



CABI Science Report

2018

Issued July 2019



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CABI (2019) CABI Science Report 2018. CABI, Wallingford, UK, 56 pp.

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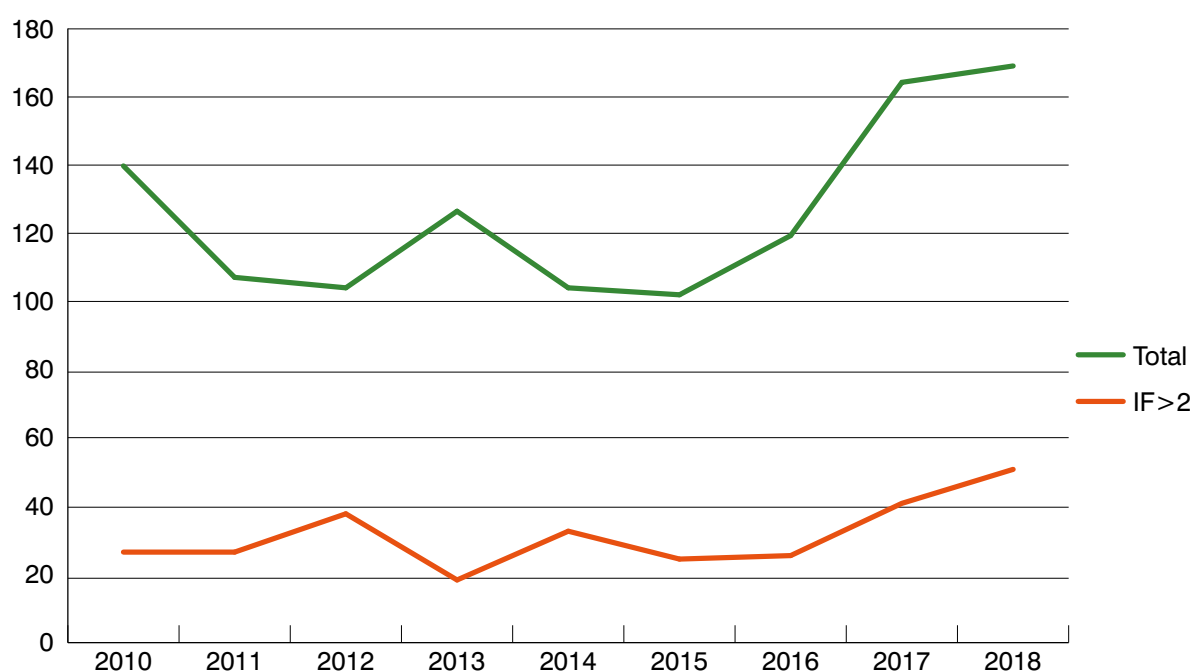
1. Implementing the CABI Science Strategy

Here we present highlights from a number of areas anticipated in the CABI Science Strategy¹, 2017 – 2019, much of it supported by the CABI Development Fund (CDF).

Maintain CABI’s annual publication record

It is one of CABI’s corporate key performance indicators to produce at least 100 scientific publications each year, of which at least 30 are in journals with an impact factor greater than 2.00 that year. The table below summarises the listings later in this report (Section 2), while the graph shows the trend over the last nine years; it can be seen that we significantly exceeded both targets in 2018.

Scientific publications in 2017	Open access	Not open access	Total
Total number of publications	84	74	169
Number of peer-reviewed publications	77	59	136
Number of publications in journals with a 2018 impact factor >2	29	22	51
Papers with a social and economic science focus	29	11	40
Not peer-reviewed	12	8	20
Books and manuals	2	1	3
Book chapters and proceedings papers	3	7	10



Total annual number of publications by CABI staff over the last nine years, and the number appearing in journals with an impact factor greater than 2.00 (IF>2)

A new CABI corporate key performance indicator in 2018 is that at least 15 of our published papers should have a strong social and/or economic focus. Forty publications were considered to meet this criterion.

¹<https://www.cabi.org/Uploads/CABI/about-us/4.8.5-other-business-policies-and-strategies/Science%20strategy.pdf>

Support for the preparation of research papers

CABI has used CDF funding to support the publication of selected papers, particularly those arising from completed projects, where resources are not otherwise available. The following papers published in 2018 received support in this way.

Barratt, B.I.P., **Cock, M.J.W.** and Oberprieler, R.G. (2018) Weevils as targets for biological control, and the importance of taxonomy and phylogeny for efficacy and biosafety. *Diversity* 10(73), 19 pp. <https://doi.org/10.3390/d10030073>

Cock, M.J.W. (2019) Unravelling the status of partially identified insect biological control agents introduced to control insects: an analysis of BIOCAT2010. *BioControl* 64(1), 1–7. <https://doi.org/10.1007/s10526-018-09921-1>

Dueñas, M.-A., Ruffhead, H.J., Wakefield, N.H., Roberts, P.D., Hemming, D.J. and Diaz-Soltero, H. (2018) The role played by invasive species in interactions with endangered and threatened species in the United States: a systematic review. *Biodiversity and Conservation* 27, 3171–3183. <https://doi.org/10.1007/s10531-018-1595-x>

Kajuga, J., Hategekimana, A., **Yan, X.**, Waweru, B.W., **Li, H.**, Li, K., Yin, J., **Karanja, D.**, Umulisa, C. and **Toepfer, S.** (2018) Management of white grubs (Coleoptera: Scarabeidae) with entomopathogenic nematodes in Rwanda. *Egyptian Journal of Biological Pest Control* 28(2), 13 pp. <https://doi.org/10.1186/s41938-017-0003-2>

Kenis, M., Li, H., Fan, J.-T., Courtial, B., Auger-Rozenberg, M.-A., Yart, A., **Eschen, R.** and Roques, A. (2018) Sentinel nurseries to assess the phytosanitary risks from insect pests on importations of live plants. *Scientific Reports* 8(11217), 8 pp. <https://doi.org/10.1038/s41598-018-29551-y>

CABI Scientific Publication Recognition scheme 2018

A Scientific Publication Recognition scheme for CABI's scientists was designed, resourced from the CABI Development Fund and piloted across CABI in 2017. In 2018 four awards to recognise achievements in 2017 were made of £2000 each to be spent as the awardee decided in support of CABI's scientific programme.

- **Award 1:** The CABI staff member with the largest number of authored / co-authored papers in journals with 2017 IF>2 in 2017. **Tim Hays** – for nine authored/co-authored papers.
- **Award 2:** The CABI staff member who has published a paper as first author in the highest impact factor journal in 2017. **Matthew Cock** – for the following paper: Cock, M.J.W., Beseh, P.K., Buddie, A.G., Cafá, G. and Crozier, J. (2017) Molecular methods to detect *Spodoptera frugiperda* in Ghana, and implications for monitoring the spread of invasive species in developing countries. *Scientific Reports* 7(4103), 10 pp. (Impact factor 4.259).
- **Award 3:** The CABI staff member with a paper (authored / co-authored) published since 1 January 2013 with the largest number of citations on google scholar, as established on 31 December 2017. **Urs Schaffner** – for the following paper with 184 citations: Hulme, P.E., Pyšek, P., Jarošík, V., Pergl, J., Schaffner, U. and Vilà, M. (2013) Bias and error in understanding plant invasion impacts. *Trends in Ecology and Evolution* 28(4), 212–218.
- **Award 4:** The CABI staff member with the largest number of first author papers with a social or economic science focus in journals with 2017 IF>2 in 2017. **Arne Witt** – for two papers as corresponding author (no papers met the full criteria).

