Growth slows

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Gender

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Fungi

Ex-students plant to grow mushrooms | **p.24** |



Going English The pros and cons at Bachelor's level p.12









2 >> labour of love



Annette van 't Hull, management assistant at AFSG

'I just love language'

For Annette van 't Hull writing is 'honing words until what is left is what needs saying '. Her debut story won a prize straightaway. Her first book comes out next week: Grote Meisjes (Big Girls). 'A collection of 11 stories about women who have reached a point in their lives where they need to make an important decision.' More on: www.annettevanthull.nl. **@ RK / Photo: Guy Ackermans** ILLUSTRATION COVER: GEERT-JAN BRUINS

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Wageningen University & Research might be starting English-language Bachelor's degrees from September 2018. The English in the report on the plans very subtly demonstrates one possible consequence of the language switch: the advance of Dunglish. The authors tell us, for instance, that in the current BSc programme an international classroom is 'quite a challenge to organize because of the first year being in Dutch'. And the transition to international BSc programmes 'is explicitly not done to attract more students'. Hmm. The Dutch are pretty good at English on the whole, but mastering the finer details of the language is, as Louis van Gaal would say, 'another cook'. But let's not underestimate the power of broken English of all varieties in academic life. It enables students and scientists of hundreds of nationalities and cultures to communicate with each other. Of course we can all express ourselves best in our mother tongues, but the reality is that many Wageningen alumni work in international teams and have to get by with their lovely 'coal English', as we call it. They'd better try and 'come onto the ice well fitted'.

Rob Ramaker



>> Drones join forces to deal with weeds | p.10

EUROPEAN COMMISSIONER FAVOURS FOOD POLICY



'Sustainability must be the foundation of our food systems'

Phil Hogan, European Commissioner for Agriculture is just as keen as WUR president Louise Fresco to transform the current European agricultural policy into a food policy. 'Our ongoing fight against climate change and environmental degradation requires our food production systems to become smarter, and greener.'

In her recent Mansholt lecture in Brussels, Fresco appealed for an EU Food Policy that not only concerns agriculture and farmers, but also nature conservation, public health, and environmental and consumer issues. Hogan made clear during his recent visit to Wageningen that he agreed with her. Commissioner for Innovation and Research, Carlos Moedas, have drawn up a research agenda on food security. 'This document elaborates on the breadth and depth of our food systems, both local and global. It acknowledges that sustainability must be the foundation for our future strategies in this area. We have set ambitious targets for the Paris Climate Agreement and the Sustainable Development Goals. And our agri-food sector must be empowered to lead from the front in this challenge.' There is a role here for the food industry and supermarkets too, says Hogan. **@ AS**

> Read the full interview with Hogan on resource-online.nl.

Hogan pointed out that he and the EU

CASE FOR POSITIVE DISCRIMINATION

- Tenure track is not improving gender equality
 (Use Aspacia funding)
- 'Use Aspasia funding'

A more balanced man-woman ratio among Wageningen scientists is not feasible without positive discrimination. That is researcher Martha Bakker's conclusion from her study of the impact of tenure track on the chances of promotion for women at Wageningen University & Research.

The study shows that tenure track contributes very little to a better gender balance. So Bakker thinks it is time for other measures, and she proposes making use of 'Aspasia' funding. Aspasia is the NWO's fund aimed at fast-tracking talented women towards full professorships. Each Aspasia grant is worth 200,000 euros, 50,000 euros of which are earmarked for improving gender equality.

Bakker herself is one of Wageningen's seven Aspasia beneficiaries. Of the 350,000 euros this brought in for gender policy, 150,000 euros are still in the kitty. The rest was spent on WUR's Gender Action Plan. 'We as an Aspasia group would want to use the 150,000 euros for some kind of mini-Aspasia. For example, give talented female scientists some time off teaching in order to acquire a prestigious grant.' **Q** RK

See too page 18: Tenure track is not helping women enough

STUDY ON PAY DEFICIT FOR WOMEN

- Women researchers earn 7 percent less
- WUR to investigate situation here

Women researchers at Dutch universities earn less than men, shows a recently published study by the National Network of Women Professors. Corporate HR intends to investigate whether that is the case in Wageningen.

The study looked at the positions of assistant professor, associate professor and full professor. Women in these positions earn an average of 390 euros a month less than men of the same age. At a gross salary of on average 5723 euros, this pay gap amounts to nearly 7 percent less pay.

In practice, male researchers are older on average than their female counterparts. The pay gap between men and women is therefore a bit bigger in reality: a male researcher earns an average of 799 euros gross (nearly 14 percent) more per month than a female researcher. The figures have not been specified for the 14 participating universities. That is the plan, says director of Corporate Human Resources Ingrid Lammerse. 'At the moment I am making an inventory among the HR directors of the universities and it appears that most of them are going to conduct their own research.' Lammerse's department is going to do this for Wageningen. 'We shall look at whether the results of the LNHV report apply to us too. I expect our results in the first quarter of next year.'

The difference in the monthly pay packet at the same age is greatest among full professors, according to the report: 438 euros. After that come the assistant professors (41 euros) and the associate professors (40 euros). At the grade of Associate Professor 1, though, something unusual is going on: here women are earning more (57 euros). But the researchers say this is because successful women at that level are rewarded with a higher salary, while successful men are promoted to full professorships. **Q RK**

WUR TO COME UNDER TWO MINISTRIES

- 'Green education can come under ministry of Education'
- 'Wageningen Research stays with Economic Affairs'

There are no objections to the transfer of Wageningen University and other green educational institutions from the ministry of Economic Affairs (EZ) to the ministry of Education (OCW). This conclusion is drawn by a civil service committee in a report, 'Green education on the move'. It does stipulate however that EZ and OCW must appoint the WUR executive and supervisory boards jointly.

A parliamentary majority voted in November 2015 to move green education to OCW, but thought 'the strengths of green education' should be preserved. The civil service committee looked into whether these strengths were at risk and concluded that they were not. The close collaboration between research institutions and EZ can continue. In terms of funding terms, little changes either. Wageningen University is already funded in line with the ministry of Education's model. The only exception is the 2 percent rule, which ensures that the university's budget cannot increase or decrease by more than 2 percent. This rule can be abolished, says the committee.

Wageningen Research is not changing ministry. This means in future WUR will have two financiers: OCW for the university and EZ for the research institutes. **()** AS

in brief

>> ENROLMENT CAP

Three degree programmes set limit Next year Wageningen will have three Bachelor's programmes with a cap on enrolments. The application to set limits for Biotechnology and Molecular Life Sciences has been accepted by minister of Education let Bussemaker. The Nutrition and health programme already has an enrolment cap. The limit for Biotechnology for next academic year has been set at 120 first-years, 11 fewer than started this year. For Molecular Life Sciences the limit is 100 students for next year. This year the programme attracted 85 first-years. The limit for Nutrition and Health next year is 160 students. This year 149 were admitted, but twice as many could have come, based on the number who registered. (B RK

>> COMMUNICATION SCIENCES New name approved

The Bachelor's degree programme Communication sciences has been evaluated positively by the Dutch-Flemish Accreditation Organization (NVAO). The programme is also allowed to change its name to Communication and life sciences. This is cheering news for the programme, whose survival prospects seemed uncertain three years ago in view of persistently low student numbers. This changed last September when 24 students embarked on the degree programme, bringing it above the lower limit of 20 students. **() RR**



>> EDUCATION INFORMATION SYSTEM WISE scrapped

Wageningen University & Research is not going to introduce the new education information system WISE. The problems encountered earlier this year turn out not to be solvable in the short term. The current systems AIR, SPA and STARS will be used for at least another three years. Wageningen University & Research declines to make a statement about the costs already incurred for the abandoned introduction of WISE. Last June the WUR council started an investigation into the – at that point – postponement of WISE. The scrapping of the system makes this study 'even more important', says chair Marian Stuiver. **Q TvdS and RR**

Follow the news daily on resource-online.nl.

COLUMN|STIJN

Lining their pockets

I didn't have the nerve for a full-scale boycott but my applause for the organizer, Elsevier, was muted. Like a polite laugh but then in the form of clapping. Not that the publisher had organized the conference badly. On the contrary: everything ran as smoothly as could be. I just don't like Elsevier. I think they have lined their pockets with public money. WUR pays a whole 2.9 million euros to publishers for access to academic literature. In the corridors I hear that Elsevier is the worst. I can't check that: the results of negotiations are secret. Yes, secret. In the Netherlands virtually every penny spent has to be made public. Exactly how much money is spent on my research can be found on the internet. Behind the scenes I recently had to specify exactly what I needed a roll of tape for, but the outcome of these negotiations over millions stay secret. The only thing I can say is that RELX, Elsevier's parent company, made a net profit of nearly 1.4 billion last year. Meanwhile, publishers' policies bring out the worst in scientists (publication bias, significance hunting etc.) because their careers depend on publications on top journals. After a hypocritical promotional talk on the conference I couldn't stand it any longer. In the plenary I asked a cynical question: why do you have to pay Elsevier to reuse images? For just a moment they were silent, those Elsevier people. Then everything carried on as if nothing had happened.

I'm going to try to get my own next manuscript published in an Elsevier journal. Well, I do need publications for my thesis. Elsevier's business model is safe for now. **G**

Stijn van Gils (28) doet promotieonderzoek naar ecosysteemdiensten in de landbouw. Maandelijks beschrijft hij zijn worsteling met het systeem wetenschap.



