagues whose job it is to assess your work. In order to help these opponents assess the candidate, the Academic Board of Wageningen University & Research has decided that from now on PhD candidates will have to sign an 'authorship statement'. This is a signed statement of precisely what a candidate contributed to his or her thesis. This may sound strange, but it is not, says Dean of Research Richard Visser. This kind of statement fulfils a wish expressed by many opponents, he claims, whose task is quite a slog too. 'Opponents often say: a lovely thesis but I can't evaluate it because I don't know what was the candidate's own work.'

Research is group work nowadays, and that is reflected in the theses, explains Visser. 'The introduction and the discussion are entirely the candidate's own work. The other chapters are articles which are written together with co-authors, including the promotor, co-promotors and other colleagues.' The increasing number of co-authors makes it difficult for opponents to know which part of the work was actually done by the candidate, says Visser. An author's statement, in which that candidate outlines what his or her role was chapter by chapter, goes some way towards solving that problem, according to the Academic Board.

SUPERFLUOUS

There is criticism of the measure too, however. 'An author's statement for a thesis which you wrote yourself. Isn't that superfluous?' asks professor of Aquaculture and fisheries Johan Verreth. He can imagine that the opponents would like to get some insight into the extent to which supervisors and promoters shared the writing, but points out that many academic journals already require their contributors to state what the role of each author was in every published article in the thesis. 'So what is the added value of this kind of statement then? You are getting into the territory of academic integrity and the responsibilities of the promotor and the candidate. And you can't defend that with a simple statement.'

Verreth also points to the general discussion, which along with the introduction is the only part of the thesis in which no co-authors are involved. 'So do people write it entirely on their own? That is difficult to ascertain. Especially if candidates don't have a great

command of English and their work needs a lot of polishing up. Before you know it you're in a grey area. As a promotor you have to keep a good eye on how far you can go. Questions and comments are acceptable; changing arguments is not.'

CRAZY

Bas Zwaan, professor of Genetics and director of the PE&RC graduate school, speaks on his own behalf and in no uncertain terms. 'A typical piece of what I call corporate distrust. Which you see increasing throughout the organization. There is no more trust in what our own people are doing. What purpose does that serve? Apparently when there are several co-authors it is not clear what the candidates themselves have contributed. But we have our author guidelines, don't we? They describe precisely when you are a co-author and when you are not. If you have that, surely it's crazy to ask a candidate: what did you do, actually?' According to Zwaan, the assessment of a PhD candidate focuses too heavily on the thesis. 'The thesis has become the evidence that a candidate is worth his degree. I think we should aim to provide far more insight into what a candidate is capable of. Where

'A typical piece of corporate distrust'


do our people end up? Some in the scientific world, and some in the business world, in politics, in not-for-profit organizations and so forth. We train PhD candidates expressly for these things, but that is not made visible anywhere. I think it would be much more useful to add a short paper to the thesis outlining the whole process the candidate has been through. Get supervisors to write a narrative about the candidate. In it you can also indicate when someone really has shown outstanding qualities.'

HITCH-HIKING

The Wageningen PhD Council (WPC) was not involved in this proposal, says chair Marlies van Splunter. But she does not reject the idea out of hand. 'Although personally I would like to go a bit further: let all the co-authors of the articles make such a statement, and then you'll know whether the

co-authorship follows the author guidelines. That is a way of dealing with the issue of co-authors hitch-hiking on other people's work. At present it happens to often that you do the work and all sorts of co-authors get named for political reasons. That large number of co-authors implies that you, as first author, have not contributed as much.

I think that is the real reason why opponents find it hard to estimate the PhD candidate's contribution.

Dean Visser knows the author's statement is controversial. 'Opinions range from "great, we should have done this sooner" to "another infringement of the integrity of the PhD candidate and promotor". Personally I think this measure is appropriate in this era of openness and transparency.' According to Visser there will be an initial trial period of a year and then the system will be evaluated. The statement is currently only an aid for opponents. 'But if we go ahead with it, in my view it should become an integral part of the thesis.' 

Read too the news report on page 4.

AUTHOR'S STATEMENT FOR THIS ARTICLE

Author:	Roelof Kleis
Supervisor:	Edwin van Laar
Supervisor:	All my own work
Publication date:	9 February 2017

I came up with the subject of this article myself in response to the publication of Wageningen University's new PhD regulations. I planned the story myself and conducted and wrote up the interviews. The people quoted read the story before publication and suggested a few changes, which I made. The editor of *Resource* put the finishing touches to the text. There was consultation with the illustrator about the illustration.

Professor Jan Douwe van der Ploeg said his goodbyes on 26 January. It was he who put Wageningen sociology on the map with his study of farming styles. But his main claim to fame has been as a critic of mainstream agriculture and the science business. 'Jan Douwe': a play in seven acts.

text Albert Sikkema *photo* Guy Ackermans

'peasant' professor

FRIESLAND

Jan Douwe van der Ploeg comes from Akkerwoude in northern Friesland, a poor area formerly inhabited by many peasant farmers and farm labourers. His grandfather managed to work his way up from migrant farm labourer to a small-scale livestock farmer with a cow and a pig – at that time a minimum requirement for being allowed to lease land or to marry and start a family. His grandparents worked hard to expand their farm and were able to send one of the sons to train as a teacher. He became a schoolteacher in the village and was able in turn to send a son to the Agricultural College in Wageningen. This personal history was formative for Jan Douwe as a student and a researcher: for him, farming meant emancipation, hard work and the struggle of proud rural men and women for land, income and property.

THE SOCIALIST

As a student in Wageningen from 1968, Van der Ploeg often went into the Betuwe district in search of revolutionary farmers, thus laying the foundations for the student organization Boerengroep, which still exists today. He also joined the University Socialist Union (USU). At Economics lectures, the USU sat as one bloc at the front of the class, as illustrator Loet van Moll records in the farewell magazine *Jan Douwe*. Before the lecture had really got going, their leader Jan Douwe would stand up and start to inveigh – in his characteristic sonorous voice – against 'backward and limited' classical economics. His relations with the Wageningen economists were always difficult. The economists accuse him of research results that are often not supported by solid data. In turn, Van der Ploeg thought the economists denied the role of power factors and were too much under the thumb of market thinking and the ideal of modernization.