CABI Scientific Outputs Portal (CSOP) further developed and updated

All new scientific papers, articles and reports published by CABI scientists are available on the website www.cabi.org/cso. CDF support has been used to increase coverage retrospectively, and the period 2000–2009 is now mostly complete. In 2018, we have started to identify earlier records in CAB Abstracts that are being added. At the end of 2018, the CSOP held 4,858 records, up from 3,583 records at the end of 2017.

Effective mechanisms implemented to monitor publications, reports, talks and posters presented, research students, major scientific contributions, etc.

This annual science report provides the primary record of all these scientific outputs (sections 2 and 3). In addition an internal publications pipeline spreadsheet is in use, which enables the progress of all staff publications to be monitored from concept to publication.

CABI's research published open access

By 2020, CABI aims to publish its research open access, depending on the requirements of the sponsors (CABI Science Strategy and CABI's Knowledge Management Policies²). Of CABI's core research published in peer-reviewed journals with a CABI lead or corresponding author, 37 of 44 papers (84%) were published open access in 2018 (sections 1.1 and 2.4.2). The costs were met from projects when appropriate, CDF (ten papers in 2018), and centre budgets.

Social media used to promote scientific outputs

CABI uses its social media channels including Twitter and Facebook to further demonstrate how our scientific research and development programmes are helping us deliver on the UN Sustainable Development Goals. Both social media platforms allow us to reach new global audiences across many demographics (including age and gender) and time zones in a way that also directs people to more information about our work on our website project pages and blog posts. The analytical tools within Twitter and Facebook allow us to judge how many people we are reaching with our content and how much they are actively engaging with it.

Research students (MSc, PhD etc.) and interns (summer students)

For 2018, we planned to host at least seven research students and 17 interns across CABI (total 24), of which seven are at centres other than Switzerland. In 2018 we hosted 21 research students (section 4.3, 9 MSc and 12 PhD) and 28 interns, of whom 13 were at the centre in Switzerland (section 4.7).

²<https://www.cabi.org/Uploads/CABI/about-us/4.8.5-other-business-policies-and-strategies/Data%20management.pdf>

Strategically important scientific review / synthesis papers published

The CABI Science Strategy calls for CABI staff to be involved in the publication of strategically important scientific review / synthesis papers. Ten examples from 2018 include:

Bateman, M.L., Day, R., Luke, B., Edgington, S., Kuhlmann, U. and Cock, M.J.W. (2018)

Assessment of potential biopesticide options for managing fall armyworm (*Spodoptera frugiperda*) in Africa. *Journal of Applied Entomology* 142(9), 805–819. <https://doi.org/10.1111/jen.12565>

Dueñas, M.-A., Ruffhead, H.J., Wakefield, N.H., Roberts, P.D., Hemming, D.J. and Diaz-Soltero, H. (2018) The role played by invasive species in interactions with endangered and threatened species in the United States: a systematic review. *Biodiversity and Conservation* 27, 3171–3183.

<https://doi.org/10.1007/s10531-018-1595-x>

Evans, H.C., Elliot, S.L. and Barreto, R.W. (2018) Entomopathogenic fungi and their potential for the management of *Aedes aegypti* (Diptera: Culicidae) in the Americas. *Memórias do Instituto Oswaldo Cruz* 112, 1–9.

Hemming, D.J., Chirwa, E.W., Dorward, A., **Ruffhead, H.J., Hill, R., Osborn, J.,** Langer, L., Harman, L., Asaoka, H., Coffey, C. and Phillips, D. (2018) Agricultural input subsidies for improving productivity, farm income, consumer welfare and wider growth in low- and lower-middle-income countries. *Campbell Systematic Reviews* 2018:4, 153 pp. <https://doi.org/10.4073/csr.2018.4>

Kenis, M., Bouwasssi, B., **Boafo, H.,** Devic, E., Han, R., Koko, G., Koné, N'G., Maciel-Vergara, G., Nacambo, S., Pomalegni, S.C.B., Roffeis, M., Wakefield, M., Zhu, F. and Fitches, E. (2018) Small-scale fly larvae production for animal feed. In: Halloran, A., Flore, R. Vantomme, P. and Roos, N. (eds) *Edible Insects in Sustainable Food Systems*. Springer International, 239–261. https://doi.org/10.1007/978-3-319-74011-9_15

Mazhar, M.S., Bajwa, B.E. and Collins, R. (2018) Halal food chains – concepts and opportunities in Pakistan. *International Journal of Development Research* 08(01), 18171–18175.

Schaffner, U., Smith, L. and Cristofaro, M. (2018) A review of open-field host range testing to evaluate non-target use by herbivorous biological control candidates. *BioControl* 63(3), 405–416. <https://doi.org/10.1007/s10526-018-9875-7>

Shaw, R.H., Ellison, C.A., Marchante, H., **Pratt, C., Schaffner, U.,** Sforza, R.F.H. and Deltoro, V. (2018) Weed biological control in the European Union: from serendipity to strategy. *BioControl* 63(3), 333–347. <https://doi.org/10.1007/s10526-017-9844-6>

Stone, C.M., **Witt, A.B.R.,** Cabrera Walsh, G., Foster, W.A. and **Murphy, S.T.** (2018) Would the control of invasive alien plants reduce malaria transmission? A review. *Parasites & Vectors* 11(76), 18 pp. <https://doi.org/10.1186/s13071-018-2644-8>

Toševski, I., Sing, S.E., De Clerck-Floate, R., McClay, A., Weaver, D.K., Schwarzländer, M, Krstić, O., Jović, J. and **Gassmann, A.** (2018) Twenty-five years after: post-introduction association of *Mecinus janthinus* s.l. with invasive host toadflaxes *Linaria vulgaris* and *Linaria dalmatica* in North America. *Annals of Applied Biology* 173(1), 16–34. <https://doi.org/10.1111/aab.12430>

2. Scientific outputs

1.1 Honours, honorary roles

Where located	Name	Honour / role	Date(s)
Malaysia	Annamalai, Sivapragasam	MARDI Advisory Panel on Coconut R&D	From 2017
Malaysia	Chan, Hong Twu	Scientific member in Malaysia Mushroom Research Center	2018
Switzerland	Babendreier, Dirk	Visiting Professorship, Chinese Academy of Agricultural Sciences – Institute of Plant Protection	From 2018
UK	Cock, Matthew	Honorary Life Member of the International Organisation for Biological Control	From 2015
UK	Cock, Matthew	Member Invasive Species Specialist Group (International Union for Conservation of Nature)	Ongoing
UK	Djeddour, Djami	Honorary Lecturer in the School of Biological Sciences, Royal Holloway, University of London	2016 – 2019
UK	Edgington, Steve	Visiting Research Fellow, Reading University	2016 – 2018
UK	Edgington, Steve	Working Group member for the Association of Applied Biologists, Nematology division	2015 – 2018
Switzerland	Eschen, René	Member of the International Forest Quarantine Research Group	From 2010
Switzerland	Eschen, René	Coordinator, Working Group 7.03.12 – Alien invasive species and international trade, International Union of Forest Research Organizations	From 2014
Switzerland	Eschen, René	Member of the International Union of Forest Research Organizations Task Force Forests and Biological Invasions	From 2015
UK	Gonzalez-Moreno, Pablo	Honorary Lecturer, University of Cordoba, Spain	From 2016
Switzerland	Haye, Tim	Member of Swiss Committee for Biosafety	From 2015
Switzerland	Hinz, Hariet	Affiliated Professor, Department of Plant, Soil and Entomological Sciences, University of Idaho, USA	From 2002
Switzerland	Kenis, Marc	Coordinator, Working Group 7.03.13 – Biological control of forest insects and pathogens, International Union of Forest Research Organizations	From 2008
Switzerland	Kenis, Marc	Member of the Scientific Committee of the Swiss Biological Records Center	From 2012
Switzerland	Kenis, Marc	Member of the International Union of Forest Research Organizations Task Force Forests and Biological Invasions	From 2015
Switzerland	Kuhlmann, Ulrich	Adjunct Professor, Department of Entomology, University of Manitoba, Canada	From 2000
Switzerland	Kuhlmann, Ulrich	Convenor, International Working Group of Ostrinia and other maize pests – a global working group of the International Organization of Biological Control	From 2005
Switzerland	Kuhlmann, Ulrich	Member, International Advisory Board of IPP-CAAS, China	From 2018
Switzerland	Kuhlmann, Ulrich	Visiting Professorship, Chinese Academy of Agricultural Sciences – Institute of Plant Protection.	From 2013
UK	Murphy, Sean	Honorary Lecturer in the School of Biological Sciences, Royal Holloway, University of London	2016 – 2019