GROWTH OF MASTER'S PROGRAMMES SLOWS

- Only 0.8 percent more first-years than last year
- Fewer BSc students go on to Master's

The enrolment figures for first-year Master's students has stabilized this year after years of growth. As of 1 October, only 18 more students than last year had started on a Master's at Wageningen University & Research. The stagnation is caused by the fact that fewer BSc students are staying on to do a Master's here, show statistics from the department of Education Research & Innovation (ER&I).

At the beginning of August a growth of 10 percent was expected in both the Bachelor's and the Master's programmes. The actual growth was 9 percent for the Bachelor's programmes but only 0.8 percent for the Master's degrees. According to Henk Vegter, head of Quality and strategic information at ER&I, this is related to two trends in different directions. The number of Dutch and especially of international Master's students coming from other institutions is still increasing. But the drop in the number of Wageningen's own Bachelor's students staying on for a Master's is even greater. Of this year's BSc graduates (as of September), only 71 percent enrolled for a WUR Master's. Last year that was 81 percent and two years ago, 85 percent.

Another factor is that a lot fewer Bachelor's students graduated last year: 880 instead of 991. Vegter puts this down to the abolition of the basic grant. 'Last year BSc students in the last stages of their degree did their very best to finish in time to start on a Master's while they still had a right to a basic grant.' The combined effects – fewer BSc graduates and fewer staying on for their Master's degree – are enough to cancel out the growth in recruitment from elsewhere.

The slowdown is reflected in developments per Master's programme. More than half the 28 programmes show signs of shrinkage (see table). The differences are considerable too. Food technology is clearly in the lead with 235 students. This programme is growing continuously, and programme director Ralf Hartink thinks the trend will continue for a while longer. The growth is being taken into account, yet Hartink predicts problems. 'The professors still guarantee a thesis position for all the students, but the capacity for supervision and the costs of those places are problematic.' **© RK**

Number of first-years per MSc programme

	2015	2016	
Food technology	189	235	+46
Nutrition and health	214	195	-19
Biotechnology	126	156	+30
Plant sciences	135	153	+18
Animal sciences	131	136	+5
Environmental sciences	133	136	+3
Management, economics and consumer studies	155	124	-31
Forest and nature conservation	83	95	+12
Food safety	63	91	+28
Biology	103	88	-15
Earth and environment	83	74	-9
International development studies	93	72	-21
Organic agriculture	58	66	+8
Applied communication science	67	63	-4
Plant biotechnology	44	56	+12
Urban environmental management	60	51	-9
International land and water management	56	46	-10
Aquaculture and marine resource management	46	43	-3
Geo-information science	35	42	+7
Food quality management	30	40	+10
Molecular life sciences	47	36	-11
Landscape architecture and planning	54	35	-19
Development and rural innovation	14	31	+16
Biosystems engineering	44	28	-16
Climate studies	29	25	-4
Leisure, tourism and environment	23	21	-2
Bioinformatics	25	20	-5
Water technology (joint degree)	20	20	+0
	2160	2178	+18



The company Plant-e, a spinoff of WUR, is placing an installation near the entrance to the campus. The company plans to light up an information panel using electricity from plants. Last year the World Economic Forum declared Plant-e one of the most innovative technology companies in the world. It creates systems that extract energy from plant roots and convert it into electricity. The Plant-e entrepreneurs are now installing a 'tube system' in the wetland garden next to Atlas. This system will produce the electricity for an information board about the wetland garden, to be put in place shortly. **()** AS

PLAN TO PLANT NEW FOREST

 Goals: wood production and CO₂ absorption
 LTO responds negatively

The Netherlands should plant trees on 100,000 hectares of land, say organizations including the state forest service Staatsbosbeheer, the Nature & Environment foundation and several associations in the wood-processing industry, in an Action Plan forest and wood. The proposal is based on research by Gert-Jan Nabuurs, special professor of European forest resources at Wageningen University & Research. The plan was discussed at the first Dutch climate summit on 26 October in Rotterdam.

The action plan serves several purposes, says Nabuurs. It helps the



Netherlands become self-sufficient in the resources needed for a sustainable economy. Currently 90 percent of our wood is sourced abroad. The plan should also help the Netherlands achieve climate objectives. By planting trees, managing forest better and using processed wood more sustainably, the initiators believe that 4 to 4.5 million tons of carbon can be absorbed, about 5 percent of our total emissions. Nabuurs does not believe that climate objectives and higher productivity necessarily have to clash. 'In several regions there is an increasing emphasis on multifunctional forests.'

Agricultural organization LTO responded negatively to the plan, however. They feel it competes for space with Dutch farmers. The lobby organization also thinks farmers themselves can contribute to achieving the climate objectives. Nabuurs is astonished by this reaction. In his opinion, not everyone realizes what far-reaching agreements were made at the climate conference in Paris. Small steps are not enough now. 'The whole of society has to be turned upside-down,' he says. 'And every sector needs to do its bit.' **@ RR**

IN THE NEWS

Who? Guido Camps, PhD researcher at Human nutrition | **What?** Took part in the TV programme 'All Holland Bakes' and reached the finals | **Where?** On NPO2

'I soon realized I wasn't the favourite'

You got a long way, to the finals, but you didn't win. Were you inundated with phone calls after the programme?

'When I switched on my mobile the day after the show was broadcast I had a lot of missed calls from the media. I had expected that. I also got a lot of messages on social media and from people I knew, but apart from that it was just a normal, busy Monday. I had to finish a protocol for Wageningen University. In that sense it was no different to the day after the other episodes. The weirdest thing for me was that the filming was done six months ago of course. It was suddenly hot for everyone else now, but not for me. I knew I worked too sloppily to win the finals, so it was no surprise at all to me that I didn't win.'

How did you watch the finals yourself?

'We had had a family weekend in Zeeland and we were really tired when we got home. It turned out the neighbours had organized a beamer so we watched with all the neighbours. It was really fun to see how exciting everyone else found it, and to see the amazement on their faces at certain points. Of course I knew what was going to happen, but they didn't.'



How do you look back on your participation in the programme?

'It was a very nice experience and I soon realized I wasn't the favourite. But I still got to the finals. It was strange to see myself on television, especially the first episode, but you get used to that in the end too. Above all, it was very nice to be a part of it.' **@ MF**

'WE'LL NEVER GET RID OF EBSL'

Antibiotics use for livestock halved
Still a lot of ESBL and MRSA in the chain

Still a lot of ESBL and MRSA in the char

In spite of a considerable drop in the use of antibiotics in the livestock sector, resistant MRSA and ESBL bacteria are still common, show two recent studies by Wageningen University & Research and the RIVM. The policy does work, responds veterinary researcher Dik Mevius, but the consequences of earlier antibiotics use are irreversible.

The measures taken against resistance to antibiotics in livestock are mainly targeted at bacteria which produce the enzyme called extended spectrum beta-lactamase (ESBL), which fends off certain antibiotics. These bacteria pose the greatest risk to public health. In order to prevent them from spreading, livestock farmers are only allowed to use the antibiotics in question if there really is no alternative. This policy has cut the use of antibiotics.

The ESBL bacteria still affect a lot of broiler chickens, however, showed research results published this month by Wageningen epidemiologists with the RIVM. The researchers monitored 80 broiler chicks in a barn with 5000 organic broiler chicks on which no antibiotics were used. Even though none of the 80 chicks were infected with ES-BL before arriving in the barn, within three days they were almost all infected. 'The infection was in the barn,' says researcher Lisette Graat.

Mevius is not surprised by the results. The Dutch livestock sector has achieved a lot, in his view, by halving antibiotics use in a short period. 'We are now a model country.' But the impact of antibiotics use is irreversible. 'We will never get rid of the ESBL bacteria now. They are already everywhere in the environment. The only thing you can do is control it, prevent them from spreading.'

The situation is no better for MRSA bacteria, which are resistant to the antibiotic methicillin. Recent research by the RIVM together with WUR researcher Kees Veldman shows that 83 percent of pigs have the MRSA bacterium in their systems. MRSA from livestock does not, however, pose a big risk for public health, explains Mevius. The agricultural MRSA strain is adapted to animals and rarely occurs in humans. The human MRSA strain – the 'hospital bacterium – does however pose a public health problem. **@ AS**



This ash is infected with the fungus Chalara fraxinea.

WAGENINGEN IS CREATING A RESISTANT ASH

• Gelderland province is felling 90 percent of ash trees

• New variant is resistant to ash dieback

Nearly all the ash trees along the provincial roads in Gelderland are being uprooted as they are suffering from ash dieback. This fungal disease is also causing damage elsewhere in the country. Does that mean the end of ash trees in the Netherlands? No. Wageningen scientists are creating an ash that can cope with the disease.

Ash dieback is the name for the disease that ash trees get when they become infected with *Chalara fraxinea*, a fungus that has spread from Southeast Asia to Europe. The disease was first observed in the Netherlands in 2010. Trees that become infected lose their leaves and eventually die.

Gelderland is not waiting until the trees fall over. The provincial authority has announced that it will be taking down trees along the provincial roads. About 90 percent of all ash trees will be felled. The tree expert Sven de Vries, who has just retired from his job at Wageningen Environmental Research, is critical of that decision. He says it is definitely not the case that all the trees are affected. That could mean trees will be felled that are resistant to the fungus.

That such variants exist is revealed by research started up by De Vries and his colleague Jitze Kopinga (who is also retired). They sounded the alarm for the ash three years ago. Their crowdfunding campaign 'Save the ash' prompted a couple of tree nurserymen to take action. According to De Vries, it is clear by now that the ash can be saved.

De Vries searched various trial fields in the Netherlands for ash trees that had not been affected by the fungus, and found them. The genetic tolerance in these trees was then used to breed resistant varieties. This was followed by multiplication, and there are now hundreds of 'clean' saplings ready and waiting.