THE REVOLUTION

The degree programme Non-western sociology gave Van der Ploeg a good excuse to visit countries where the revolution was dawning. First he did fieldwork in the mountains of Peru and

Colombia, and then he contributed to the reconstruction of the recently liberated Portuguese colony of Guinea-Bissau, where the Angola Committee ran health projects and worked towards the creation of self-sufficient village economies. Van der Ploeg's assignment was to formulate the sociological basis for these interventions. The field research meant talking to a lot of peasant farmers and villagers by day, discussing the results over a beer in the evening, and writing them up at night. The aim: emancipation and autonomy for peasant farmers.

PEASANTS

But Jan Douwe was no communist. After all, his subject – the farmer – had just as much to fear from communism as from capitalism. Neither ideology knew what to do about the 'peasants', small-scale family farmers, and they both had programmes for improving and modernizing them, turning them into state farm workers or entrepreneurs. Van der Ploeg believed – and still does – that we should take farmers as we find them and learn from them. In his view, agronomy is 'what farmers do' and not 'what farmers should do' according to policymakers and scientists.


FARMING STYLES

Van der Ploeg's research on what farmers do in various different cultures provided the basis for the most important social-scientific concept in post-war Dutch agriculture. Jan Douwe, by now professor of Rural Sociology, identified different styles adopted by farmers, such as those of the thrifty farmer, the cattle farmer and the machine farmer. He gave farmers an identity with these labels and described various development pathways for Dutch agriculture and European rural policy. Van der Ploeg became a key agricultural and rural advisor, but remained non-conformist and critical of agricultural policy. This faithfulness to his principles earned him the accolades of 'non-opportunist' and 'worthy professor' from the former professor of Cooperative business administration Gert van Dijk.

THE ROMANTIC

Yet Jan Douwe was also seen as a romantic. Columnist Vergaderboer described him in sector magazine Boerderij at the end of 2013 as a piece of 'furniture' that need to move on. 'Van der Ploeg is stuck in romanticising the past. He still sees agriculture through the eyes of the previous generation. Small farms which sell their own products and expand a little bit. Farm campsites and that sort of thing. Fiddling about on the margins of a good income. (...) His conservative voice sounded loud and clear for a number of years, raising hopes among farmers who shared his faith in small-scale farming. A misleading voice. In spite of all Professor Van der Ploeg's testimony, the upscaling is going ahead and at increasing speed. You could say he was a voice crying out in the wilderness. And that is probably why he has gone quiet. We don't hear much from him anymore.'

THE WANDERING TEACHER

Jan Douwe sometimes called himself a 'wandering teacher', referring to the German experts who trekked through the countryside in the 19th century, lecturing to groups of farmers. These teachers combined farming knowledge with their own empirical knowledge and passed this on walking from village to village. Jan Douwe was a gifted speaker who shared his vision in many a village pub, chatting afterwards with the farmers he met there. The world outside Wageningen was where things really happened, he often said. But in the last decade he spent less time in the Dutch countryside and worked a lot more in Brazil and China, countries which have large peasant populations and are undergoing fast economic development. Ideal conditions for unorthodox analyses from the point of view of the small-scale, hardworking farmer. 

Read the report of Van der Ploeg's valectory address on resource-online.nl.



WATERING AND POTTING UP


There is almost total peace in the greenhouses at Unifarm. What is happening here is growth. Thousands of plants quietly doing their job for science, looked after by gardeners like Pauline Sanderson. This is her workplace, her world.

A man's world for sure. Three of her 50-odd colleagues are women. Why that is, she doesn't really know. The Canadian came here when she was 25. 'For love.' She learned the language, worked as a post worker in Arnhem and then

got the chance to join a training scheme at Unifarm, taking care of the plants. Watering, sowing, breeding. Or potting up, which is what she is doing in the photo. Sanderson is transferring germinated tobacco seedlings into their



own little pots. She enjoys this hands-on work. 'And the scientific side of the work appeals to me a lot as well. We develop plants here which grow well and are resistant to diseases. Which is the basis of our food chain. Otherwise we

wouldn't have anything to eat.' And yes, if you work here you shouldn't mind working alone. 'But enough people pass by. We get visits from students and researchers from all over the world.'  RK, photo Margriet van Vianen

Tractors and drones advise farmers

Smart farming, making use of ICT in agriculture, is on the rise, and unstoppable. But how can we make sure all the data it produces actually benefit farmers and consumers? WUR researcher Sjaak Wolfert is working on answering this question.

text Albert Sikkema Illustration Shutterstock and Paul Gerlach

New sensors, meters and software systems for planning, implementing and analysing our food production are following each other onto the market in quick succession. Robots are taking over some of the work on the farm, and big data on prices, market conditions and consumer behaviour exercise more and more influence on chain management. This is going to lead to a shift in power relations in food chains, expects Sjaak Wolfert, research coordinator of the EU project Internet of Food and Farm, which started in January and forms part of the EU programme Internet of Things.

Wolfert, who works at Wageningen Economic Research, is studying the potential and uses of digital production in the agriculture sector. He and his European partners are mainly developing technology for on and around the farm, but they are also interested in logistics and consumers in the food chain. The total research budget for his project is 30 million euros.

TARGETED SPRAYING

The starting point for Internet of Food and farm is the idea that smart ICT use can make the food sector more efficient and sustainable. You could

take the example of drones which can map out spreading pests so precisely that farmers can target them with spraying; or that of chips which monitor the freshness of vegetables en route from the grower to the consumer. And then there are possibilities such as apps in which consumers can fill in their food preferences and then, when they scan a product in the supermarket, be told whether they will like it.

The project focuses on technology which is not yet on the market. The aim is to get that technology adopted across the EU, says Wolfert. His project facilitates a successful launch, creating the right conditions and finding partners. Sometimes a better communication infrastructure might be needed. Since Wi-Fi or 4G are not available everywhere in the EU, the project partners are working on networks of their own, such as LoRa or SigFox, which can communicate over long distances using little energy. In many other cases, there is a lot of information technology already in place, and the main issue is to connect up data, explains Wolfert. For example, weather forecasts and information obtained from satellites and tractors can be linked with data on cows. 'The emphasis in our project lies on analysing and combining information in order to arrive at good advice for farmers and consumers.'

OWNERSHIP OF DATA

In the related Dutch project Data-Fair, a joint venture with insurance company Achmea, a drone films a crop and a programme interprets the film in terms of the crop's commercial value. This is useful information if, for instance, the crop is damaged by a severe hail-storm. After the storm the drone can fly over the field again, and the insurance company can calculate and pay out the damages.