UK	Murphy, Sean	Member Invasive Species Specialist Group (International Union for Conservation of Nature)	Ongoing
India	Pandit, Vinod	Member of Technical Committee of Plant Protection Directorate to develop Management protocol for Tuta absoluta	Ongoing
UK	Ryan, Matthew	Working Group UK Plant Microbiome Initiative (with Rothamsted Research)	From 2017
Switzerland	Schaffner, Urs	Affiliated Professor, Department of Plant, Soil and Entomological Sciences, University of Idaho, USA	From 2008
UK	Shaw, Richard	Member Invasive Species Specialist Group (International Union for Conservation of Nature)	From 2014
UK	Shaw, Richard	Member of the European Commission Expert Working Group on Invasive Alien Species	From 2014
UK	Taylor, Phil	Board member of the British Society for Plant Pathology	From 2017
UK	Taylor, Phil	Board member of World Agriculture (journal)	From 2018
Hungary	Toepfer, Stefan	Adjunct Professor, Faculty of Agricultural and Environmental Sciences, Szent Istvan University, Godollo, Hungary	From 2012
Hungary	Toepfer, Stefan	Visiting Professorship, Chinese Academy of Agricultural Sciences – Institute of Plant Protection	From 2015
Kenya	Witt, Arne	Member Invasive Species Specialist Group (International Union for Conservation of Nature)	From 2014
China	Zhang, Feng	Adjunct Professor, Chinese Academy of Agricultural Sciences – Institute of Plant Protection	From 2013
China	Zhang, Jinping	Adjunct Professor, Jilin Agricultural University	From 2018
China	Zhang, Jinping	Li Lairong Horticultural Research Fellowship, The New Zealand Institute for Plant & Food Research Ltd.	Dec 2018 – Feb 2019

2.2. Support to international scientific meetings

CABI staff have played significant roles in the organisation of several scientific meetings in 2018, foremost amongst which were the First International Congress of Biological Control (14–16th May 2018, Beijing, China), XV International Symposium on Biological Control of Weeds (26–31 August 2018, Engelberg, Switzerland), and the First International Conference on Biological Control – ICBC2018 (27–29 September 2018, Bengaluru, India).

Meeting	Staff member	Role
XV International Symposium on Biological Control of Weeds, 26–31 August 2018, Engelberg, Switzerland	Hariet Hinz, Daisuke Kurose, Urs Schaffner, Marion Seier, Sonja Stutz, Sarah Thomas, Philip Weyl	Scientific Committee and Co-organiser
First International Conference on Biological Control – ICBC2018, 27–29 September 2018, Bengaluru, India	Malvika Chaudhary	Scientific Committee, Co-organiser and Rapporteur project reports
	Djamila Djeddour	Scientific Committee
	Stefan Toepfer	Session organiser
First International Congress of Biological Control, 14–16 May 2018, Beijing, China	Ulrich Kuhlmann,	Co-Vice Chairmen of Academic Committee, Session co-organiser
	Hariet Hinz	Academic Committee Session co-organiser
	Feng Zhang	Organising Committee, Session co-organiser
	Hongmei Li	Organising Committee
	Matthew Cock, Dirk Babendreier	Academic Committee
International Phytobiomes Conference, 4–6 December 2018, Montpellier, France	Matthew Ryan	Session Chair and Scientific Organising Committee

2.3. Journal contributions


CABI staff acted on the editorial boards of the following journals in 2018:


- Asian Journal of Agricultural Extension, Economics & Sociology (H. Rware)
- BioControl (D. Babendreier)
- BioInvasions Records (M. Kenis, A. Witt)
- Brazilian Journal of Forestry and Environment (N. Corniani)
- New Disease Reports (R. Reeder, P. Taylor)
- CAB Reviews (M.J.W. Cock)
- Journal of Applied Entomology (S. Toepfer)
- Journal of Asia Pacific Entomology (A. Sivapragasam)
- Journal of Insects as Food and Feed (M. Kenis)
- Journal of Pest Science (T. Haye)
- Journal of Tropical Agriculture and Food Science (A. Sivapragasam)
- Neobiota (R.H. Shaw)
- The Planter (A. Sivapragasam)
- Turkish Journal of Weed Science (P. Gonzalez-Moreno)
- Chilean Journal of Agricultural Research (S. Edgington)

2.4. Publications

CABI authors are shown in bold, the corresponding author(s) where designated are underlined, papers in journals with a 2018 impact factor greater than 2.0 are highlighted in gold, and an open access symbol is placed at the end of all open access publications. Details of more recent publications and annual lists of publications can be found here: <https://www.cabi.org/about-cabi/our-scientists-output/>

2.4.1. Books, proceedings and manuals (3)

Grevstad, F.S., Andreas, J.E., Bouchier, R.S., **Shaw, R.**, Winston, R.L. and Randall, C.B. (2018) *Biology and Biological Control of Knotweeds*. FHTET-2017-03. USDA Forest Service, Forest Health Assessment and Applied Sciences Team, Morgantown, WV, 75 pp. 

Costa, A., Sivapragasam A., and Thanarajoo S.S. (2018) "Pest-Smart Practices and Early Warning System under Climate Change (A Manual for Rice and Other Crops)". Published online on CCAFS website and available for free at <https://cgspace.cgiar.org/handle/10568/97537>. 

Haelewaters, D., Clercq, P. De, Haas, J., Howe, A.G., Roy, H.E., **Shaw, D. [R.]** and Brown, P.M.J. (eds) (2018) IOBC-WPRS Working Group "Benefits and Risks of Exotic Biological Control Agents" Proceedings of the Third Meeting at Bornholm, Denmark 13th to 15th May 2015. *IOBC-WPRS Bulletin /Bulletin OILB-SROP* 137, 1–66.