The idea is that field trials will show how resistant they are. To test this, they are deliberately being infected with the fungus or being planted in among infected trees around the country. Paul Copini, De Vries' successor, will be doing this. **Q RK**

VISION < <

PHD CANDIDATE CREATES DIET POTATO

 Enzyme regulates the digestibility of starch

So you can make spuds difficult or particularly easy to digest

Wageningen are able to create potatoes that are difficult to digest and which therefore could be used as diet potatoes. They can also produce spuds that are particularly easy to digest, for example for malnourished seniors in nursing homes. The key is an enzyme that binds phosphate to starch.

PhD candidate Xuan Xu in the Plant Breeding group investigated the digestibility of starch in potatoes. This depends in part on the number of phosphate molecules that adhere to the starch, as her co-supervisor Luisa Trindade explains. The more phosphate is fixed in the potato, the more difficult it becomes for the starch to be broken down. Xu discovered that certain enzymes make phosphate adhere to starch, or indeed inhibit adhesion.

She conducted tests with one of these enzymes, laforin. In humans, this enzyme separates phosphate from glucose. Xu and Trindade expected to see a similar reaction in potatoes, but to their surprise the enzyme actually led to more phosphate binding with the starch. This means that laforin is the key to a potato that is more difficult to digest.

Xu has successfully built this property into potatoes using genetic modification. However, GM technology is not allowed in food crops so Trindade is looking for other options. 'We may be able to find a protein in potato plants that has the same effect in the plant as laforin.'

Trindade does not yet know exactly what stimulus the enzyme gives to the plant so that more phosphate is bound to the starch. 'That's a question for the next PhD candidate,' she says. Xu's successor will work on identifying the driving force behind this reaction and investigating how to stimulate the binding of phosphate using an alternative method to genetic modification.

If that works, plant breeders will be able to develop a potato with poor digestibility – an interesting option for people wanting to lose weight. But the same principle could be applied to develop a potato that is particularly easy to digest, for example for elderly people suffering from malnourishment.

Xuan Xu received her doctorate on 14 October. Her supervisor was Richard Visser, professor of Plant Breeding. **()** AS



Dutch dairy farmers face uncertain times. They produce too much manure and State secretary van Dam's phosphate legislation for controlling that has been rejected by the European Union. So how should the dairy sector proceed? Never waste a good crisis, says researcher Bram Bos of Wageningen Livestock Research.



Crisis?

'The sector has got to shrink. That is dramatic for dairy farmers who have invested and will now have half-full barns.'

But you still think it's a good idea to reduce livestock numbers.

'Yes. I would connect that with several other urgent goals for society. A big reduction in the number of cows solves more than just the phosphate surplus. Not only would it improve water quality but it would also cut both the deposition of ammonia in the natural environment and emissions of greenhouse gases. So shrinking herds have definite advantages, which the government could make use of to limit the damage for the sector.'

But don't we produce for the global market?

'Yes, but that clearly has its limits. And it is difficult enough to compete on the world market in terms of cost price, because of high land and labour costs here. With the combination of the world market and requirements imposed by society, it is going to get harder and harder for farmers to produce viably.'

Are there alternatives?

'First of all you need to stand out more with your product and you could bolster the Dutch dairy sector's strong points. Take the meadow milk which FrieslandCampina sells as far away as China. Focus as well on the use of grass and waste flows to reduce the pressure on the environment. In the long term it is better not to use animals at all for most of our protein. At the moment we still need cows to convert grass into protein. Let's develop technology for directly converting grass into raw materi-

al for human nutrition. Real milk and cheese will then become a bit like wine.' ③ AS

Economist Robert Hoste disagrees: he thinks livestock numbers should not be reduced. Read his views on resource-online.nl



A microscopic image of starch granules in potato.

'PITY THE TICK LOGO IS GOING'

Logo to go following Consumer association campaign

• New nutrition app will inform consumers

It is a pity the 'Conscious choice' check mark is being scrapped, says professor of Sensory science and eating behaviour Kees de Graaf, chair of the scientific committee responsible for the logo. He fears that companies will lack an incentive to make healthier products.

Minister Edith Schippers of Public health, welfare and sport (VWS) announced last week that the logo of the 'Conscious choice' foundation – used on about 7000 products by 90 companies – will be phased out over the coming year. It will be replaced by an app providing 'clear and objective information'.

The tick has long been controversial and

came under heavy fire when the Consumer Association launched its 'Down with the tick'campaign in March 2016. The association concluded from a study it conducted that the logo caused confusion. The difference between the green check mark for healthy essential foodstuffs and the blue check mark for the healthiest option in non-essential food groups was not clear to people. In April the Consumer Association lodged an official protest against

sor of Food law, Bernd van der Meulen. The total disappearance of the logo that is now planned comes out of the blue for De Graaf. 'I don't think that's a good idea. Especially since nothing comparable will be put in its place.' He agrees that the tick logo had its weaknesses. Not all food producers were using it and the two variants were indeed confusing. But in De Graaf's view, the 'Conscious Choice'

the logo, with the help of Wageningen profes-

foundation had taken note of the criticisms and was working on improvements. The blue tick was set to disappear and discussions were going on about how to draw in more producers.

DEZE PROD

A nutrition app by itself is not enough to keep consumers informed about a healthy diet, thinks De Graaf. 'When you are standing in front of the shelf in the supermarket and you have to choose between ten kinds of salad dressing, you are not going to scan all ten of them,' he says. But the Consumer Association only sees the app as a supplement to the informative labelling on the product itself. A committee, with Hans van Trijp, WUR professor of Marketing and consumer behaviour, is giving thought to a suitable successor to the tick. **Q RR**

ROBOT SWARMS TARGET WEEDS

- Wageningen group in EU swarm robotics project
- In future, weed control will be from the air

Imagine a field full of sugar beet. But in amongst the beet foliage is the occasional potato plant, as potatoes were grown in this field in the previous year. Drones circle above the field. The flying mini-robots map precisely where each potato plant is and communicate with one another. 'You got anything yet?' 'Yes, there's load of potatoes here, come quickly and help me out.'

This would have been science fiction ten years ago, but not any more. As Joris IJsselmuiden from the Farm Technology Group explains, swarm robotics is the next step in the use of drones in agriculture. His group is collaborating with Italian scientists and the Dutch company Avular to achieve that next step. The project, which is funded by the EU, was recently presented at a trade fair in Italy.

The idea is that swarm robotics will help farmers map the weeds in their fields. The project is focusing initially on organic farmers. They often use mechanical weed control, where the timing is crucial. Swarms of robots can take over the detective work.

The swarms can cope with large areas covering hundreds of hectares. 'You can't do that with a single drone. In addition, if a battery runs out, another drone can take over,' explains IJsselmuiden. 'Using several drones for detection also reduces the risk of errors.'

The drones are provided by Avular. Wageningen is responsible for the detection of the weeds using cameras and jointly responsible with the manufacturer for steering the drones. The Italians focus on the robots' swarming behaviour.



The principle is comparable to the behaviour of foraging bees; they lead one another to the most profitable patches.

In the first instance, the swarms of drones should be able to map out weeds and optimize the schedule for weed control. IJsselmuiden: 'The next step will be to optimize the weed control itself. That can take place from the air using drones, or on the ground using robots. That would really be science fiction.' **Q** RK The editors of Resource put fresh news on the website every day. Not all the bulletins get into the columns of the magazine. Here's a sample of what's on offer online. Read the articles and join in discussions on resource-online.nl.



MEANWHILE ON...

RESOURCE-ONLINE.NL

NOBEL PRIZE

The Nobel Prize for Chemistry caused quite a stir in the Wageningen lab for Organic chemistry. Professor Han Zuilhof works closely with the Scottish laureate Fraser Stoddart, who shared the prestigious prize with Ben Feringa and Jean-Pierre Sauvage. Zuilhof applauds the awarding of the Nobel Prize to the Dutchman. 'He really stands head and shoulders above the rest.'

WORLD DIALOGUE

Some of those planning to listen to the World dialogue 'Are sausages the cigarettes of the future?' were disappointed on Wednesday 19 October. There was a limit to the number of people who could watch, and that limit was quickly reached. Which was a pity because it was an interesting evening, said reporter Yvonne de Hilster. The World dialogue lecture, organized by Wageningen Academy and University Fund Wageningen, was a response to alarming reports in the media that sausages were carcinogenic reports which contained a lot of incorrect information.

Watch the video on resource-online.nl.

SEASICK COWS

The construction of a Floating farm in Rotterdam harbour has been postponed because Rotterdam city council is afraid the cows might get seasick. The chances of that are very small, though, says Johan van Leeuwen, professor of Experimental zoology. Research has previously been done on cows that were shipped between continents, says the professor. Those cows did get seasick but the Floating Farm is to be located in the harbour where there is little turbulence. he reckons. People living on houseboats do not get seasick either.

BINNED

Millions of euros were thrown away when the new education information system WISE was ditched last week. Needless to day, Blogger Jan-Willem Kortlever had something to say about that. 'Isn't it strange that once again such a big project as this fails in Wageningen? Years ago millions went down the drain because the project management system Kameleon failed too. Apparently we are not capable of putting out a decent tender and finding a reliable partner who can handle it together with our ICT department.'



CONTADOR AND DOPING

Clenbuterol in doping pills can in some cases be distinguished from the clenbuterol that comes from contaminated beef or beef liver. This has been demonstrated by Rikilt and German and Polish researchers. Now at last it will be

possible to clarify whether Alberto Contador was guilty of doping in the 2010 Tour de France or had just eaten a contaminated beefsteak. Clenbuterol is a drug used to treat asthma by widening the air passages. In high concentrations it promotes growth. The drug is on the banned list for sportspeople. Cyclist Alberto Contador was caught in 2010 with 0.0000000005 grams of clenbuterol per millilitre of urine. Contador claims he had eaten contaminated meat, but was suspended anyway.