As long as the farmer wants to share the data with the insurance company, that is, adds Wolfert. Because the example raises the question: who do these data belong to? This is definitely not just an academic question. Who owns the information from milking robots? These robots amass raw data on cows which the farmer cannot make use of. Lely, a company that makes milking robots, says: this information belongs to us. Does it? From a legal perspective, it is not possible to establish ownership of data, says Wolfert. 'So you have to make agreements between the farmer and the provider on the use of the data.'

GOOGLE AND MONSANTO

There are now a lot of companies active in the field of digital data processing and smart farming. And nearly all of them have their own plat-



form and service. Lely offers agrarian services using milking robots; tractor manufacturer John Deere using tractors. Wolfert: 'They are all starting their own platforms and apps, but often these don't work in combination and farmers don't want to use ten different platforms. So we are also working on coordinating processes.'

The government needs to stay alert with regard to the way smart farming is developing, says the researcher. 'The biggest companies in the world are now data companies. You can earn a lot of money and gain power with data about other people, as we have seen from Facebook. We fell for that one, you could say. The question is whether and how you can prevent that in the agrofood sector. Take Monsanto's model FieldScripts. The farmer and Monsanto provide data on the fields and the farm, and Monsanto then gives advice on which variety the farmer should grow. And of course, that will be Monsanto seed. This is an example of 'lock-in technology' in which the company decides on the farmer's choices. There is an alternative for American farmers: the Farmers Business Network. That is the property of farmers, but beware: Google plays a role there too. So be alert to who is developing the smart farming.'

START-UPS

In order to stay independent of these large seed and media companies, in the previous EU project, Future Internet, Wolfert worked a lot with small and medium companies and start-ups in Europe. In the last phase of this project, Wolfert had about 50 European start-ups with an interesting application. They were all given 50,000 euros to create a business plan and pitch their idea to venture capitalists. Several of these companies were able to implement their plans with external capital. This successful approach put Wolfert and his fellow researchers on the radar in Brussels. And partly as a consequence of that, they can now do further research over the next four years under the auspices of Internet of Food and Farm.

The main aim of this further research is to broaden the application of ICT, explains Wolfert. 'Imagine: I'm driving my machine across a field and the camera on the machine registers that there are a lot of weeds. In our previous project we managed to convert the camera images directly into a decisionmaking model

that decides whether the machine should start weeding. In this new project we are going to see whether we can also use the camera data for other purposes such as harvest forecasting.'

PRECISION FARMING

Crop farmer Jacob van den Borne from Reusel in Brabant uses the latest ICT techniques, monitoring his crops with drones and using tractors full of sensors. WUR researchers see his approach as an example of smart farming. Van den Borne himself calls this way of working 'precision farming'. The technology enables him to work more efficiently and thus to save money, he explains in a video.



Watch the video
on resource-online.nl.



PROUD OF THE LOAN SYSTEM

Jet Bussemaker would not necessarily want to be Minister of Education again. She looks back with satisfaction and hopes the next cabinet will not dismantle her legacy. 'If you bring back the basic grant, all the investments will be reversed.'

text HOP, Bas Belleman photo Hollandse Hoogte



Time is nearly up for Jet Bussemaker. She has been Minister of Education, Culture and Science for the left-wing PvdA for four years now, and elections are approaching. The big question is what will happen to her policy after the election, and in particular to the loan system – the ‘student advance’ – which Bussemaker introduced. New students no longer receive a basic grant, so the government saves hundreds of millions which it can invest in higher education. ‘It is the biggest reform in higher education financing in the past 30 years,’ says Bussemaker proudly.

Some parties, such as the Christian democratic CDA and the socialist SP, want to bring back the basic grant after the elections. Bussemaker doesn’t have a good word to say for that. ‘I cannot imagine the CDA would really do that. Then all the investments would have to be reversed and free public transport for students would not be safe anymore. And the SP is always full of talk but five years ago that party wanted to save 800 million euros on education at a stroke. Which doesn’t seem a good idea to me either.’

Bussemaker avows that she does not close her eyes to the sharp edges of her policy. ‘It’s fair enough to tackle me on the consequences for handicapped students or young people whose parents didn’t have a higher education. Next year more young people will be going into higher education and that is positive, but we will continue to keep an eye on how these groups of students are faring.’

MISLED

Bussemaker would like the ‘propaganda talk’ to stop now. ‘In the discussion about the student advance a lot of sweeping statements were made about where it would all lead. I once met some vocational training students who were out with SP youth. They were all under the impression that their basic grant was going to be scrapped too. Had they got the wrong end of the stick or had they been deliberately misled?’

It is not about politics anymore now, she thinks. ‘It’s important that we inform students well. There is room for improvement there. We have hired vloggers, placed advertisements, sent letters, and held Skype meetings. But it turns out to be very difficult to get through to all young people. There are still some who think that in the old days you didn’t have to borrow at all and now you have to borrow everything. And it’s a pity if they don’t dare to go to university because of that.’

That is the danger of her opponents’ hollow rhetoric, suggests the minister. But she used a rhetorical trick herself, too. She is still talking about one billion euros that will be freed up by the loan system, even though that is only the case for one year, and then only if you also count an uncertain saving of 200 million euros on travel costs for students. But that is a very different matter, says Bussemaker. ‘I choose my words carefully. It is an amount of up to one billion euros. We assume that we can save that 200 million on the student travel passes. That is part of it.’

TECHNICAL UNIVERSITIES

If Bussemaker does not expect a return of the basic grant after 15 March, what does she think is in store for higher

education? ‘The biggest decision is whether you want to invest or not. Is the student travel pass to be scrapped? Are we going to bring back a penalty for taking a long time over a degree?’

And not unimportantly: how do the parties look at higher education? ‘There are parties who see a degree primarily as a job ticket. The CDA and the VVD want to look more carefully at which degrees prepare students for a job, and they want to push funding towards the technical universities, because that is good for the economy. But we should protect the small language degrees, for example, too. I do think the small degree programmes should collaborate more, but they should be kept. Arabic, for instance. We need people who speak the language of the Middle East. Or Ebola in Africa: we need anthropologists who understand how you can stop the disease spreading. I think it’s great when Delft students invent something splendid, but higher education shouldn’t all be about that.’


