

All-Party Parliamentary Group on Science & Technology in Agriculture

Notes of a meeting held on Tuesday 28 November 2017
Committee Room 10, Palace of Westminster

2017 Youth Ag-Summit – encouraging fresh thinking and innovation in global agriculture

Present:

Members

Julian Sturdy MP (Chair)
Baroness Byford

Guest Speakers

Alice Turnbull, Bayer Crop Science
UK delegates to 2017 Youth Ag-Summit

- Luke Blomfield (UK)
- Emily Davis (UK)
- Luca Steele (UK)

Stakeholders

Joe Collins, IFSTAL; Adam Bryning, Fera Science Ltd; Prof David Leaver, BIAC/RABDF; Lynsey Martin, NFYFC; Lynda Burns-Hussein, CHAP; Jude Burns-Hussein; Bluebell Burns; Tess Howe, AHDB; Xavier Albano, Rothamsted Research; Andrew Spence, Defra; Chris Judd, Defra; Ebba Engstrom, UCL; Sarah Purdell, National Land-Based College; Rupert Weaver, NFU; Ana Bolivar-Exposito, City Univ; Megan Rafter, Rothamsted Research; Laura James, Rothamsted Research; Sarah Raffan, Rothamsted Research; Dr Tina Barsby, NIAB; Jacob Kirwan, G's Fresh; Oghenekevkle Melina Emumekpor, Univ of Greenwich; Jo Bullen, Bayer; Maggie Hastings, Bayer; Mike Abram, Bayer; Daniel Pearsall, Group Co-ordinator

1. Welcome & Introduction

Julian Sturdy (JS) welcomed Members and stakeholders and briefly introduced the topic for discussion. He noted that encouraging the next generation of agricultural leaders and innovators was one of the six priority themes identified by the All-Party Group, and this was also the aim of the global biennial Youth Ag-Summit. This meeting therefore provided a unique opportunity to hear from the three young delegates chosen to represent the UK at the 2017 Youth Ag-Summit held recently in Brussels. Encouragingly for the future, JS also noted that none of the UK delegates came from a farming background, yet all shared an inspiring passion for agricultural innovation and its role in feeding a hungry planet sustainably.

(Apologies were received on behalf of Sophie Healy-Thow, 2017 Youth Ag-Summit delegate for the Republic of Ireland).

2. Guest speakers

[Guest speakers' slides are available to download via the meetings section of the All-Party Group web-site at www.appg-agscience.org.uk]

Alice Turnbull, Bayer Crop Science

A member of the Bayer Crop Science UK communications and government affairs team, and one of 33 mentors supporting delegates at the 2017 Youth Ag-Summit, Alice Turnbull (AT)

introduced the summit as a global biennial event bringing together young people from around the world to find tangible solutions to global challenges framed by the UN's Sustainable Development Goals.

AT explained that selection of delegates was based on an essay competition in which applicants were invited to describe their innovative solutions to tackling global food and nutrition security. Winning ideas from the UK ranged from the development of insect farming and innovative waste reduction concepts to promoting improved digital communication and understanding of more efficient food production methods.

Following previous events held in Canada and Australia, the 2017 Summit, hosted in Brussels by international agribusiness Bayer in collaboration with two Belgian young farmers' organisations, was the first to be held in Europe, attracting 100 young leaders in agriculture aged 18-25 from 49 countries to address the challenge of feeding a growing world population in a sustainable manner.

In addition to the 100 delegates and 33 mentors, the summit also involved 10 expert speakers sharing their knowledge on key issues linked to the central theme of applying innovation and responsible stewardship to deliver sustainable solutions to global food security.

AT explained that a key objective of the Youth Ag-Summit was to promote more active and positive public engagement with agricultural science and technology among young people, to attract new entrants to the sector and encourage the next generation of agricultural leaders and innovators.