2.4.2. Peer-reviewed papers (136)


Agbodzavu, M.K., Lagat, Z.O., Gikungu, M., **Rwomushana, I.**, Ekesi, S. and **Fiaboe, K.K.M.** (2018) Performance of the newly identified endoparasitoid *Cotesia icipe* Fernandez-Triana & Fiaboe on *Spodoptera littoralis* (Boisduval). *Journal of Applied Entomology* 142(7), 646–653. <https://doi.org/10.1111/jen.12514>

Agbodzavu, M.K., Gikungu, M., Lagat, Z.O. **Rwomushana, I.**, Ekesi, S. and **Fiaboe, K.K.M.** (2018) Acceptability and suitability of *Spodoptera exigua* (Hübner) for *Cotesia icipe* Fernandez-Triana & Fiaboe on amaranth. *Journal of Applied Entomology* 142(7), 716–724. <https://doi.org/10.1111/jen.12525>


Ali, G., Abma-Henkensa, M.H.C., van der Werf, W., Hemerik, L. and **Vlak, J.M.** (2018) Genotype assembly, biological activity and adaptation of spatially separated isolates of *Spodoptera litura* nucleopolyhedrovirus. *Journal of Invertebrate Pathology* 153, 20–29. <https://doi.org/10.1016/j.jip.2018.01.009>

Ali, G., van der Werf, W. and **Vlak, J.M.** (2018) Biological and genetic characterization of a Pakistani isolate of *Spodoptera litura* nucleopolyhedrovirus. *Biocontrol Science and Technology* 28, 20–33. <https://doi.org/10.1080/09583157.2017.1409339>


Ali, G., **Vlak, J.M.** and van der Werf, W. (2018) Biological activity of Pakistani isolate SpltNPV-Pak-BNG in second, third and fourth instar larvae of the leafworm *Spodoptera litura*. *Biocontrol Science and Technology* 28(5), 521–527. <https://doi.org/10.1080/09583157.2018.1461197> 

Araújo, J.P.M., **Evans, H.C.**, Kepler, R. and Hughes, D.P. (2018) Zombie-ant fungi across continents: 15 new species and new combinations within *Ophiocordyceps*. I. Myrmecophilous hirsutelloid species. *Studies in Mycology* 90, 119–160. <https://doi.org/10.1016/j.simyco.2017.12.002> 

Arnold, S.E.J., Bridgemohan, P., Perry, G.B., Spinelli, G.R., Pierre, B., Murray, F., Haughton, C., Dockery, O., Grey, L., **Murphy, S.T.**, Belmain, S.R. and Stevenson, P.C. (2018) The significance of climate in the pollinator dynamics of a tropical agroforestry system. *Agriculture, Ecosystems and Environment* 254, 1–9. <https://doi.org/10.1016/j.agee.2017.11.013>


Bacher, S., Blackburn, T.M., Essl, F., Genovesi, P., Heikkilä, J., Jeschke, J.M., Jones, G., Keller, R., **Kenis, M.**, Kueffer, K., Martinou, A.F., Nentwig, W., Pergl, J., Pyšek, P., Rabitsch, W., Richardson, D.M., Roy, H.E., Saul, W.-C., Scalera, R., Vilà, M., Wilson, J.R.U. and Kumschick, S. (2018) Socio-economic impact classification of alien taxa (SEICAT). *Methods in Ecology and Evolution* 9(1), 159–168. <https://doi.org/10.1111/2041-210x.12844> 


Bailey, B.A., **Evans, H.C.**, Phillips-Mora, W., Ali, S.S. and Meinhardt, L.W. (2018) *Moniliophthora roreri*, causal agent of cacao frosty pod rot. *Molecular Plant Pathology* 19(7), 1580–1594. <https://doi.org/10.1111/mpp.12648>

Bajwa, B., **Honey, S.F.**, **Mazhar, M.S.** and **Riaz, A.** (2018) Evaluation of different monitoring traps against stored grains insect pests in rice processing units of the Punjab Province, Pakistan. *International Journal of Development Research* 8(12499), 9 pp. <https://www.journalijdr.com/evaluation-different-monitoring-traps-against-stored-grains-insect-pests-rice-processing-units> 

Bajwa, B., **Mazhar, M.S.**, Bashir, M.K. and **Honey, S.F.** (2018) Environmental, economical, and social impact of biological control interventions in papaya farming in Sindh, Pakistan. *Pakistan Journal of Life and Social Sciences* 16(1), 27–34. http://www.pjlss.edu.pk/archive/volume_16_no_1_2018.htm 

Baroncelli, R., Sukno, S.A., Sarrocco, S., **Cafà, G.**, Le Floch, G. and Thon, M.R. (2018) Whole-genome sequence of the orchid anthracnose pathogen *Colletotrichum orchidophilum*. *Molecular Plant-Microbe Interactions* 31(10), 979–981. <https://doi.org/10.1094/mpmi-03-18-0055-a>


Barratt, B.I.P., **Cock, M.J.W.** and Oberprieler, R.G. (2018) Weevils as targets for biological control, and the importance of taxonomy and phylogeny for efficacy and biosafety. *Diversity* 10(73), 19 pp. <https://doi.org/10.3390/d10030073> 


Bateman, M.L., **Day, R.**, **Luke, B.**, **Edgington, S.**, **Kuhlmann, U.** and **Cock, M.J.W.** (2018) Assessment of potential biopesticide options for managing fall armyworm (*Spodoptera frugiperda*) in Africa. *Journal of Applied Entomology* 142(9), 805–819. <https://doi.org/10.1111/jen.12565> 


Bekele, K., Haji, J., Legesse, B., Shiferaw, H. and **Schaffner, U.** (2018) Impacts of woody invasive alien plant species on rural livelihood: Generalized propensity score evidence from *Prosopis* spp. invasion in Afar Region in Ethiopia. *Pastoralism: Research, Policy and Practice* 8(28), 17 pp. <https://doi.org/10.1186/s13570-018-0124-6> 


Bekele, K., Haji, J., Legesse, B. and **Schaffner, U.** (2018) Economic impacts of *Prosopis* spp. invasions on dryland ecosystem services in Ethiopia and Kenya: evidence from choice experimental data. *Journal of Arid Environments* 158, 9–18. <https://doi.org/10.1016/j.jaridenv.2018.07.001>


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2.4.5. Completed theses (17)

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Bulya, A. (2018) IP guideline for coffee production with a special focus on Robusta Coffee (*Coffea canephora*) in Uganda. Masters in Advanced Studies in Integrated Crop Management, University of Neuchâtel, Switzerland, 74 pp. Supervised: **Dougoud, J.** and **Schaffner, U.**

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Daud, J.M. (2018) Assessment of plant doctor diagnoses and recommendations in the management of fall armyworm (*Spodoptera frugiperda*) in maize in Kenya. Masters in Advanced Studies in Integrated Crop Management, University of Neuchâtel, Switzerland, 53 pp. Supervised: **Jenner, W.** and **Taylor, P.**

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Gondwe, T. (2018) Integrated production guideline for ground nut (*Arachis hypogaea*) in Zambia, Masters in Advanced Studies in Integrated Crop Management. University of Neuchâtel, Switzerland, 76 pp. Supervised: **Wood, A.** and **Toepfer, S.**

Mahesh, H.M. (2018) Do plant doctors' recommendations conform to the Plantwise pesticide policy – a case study on key pests of rice in India. Masters in Advanced Studies in Integrated Crop Management, University of Neuchâtel, Switzerland, 41 pp. Supervised: **Babendreier, D.** and **Reeder, R.**

Mi, Q.Q. (2018) Fitness and interspecific competition of *Trissolcus japonicus* and *Anastatus* sp., egg parasitoids of *Halyomorpha halys*. MSc Thesis, Huazhong Agricultural University, 32 pp. Supervised: Li, D.S., **Zhang, J. P.** and **Zhang, F.**

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2.5. Scientific Project Reports (58)

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Häfliger, P., Mann, L., Zorzetto, G., Hasanovic, I., Bouraoui, D., Toševski, I., Ellison, C. and Hinz, H. (2018) Biological control of flowering rush, *Butomus umbellatus* Annual report 2017. Unpublished report, CABI, Delémont, Switzerland, 21 pp.