Over to English the Twente way

Wageningen University & Research wants to start Bachelor's programmes in English from 2018. The University of Twente has been experimenting with such programmes since 2010. *Resource* had a look at how it is going in Enschede and asked people there about the pros and cons of the language switch.

text Rob Ramaker photos Rikkert Harink

steady buzzing sound fills the room. Teacher Mathieu turns the knob carefully until the glass jar starts to vibrate. The loudspeaker is now producing sound at exactly 450 hertz. About 60 first-year students, mainly men, are watching, quiet as mice. Some make snapchat films. 'Now everybody cover your ears.' Mathieu turns up the volume and the vibration of the glass increases until it shatters. The students applaud.

Oscillations are today's topic on this course for firstyear students of Electrical engineering at the University of Twente (UT). The lecture is in English, as is the whole Bachelor's programme. The programme, formerly known as *Electrotechniek*, made the language switch in 2012. And it is not the only programme; from September 2017 only four of UT's twenty Bachelor's programmes will be taught in Dutch.

This puts Twente ahead of Wageningen University & Research, where all but one of the Bachelor's programmes are largely taught in Dutch. Early in September the executive board presented a plan to change this by introducing six English-taught Bachelor's programmes from 2018 (see box). Given the similarities between WUR and UT – both small-scale specialized universities outside the urban hub of the *Randstad*, *Resource* wondered whether Wageningen could learn something from the pioneering university in Twente.

DIFFERENTIAL EQUATIONS

As the shattered glass is swept up, the first-years set to work themselves. Today this means deriving differential equations. Students consult each other busily, scribbling on squared paper, while someone hurriedly looks up Newton's second law on Wikipedia. In amongst the Dutch students there are students from China, Romania, Spain, India and other countries. Most of them explicitly chose an English-taught programme. 'English is the language of science,' says Patrick Weske from Germany. 'I couldn't see the use of first learning everything in German, only to have to learn it all again in English later.'

But many international students come simply because they want to get the best possible education. Silvi Bundo from Albania hopes a degree from the Netherlands will improve her future prospects. She also looked at the



options in the US and the UK but she felt they were too far away. 'And tuition costs were much higher there.'

Once the students have derived their equations, lecturer Loes Segerink explains the next assignment. Segerink is completely at ease speaking English and fires questions into



the room. She gets a 'volunteer' to write solutions on the board.

INTERNATIONAL CLASSROOM

The aim is for students of the 'new' programme in Electrical engineering not just to learn all about the subject, but also to benefit from the mix of nationalities which the English-language programme attracts. Segerink: 'They encounter more cultural differences now.' Which helps them learn skills that will stand them in good stead on the job market.

But a truly international classroom does not happen by itself. It is important, for example, that teachers make sure all the project groups include several international students. And a course on intercultural sensitivity was introduced this year. This is no optional extra, says Segerink, since everyone comes up against some of the everyday frictions that go with cultural differences. Foreign students can be startled, for example, by the typical Dutch directness. And there are differences in how seriously people take their studies. Segerink notices that Asian students put more pressure on themselves to be high achievers. They work much longer hours and are sometimes crippled by the fear of making mistakes. 'Some of them see it as a real honour to study here. Dutch students who consider it an honour to study Electrical engineering are more unusual.'

ENGLISH-TAUGHT BACHELOR'S DEGREES IN WAGENINGEN

The executive board at Wageningen University & Research wants six Wageningen Bachelor's programmes to switch to English from the academic year of 2018-2019. These are Biology; Forest & nature management; Soil, water and atmosphere; International land and water management; Environmental sciences; and Food technology. If the plan goes ahead – it is still pending approval by the WUR council – seven of the nineteen Wageningen BSc programmes will be taught in English. The Tourism degree programme is already taught in English.





Herbert Wormeester

GLOBAL CITIZENS

The UT sees the international classroom as the big advantage of English-taught Bachelor's programmes. In its latest internationalization strategy, the university states that it aims to educate 'global citizens'. By this it means graduates equipped for the international labour market, who can build a machine not just in the Netherlands but also working in a diverse team abroad. This ambition is in evidence when you walk around the Enschede campus – known as the setting of Dutch author Peter Buwalda's bestseller *Bonita Avenue*. An Indonesian woman wearing a headscarf cycles past, Chinese is being spoken outside Starbucks, and the smokers' corner is animated by a discussion in Italian.

All quite familiar to WUR of course, where Master's programmes already attract a lot of foreign students, making the campus here at least as international as the one in Enschede. But this could be reinforced by introducing English-taught Bachelor's programmes, which could also offer Bachelor's students an international classroom. This is mentioned in the advisory report on international Bachelors' submitted to the executive board last summer by a committee led by Harry Bitter, professor of Biobased chemistry and technology. But the question is, warns the chair of Twente University Council Herbert Wormeester, whether this is a realistic option for all programmes.

RESERVATIONS

'Before Bachelor's programmes switch to English they should ask themselves whether they have an international community of students,' says Wormeester. He works on the sixth floor of the Horst complex, and has a splendid

MORE THAN ENGLISH

The vision on internationalization at the University of Twente (UT) goes beyond the introduction of English in Bachelor's programmes. The aim is to makes these programmes truly international, with international issues reflected in the curriculum. The university also aims at 25 percent international students in every year. This is essential to creating the kind of international classroom the university wants, in which students can learn from cultural differences. The Bachelor's students are also encouraged to get experience abroad. Moreover, the university hopes to attract more international researchers and to ensure that Dutch staff go on more international exchanges. Finally, English is also increasingly used as the language of communication outside the classroom too.

view of the green boundary of the campus from his desk. 'You actually need 25 percent non-Dutch students,' says Wormeester. Otherwise the reality will be that not every project group has internationals in it, or that all the students at a lecture are Dutch. 'And that feels strange. Before you know it, everyone's talking Dutch again.'

The Twente council has always had reservations about switching to English, says Wormeester. 'We agreed that the request to make the switch should come from the Bachelor's programme itself. The English language should not be imposed on them by our executive board.' There are some programmes, says Wormeester, which simply cannot switch to English. The Technical health science programme is a case in point: its graduates qualify for registration with a Dutch association of individual health practitioners (*BIG: Beroepen in de Individuele Gezondheidszorg*) and have to be able to work in the Netherlands and talk to patients in Dutch.

In Wageningen too, there is an awareness that not every Bachelor's programme is suited to a switch to English. Two programmes which have already said they are not interested are Agrontechnology and Landscape Architecture, with their Netherlands-based subject matter and case studies.

GROWTH

Wormeester, who is not just chair of the council but also a programme director, is very positive about the effects of the language switch on 'his' Bachelor's in Advanced technology. 'The reason my programme wanted to switch was quite simple: to boost our quality.' Advanced technology was attracting high school graduates with lower and lower grades for mathematics and physics. They struggled to keep up on the degree programme, which led to a lot of extensions and late dropouts, says Wormeester. After switching to English the programme automatically started attracting a different kind of student. The average final grade for mathematics and physics went up by one point, and the success rate on the degree rose with it. 'We still have just as many Dutch students, but a different category.' And the total student numbers went up due to the influx of international students.

It is difficult to say whether a language switch always leads to more students. In Twente this varies per degree programme. The overall trend is towards growth, however, and that is a sensitive issue in Wageningen. Extra growth in student numbers due to the introduction of English-language Bachelor's programmes would not be welcomed by everyone - to put it mildly. WUR has already grown tremendously over recent years, putting pressure on staff, funding and facilities. For the first time this academic year, evening classes are being trialled, which led to protests from students. The Bitter committee's report on English-language Bachelor's does not see growth as a goal, and says 'excessive growth' is a worry for many programme directors. The report also says that programmes which have already introduced or applied for a cap on recruitment - Nutrition and health, Biotechnology and Molecular life sciences - do not want to switch to English.

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TALENT

An Indian student comes into Wormeester's office to get a signature. The programme director responds with enthusiasm and encourages him: 'Tell us about why you need a visa.' It turns out the lad will be going to Australia soon, where he gets to talk at a conference about the accelerometer – a piece of equipment that measures acceleration – which he and his fellow students built. He was the best student in his year, says Wormeester after the lad has gone. 'That's been a foreign student for the last four years.' Which just goes to show, says Wormeester, that the English-language Bachelor's programmes are attracting foreign talent to Enschede.

Wormeester is also convinced that foreign students who come to the Netherlands for their Bachelor's degrees integrate more easily than they can when they only come as Master's students. It is true that they come in with different cultures and knowledge and language levels, but the students are still blank pages, relatively speaking: they all want to make friends and they explore university life together. Integration works pretty well in Advanced technology, says Wormeester, pointing out the poster for Astatine study association hanging in his office. 'This year they have a board member from outside Europe for the first time.' The association has adopted English as the language of communication too, and seeks to get Dutch and international students actively mingling.