The 2017 summit was shaped by the following three practical outcomes intended to deliver lasting change:

- 3 Little Things: each delegate developed three personal action points to help address food insecurity and create positive change in their own communities.
- Thrive for Change Projects: throughout the Summit, delegates were split into groups to develop a project focused on tackling one of the UN's Sustainable Development Goals that address the most pressing issues in agriculture.
- Brussels Youth-Ag Pledge: delegates pledged at the end of the Summit to become advocates for modern agriculture (#agvocate) and to create awareness of the challenges and solutions to feeding a hungry planet.

In seeking to inspire and mobilise young people in this way, AT pointed to the following key objectives of the Youth Ag-Summit:

Developing a growing 'agvocate' community alongside new and established initiatives such as LEAF's 'facetime a farmer' and Open Farm Sunday, encouraging farmers and others in the industry to tell their story and reach out to members of the general public;

Inspiring the next generation of innovators and scientists, bringing new entrants into the industry, and presenting agriculture as an attractive career opportunity;

Encouraging and equipping the agricultural leaders of the future, and cultivating the talent needed to address the major global challenges facing the industry;

Highlighting the increasingly global and interconnected nature of the sustainable development goals, and the need for international partnership and collaboration in delivering a sustainable and secure food future.

Emily Davis

A final year student in Agriculture at the University of Nottingham, and a *Farmers Weekly* Farmers Apprentice finalist in 2016, Emily Davis (ED) described her decision to pursue a career in agriculture as the best decision she had ever made – despite the best efforts of her school careers adviser to dissuade her.

ED highlighted some of the challenges for young people entering the industry, from the lack of opportunities with the average age of a farmer in Britain at 57, to a prevailing ignorance among the public about farming and a general failure to present the industry as modern, dynamic and innovative.

ED explained that one of her main take-home messages from the Youth Ag-Summit, after meeting her counterparts around the world from Australia to Turkey, was that farming globally is not generally perceived as a good career option, and that a major challenge for the sector in future is to encourage young people to view agriculture as a progressive and rewarding industry to work in.

According to ED, until young people begin to understand more about where their food comes from and how it is produced, it will always be an uphill struggle to attract new entrants. This process needs to start at school, with subjects such as food technology including information about the provenance of food ingredients not just how to cook them, and even introducing agriculture as a subject at GCSE level. Why not have a day dedicated to agricultural careers, she suggested.

At the same time, ED considered that the industry needed to do more to make food and farming fashionable and accessible – by throwing open the farm gates and getting people onto farms. Who could fail to be amazed by an industry using sophisticated machinery costing as much as the average home?

Luke Blomfield

A recent graduate in Accounting and Finance from Durham University, Luke Blomfield (LB) described his interest and ambitions in entomophagy – the use of insects as human food. He explained how his passion for the subject began two years ago on a visit to Thailand, when he began to understand the potential market opportunities and sustainability benefits of using insects in the food chain – not only through efficient feed conversion into high value protein, but also exploring new opportunities to recycle food waste such as out-of-date produce and fruit and vegetable peelings.

LB described his initial research into different rearing methods and conditions, and the market opportunities for different insect-based products according to cost, taste, nutritional value, preparation and clean-up time. This led to pilot studies with a mealworm farm constructed out of plastic drawers and using different feed sources such as oats, carrots and strawberries to assess the effect on flavour.

His research had also involved a visit to Wageningen University in the Netherlands to meet the co-authors of the first academic paper on edible insects in 1997, and to visit the 'restaurant of the future', where consumers' reactions to innovative new food products is tested.

LB also explained how he had experimented with different recipes for insect-based products, culminating in mealworm chocolate flapjacks which he had taken to the Youth Ag-Summit for delegates to sample.

A highlight of the Youth Ag-Summit for LB had been the opportunity to engage with so many young people from around the world with innovative ideas for future food production, from one who had started a gleaning project in Russia using unpicked fruit, to another developing a fish

farm in a disused swimming pool. This in turn had inspired him to plan a further visit to Thailand, the insect-eating capital of the world, and to research the possible application of this knowledge to African countries in desperate need of sustainable and affordable sources of nutrition.