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- Kenis, M., Girod, P., Driss, L., Beltrando, K., Seehausen, L. and Haye, T.** (2018) Evaluation d'un parasitoïde asiatique de *Drosophila suzukii* pour la lutte biologique en Europe. Final Report. Unpublished report, CABI, Delémont, Switzerland, 12 pp.
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- Luke, B.,** Al Diri, B., Chen, W.H., Clark, B., Chudzik, P., Cooper, H.M., Daniels, M., Evans, J.G., **González-Moreno, P.,** Langsdale, M., Su, J., **Wakefield, N.,** Wooster, M., Wu, Y., Yi, D. Xu, X. (2018) COSMIC pest and disease. Unpublished report, CABI, UK, 34 pp.
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- Mulaa, M., Negussie, E., Mibei, H., Onyango, D., Bateman, M., Wood, A. and Dougoud, J.** (2018) Study on crop protection where the 'Green Innovation Centres for the Agriculture and Food Sector' (GIAE) initiative is being implemented, Ethiopia, April 2018. Unpublished report, CABI, Delémont, Switzerland, 73 pp.
- Oberson, N., **Agwanda, C., Bateman, M. Dougoud, J. and Wood, A.** (2018) Étude sur la protection des cultures dans les pays où le programme 'Centres d'innovations vertes pour le secteur agro-alimentaire' est actif. Rapport national pour le ProCISA au Cameroun. Mai 2018. Unpublished report, CABI, Delémont, Switzerland, 124 pp.
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- Stutz, S., Valinotto, F., Braud, C., Schneuwly, J.,** Dolgovskaya, M.Yu., Volkovitch, M. and Reznik, S. (2018) Biological control of common tansy *Tanacetum vulgare*. Annual Report 2017. Unpublished report, CABI, Delémont, Switzerland, 24 pp.
- Stutz, S., Valinotto, F., Hinz, H.L.,** Cristofaro, M., Augé, M., Vidović, B. and Petanović, R. (2018) Biological control of perennial pepperweed, *Lepidium latifolium*. Annual Report 2017. Unpublished report, CABI, Delémont, Switzerland, 12 pp.
- Toepfer, S.** (2018) Bacterial lysate tests on neonate rootworm larvae in artificial diet based bioassays. CABI E-CH, Delémont, Switzerland. Project DIETETIC Utilisation de la Diversité microbienne pour identifier des activités insecticides contre la larve de la chrysomèle du maïs (*Diabrotica virgifera virgifera*) (VM 10186, 2016 to 2019), Funded by GNIS "Groupement national interprofessionnel des semences et plants" France. Reports H to L. Unpublished report, CABI, Delémont, Switzerland, 30 pp.

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Toepfer, S. and Toth, Sz. (2018) Comparing novel strains of the entomopathogenic nematode *Heterorhabditis bacteriophora* with its commercial Dianem TM strain and a standard pesticide in suppressing the western corn rootworm (*Diabrotica v. virgifera*) in maize. By CABI E-CH, Delémont, Switzerland. Project Dianem (VM 10064, 2016 to 2017). Funded by e-nema Ltd Germany. Unpublished report, CABI, Delémont, Switzerland, 24 pp.

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Zhang, F., Wan, M., Li, H.M., Luo, S.P., **Tang, R.,** Gu, R., Zhang Y. and Liang D. (2018) Feasibility and case study of technology transfer of green control techniques of crop pests between China and OBOR countries. Annual report 2017-2018. Unpublished report, CABI, Beijing, China, 101 pp. [In Chinese.]

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In addition, in 2018, CABI Bioscience responded to 503 separate enquiries. The Microbial Identification Service issued 150 identification reports on 529 samples, the Environmental and Industrial Lab issued 84 consultancy reports, and the Genetic Resources Collection sent out 881 cultures in response to 103 orders.

2.6. Oral presentations at scientific meetings (156)

CABI authors are shown in **bold**, the presenting author is underlined.

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Hays, T. (2018) The potential of native and exotic parasitoids for control of *Halyomorpha halys*. Workshop on invasive pests and diseases threatening forestry and agriculture in the Eastern Black Sea Coast Region, 26–28 June, Rome, Italy.

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- Kenis, M.** (2018) IFWA – Insects as feed in West Africa, and R4D project. SFIAR Syngenta, 16 April 2018, Basel, Switzerland.
- Kenis, M.** and IFWA partners (2018) Use of house flies as poultry feed by smallholder farmers in West Africa: prospects and constraints. Insects to Feed the World Conference, 15–18 May 2018, Wuhan, China.
- Kenis, M.** and **Li, H.** (2018) La pyrale du buis en Europe – impact et potentiel de la lutte biologique par introduction. Colloque scientifique sur les bioagresseurs du Buis, 16–17 October 2018, Tours, France.
- Kenis, M.** and many partners. (2018) How close are we from a release of Asian parasitoids against *Drosophila suzukii* in Europe? Meeting of the IOBC Working Group Integrated Plant Protection in Fruit Crops, Sub Group Soft Fruits, 5–7 September 2018, Riga, Latvia.
- Kenis, M.** and Roques, A. (2018) Impact actuel et potentiel des insectes envahissants sur les forêts suisses et européennes. Waldschutz-Symposium, 7 November 2018, WSL Birmensdorf, Switzerland.
- Kenis, M.**, Hurley, B., Hajek, A. and **Cock, M.** (2018) Classical biological control by introduction against invasive insects. PLURIFOR workshop on emerging pests and diseases, 25 January 2018, Oeiras, Portugal.
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- Kuhlmann, U.** and **Zhang, F.** (2018) Plantwise, a global programme: lessons learned. Workshop on International Mega Programme-Lessons to Learn”, 25–28 June 2018, . Chinese Academy of Agricultural Sciences, Beijing, China.
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- Kuhlmann, U.**, **Edgington, S.**, **Robinson, A.** and **Jenner, E.** (2018) The Biopesticides Portal. Annual Biocontrol Industry Meeting, 22–24 October 2018, Basel, Switzerland.
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- Kurose, D.** (2018) Biological control of invasive alien weeds using natural enemies. , 2 February 2018, University of the Ryukyus, Japan.
- Kyaw, H.W.W.**, **Tsuchiya, K.**, **Matsumoto, M.**, **Kurose, D.**, **Iiyama, K.**, **Horita, M.** and **Furuya, N.** (2018) Properties of potato strains of *Ralstonia solanacearum* in Myanmar. 2018 Annual Meeting of the Phytopathological Society of Japan, 25–27 March 2018, Kobe, Japan.
- Luke, B.**, **Li, H.M.**, **González-Moreno, P.**, **Perkins, B.**, **Cornelius, A.**, **Nong, X.Q.**, **Huang, J.F.** and **Huang, W.J.** (2018) Using satellites to control locusts with mycoinsecticides. 1st International Congress of Biological Control, 14–16 May 2018, Beijing, China.