SECONDARY SCHOOL ENGLISH

Meanwhile the lecture for the Electrical Engineering firstyears is coming to an end. Half the students leave while they rest finish a last assignment. The Dutch students in this group manage fine with their secondary school English, says Segerink. Concerns about that have proven unfounded. 'But,' the teacher adds, gesturing towards the board full of mathematical formulas and to the shattered jar, 'How much English is there here?' On programmes which do not have mathematics as their *lingua franca*, she suspects more subtleties get lost. 'Take psychology or literature. There it's a matter of expressing

yourself very precisely.' She has had discussions about this with colleagues at the UT, and she thinks it is a risk which Wageningen should give some thought to. 'Because even if you have lived abroad for years, you can still express yourself best in your mother tongue.' ⁽¹⁾

PRACTICAL CHALLENGES

The Electrical engineering BSc programme at the University of Twente (UT) went over to English five years ago. One of the practical challenges here was to establish a good admissions procedure. It is important to have a selection procedure to ensure that students come in with an adequate command of English, enough subject knowledge and realistic expectations of their time at university. A second challenge was to get all written materials translated. Textbooks were already in English but readers, regulations, minutes and publicity materials were not yet. Teachers were faced with the task of translating all their lecture material into English. This was an especially big job for experienced teachers who already had a lot of material. One advantage was that international staff could now teach on Bachelor's courses as well as supervise theses.





THE SOIL-DRILLING CIRCUS

What started 18 years ago as a fun contest for budding soil scientists had grown by 2016 into a spectacle with over 600 participants, barbecues, draft beer and some weird and wonderful costumes. This year's Soil-drilling Student championships were busier than ever. As always, 'Mister Soil-drilling' Gert Peek was in attendance. The teacher of Soil science – seen here in discussion with the Smurfs – thought up the drilling contest as a diversion during fieldwork **Q LdK, foto Sven Menschel**

Take a look at the photo series on resource-online.nl.

Tenure track is not helping women enough

Only a few women are getting to the higher echelons of academia. Tenure track does help, but not nearly enough, shows research. Unless you have a lot of patience. For about a century.

text Roelof Kleis illustration Rob de Winter

he proportion of women on the campus goes up every year. Last year 57 percent of first-year Bachelor's students were women. Two years ago there were more female than male PhD graduates for the first time. Of the total staff last year, 48.6 percent were women. But it is a very different picture higher up the organization. The higher the pay scale, the more unequal the men-women ratio. Only one in four managerial staff are women.

Tenure track was introduced in 2010 to improve career prospects for young university scientists. Within this system they can climb the ladder in 12 years from a starting post as assistant professor to a personal chair. As long as they perform well enough, of course. And on tenure track their performance is assessed using objective, quantifiable criteria. Promotion therefore no longer depends on the subjective opinion of a professor. In theory that should give men and women equal chances of promotion. But is that what is happening in practice?

RATE OF PROMOTION

Martha Bakker of Land use planning and Maarten Jacobs of Cultural geography scrutinized the situation at the behest of the department of Human Resources. They compared the chances of promotion for men and women in the four years before the introduction of tenure track with those of the four years after it. They looked at the promotion of young researchers to the ranks of assistant professor, associate professor and ultimately personal professor. 'We looked at promotion from the bottom up,' explains Bakker. 'Every employee has a position on the ladder. If they move up from one year to the next, you can call it a promotion. We did not take into account people coming in from outside.'

Bakker and Jacobs used the figures they got to calculate the rate of promotion: the number of promotions in a year divided by the number of people on the rung of the ladder from which the promotions took place. This produced some remarkable results, which were published in *PLOS ONE*. First of all, the assumed disadvantaged position of women was not reflected in their rate of promotion, which was



already slightly (though not significantly) higher than that of men before the introduction of tenure track. What is more, the influence of tenure track is clear to see; after 2010 the promotion rate of women is 64 percent higher than that of men. Note that this is a comparison of the speed at which men and women climb the ladder: in absolute terms, the number of women reaching the higher echelons remains a lot lower than that of men.

CATCHING UP

'That 64 percent is certainly a big effect,' Jacobs acknowledges. But it is not easy to interpret the figures. 'In any case it suggests that the introduction of tenure track has a systematic impact on the chances of promotion and that this works to women's advantage.' But do women on tenure track now really have higher chances of promotion than men? Bakker and Jacobs doubt that. To start with, they point out the 'catching up' effect. Some of the women were probably on too low a scale and that is rectified faster with tenure track.

Besides, says Jacobs, women scientists, might just be better. 'If it is true that it was harder for women to get jobs here, then it is logical that the women who do work here are a little bit better at their job, on average. That's because a woman has to be better to get in, in the first place. But that is speculation.'

The higher rate of promotion for women is not the whole story. Inequality crept in as soon as new people came in on tenure track. In 2009 the internal pool of potential candidates for getting onto tenure track – young researchers and PhD candidates – consisted of equal numbers of men and women for the first time. Since then women have been in the majority. But this is not reflected in tenure track appointments. In the first four years after 2010, 53 men were appointed and 34 women.

GENDER BIAS

One thing is clear: more women reach the top with tenure track than without it. But does tenure track therefore create gender equality? Bakker and Jacobs modelled various scenarios to show how long that takes. 'For equal numbers of men and women you will have to wait until some time in the 22nd century,' says Bakker. 'Former rector Martin Kropff always said: tenure track is our way of going about emancipation. It turns out now that the system is not designed to create gender equality.'

'This system is not designed to create gender equality'

Director of Corporate Human Resources Ingrid Lammerse adds a footnote to this. 'It is not the aim of tenure track to achieve gender balance, but to improve the career prospects of young scientists. For the gender balance we drew up the Gender action plan three years ago. That plan focuses largely on raising awareness of the existence of gender bias.' In the past few years just under 300 leading managers have taken part in workshops looking at bias. 'Part of the workshop is a test to study your own bias,' explains Lammers. What comes out is that 85 percent of the participants have a slight bias in favour of male leaders. Including me.'

The question is, then, how can you get more women on board in spite of this? Lammerse: 'Through more targeted recruitment, better searches and by actively approaching women. By keeping the text of advertisements gender-neutral and not sounding so pushy. Women are more modest than men.' A mentor programme has been set up as well, and a book of female role models was published recently.

POSITIVE DISCRIMINATION

This does not go far enough for Bakker, though. 'I favour positive discrimination, such as what the NWO does with the Aspasia grants for fast-tracking women towards posts as associate professors. You could do something like that within the university too, using leftover funding from the 'gender fund' for instance. Funnily enough, women themselves are often against positive discrimination, because they feel it's insulting. But then they don't take into account the fact that a woman scientist has already had to perform better than her male counterpart to get to the same rank. Women often hold themselves to stricter standards than necessary.'

'Positive discrimination is not our policy but sometimes you can deliberately choose in favour of a woman,' responds Lammers. 'Otherwise you will never achieve a more equal menwomen ratio. I can imagine, too, than when you are recruiting you might want a woman for the sake of the balance on the team. Not enough women? Then you need to improve your search techniques. But the bottom line is quality; we don't make any concessions on that.' **@**



'I would like to see toilets that only use one litre per person per day'

Smarter Sevage systems

'Why dilute pee and poop first just to fish it all out later?' This has been the crucial question throughout the career of Grietje Zeeman, personal professor of New Sanitation. She says goodbye to the Environmental Technology chair group this month.

text Didi de Vries photo Sven Menschel

'm only doing it because I have to; I'm not looking forward to retiring at all.' It is with reluctance that Grietje Zeeman leaves her job as personal professor of New Sanitation at the Environmental Technology chair group on 17 October. She will carry on working a few hours a week for the LeAF Foundation as a consultant on anaerobic purification.

After graduating in 1890, Zeeman decided she wanted to do research on anaerobic (oxygen-free) purification of household wastewater. Due to the lack of jobs in this field, however, she started out at a drinking water company in Utrecht. 'I didn't like that so much: too clean.' A year later she could go back to the subject of excrement, albeit of animal origin at this point. Zeeman spent ten years at Environmental Technology studying the digestion of animal manure. 'Only after getting my PhD in 1991 did I at last get involved in research on the treatment of household wastewater. I did that at the laboratory Environmental Technology had in Bennekom back then. For old times' sake I sometimes still walk past it with a colleague.'

What kind of research did you do in the Bennekom lab?

'We had an anaerobic purification plant of six cubic metres, which was directly linked with Bennekom's water purification system. But it proved difficult to treat the diluted flow of wastewater in a sustainable way at low temperatures. That is why I took the route of new sanitation, because why dilute the pee and poop first with water from baths, showers, kitchens, sinks and rainwater, only to fish it all out later? In 2001 we got a very big project. We installed three vacuum toilets in the lab, linked to three anaerobic purification plants. All staff were asked to record how much faeces and urine they produced and when the system was full of faeces we put up a noticeboard saying "for urine only". Using the knowledge we gained we were able to build a pilot installation for 32 households in Sneek in 2006. That is an entirely decentralized system, with wastewater being separated at the source. So black water

- from the toilet – is collected apart from grey water – all the other household wastewater. The purification installations for black and grey water are situated in the middle of the neighbourhood. Which is great because everyone sees it. And it doesn't stink. The concept was adopted later in a neighbourhood of 250 houses.'

Are you satisfied with the results of your research?

'I am proud of the fact that the concept we developed here is being put into practice. In Sneek, in Venlo, in The Hague and at the NIOO in Wageningen. It is going too slowly for some people. We started in the lab in 2001 and there are now five full-scale demonstration projects. I wouldn't call that slow at all. A sewer has been in the ground for 100 years, so you don't dig it up lightly.'

Your project is partly about extracting nutrients from poop and urine. Is that the biggest development coming up in your field?

'I think so. We are developing several technologies, but I don't know yet which method is best in the end. Now we collect black water using vacuum toilets which flush with one litre of water. That means you get a much more concentrated waste flow than you get conventionally, but it is still six litres of water per person per day. What I'd really like to see is toilets that only use one litre per person per day. Then you make a highly concentrated flow that you can put in a digester. Preferably at a higher temperature so that you kill off pathogens and are left with manure to spread on the land.'