Luca Steel

Currently on a year's industry placement while studying biology at the University of Bath, Luca Steel (LS) described how she seeks to combine her twin passions for plant science and girl guiding to educate and engage the next generation of scientists for sustainable agriculture.

LS explained that her interest in plant science and agriculture had stemmed from a geography project at school on the future of food, covering innovations such as sustainable, carbon neutral urban farms using hydroponics. A summer course in crop protection, learning how to apply pesticides as well as visiting AHDB Recommended List variety trials, had opened her eyes to the many different sectors and specialisms within agriculture.

A key objective of the Youth Ag-Summit was to encourage the next generation to apply knowledge in subjects such as geography and biology to real-world problems in agriculture, but LS suggested that there was a systemic failure to make farming visible and accessible to young people as a career option, reflected in the fact that she was a second-year graduate in biology before learning about agronomy.

LS highlighted the need for new technology and innovation in agriculture, from plant breeding through to drones and robotics, to address the challenges of feeding a rapidly growing world population sustainably in the face of climate change and increased competition for scarce natural resources.

LS explained that her commitment to '3 little things' from the Summit were to create a girl guiding resource pack on food sustainability, to reduce her own personal food waste to zero (and recruit others to the same commitment), and to take forward a joint project with a Scout Leader from Kenya to establish an internet-based discussion forum for Kenyan smallholders on improved seeds and production methods.

In the future, LS hopes to study for a PhD in plant pathology with a particular focus on the development of early warning systems to improve crop production and disease control.

Questions and discussion

The following key points were raised during discussion:

Presentation of agriculture in the mainstream media was considered to be a barrier to young people entering the industry, with coverage often simplistic and restricted to more negative stories such as neonicotinoids and bees.

The use of social media and live streaming initiatives such as Farm 24 offered innovative new ways to communicate the realities of modern agriculture to younger audiences and open their eyes to the many different sectors and specialisms involved.

To those entering agriculture from outside it was often perceived to be quite an insular industry, and behind the curve in STEM skills and capabilities compared to other sectors. It was also suggested that finding work placements in agriculture and its associated research institutes was more difficult than in other sectors.

It was considered essential to encourage and inspire young people about the opportunities in agriculture from an early school age, certainly before university. There was support for the call

by farmer and BBC Countryfile presenter Adam Henson for the creation of a GCSE in Agriculture, but a recognition that coursework and teaching would need to be engaging, interesting and relevant to inspire and captivate young people.

It was suggested that changing technologies in agriculture, particularly in areas such as robotics, Artificial Intelligence and data science, would create exciting new opportunities for computer-literate young people but more needed to be done to modernise and raise awareness of contemporary farming as a dynamic and advanced sector of industry.

Concern was expressed that school careers advisers were discouraging students from pursuing studies and employment in agriculture because it was not considered to be academic enough or did not offer an obvious career path or route to qualifications. This advice had a significant influence on young people's life choices.

Agriculture was not considered to be sufficiently aligned with the school curriculum or an integral part of the careers service. While some activity was taking place to address this situation, these efforts were fragmented and needed to be more coordinated to achieve impact.

This included the need for a coherent and coordinated framework to put schools in contact with local farms and research-based organisations, for example to organise visits, promote engagement, provide work placement opportunities etc.

In conclusion, JS thanked attendees for their contribution to a thought-provoking and informative session.

He noted that when visiting local schools in his constituency as an MP he invariably got asked more questions about farming than politics, reflecting a high level of genuine interest in agriculture and food production, particularly at an early age. Above all the meeting had highlighted the need to stimulate and maintain that interest throughout the education system, and to modernise outdated perceptions of agriculture as a second-class career option.

Closing the meeting, JS thanked guest speakers in particular for their inspiring contributions, suggesting that with next generation innovators and thought-leaders like them coming through, the industry's future was in good hands.