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- Mason, P., Olfert, O., **Haye, T.**, Gariepy, T. and Abram, P. (2018) Risks and benefits of unintentional biological control introductions in Canada. ESA, ESC and ESBC Joint Annual Meeting: Crossing Borders: Entomology in a changing world, 11–14 November 2018, Vancouver, Canada
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- Mibei, H.** (2018) Utilization of open data in agricultural productivity and decision making: A case study of Plantwise Program. International Data Week 2018 (IDW 2018) 5–8 November 2018, Gaborone, Botswana.
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- Negussie, E.** (2018) Coffee Extension and Development in Ethiopia: Its role in the contemporary coffee value chain. International Coffee Event in Ethiopia – the land of origins, 4–5 December 2018, Addis Ababa, Ethiopia.
- Negussie, E.** and Konjit, F. (2018) Evolution and role of community-based plant clinics in Ethiopia: Lessons, prospects and challenges. 24th Annual Conference of the Plant Protection Society of Ethiopia, 16–17 March 2018, . Haramaya University, Ethiopia.
- Negussie, E.**, **Crozier, J.** and Konjit, F. (2018) Plantwise community-based plant clinics: an effective complementary approach to provide plant health advisory services. 4th Annual conference of the Ethiopian Society of Rural Development & Agricultural Extension, 22–23 June 2018, Addis Ababa, Ethiopia.
- Nunda, W.** (2018) Invasive pests and diseases; presence and impacts on crop production in Kenya. Presentation at AAK Workshop to facilitate stockist training on Invasive pests and responsible use of pesticides, 8–9 August 2018, Kitale, Kenya.
- Nunda, W.**, **Kansiime, M.K.** and **Chacha, D.O.** (2018) Towards managing Invasive Pests in Africa. Technical stakeholder and community consultative meeting, 8 March 2018, Kisumu, Kenya.
- O'Hanlon, R., de Groot, M., **Franić, I.**, Glavendekić, M., Lacković, N., Matošević, D., Oskay, F., Papazova-Anakieva, I. and **Eschen, R.** (2018) Optimal experimental design for sampling of plant pests for early detection. Sentinel plantings for detecting alien, potentially damaging tree pests – State of the art 2018, 9–12 October 2018, Campus Sursee, Switzerland.

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Parr, M. (2018) Global open data initiatives. FAO Kenya workshop on Open Agricultural Statistics, 26 February –1 March 2018, Machakos, Kenya.

Parr, M. (2018) Sharing data on soil health. Supporting Soils Interventions in Ethiopia Conference, 5 March 2018, Addis Ababa, Ethiopia.

Pollard K.M. (2018) The biological control of Himalayan balsam in the UK. Regional Invasive Species Management Plan Meeting for the South East Region, 19 July 2018, Tunbrisse Wells, UK.

Pollard, K.M. (2018) CABI and classical biological control of invasive species. 29 October 2018, Asuncion University, Paraguay.

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Ramnanan, N. (2018) Creating a master farmer programme: farmer to Farmer teaching and learning as a means transform to more sustainable agricultural systems. 15 October 2018, FAO Webinar.

Ramnanan, N. (2018) Role of plant quarantine officers in preventing the introduction of invasive alien species (IAS) into the Caribbean Region. The UWI Regional Plant Quarantine Officer Training: Principles and Procedures Course 2018, 16 August 2018, St. Augustine, Trinidad and Tobago.

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Ramnanan, N., Witt, A. and Eckelman, C. (2018) A preliminary assessment of the invasive potential of three introduced forest species and the in presence of invasive plants in Trinidad. Climate Change Impacts on Food and Nutrition Security Conference, 12–16 November 2018, Port of Spain, Trinidad and Tobago.

Ryan, M.J. (2018) Partner presentation – CABI. CSA EU Microbiome Support Meeting at the International Bioeconomy Forum, 27–29 November 2018, Ottawa, Canada.

Ryan, M.J. (2018) Plant Microbiome: strategy. infrastructure and research. Joint meeting of the Society for Applied Microbiology, The Microbiology Society and the British Ecological Society, Integrating knowledge and approaches across microbiomes, 19 September 2018, London, UK.

Ryan, M.J. (2018) The UK Plant Microbiome Initiative. Rothamsted Open Innovation Forum, 23 March 2018, Harpenden, UK

Seier, M.K. (2018) The scope of biological control for managing invasive species. U3A Interest Group, 6 November 2018, Didcot UK.

Seier, M.K., Kurose, D. and Evans, H.C. (2018) From classical to inundative control – *Mycosphaerella polygoni-cuspidati* as a potential mycoherbicide for Japanese knotweed. XV International Symposium on Biological Control of Weeds, 26–31 August 2018, Engelberg, Switzerland.

Seier, M.K., Kurose, D. and Evans, H.C. (2018) Marrying classical with inundative weed biological control. International Congress of Plant Pathology, 29 July –3 August 2018, Boston, USA.

Shaw, R.H. (2018) Biological control of invasive weeds and escaped ornamentals in Europe. Invited paper. 70th International Symposium on Crop Protection, 22 May 2018, University of Ghent, Belgium.

Shaw, R.H. (2018) Problem formulation for the environmental risk assessment of weed biological control agents: Insects and fungi versus weeds. EFSA Annual Conference 2018 – Science, Food & Society, 18–21 September 2018, Parma, Italy.

Shaw, R.H. and Witt, A. (2018) Invasives – a little perspective from developing countries. Invited presentation. Mammal Society Autumn Symposium 2018, 9–10 November 2018, London, UK.

Shaw, R.H., Luke, B. and Fowler, S. (2018) Biocontrol of *Orthezia insignis* in St. Helena. 1st Congress of Biological Control, 14–16 May 2018, Beijing, China.

Shaw, R.H., Marchante E., Marchante, H., Verbrugge, L.N.H. and Lommen, S (2018) Perception of biological control against non-native invasive plants and why so little used in Europe. XV International Symposium on Biological Control of Weeds, 26–31 August 2018, Engelberg, Switzerland.

Sivapragasam A. (2018) Emerging trends in plant protection. Lead paper. International Conference on Tropical Fruit Pests and Diseases (TROPED 2018), 25–27 September 2018, Le Meridien Hotel, Sabah, Malaysia.

Sivapragasam, A. (2018) Integrated pest management: regional experiences in Southeast Asia. Universiti Tuanku Abdul Rahman Seminar, 7 July 2018, Perak, Malaysia.

Sivapragasam, A. (2018) What are the industry's needs for a strong Indonesian biosecurity?. Bilateral Workshop on Biosecurity and Biosafety 2018, 3–4 September 2018, Cibinong, Indonesia.

Smith, D. and Ryan, M.J. (2018) Elaborating on effective due diligence: a view from CABI. The use and circulation of genetic resources, under measures implementing the Nagoya Protocol, 11–12 September 2018, London School of Economics, London, UK.

Tambo J.A. and Mockshell, J. (2018) Differential impacts of conservation agriculture technology options on household welfare in sub-Saharan Africa. 30th International Conference of Agricultural Economists (ICAE), 28 July –2 August 2018, Vancouver, Canada.

Tambo, J.A., Day, R.K., Lamontagne-Godwin, J., Silvestri, S., Beseh, P.K., Oppong-Mensah, B., Phiri, N.A. and Matimelo, M. (2018) Tackling the fall armyworm outbreak in Africa: an empirical analysis of farmers' control actions. 1st Sustainability and Development Conference, 9–11 November 2018, University of Michigan, Ann Arbor, USA.

Tambo, J.A., Uzayisenga, B., Mugambi, I. Bundi, M. and Silvestri, S. (2018) Plant clinics, farm performance and poverty alleviation: evidence from Rwanda. 1st Sustainability and Development Conference, 9–11 November 2018, University of Michigan, Ann Arbor, USA.

Tang, R., Jiang, N., Ning, C., Huang, L. and Wang, C. (2018) Olfactory perception to acids in the oriental armyworm *Mythimna separata*. 12th Conference of the Chinese Association of Chemical Ecology, 22–25 June 2018, Fuzhou, Fujian, China.

Tang, R., Zhang, J., Zhong, Y., Zhan, H. and Zhang, F. (2018) Stink bug multi-functional pheromone. 5th National Conference on Biological Invasions, 3–6 August 2018, Wulumuqi, Xinjiang, China.