‘I am not going to be part of a cabinet that sells off science’

The way universities and applied science institutions are funded in future is at stake too. Should they have to meet hard quality criteria? Is their funding withdrawn if they fall short? This is how it has been going recently with ‘performance targets’. Six applied science universities had to hand back some of their budget because too few of their students had got their degree. The next cabinet will decide whether that continues. ‘Perhaps it’s better to hold out prospects of a bonus than of a penalty’, wonders Bussemaker. ‘Those targets weren’t of my making, you know. They were my predecessor’s doing.’ That was VVD secretary of state Halbe Zijlstra.

MINISTER AGAIN

Asked whether she would like to be minister of Education again in the next cabinet, Bussemaker points to the polls for the PvdA. ‘I think the chances are pretty slim. You’ve got to be realistic. And it also depends on the coalition agreement we end up with. I am not going to be part of a cabinet that sells off science and transfers it to the ministry of Economic Affairs.’

But what about the National Science Agenda Bussemaker has launched? Surely that was supposed to ensure a shift from fundamental to applied science? Thousands of questions from citizens, the business world and institutions are reduced to a few ‘routes’. ‘The good thing is precisely that we are linking fundamental research with applied research,’ replies the minister. ‘With this agenda we emphasize the value of independent science. Some ideas can be of use to society, but many discoveries certainly did not happen because people were looking for them.’

More funding will be needed during the next government’s term, says the minister. ‘Everyone recognizes that the Netherlands doesn’t have many resources except knowledge. Everything is in place to invest very heavily in that. We are in a very strong position.’ 

DO-IT-YOURSELF COURSE

Next spring for the first time, Master's students of Earth and Environment will be taking a course for which they get to decide on the course content themselves. A few practical concerns have been voiced but most students and teachers are enthusiastic.

text Linda van der Nat illustration Henk van Ruitenbeek

Jeroen de Klein



Assistant professor of Aquatic Ecology & Water Quality Management, involved in developing the DIY course
Trending Topics

'In most of the programme, by a long way, the course content is pre-determined. The curriculum would benefit a lot from students contributing a bit as well. **It would stimulate them to take a more thorough look at the current and relevant environmental issues in the world around them.** And – not least – a divergent type of course makes a nice change. In designing a course like this, the challenge for teachers will lie mainly in the fact that the themes to be addressed will only be decided just before the course starts. That leaves them little time for preparation.'

Dorette Kroeze



Bachelor's student of Animal Sciences

'I would like that, to put my own course together. Now, if I'm on a course I don't enjoy it is difficult to stay motivated. **I can imagine that it is more interesting if you decide on the content of the classes yourself.** It would also be important to me to really delve deep in topic; it shouldn't be too superficial. So I wouldn't object to starting to look into it well before the course begins. At the moment my programme is still very broad so I can't say yet what it lacks. You only know that towards the end of your degree programme.'

Thalia Slier



Master's student of Earth and Environment

'The course is compulsory for me, but I am very enthusiastic. It is a nice, interactive way of teaching. We will be tackling topics which are trending now, and that makes it challenging and interesting. **What I would like is to cover issues that are not right in our field but do have an impact on it, such as Trump's policy and his attitude to climate change.** That doesn't get mentioned in lectures at present. I don't mind starting to work now on a course that will only be taught in period 6. That challenges you to follow the news and read the papers in a different way.'





Sebastiaan Meeuwssen



Master's student of Earth and Environment

'It sounds good to me: working with other students to come up with input on subjects which in the end you want to or will work on for the rest of your life. **I'm going to take the course and I'm looking forward to it, even though I think it will be quite a job to reach a consensus.** There are many different views as people in the group, of course. Anyway, I am going into it with an open mind and I hope to find kindred spirits. What I'd like most is to use the course as the run-up to my thesis, so I can do some of the spadework for that. But I gather that is not the idea behind the course.'

Rob Comans



Chair of the programme committee for the MSc Earth and Environment

'Within the programme there was a strong wish to develop a linking course which forms a common thread running through the major in Biology and Chemistry of Soil and Water, giving it a clearer profile. The teachers who came up with this idea were full of enthusiasm, and that is infectious. The original setup has both nice and challenging sides to it, but concerns have been expressed in the programme committee as well. **If you give the students total freedom to choose the subject of study, the teachers can only start organizing the course just before it starts.** Given the already heavy workload in education, that could be a problem. Together we have decided: let's go for it and make a success of it. After the first year we will see what went well and what went less so, and we can adjust the way we run the course if necessary.'

Roos Ottink




Master's student of Earth and Environment

'I only have my internship and thesis still to go, so I am not taking any more courses. Pity, because I would have enjoyed deciding for myself what I want to learn about. There are so many subjects I would like to know more about. The influence of the melting icecaps on ocean currents, for instance. That came up during the programme but I would have liked to go into it in more depth. So if you can be taught by some of the best teachers in that field, then yes, that sounds good. **The teaching material we work with now has often been in use for years; it is nice to tackle a really current issue.** One small criticism could be that the course will now be taught for the first time, yet it has already been made compulsory. Is the quality really good enough?

Jessica Duncan



Assistant professor Rural Sociology Group

I think it's very exciting. It has the potential to empower students and to get them more invested in their studies. This will surely inspire already motivated students, and that's always a good thing. **These teachers are clearly passionate, but also brave.** Teaching such a course will certainly require a great deal of active engagement. I am very curious to see how it goes. I am not sure how well such a structure would work for the kinds of courses I teach. I would assume a strong disciplinary basis is important to the success of such a course, not only to be able to select appropriate themes and material, but also to process it. My students come from diverse disciplinary backgrounds. I am not sure they would know where to start. If we had a dedicated group of students with a strong sociology background, I would be curious to give it a try. 

Taking classes from your laptop

Six months ago it became possible for Wageningen students to gain credits by taking a MOOC as an elective course. Now there are already six of these online courses at Wageningen University. Is laptop learning the new trend?

text Iris Keizer photo Sven Menschel

The first Wageningen MOOC (massive open online course) for credits is the module 'Food security and sustainability: Systems thinking and environmental sustainability'. Just like the other online courses at WUR and other universities, this course can be found on the education platform edX, where anyone can take MOOCs.

It is even possible in some cases to get credits for Wageningen MOOCs, but then you do need to be registered at Wageningen University. Then you get access to a closed platform that is exclusively for Wageningen students. This kind of MOOC which comes with credits is called a SPOC (small private online course) and sometimes includes additional assignments to make it more challenging.