Shouldn't we just go back to the compost toilet?

'I think a compost toilet is a terrific system but I don't think everyone wants to sit on it. It does not meet the comfort requirements of today. You can close the hole to the composting chamber so that you don't see your own poop but you still have to spade out the poop. Not many people want to do that. I once spoke to a man in Germany who had a compost toilet. He said: 'I don't have a problem with doing it but I do wonder who will do it for me when I'm 80.' That gives you an idea of the problem. We don't want any contact with our own shit these days.'

Do you have any tips for researchers at the start of their careers?

'I think the main think is to choose a subject in which you can express yourself. It is best of course if you work on a subject with which you contribute something to science or to the world. But at the same time, I do realise that is not easy. People sometimes just want to get on in the scientific world and then they are dependent on which research proposals get approved.'

What does your professorship mean to you? 'One of the main motives for becoming a personal professor was that I wanted to be the one to award the PhDs I had supervised myself. And of course it is also the peak of my career, especially since a personal chair is based on your own achievements. Officially I am allowed to go on supervising PhDs for five years after retirement. Apparently they think you'll have deteriorated too much after that.' **G**

NEW SANITATION

'New sanitation' is the collective term for a range of technologies which can be used to process wastewater flows separately and to extract minerals from wastewater.

Anaerobic purification is one of the methods that can be used in the new sanitation. In an oxygen-free environment, bacteria convert waste matter in wastewater into biogas and biomass. You can cook on biogas, while the biomass is suitable for use as fertilizer. Many new sanitation systems use vacuum toilets. These are toilets that do not flush using gravity, as a regular toilet does, but using a vacuum pump that reduces the pressure in the pipes so that the toilet is emptied by suction when a valve at the bottom of it opens. This means you only need a small amount of water, enough to prevent soiling of the pot.

WAGENINGEN UNILEVER

The multinational Unilever is establishing a large R&D lab with 550 employees on Wageningen Campus, next-door to FrieslandCampina. A nice boost for research at Wageningen University & Research? Or are we throwing our image down the drain?

text Albert Sikkema and Teun Fiers illustration Henk van Ruitenbeek

Nine de Pater



Master's student of Environmental sciences

'Companies and the university can reinforce each other when it comes to knowledge and experience. That is why I am not against the presence of companies on campus, but

the university should remain an independent educational and research institute. **If it turns into an industrial estate with a few university buildings in between the companies, I think the balance is lost.** And the university must be 100 percent transparent about its links with the companies. About the financial links as well as all the other deals that are made. Students should be able to choose not to work with companies without that impeding their studies. And other sectors should be represented here too. NGOs would be an interesting addition.'

Cees Leeuwis



Professor of Communication and innovation studies

'Good interaction between the university and other parties in society is valuable and physical proximity can still be helpful in that. However, what you want is not for only the

big commercial companies to have direct lines to the university, but also critical civil society organizations, government bodies, campaigners and activists. **The current situation is too one-sided and it's risky for the university's image.** By mainly inviting private companies to set up on campus, we give the impression that we particularly want to address research questions that matter to them. As a counterbalance we should improve the scope for less influential organizations to get questions and topics onto the agenda. So I propose setting up an internationally publicized science shop with a serious budget.'

Sacco de Vries



Professor of Biochemistry 'I see no problem: collaboration with companies is useful. If you organize things properly it does not affect your independence. The only downside I can see is that the arrival of Unilever

on the campus can damage WUR's image among the uninitiated. When you drive into Wageningen the first thing you see is the Friesland Campina buildings, and soon Unilever too. Unilever's choice of location seems logical to me. I think they want to be somewhere where there are a lot of well-educated people in the field of nutrition. Unilever is interested in students, graduates and the incubator with startup companies. That environment is important for a company seeking innovation. They already had very good analytical labs in Vlaardingen. But they want to be near a university where the researchers of the future are trained.'

Stijn de Vies



Master's student of Biology and member of the student board at StartHub

'I think the government increasingly expects the university to make sure its research leads to added value. And I share the view that it's impor-

tant for something useful to be done with scientific knowledge. Collaboration with big companies such as Unilever or FrieslandCampina can be an effective way of keeping the road from scientific research to the market as short as possible. The risk I see in collaborating with the business world is that we might end up with less scope for fundamental research. That should be funded by an independent organization and kept in balance with applied research. As long as there is enough government funding for continuing fundamental research I am not worried about upsetting that balance.'

Got something to say about this?

Join in the discussion on resource-online.nl.

& RESEARCH?

Shahin Kassabian



Bachelor's student of Food technology 'In my view, a major task of the university is to do independent and fundamental research. The knowledge that is accrued that way does not have to have an immediate application. Because the university is work-

ing on a worldwide academic knowledge network, the research will get applied in the end. **As long as companies do not get in the way of fundamental research, I am fine with their presence on the campus.** It can contribute to the speed at which applications are found for research at the university. That way our research can contribute to society in the short term.'

Martien Groenen



Personal professor of Breeding and genetics

'I am positive about companies coming to the campus. I think it can lead to more and better research collaboration with the company, as long as there is a click between its research-

ers and those at WUR. **Being at close quarters usually im-proves contact: it is easier to drop in for a discussion.** Of course you must make a clear distinction between the roles of a university and a company. That needs to be delineated and communicated properly. It must be laid down in advance, for instance, that the university will publish the results, no matter what they are. Then you set limits to the influence of the company.'

Maria Barbosa



Researcher at Bioprocess technology 'I approve of Unilever coming to the campus. It will lead to more strategic collaboration being developed between researchers and the company in the long term. And you need that collaboration with companies. Increas-

ingly often, it is something grant-awarding bodies require, including the NWO. You have to bear that in mind as a researcher. Do you end up with a conflict of interests? You might do, but not because of the company's location. By channelling NWO funding through the top sectors, you use government grants in the interests of the industry. And on the other hand there is less money for fundamental research. It is important to do research with companies as well, but it's going too far now.' **(**



The healing power of eco-mushrooms

Sander Remink and Tom Bewernick's mushroom farm Mycocycling is an idealistic startup. The young Wageningen alumni certainly hope to earn a living from it, but above all they want to prove it's possible to run a business with respect for the planet.

text Ronald van Drie photos Sven Menschel

x-Wageningen students Sander Reimink and Tom Bewernick are men with a mission: helping the world with their own mushroom farm. Reimink: 'We want to prove that a commercial enterprise does not have to be bad for the planet. On the contrary, our company Mycocycling should have a healing and restorative effect on the planet.'

Reimink became interested in edible fungi as a student of Biology at Wageningen University. His fascination for mycology was particularly awakened by the course Magical mushrooms, slayers and sex: how moulds mould society. He was given a kit with which to grow edible mushrooms himself at home and that became first a hobby and now his work.

Reimink is fascinated by the role played by fungi in



the natural world. 'They are the world's cleaners, they make the world healthy again. They are the link between waste products and new life. That happens right in front of me in our company too.' He explains that he and Bewernick grow the mushrooms on a substratum of coffee grounds from local catering outlets, grain residue from local breweries and sawdust from local sawmills. The mushrooms turn this into compost which the young entrepreneurs want to sell to local farmers. 'That is the healing aspect of our business. We reuse everything and we then give something back to nature.'

MICROCREDIT

Tom Bewernick from Germany, who graduated in Geo-information science earlier this year, got interested in mushrooms through his ex-girlfriend in Wageningen. She is a keen mushroom forager and cook. Bewernick suffered from depression at that time and realized during a forest walk that he wasn't happy in the research job he was doing. In the forest he came to the conclusion that he should make a switch and become a farmer. Then he met Reimink and they started growing mushrooms at Droevendaal and working on their plan to set up a serious company.

That plan got into the fast lane when they got permission from the Hoge Born care farm on the Bornsesteeg to grow mushrooms there. Shortly afterwards they got a microcredit of 8000 euros from StartLife, an organization which supports start-up agrofood companies. This provided them with the funding they needed to launch their own company. In June they went to the chamber of commerce to register, and now they share an office with another young company in the StartHub building. Reimink: 'When we heard that we had qualified for a microcredit we really got that feeling: oh crap, we really are going to implement our ideas!'



MUSHROOM SUBSCRIPTION

In order to qualify for the credit and the office space at StartHub, the alumni had to write a business plan. Their plan is to sell their mushrooms through subscriptions to households in and around Wageningen. Customers can receive home deliveries of mushrooms weekly or fortnightly, or they can collect them at a local collection point. The business would break even with 40 households. 'We did the rounds at Droevendaal and everyone there was interested and enthusiastic about a subscription. I think we can find those 40 households quite quickly,' says Reimink.

The pair are looking into other markets as well. Restaurants and shops in the region could be interested in their products, and they are also talking to organic food producers who do packages of fresh vegetables. Fewer vegetables are grown in the winter and the entrepreneurs think their mushrooms – which they can produce steadily all year round – would be a good addition. Through the vegetable deliveries they think they could reach hundreds of households in and around Wageningen in future. And the young businessmen will also run workshops on mushrooms.

OYSTER MUSHROOMS

Reimink and Bewernick intend to grow their mushrooms in white containers with inbuilt air-conditioning. Three of these are already in position on the compound of De Hoge Born. They will pay the rent of 50 euros a month in mushrooms, which will come to about eight to ten kilos. To create an optimal environment for the mushrooms in the containers, the temperature, humidity and CO₂ levels have to be regulated. The entrepreneurs designed and built in the monitoring system for this themselves. They are starting by growing oyster mushrooms. This variety is relatively easy and cheap to produce. Meanwhile they hope to deal with any teething troubles in their system. Once they've done that they want to add shiitake, king oyster and lion's mane mushrooms to their assortment.