Tani, S., Iiyama, K., Irie, S., Suga, Y., Kurose, D., Sawada, H., Tsuchiya, K. and Furuya, N. (2018) Phylogenetic analyses of *Pseudomonas cichorii* strains isolated from various plants. 2018 Annual Meeting of the Phytopathological Society of Japan, 25–27 March 2018, Kobe, Japan.

Taylor, P.N. (2018) An NGO perspective of GCRF partnerships. Global Challenges Research Fund Workshop, 7 Dec 2018, University of Surrey, Guildford, UK.

- Taylor, P.N.** (2018) Plantwise: a programme to extend extension and improve plant health systems. Tropical Agriculture Association Regional Meeting, 6 May 2018, University of Cambridge, Cambridge, UK.
- Thakur, M.** (2018) Knowledge management services in CABI for plant health management. Asia-Pacific Association of Agricultural Research Institutions (APAARI) Workshop on Strengthening and Sustaining Knowledge Sharing Skills in Agri-Food Research and Innovation System in Asia-Pacific, 18–19 October, Vientiane, Laos.
- Toepfer, S.** (2018) Utilising microbial diversity to identify novel biopesticides against the maize pest western corn rootworm, *Diabrotica v. virgifera*. DIETETIC, Project planning meeting, 10 January 2018, Paris-Evry, France,
- Toepfer, S.** (2018) Utilising microbial diversity to identify novel biopesticides against the maize pest western corn rootworm, *Diabrotica v. virgifera*. Biogemma, 28 June 2018, Chappes-Clermond Ferrand, France.
- Toepfer, S.** and **Li, H.** (2018) Detection, eradication, containment and biological control of the high risk alien western corn rootworm in East Asia. First International Congress of Biological Control, 14–16 May 2018, Beijing, China.
- Toepfer, S., Cock, M.** and **Kuhlmann, U.** (2018) Classical biological control of insects and their impact in developed and developing countries: a comparison using the BIOCAT Database. International Conference on Biological Control, 27–29 September 2018, Bengaluru, India.
- Toepfer, S., Kuhlmann, U., Kansime, M., Onyango, D., Davis, T.** and **Day, R.** (2018) Communication, information sharing, and advisory services to raise awareness for fall armyworm detection and area-wide management by farmers. Fall Armyworm Workshop. 61 DPG German Plant Protection Days, 11–14 September 2018, University of Hohenheim, Germany.
- Toepfer, S., Tóth, S., Kiss, J.** and **Kuhlmann, U.** (2018) Current status of biological control in Hungary: a EU member state and B&R target country. International Congress on Biological Control, 14–16 May 2018, Beijing, China.
- Toepfer, S., Wan, M.** and **Zhang, F.** (2018) Integrated pest management: global view and examples. 1st International Plant Doctor Training Workshop, 20 January 2018, Hangzhou, China.
- Toepfer, S., Wan, W.** and **Zhang, F.** (2018) Integrated pest management: global view and examples. 1st international plant doctor training workshop, 20 January 2018, Zhenjiang University, Hangzhou, China.
- Ueda, K., Kurose, D.,** Kugimiya, S., Mitsuahara, I., Yoshida, S., Tabata, J., Suzuki, K. and Kitamoto, H. (2018) Concentrated esterase from the phylloplane yeast *Pseudozyma antarctica* degrade lipophilic layer of plant leaves. 2018 Annual Meeting of The Japan Society for Bioscience, Biotechnology and Agrochemistry, 15–18 March 2018, Nagoya, Japan.
- Varia, S.** (2018) *Aculus* sp. nov. as a biological control agent for *Crassula helmsii* in the UK – a case study. European network on biological control of weeds: Biannual quadripartite workshop, 8–9 February 2018, San Michele all'Adige, Trento, Italy.
- Varia, S.** (2018) Biological control of *Crassula helmsii*. Water Voles and Invasive Non-native Species Conference, 15 November 2018, Hatfield, UK.
- Vilà, M., Trillo, A., Montero-Castaño A., González-Varo J.P., González-Moreno, P.** and Ortiz-Sánchez F.J. (2018) Contrasting patterns of managed and native bumblebees in natural habitats. NEOBIOTA, 4–7 September 2018, Dublin, Ireland.
- Wan, M., Toepfer, S.** and **Zhang, F.** (2018) Plantwise in China – facilitating green control and pesticide reduction. 1st International Plant Doctor Training Workshop, 20 January 2018, Hangzhou, China.
- Washington, O.** (2018) Import control and quarantine regulations. 2nd Phytosanitary Conference, Phytosanitary Systems for Safe Trade and Food Security, 4–8 June 2018, Nairobi, Kenya.
- Weber, D., Hays, T.** and Mason, P. (2018) Reality in a regulated realm: accidental introduction of natural enemies is now common. ESA, ESC and ESBC Joint Annual Meeting: Crossing Borders: Entomology in a changing world, 11–14 November 2018, Vancouver, Canada.

Weyl, P. (2018) A summary of the host specificity and impact of *Aceria angustifoliae*, for the biological control of Russian olive, *Elaeagnus angustifolia* in North America. USDA, APHIS Technical Advisory Group for Biological Control of Weeds meeting, 10–12 April 2018, Beltsville, USA.

Weyl, P., Cristofaro, M., Smith, L., **Schaffner, U.**, Vidović, B., Petanović, R., Marini, F. and **Stutz, S.** (2018) Eriophyid mites and weed biological control: does every silver lining have a cloud? XV International Symposium on Biological Control of Weeds, 26–31 August 2018, Engelberg, Switzerland.

Weyl, P., **Rehman, A.**, Ali, M.A., **Lamontagne-Godwin, J.**, **Day, R.**, **Shaw, R.** and **Witt, A.** (2018) Initiation of a classical biological control programme against *Parthenium hysterophorus* in Pakistan. International Conference on Biological Control, 27–29 September 2018, Bengaluru, India.

Witt, A.B.R. (2018) Invasive alien plants, land degradation, and restoration. Global Landscape Forum, 29–30 August 2018, Nairobi, Kenya.

Zhang, F. (2018) Smart agriculture and plant protection – the practices and experiences of CABI. CICA Smart Agriculture Application and Development Seminar, 15–19 May 2018, Yinchuan, China.

Zhang, F. (2018) Working in partnership for plant health and sustainable agriculture. The High-Level Forum for the LMCSF Project of IPP-CAAS, 19–22 November 2018, Beijing, China.

Zhang, J.P., **Zhang, F.**, **Haye, T.**, **Zhong, Y.Z.**, **Zhan, H.X.** and **Mi, Q.Q.** (2018) Phenology and impact of egg parasitoids on *Halyomorpha halys* in fruit orchards: a multi-year survey in northern China. First International Congress of Biological Control, 14–16 May 2018, Beijing, China.

2.7. Poster presentations at scientific meetings (32)

Adhikari, D., Joshi, S.L., Thapa, R.B., **Pandit, V.** and Sharma, D.R. (2018) Fruit fly management in Nepal (a case from plant clinic). First International Conference on Biological Control – ICBC2018, 27–29 September 2018, Bengaluru, India.

Adhikari, S.R., **Pandit, V.**, Dhakal, A.P. and Subedi, R.K. (2018) An assessment on the role of different stakeholders for the promotion of bio-pesticides in Nepal. First International Conference on Biological Control – ICBC2018, 27–29 September 2018, Bengaluru, India.

Cafá, G., **Caggiano, B.**, **Bajwa, B.**, **Honey, S.F.**, **Bhatti, H.** and **Buddie, A.G.** (2018) NGS tools aid screening for toxigenic Aspergilli in Pakistan. State of the World's Fungi Symposium, 13–14 September 2018, Royal Botanic Gardens Kew, UK.