GREEN SCREEN

Lecturer Eddie Bokkers of the Animal Production Systems chair group helped develop the MOOC/SPOC on Food Security. He had to stand in front of a green screen in a studio and read from a script. 'It's not like giving a lecture.' Although he enjoyed the experience, there was something missing for Bokkers. 'On this course I had no idea who the students were. You don't see them or talk to them, whereas that is exactly what makes teaching so interesting.'

'The defining characteristic of a MOOC is indeed that there is no direct interaction with the teacher,' says Ulrike Wild, online and open education programme director at WUR. WUR researcher Gwenda Frederiks is currently

researching what students really think of this. 'Some of the students didn't like the lack of contact with the teachers, but the majority felt no need for that at all,' she says.

There is an online discussion forum for students taking a SPOC. Some of the students moderate the forum, and they pass on tricky or frequently asked questions to the teacher. The forum is not used very much, says Frederiks. Student Josanne Dalstra: 'It's good there's a forum but everything was clear to me actually.'

FLEXIBLE

A much-vaunted advantage of online education is flexibility. Wild: 'It can be a tremendous advantage that it is not scheduled. That way you can say: 'I'll reserve one week in July and do the course then. Or you can work on it every night.' Students Iris, Josanne and Evert confirm that it suited them very well to be able to adapt their studying schedule to their own situation (see boxes).


Wild sees a second big advantage to online education: it enables students to take courses at other top universities which are not offered by Wageningen University. And it is not just for 'regular' students that it provides a chance to take online courses at universities such as Harvard or MIT. Wild: 'Online education is a chance for working people after leaving university, for people who cannot get to a campus, or for people who are not in a position to study fulltime for other reasons.'

However, there are no watertight system yet for delivering online exams for the MOOCs and SPOCs, so for the time being the exams have to

be taken at the campus of the university providing the course.

TINDER

Online education is generally seen by Wild, Bokkers, Frederiks and the students as a flexible addition to the university's programme, rather than as a fixed component of it. Bokkers: 'A MOOC is interesting for our chair group and for the university: it enables us to make our presence felt. But I wouldn't like to see all the teaching delivered like this. That would be too limited a form of education, both for students and for teachers.' Student Iris Mathar: 'As something to do on the side, I was quite happy with an online course. But in period 3, for example, when you only take one course, I would much rather just go to the uni, take a class, be able to ask questions and sit side by side with others in a classroom.'

Eighteen of the 66 students registered for the SPOC 'Food Security and Sustainability: Systems thinking and environmental sustainability' have taken exams too. Wild was positively surprised by this figure. But in general not many students manage to find their way to the MOOCs. Wild feels students could be more pro-active. 'You register with Spotify and Tinder too, and it's not that much harder to register on the online education platform edX.' 

Students can find more information about MOOCs with credits at www.wur.eu/credits-moocs.



‘IT IS LONELY BUT EFFICIENT’

Iris Mathar, Bachelor’s student of Nutrition and Health

‘In that period I took two courses for which I had to write an article in a group, but I didn’t feel like doing nothing but writing all day. And I thought doing an online course as well would be a nice challenge. The advantage was that I could do a bit of work on it any time I got the chance, in between appointments. Normally you have to cycle to lectures and you don’t get a break in between. Now I just sat down at my laptop and got started. It is much more efficient. You can also speed up the films, which is really cool. But I wouldn’t want the whole programme taught online. It is a very individual way of working, of course. It’s quite lonely.’



‘I HAD JUST ONE CREDIT STILL TO GET’

Josanne Dalstra, Master’s student of Plant Sciences

‘I took one online course alongside my thesis, because I still had to get one credit. I wasn’t expecting such a high standard, but it was a normal three-credit course. And I liked that about it. You can easily cover the different modules week by week. At some point it got harder because I was working on my thesis a lot. But it only needed a couple of hours, which you can fit in during the evening. It is flexible. I think a course like this is useful, for example for people who haven’t got anything to do for a month or so after finishing an internship. But it is a pity you can’t do the exam straightaway. That is a downside.’



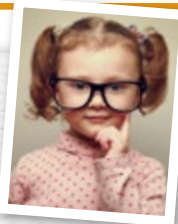
‘I WANTED TO SPEND MORE TIME WITH MY FAMILY’

Evert Prins, Master’s student of Organic Agriculture

‘I live in Brabant. I go up and down by car, driving 90 kilometres a day. We had a baby boy last February so I decided to take things a bit easier for a while and spend more time at home with my family. But I didn’t want to do nothing at all. Then I found this. It was a good course in terms of content and visuals. If I’d been living in Wageningen like most students, my preference would be 100 percent for a real class. But if the subject appealed to me, I would do another online course some time.’

WISDOM

When girls are five years old they still picture a brilliant person as someone of their own sex. One year later they attribute smartness primarily to boys. This has been revealed by scientists from Princeton University among other institutions. So stereotyping starts from a shockingly young age, conclude the scientists. Unless it's the wisdom of youth of course.

**KIND**

Bacteria can make us altruistic, Israeli scientists at the University of Tel Aviv have demonstrated with a model study. Doing a good deed for someone else leads to physical contact, according to the researchers, and therefore to the possibility of transfer of bacteria. That benefits 'altruistic microbes' which can then spread further. And that is what it's all about in the struggle for survival. So altruism is just cleverly packaged egoism. So far it is just a model and there is no empirical evidence.

DOWN

Feeling low and a bit depressed? Sit up straight. People with symptoms of depression become more enthusiastic and energetic when they have to sit upright, whether voluntarily or not, say researchers from the University of Auckland. But they do warn that good posture is not a treatment.

SENSITIVE

About two in every 100 people have mirror touch synaesthesia: They feel what others are feeling when they see it. This was discovered by researchers at the University of Delaware. The test they used is simple: watch a video in which someone is touched on the palm of the hand. If you feel that touch too, you've got MST. Nice if it's a case of being tickled. But people with MST feel other people's pain as well.

Student is helping to save climate data

Climate researchers worldwide fear that the new US government under Donald Trump will remove important climate data from the Internet. The Wageningen student Ewout Oonk is helping to save that data and is looking for fellow students also willing to help.

Back in December, the Soil, Water and Atmosphere Bachelor's student joined the Climate Mirror voluntary organization, which is trying to download as much climate data as possible and publish the data again on as many new sites as possible to make it more difficult for people to be denied access to the information. Ewout has also recently joined Data Refuge, an organization that secures climate

data for scientific use by storing it on a central system.