The alumni aim to make the entire production, operation and sales process as sustainable as possible. They reckon conventional mushroom farms produce a lot of plastic waste and sterilize the substratum they grow the mushrooms on. The Mycocycling men will use a non-sterile technique with which they save on energy. They will also be growing the mushrooms in plastic buckets they have collected from snackbars in the area. The substratum is made, as already mentioned, from organic waste from local companies and the mushrooms will be sold regionally.

The alumni hope other entrepreneurs will follow their example and that eventually the whole economy will therefore change. And that, they believe, is how we can heal the world little by little.

26 >> student

MARS

Good news for future residents of Mars: they are unlikely to suffer from homesickness. NASA research on mice shows that cosmic radiation affects the brain severely, leading to memory loss and dementia. You are subjected to this radiation on the way to Mars particularly. So by the time you get there you won't remember how nice it was back home.

DRINK TEST

Researchers in California have developed a chop that can measure alcohol in sweat. The chip, integrated into a kind of tattoo, sends the result to your smartphone within eight minutes. Handy for at the pub. The researchers hope their gadget will reduce the number of road accident victims. Idea: forward the result to your partner. Or the police.

BEER

Fluid lost by sweating can be replaced just as easily with beer as with water, shows Wageningen research. The dehydrating effect widely attributed to beer was not observed. But do drink that beer in moderation: there's more to it than water, you know.

T-SHIRT

The fringe lichen Wageningen student Koen Verhoogt found at his flat on the Haarweg turned out to be the hundred millionth recording sent to the Dutch National Databank on Flora and Fauna. Worth a prize: an excursion and a book of his choice. The T-shirt Verhoogt received suggests the nature lovers' club doesn't take itself too seriously.

Ik heb de 100 miljoenste waarneming gedaan and all got was this lousy shirt HABBONALE DATABANK FLORA EN FAUNA

Student becomes UN youth representative



Martijn Visser (third from the right) is congratulated on his election as UN youth representative on sustainability.

Martijn Visser, a Master's student of Forest and nature conservation, was elected UN youth representative for sustainability on Monday evening. In the election campaign Visser beat the Delft student Marguerite Willemsen. 'This is a fantastic opportunity I'm getting.'

For the next two years Visser will represent young people at UN summits on sustainability and climate change. He has already booked his first climate summit in the Netherlands this week, and the next one will be in Morocco. Exactly what he has to do there, he has no idea yet, but he is really looking forward to it. 'I am very happy I've been elected.' When Martijn saw the advertisement for a UN youth representative, he did not hesitate. 'I have a huge passion for nature but I am also worried about the way we are spoiling it. I want to make people, and especially young people, aware of these problems. Many young people don't know about the effects of climate change and I want to change that. For the election Visser gathered a campaign team of ten friends around him. 'I had ten days. We met every day to make plans.' The new youth representative's team visited universities a lot and made active

use of social media to promote Visser. 'We did a lot of flyering and our whole campaign team had the same profile photo on Facebook, showing how you could vote for me.'

The Master's students had no shortage of media attention. He was in several newspapers and on the radio. At Wageningen University he spoke to students at lectures. 'Unfortunately, exam week was just starting so I didn't have any more opportunities to go along to lectures to talk to people. Everyone in Wageningen was hugely enthusiastic. Of course this subject relates to the things that matter a lot to many people in Wageningen.'

In the coming period Visser will mainly collect a lot of views of young people, so he knows what issues are important to them. He will then present the views of young people in political fora and at UN conferences. For the coming year he will probably focus fulltime on his new job as UN youth representative. 'I'm not going to take any courses as the university either. I will take up my studies again in the second year. This is a great opportunity; I can talk to so many people about such important topics that I am keen to invest time and energy in that and put my studies on the back burner to do so.' **@ MF**

International students forced to share

Room shortages at the beginning of this academic year have resulted in a number of studios in **Campus Plaza being shared by** two international students. This has been confirmed by Idealis and DUWO spokespersons. This concept of shared rooms, which resembles systems on campus in many other countries, is new to WUR students.

Campus Plaza, the latest addition to the student housing in Wageningen, has 440 self-contained studios. Tenants are allowed by owner DUWO to share with a second person. Given the dearth of rooms at the start of this academic year, a number of international students were informed by Idealis about

this option.

As Hellen Albers from Idealis explains, 'It was a big challenge for Idealis to provide housing for all international students in time'. This led to the organisation referring students to DUWO, which still had rooms available in Campus Plaza. In addition, international students were notified specifically about the possibility of sharing. The restriction was that the roommate should also be an international student on the waiting list for a room.

A small group of international students took up this option. These pairs now share rooms measuring 21 square metres. Their exact number is unknown, says Marja Weverling from DUWO, because



the organization signs a contract with only one occupant. That tenant is free to take on another person and does not have to inform DUWO if they do so.

Some of the students who share a studio in Campus Plaza are happy about the lower rents they have to pay, whereas a few express their

dislike of the lack of space and the fact that they have to arrange their own floor covering and furniture in the DUWO rooms. The students in shared accommodation are still eligible to try for rooms with Idealis and can move out as soon as they are allocated another room. 3 JB

MEANWHILE IN... COLOMBIA

'We hoped the war was over at last'

In a referendum at the beginning of October, the people of Colombia rejected the hard-won peace agreement between the government and the guerrilla movement FARC. President Juan Manuel Santos nevertheless won the Nobel Peace Prize a few days later for his efforts to achieve the agreement. Now FARC and the government are around the negotiating table again.

'The FARC is a guerrilla movement which has been fighting against the government for fifty years. They did not agree with the government's policies and decided to go to war. What they actually want is an improvement in the living and working conditions, education and rights of the working class. FARC prefer socialism over capitalism and for that they believe a revolution is necessary. They started with strikes and protests. The government responded with military force. The FARC movement expanded so they needed money and over the



Sindy Suan, Master's student of Molecular life sciences, comments on the news from her country.

years they lost sight of their main ideals and started to engage in illegal activities like kidnapping and drug business to pay for their war. Four years ago our president



Juan Manual Santos started to negotiate with the leaders of FARC to end this war. An agreement was signed in September and on 2 October Colombian citizens could vote on the agreement. Unfortunately, some groups and one specific political party did not agree and the outcome of the voting was a "no". The president is collecting new ideas in order to come up with a new agreement.

As a Colombian I am worried about the situation. It makes me feel uncertain. It took four years to come to an agreement and now they have to continue the debate. It is sad for the people who live in small towns close to the jungle and FARC encampments because they have been very close to the war. People get kidnapped because they have sons in the military or because the family has a lot of money. Many people hoped this agreement would end the war. Sadly more time and debate is needed.' 🚯 CN

ON Campus

Period 1 is drawing to a close so students are working hard. That includes Raldi van Riessen (22), Bachelor's student of Soil, water and atmosphere, who cuts a colourful figure against a grey background.

In dark pink wide-legged trousers, a bright blue jumper and pink glasses, Raldi stands out in a crowd. Asked what her favourite colour is she has her answer ready, 'because I can't imagine anyone not having a favour-

'After half an hour's studying I have a square of Tony Chocolonely.'

ite colour'. Raldi's favourite colour is purple. She has the pink trousers in purple as well. Her mother knitted the jumper - not a hobby Raldi has inherited. She prefers reading, dancing and cooking.

She likes dancing alone in her room, but cooking she enjoys doing for others. She discovered that it's a good way of bringing people together. When she came to live at the Haarweg, the people in her unit were not very close. That changed once Raldi started to cook for everyone once a week. From then on it became a friendly unit and the residents do a lot of things together. There is an outing planned soon to the Bounz trampoline hall in Arnhem. Much as Raldi enjoys making curries or savoury bakes, what she likes best is baking cakes. And for a while her unit's cleaning roster included an unusual task: baking cake. Great for her because 'you could sign up for that'. Her sweet tooth goes back to a job she had in Nijmegen, where she comes from. She used to work at the market every week on a stall

WAGENINGEN



selling sweets and bread.

Now Raldi is revising for the very last exam of her Bachelor's degree. She hopes she passes and keeps herself going with... sweet stuff. 'After every half hour of studying hard I allow myself a square of Tony Chocolonely.' 🛈 AB

PARTIES

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



Friday 28 October from 20:30 to 04:00

Exam week is over: a good moment to celebrate Halloween, thought the Master's Committee at Forest and nature conservation. Come in your scariest outfit.

WAGENINGEN - STUDIUM GENERALE: ROOMSERVICE

Thursday 3 November from 20:00 to 23:00

Student rooms are transformed into venues for music, dance, theatre and stand-up comedy. Get your tickets early because this fantastic festival always sells out.

WAGENINGEN - PALM PROCESSION

Wednesday 9 November from 17:00 to 01:00

The nicest pub crawl in Wageningen is coming up: the annual Doppelpalm drink-in. Tickets on sale at De Vlaamsche Reus on Thursday 3 November. Be prepared for long queues. ()



The Unitas Ragnarok party on 13 October in café Luca was themed around Vikings and Electronic Dance Music.

student << 29

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.

Snorkeling with scrotum frogs

'Bolivia is an extremely diverse country in terms of nature, but relatively little is known about it still. One of the least studied animal species is the severely threatened Titicaca frog. This frog has a funny nickname – scrotum frog – because it is so wrinkly. It has an excessive amount of skin in order to be able to breathe under water. During my internship I tried to find out more about the life cycle and population of the species. I did that from the tiny island Isla de la Luna in Lake Titicaca.