Ewout decided that he wanted to do something after reading an article about the potential threat that the Trump administration formed for climate data. He now spends at least one hour a day preparing downloads and keeping in contact via forums. He has purchased an extra computer so that it can spend entire days downloading.

Last week, Ewout gave a lunchtime workshop on campus about Data Refuge. He hopes eventually to find enough students to set up a Wageningen working group for the organization. 'I think it's important that students and researchers should still be able to use data on the environment in the future.' **AvdH**



PHOTO: FOSSIL FREE WAGENINGEN

'WUR, switch to a sustainable bank'

Wageningen University & Research should stop using ABN AMRO and the Rabobank, say the members of the student organization Fossil Free Wageningen, who have started an online petition.

ABN AMRO and Rabobank invest large sums in the extraction of fossil fuels, says Climate Studies Master's student Emiel Spanier of Fossil Free Wageningen. 'We believe that disinvesting can make a difference. This means that WUR should take its money out of unsound or unethical funds and invest it in more transparent and sustainable investment funds.'

Fossil Free Wageningen points to the Triodos Bank as a suitable new financial partner for WUR. Members of Fossil Free have already visited Triodos and discussed the possibilities. 'Greenpeace and Friends of the Earth Netherlands (Milieudefensie) are two other big clients

of Triodos. We believe that by making such a switch, WUR would be setting an example to other institutions,' argues Suzy Rebisz, Master's student in International Land & Water Management and Rural Development & Innovation.

Over 1000 people had signed the petition last Monday and Fossil Free Wageningen submitted a request to the executive board to be allowed to hand over the list of signatures. The executive board will give its response then, says spokesman Simon Vink. **TvdS and TL**

Read the WUR board's response on resource-online.nl.

'Evening classes restrict students'

Evening classes will cramp students' style when it comes to extracurricular activities, says student union SAW in a report. The union evaluated student responses through the 'reporting point' during the evening classes pilot.

The Student Alliance Wageningen (SAW) received 166 reports from students who had actually taken evening classes during the pilot. All but seven reported negative experiences, says SAW in the report. Students' chief complaint was of having to choose between evening classes and other activities such as sport, lectures, or activities at study associations or

student societies. They also complained of poor concentration after a – sometimes long – day on campus. Two teachers reported that not many students attended the evening lectures and that there was a difference in their concentration compared with daytime lectures.

According to SAW, their study shows that the evening classes interfere with student life and students' broad development. 'SAW's view is that students should not be forced to choose between their studies and their extracurricular activities.' A student's broad development is part of the student experience, according to SAW. The student union says the uni-



PHOTO: GUY ACKERMANS

versity should shoulder its responsibilities in this regard.

SAW handed the report to education director Tiny van Boekel on 26 January. Van Boekel declines to

comment at this stage. The university is evaluating the pilot at the moment too. Its results are expected in mid-February. 'I don't want to jump the gun.' **LvdN**

MEANWHILE IN... IRAN

'Because of Trump I couldn't present my research'

On 27 January President Donald Trump signed an order banning the citizens of seven Muslim countries, including Iran, from entering the US. A judge has since suspended the decision, but for PhD researcher Shokouh Rahsepar this ruling came too late. She is going to have to miss an important conference in America.

'The conference, which took place from 6 to 9 February, is organized yearly for scientists who research the 2010 BP oil spill in the Mexican Gulf. As I research the biodegradation of spilled oil, it was the ideal setting to present my work. We meant to go there with a group from our university, but unfortunately they had to travel without me. This really limits me in my development as a researcher, because international presentations are considered part of the PhD process and a way of meeting new scientists and forming networks.

I experience this situation as unfair and racist: in an academic environment there should not be a difference between scientists. The organizer of the conference feels this way too; she emailed me that she was very sorry

and that this does not represent her idea of America. I have the feeling that this view is widespread among US citizens and Trump is just enforcing this law to announce that he is in power.



Shokouh Rahsepar, a PhD candidate from Iran, talks about the effect of recent events in the USA on her and other Iranians.



PHOTO: MS JANE CAMPBELL / SHUTTERSTOCK, INC.

My family in Iran was shocked by the news of the executive order. Besides my situation, they told me about many Iranian students who study at American schools and were not able to go back after the Christmas break. The Iranian government will probably take this opportunity to stimulate hatred of America again. However, I make a clear distinction between the government and the people of Iran: in general Iranian citizens don't hate Americans. Unfortunately, ordinary citizens like me are affected by international politics.' **TF**

YOU ON CAMPUS

It is halfway through the academic year: a time of transition for many students. Among them, Frank Wortelboer (20), third-year BSc student of Landscape Architecture and Spatial Planning. He has just got back from his 'really great' minor in Istanbul. There are two things he is now sure of, thanks to that experience: he wants to travel even more, and he loves it in Wageningen.

'I'm walking around campus again but it takes a bit of getting used to,' says Frank. He has only been back from Turkey for three days but he is already active at the university and has just realised there's something he has some catching up to do. 'I still have to submit a paper otherwise I'll have to retake that course and I'll need an extension. I don't want that of course.' Frank hopes to graduate this year but that won't be the end of his studies in Wageningen. He is very likely to go on to a Mas-

ter's here. 'Spending six months away is very refreshing. I realize now what a good life I have here, and that I'm certainly not done with Wageningen yet.' In spite of having loved in a totally different culture for the past six months, Frank thinks everything will soon go back to normal. 'Actually, of course, Wageningen hasn't changed a bit. Everyone around me agrees on

'I'm not done with Wageningen yet'

that.' He missed people mainly: his friends, his housemates and his band. But there was something else he missed in Istanbul too. 'Cycling. Cycling is so nice! And everything here is so nearby, something you hardly realize. It's easy for me to visit friends in another town. Or my par-

ents of course.'

But Frank's overseas experience has changed something. 'I realized I would really like to travel too, but with a purpose. I think it would be great to do research at the same time, for instance.' **AB**



PARTIES

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

VILLA BLOEM - BOOM BOOM REGGAE #8

Friday 10 February from 20:00 to 01:00

A nice reggae party at Villa Bloem. Ends at 1 o'clock so don't come too late. Admission is free and there'll be nice bands performing. A good start to your weekend!

CAFÉ LOBURG - COMEDY SPECIAL: RIA LINA!

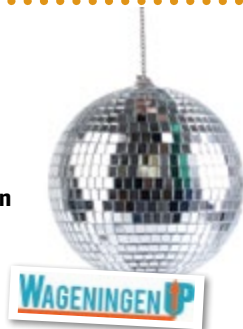
Monday 13 February from 20:00 to 22:00

British comedian/ singer-songwriter performs in Loburg. It promises to be a hilarious even. Admission 8 euros, reserving tickets advisable. Which is possible through eehproductions@gmail.com.

ARGO - NACHTDIER: LONELY PLANETS REC. LABEL NIGHT

Saturday 25 February from 22:00 to 06:00

Wageningen wouldn't be Wageningen anymore without the phenomenon *Nachtdier*. This time the techno fanatics are providing an evening's entertainment at Argo. No need to go all the way to Amsterdam; just ride your bike up the dyke. **AB**



Tropical cocktails and a nice mix of music created the atmosphere on 26 January at the Bohimio New Year Bash in the International Club.

PHOTO: SVEN WENSCHER

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.

'The gap between the rich and the poor is big in Texas'

'I wanted to go abroad for my internship. I didn't mind where I went but because I had never travelled on my own before, I thought a western country would be a good start. Here at the Sabin Vaccine Institute in Houston I am working with an antigen, a protein from the parasite *Trypanosoma cruzi*. This little creature spreads dengue fever in America. I am researching whether that protein stays stable for long enough with minimal cooling, both in its pure form and in the vaccine created with it. If it turns out that the end product keeps in the fridge for one to two years, that halves the costs. And as a not-for-profit organization, Sabin benefits from that: they will then get the green light from the sponsor to manufacture the vaccine.

CAPITALISM

What strikes me here is the gulf between the rich and the poor. America is the land of opportunity, but only for those who can afford it. Capitalism through and through, as I see it. Waiters can't live on their wages here. They live off the tips or they have a second or even a third job. You can end up homeless because of hospital bills, even when you are insured. In apartment blocks, bouncers are hired to keep homeless people out of the hallway. The contrasts seem extreme to me, yet I'm told it's not that bad in Houston. At the same time you notice that it's increasingly normal among the better off for the woman to be a housewife. Around the lunch hour you see a lot of those typical blonde, slim housewives. I find it very contradictory.


But at the lab I don't notice many cultural differences. I don't notice a difference in the hierarchy, for instance. My supervisor encourages me to do as much as possible independently. I always come to work some time between a quarter to nine and a quarter to ten, and I leave between five and eight. Two of my colleagues work from ten to five and that is accepted too. What I do find interesting is that Americans generally work hard: less efficiently, but they go on working late.

WHOLEMEAL BREAD

I do miss the Netherlands. The down-to-earth, blunt people, being able to crack jokes using word play or to imitate Hans Teeuwen. And I miss sugar-free wholemeal bread with apple syrup and Calvé

THE WORKS

Who? Sarah Weltje, Master's student of Molecular Life Sciences
What? Internship at Sabin Vaccine Institute
Where? Houston, Texas, US

peanut butter, and being able to get somewhere in one and a half hours max, to do something nice. I've hardly seen any cycle paths or pedestrians here and I miss being able to go out for a walk in the evening without any worries. The funny thing is, though, that when I get back to the Netherlands I will miss this place too.' 



Read all interviews
on resource-online.nl.

wage
ningen
campus

Out now: The February Calendar!

With all
activities on
Wageningen
Campus



For more information
www.wageningencampus.nl

in memoriam

Jan Knuiman



Our ex-colleague Jan Knuiman passed away last Saturday, 28 January after two and a half years of illness.

Jan's career at Wageningen University & Research started in 1972 at the IPO, as it was known then. Right from that time, as an education assistant he encountered automatization, a subject he became very interested in. From 1984 on, that was the focus of his work, first at IPO and later at PRI. From 2004, Jan worked in IT at Facilities & Services, since 2007 as functional applications manager.

Jan made a key contribution to several ICT-related projects, bringing to them a lot of experience of applications management and processes. Jan was very committed to supporting the users of the WUR-wide information systems. And he was also a very interested and involved colleague, who became famous for supplying us with fresh cherries in season. During his period of illness, Jan always maintained a very open and optimistic attitude. Warm relations with dozens of colleagues continued even after his formal retirement from WUR. Jan remained very involved in WUR and a regular visitor to Facilities & Services. In Jan we lose and shall miss an open and friendly colleague. On behalf of colleagues at Facilities & Services, we offer Jan's family and friends our sympathies and wish them strength at this time.

Dick Schulting, Theo Jetten and Willem van Dis

announcements

UFW Research prize 2017 open for nominations

Do you know a scientist under 40, whether in your chair group or not, who has written an excellent article in the last three years? Nominate him or her, then, for the UFW Research Prize 2017. The prize is

awarded every three years to a WUR researcher at Founders Day on 9 March. Nomination form and criteria at: universityfundwageningen.eu/researchaward. Deadline: 20 February.

VACANCY: PHD FELLOWSHIP 'GENDER-RESPONSIVE INNOVATION IN MAIZE- (AND WHEAT-) BASED AGRICULTURAL CONTEXTS'

Innovation in agriculture and natural resource management is critical to reducing rural poverty. However, gender norms and social restrictions often influence the ability of different groups of women – and men – to learn about, participate in and benefit from innovation processes. How and why this occurs in some circumstances and not others has been poorly understood. This PhD project will build on GENNOVATE data collected by the CGIAR research programs on wheat and maize and will select specific cases for further in-depth research on the interlinkages between gender norms, agency and agricultural innovation processes. The Knowledge, Technology and Innovation chair group and the International Maize and Wheat Improvement Center, CIMMYT, invite interested candidates to apply before 19 February.