'The small population of the island only speaks Spanish'

A ROCK

The island was little more than a rock in the lake, which lies at an altitude of 4000 metres. This can make it physically tough to observe the frogs under water while snorkelling. It was not always easy mentally either, because the small population of the island only speaks Spanish. My basic knowledge of Spanish made it difficult to communicate with them. Due to the lack of electricity, internet and social contact, I looked for other ways of entertaining myself, like reading and playing the guitar.

HIERARCHY

Besides this research on the island I also supervised students in a museum in the city of Cochabamba. That was satisfying because I could really teach them something. Bolivia is a terribly poor country: I underestimated that

Read all interviews on on resource-online.nl.

at first. For the students I was a 'rich' European who they looked up to. For them there was a clear hierarchy. I had to tell the students that they were working *with* me and not *for* me. In spite of these culture differences we got on well. I quickly made friends with them.

PURE

Every day was an adventure in Bolivia. When I look at the photos I long to go back. It is such a beautiful, unspoiled country where a lot of the nature still has to be documented and protected. I hope I may be able to contribute to that in the future, however little.' **O** DK



THE **WORKS**

••••	
Who?	Sjoerd Schimmel, Master's
	student of Biology
What?	Internship at Bolivian
	Amphibian Initiative
Where?	Isla de la Luna, Bolivia

in memoriam

Leo de Graaff



It is with great sorrow that we learned that our former colleague, associate professor Leendert Hen-

drik (Leo) de Graaff has died. Leo became seriously ill about three years ago and, despite many hopeful signs, he now succumbed to his illness. Leo was a skilled geneticist with an excellent knowledge of fungal research and its applications in Biotechnology. After his PhD and a postdoc, also in Wageningen, Leo joined the staff of the Genetics Chair group in 1990. He later joined the Molecular Genetics of Industrial Organisms group and, finally, the Systems & Synthetic Biology group when it was founded in 2010. Leo was very much engaged in education and set up a number of innovative courses at our University, including earlier courses in Bioinformatics and Communication & Biotechnology. He was an active member of the programme committee for biotechnology and was study advisor for both the BSc and the MSc in Biotechnology between 2004 and 2013. Leo was very committed to exploring new opportunities in Fungal Synthetic Biology (which he did, notably, in the BE-BASIC project) and he was instrumental in the build-up phase of the Systems & Synthetic Biology group. He resigned as study advisor to focus more on research and moved into

And the study advisor to focus more on research and moved into Documents, Photos lost? Broken USB? Computer Hacked? Software, Hardware Failures? Laptop Slow or Down? ... Call SUNSHINE! 0317 - 420 739 06 - 5119 0005 NO CURE NO C

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the tenure track to become full professor. Soon after this decision his illness became apparent and he could no longer continue. Leo was a passionate cook and a very sociable colleague. We present our sincere condolences to his loving family.

Prof. V.A.P. Martins dos Santos, Chair of Systems & Synthetic Biology and the Team of the Programme Committee for Biotechnology (BSc and MSc)

announcements

Invitation for the crash course on WU Education: Governance, Policy and Organization

The course (one evening) addresses four issues. The first issue is governance and organization at WU; the second one is funding of courses and other financial issues; the third one is the main agenda items of Programme Committees: the annual Education Modification Cycle, the Education and Examination Regulations and the accreditation of study programmes, including the internal quality assurance system; the fourth one is the tasks, responsibilities and mandate of a Programme Committee and its members. Lecturer: Stijn Heukels,





Markt 15, 6701 CX, Wageningen T: 0317-417463 E: info@colorsworldfood.nl W: www.colorsworldfood.nl Policy Advisor. Date: November 23, 19.30-22.00. Venue: Forum, VIP rooms 031-034. The next courses are on January 25 & April 19, 2017. Subscribe via: Marita.Klefken@ wur.nl

Beijerinck Virology Prize

Every two years, the Royal Netherlands Academy of Arts and Sciences (KNAW) awards the Beijerinck Virology Prize to a leading scientist in the field of virology, including biochemical and biophysical aspects. The deadline for nominations is 1 November. WWW.KNAW.NL/EN/AWARDS

Academy Ecology Fund

Young researchers can apply for a grant to collect ecological field data in the Netherlands and abroad. Ecological research at a foreign institute is also eligible. Priority is given to fundamental scientific questions but research that is geared to finding a fundamental solution to practical problems is also eligible. Deadline: 15 December 2016. www.knaw.nl/en/awards

Dopper is rewarding Master's students for research proposals on water and plastics issues

Master's students can submit their thesis ideas for 'The Changemaker Challenge', a unique project in which Dopper Academy encourages talented students to do groundbreaking graduation research on the issues relating to safe drinking water, clean oceans and plastic waste. The three students with the most brilliant research proposals will each receive €3000 to help make their research ground-breaking, for example by developing a prototype or taking a return trip to the North Pole. Deadline: 15 January 2017.

WWW.CHANGEMAKERCHALLENGE.NL/EN

Coping with the blues

The Ministry of Health has started a national campaign to break the



taboo about depression. Depression is common, including among students. You can have a great student life but given all the changes, it's hardly surprising if there are periods when you feel ill at ease and start worrying. Am I up to it, do other people really like me? If you seek help in time, the risk of this developing into proper depression is much smaller. You can get help for free and anonymously via Gripopjedip.nl, by sending an email or through an online group course in a chatbox, supervised by expert mental health professionals.

WWW.GRIPOPJEDIP.NL

Student Safaris in Southern Africa

Calling all WUR students: another student trip to South Africa, Botswana and Zimbabwe (Selected Topics, 3 ECTS) is planned for next winter (February 2017). You will join other enthusiastic, highly motivated students on a trip to explore African nature and wildlife.

Doctor Strange 3D

Benedict Cumberbatch is

Marvel's latest hero

You are welcome to come to the information session on Tuesday 8 November 2016, 16.30-17.30, C104, Forum. You can also check out www.studentsafaris.nl or send an email to info@studentsafaris.nl.

agenda

Thursday 27 October to Wednesday 9 November MOVIEW: FOUR FILMS FOR

STUDENTS

Madeliefjes (Daisies): playful, surreal Czech classic about two anarchic girls, with phenomenal visuals and sound. The Daughter: gripping drama in a remote Australian village surrounded by endless woods, about the truth and family lies. Parched: colourful Indian village drama about four women who rebel against centuries-old patriarchal traditions. The Other Side: sympathetic but also harrowing portrait of an invisible area in Louisiana where the civil rights of a forgotten community are trampled



Hacksaw Ridge

Epic drama by

€2 STUDENT DISCOUNT ON FILMS & EVENTS

director Mel Gi

Mumford & Sons:

Dust and Thunder

Concertfilm on screen

on. Venue: Wilhelminaweg 3A, Wageningen.

WWW.MOVIE-W.NL

Thursday 27 October, 20.00 HISTORY MONTH TALK BY LEO KLEP

In the talk 'Wageningen's open and closed boundaries', Leo Klep explores a number of mental barriers within Wageningen that could have a history going back hundreds of years. Are such barriers 'typical of Wageningen' or are they to be found in any small town, or even a characteristic of the modern, globalizing world? Leo Klep is an agricultural economist, author and iournalist. He has written various books about Wageningen, including Hotel De World and Mouterijnoord. Klep was also one of the editors of the standard history of Wageningen that was published to celebrate the town's 750th anniversary. Venue: Wageningen public library (bblthk).

WWW.CASTEELSEPOORT.NL

Saturday 5 November, 12.00-18.30 VWI SYMPOSIUM: COLOURFUL JOURNEYS, INSPIRING WOMEN

In this network event you will go on a journey guided by personal stories of womanhood in the context of different cultural backgrounds (geography, religion, age or profession or 'all of the above'). In addition you can connect with other amazing women, get a glimpse of a wide range of women's initiatives and explore a Chinese style of networking. Speakers include Noëlle Aarts, Laura de Britto and Carolijn Brouwer (Olympic Sailing Champion). Venue: Theater Junushoff. Registration: www.vwinetwerk.nl/symposium.

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

colophon

Resource is the magazine and news website for students and staff at Wageningen University & Research. Resource magazine comes out every fortnight on Thursday.

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Marc Lamers, Corporate Communications & Marketing Wageningen UR



>>TYPICAL DUTCH



What's in a name?

My nephew was just born, a really cute boy. My aunt asked me whether I could propose some names for the little newcomer. I started searching for some possible names, when a staff member walked in and asked what I was doing. I showed him the picture of my nephew and told him I was looking for a name with a good meaning for him. He asked with great surprise: 'How can you give his life a meaning when you do not know how it is going to be?' He then added: 'You do not even know what the boy wants to be, so how can you place such a burden on him?'

'Well', I explained, 'the name does not stand for what we want him to be, but it expresses good wishes we have for him. For example, we could give him a name that expresses the wish that he should have a happy life.' This convinced him somewhat, but he replied: 'We do not have names with meanings in the Netherlands.'

Interestingly, a week later I read a story about Dutch family names, which date back to the Napoleonic period. The French ruler forced people without a surname to take one for taxation purpose, but he let people choose their surname freely. That is why we see some funny names, like Jan Jan Pieter Cornelis de Haen (Jan son of Jan, son of Pieter, son of Cornelis, surname De Haen, which means The Cock). It also resulted in some embarrassing family names that are still being used, such as Hondendorst (Dog's Thirst), Kloot (Testicle), Eikel (Penis), Naaktgeboren (Born naked).

Well, what I can say? I do appreciate the sense of humour, but I will not use these names. ③ Yue Han, PhD candidate in the Laboratory of Virology, from China

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

'Some embarrassing family names are still being used, such as Kloot (Testicle) or Naaktgeboren (Born naked)'