WUR.NL/EN/ARTICLE/PHD-FELLOWSHIP-GENDER-RESPONSIVE-INNOVATION-IN-MAIZE-AND-WHEAT-BASED-AGRICULTURAL-CONTEXTS-.HTM

STUDENT SAFARIS IN SOUTHERN AFRICA

Last chance! You are very welcome to join a study tour to southern Africa this winter (mid-February 2017). You join a group of enthusiastic and motivated students on a trip exploring African nature and wildlife. For more information go to studentsafaris.nl or email: info@studensafaris.nl.

agenda

Thursday 9 to Wednesday 22
February

FILMS FOR STUDENTS

The Salesman: Realistic drama about a young couple in Teheran, about pride, revenge and empathy, with an exciting, tight plot. *Layla M*: a balanced story about a radicalized girl from a Moroccan family in Amsterdam West. *Poesia Sin Fin*: an energetic

ic autobiographical portrait of the Chilean multi-artist Alejandro Jodorowsky. *I, Daniel Blake*: powerful drama which exposes the absurdity of the British social security system with black humour. Movie Weekend: three-day festival with many films, music and a café, 17-19 February. Venue: Wilhelminaweg 3A, Wageningen. **MOVIE-W.NL**

vrijdag 10 februari, 13.15-14.45
FRIDAY 10 FEBRUARY, 13.15-14.45
The annual SURF conference on Security and Privacy will host a debate chaired by Professor of Digital Security Bart Jacobs of Radboud University Nijmegen on the potential hackability of our democracy. The speakers at the debate will be Frederik Zuiderveen Borgesius of the Institute for Informa-

tion Law in Amsterdam (IVIR), Ancilla van de Leest (leader of the Pirate Party), Astrid Oosenbrug (PvdA MP) and Kees Verhoeven (D66 MP). Admission free. Venue: Orion.

Tuesday 14 February, 9.30-11.30
WORKSHOP 'WORKING INDEPENDENTLY; STARTING OUT AS A FREELANCER' BY JUTTA WIRTH

Setting up as a freelancer (in the Netherlands) looks like a tremendous opportunity. But where do you start? Which resources are available, what do you come up against in the process, and it is feasible? Jutta Wirth goes into all this and more in the workshop. Sign up at werkwiel@gmail.com. You are also welcome if you haven't signed up. Admission is free. Werkwiel Wageningen organizes activities and network gatherings for jobseekers and freelancers every Tuesday from 9.30 to 11.30. Venue: the canteen at Sports hall de Vlinder, Hollandseweg 7 in Wageningen.

WERKWIEL.WORDPRESS.COM

Thursday 23 February, 12.30-13.20
LUNCHTIME WORKSHOP
WAGENINGEN WRITING LAB 'PLAN FOR SUCCESS'

How to get started on your writing assignment in an effective way? That is the question we aim to address during the workshop 'Plan for Success!' We will provide you with the theory behind the writing process and guide you in applying this theory to your own assignment. Admission free. Be on time, as participant numbers are limited to 20. And don't forget to bring along your assignment! Venue: CO106 Forum.

WUR.NL/EN/ARTICLE/WAGENINGEN-WRITING-LAB-FOR-STUDENTS.HTM

colophon

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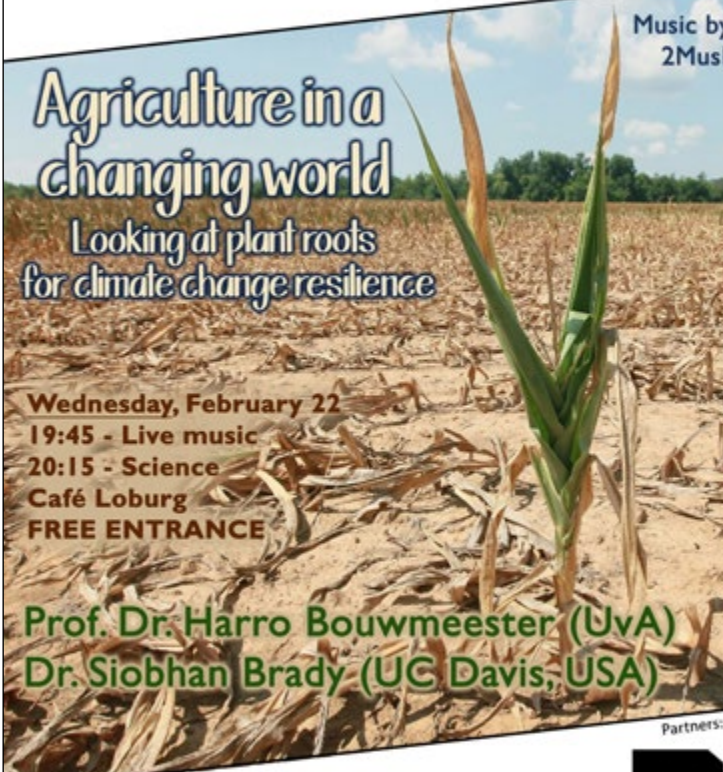
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Wageningen

www.sciencecafewageningen.nl



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Agriculture in a changing world

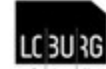
Looking at plant roots
for climate change resilience


Wednesday, February 22
19:45 - Live music
20:15 - Science
Café Loburg
FREE ENTRANCE


Prof. Dr. Harro Bouwmeester (UvA)
Dr. Siobhan Brady (UC Davis, USA)

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

>>TYPICAL DUTCH




ILLUSTRATION: HENK VAN RUITENBEEK

Big money

Before coming to the Netherlands, I collected my Temporary Visitor's Visa (TVV) in Moscow. There I exchanged my US dollars for euros and the clerk at the exchange bureau gave me three 100-euro and two 50-euro banknotes. With those notes in my pocket I arrived in Amsterdam and travelled to the city of Wageningen.

The lovely 88 bus to Wageningen was standing at Ede-Wageningen station. I was wondering how to pay the fare because other passengers had their OV Cards to pay with. I started a conversation with the bus driver, explained my situation and asked for help. A smiling face replied that I could pay in cash, so I took out a 100-euro banknote to pay. The bus driver instantly said: 'Wait, wait! Easy, easy! I don't need such a large amount!' His eyes were bigger than tennis balls. Perhaps he thought I was a distant relative of a Middle-Eastern oil magnate. Later I understood his amazement, for I never saw or got a 100-euro note in the Netherlands after that.

Interestingly, when I changed my money in Moscow, a man standing near me had 5000 euros in 500-euro banknotes. What would have happened if I had given a 500-euro note to the bus driver? Maybe, he would immediately have fled the bus, run off and quit his job because he took me for a Russian drug baron. Anyway, it was fun. 
Avazkhoja Akbarkhojaev, former exchange student from Uzbekistan, currently EP-Nuffic ambassador for Wageningen University in his home country

'When I took out a 100-euro note the bus driver's eyes were bigger than tennis balls'

Have you had an interesting encounter with Dutch culture? Send your anecdote (in 250 to 350 words) to resource@wur.nl and earn 25 euros and a jar of Dutch sweets. The editors reserve the right to shorten and edit the contributions before publication.