Cortat, G. and **Hinz, H.** (2018) Alternative methods to evaluate the host range of *Melanagromyza albocilia* for the biological control of field bindweed in North America. XV International Symposium on Biological Control of Weeds, 26–31 August 2018, Engelberg, Switzerland.

Djeddour, D., **Constantine, K.**, **González-Moreno, P.**, **Shaw, R.** and Cabrera Walsh, G. (2018) Evaluating the potential for biological control of floating pennywort (*Hydrocotyle ranunculoides*) in the UK. XV International Symposium on Biological Control of Weeds, 26–31 August 2018, Engelberg, Switzerland.

Ehlers, R., Vandenbossche, B., Consoli, E., Barg, M., Dörfler, V., Nellas Sumaya, N., Strauch, O., Molina, C. and **Toepfer, S.** (2018) *Diabrotica v. virgifera* management using a genetically improved strain of *Heterorhabditis bacteriophora*. European Society of Nematologists Conference 2018, 9–13 September 2018, Ghent, Belgium.

Franić, I., and 71 coauthors, including **Kenis, M.**, **Li, H.M.** and **Eschen, R.** (2018) Global patterns in insects and fungi of dormant twigs of native and exotic tree species. 3rd Croatian Invasive Species Conference, 26–27 November 2018, Zagreb, Croatia.

González-Moreno, P., **Beale, T.**, **Day, C.**, **Day, R.**, Early, R., **Finegold, C.**, **Holmes, T.**, **Lamontagne-Godwin, J.**, **Li, H.**, **Luke, B.**, **Murphy, S.**, Perkins, B., Rehman, A., Styles, J., **Taylor, B.** and Wooster, M. (2018) From the space to the ground: tackling invasive species impacting agriculture combining earth observation and modelling techniques. NEOBIOTA, 4–7 September 2018, Dublin, Ireland.

- Häfliger, P.** and **Hinz, H.** (2018) Knowledge on life history improves rearing success and informs host-range testing in a semi-aquatic weevil. XV International Symposium on Biological Control of Weeds, 26–31 August 2018, Engelberg, Switzerland.
- Kenis, M.**, Girod, P., **Haye, T.** and DROPSA partners (2018) Are Asian parasitoids suitable for biological control against *Drosophila suzukii* in Europe? 3ème journée nationale *Drosophila suzukii*. 9 February, Nyons
- Kurose, D.**, **Pollard, K.M.** and **Ellison, C.A.** (2018) Searching for host-pathogen compatibility; how cpDNA analysis can aid successful classical biological control of *Impatiens glandulifera*. XV International Symposium on Biological Control of Weeds, 26–31 August 2018, Engelberg, Switzerland.
- Kurose, D.**, **Seier, M.K.**, **Ellison, C.A.** and **Maczey, N.** (2018) The potential for classical biological control of *Sagina procumbens* in the UK Overseas Territory of Tristan da Cunha. XV International Symposium on Biological Control of Weeds, 26–31 August 2018, Engelberg, Switzerland.
- Marini, F.**, **Weyl, P.**, Cristofaro, M., de Lillo, E., Vidović, B. and Petanović, R. (2018) The integrative taxonomy in classic biological control of weeds: *Metaculus* sp. on *Isatis tinctoria*, a case of study. XV International Symposium on Biological Control of Weeds, 26–31 August 2018, Engelberg, Switzerland.
- Mi, Q.Q.**, **Zhang, J.P.**, Li, D.S. and **Zhang, F.** (2018) Evaluation of two egg parasitoids in controlling *Halyomorpha halys*. 1st International Congress of Biological Control, 14–16 May 2018, Beijing, China.
- Musker, R.**, Fiona, S., **Day, C.**, Dodds, L., L'Henaff, P. and **Parr, M.** (2018) Enabling data access to support innovation in agriculture. 14th Grand Challenges Annual Meeting, 16 October 2018, Berlin, Germany.
- Nacambo, S.**, Sankara, S. and **Kenis, M.** (2018) Improving termite collection for poultry feed in smallholder farms in Northern Burkina Faso. Insects to Feed the World Conference, 15–18 May 2018, Wuhan, China.
- Panta, S.**, **Weyl, P.**, **Hinz, H.**, Harmon, B. and Schwarzländer, M. (2018) A novel approach to host-specificity testing for non-target plant species restricted to highly specialized soil types. XV International Symposium on Biological Control of Weeds, 26–31 August 2018, Engelberg, Switzerland.
- Prasad, A.K.**, Roy, S., **Nagpal, A.** and **Neave, S.** (2018) Impact of different pest management practices on natural enemy population in tea plantations of Assam. Indian Biodiversity Meet, 25–26 March 2018, Indian Statistical Institute, Kolkata, India.
- Pratt, C.**, Hernandez, M.C., Cabrera Walsh, G. and **Shaw, R.H.** (2018) *Ludwigia* – a prime target for biocontrol in Europe. XV International Symposium on Biological Control of Weeds, 26–31 August 2018, Engelberg, Switzerland.
- Ryan, M.J.**, **Mauchline, T.** and Hirsch, P. (2018) Underpinning research in the Plant Microbiome. 2nd Plant Microbiome Symposium, 19–21 February 2018 Amsterdam, Netherlands.
- Ryan, M.J.**, **Minter, D.W.** and **Smith, D.** (2018) The CABI fungal culture collection – underpinning fungal conservation. State of the World's Fungi Symposium, 13–14 September 2018, Royal Botanic Gardens Kew, UK.
- Saldaña, A., **González-Moreno, P.** and Herrera J.M. (2018) Climatic niche shifts in a coastal invaded plant community in Southern Spain. NEOBIOTA, 4–7 September 2018, Dublin, Ireland.
- Seier, M.K.**, Barreto, R.W., **Evans, H.C.**, Bonilla, O.H., Rapini, A., Araujo, F.S. and **Pollard, K.M.** (2018) Embarking on classical biological weed control in Brazil – the rust fungus *Maravalia cryptostegiae* versus *Cryptostegia madagascariensis*. XV International Symposium on Biological Control of Weeds, 26–31 August 2018, Engelberg, Switzerland.
- Stutz, S.** and **Messer, T.** (2018) Asynchrony in phenology of target and non-target plants: implications for host-specificity testing with *Platyptilia ochrodactyla*, a potential biocontrol agent for common tansy. XV International Symposium on Biological Control of Weeds, 26–31 August 2018, Engelberg, Switzerland.
- Subedi, B.**, Eigenbrode, S., Harmon, B., **Hinz, H.**, **Weyl, P.** and Schwarzländer, M. (2018) Examining pre-alignment host-selection of potential biological control agent of dyer's woad to cues of non-target confamilial plants. XV International Symposium on Biological Control of Weeds, 26–31 August 2018, Engelberg, Switzerland.

Thanarajoo, S.S. and **Sivapragasam, A.** (2018) Preventing exotic pests and diseases of coconut: the need for biosecurity planning and CABI's role with national programs. National Coconut Conference 2018, 7–9 August 2018, Ipoh, Malaysia.

Thomas, S.E., Pollard, K.M. and **Seier, M.K.** (2018) Could fungi stop buddleia in its tracks? XV International Symposium on Biological Control of Weeds, 26–31 August 2018, Engelberg, Switzerland.

Toepfer, S., Toth, S. and Zellner, M. (2018) Entomopathogenic nematodes replace soil insecticides in controlling *Diabrotica v. virgifera* (Coleoptera: Chrysomelidae). 64. Növényvédelmi Tudományos Napok [64. Hungarian Plant Protection Days], 20–21 February 2018, Budapest, Hungary. [In Hungarian.]

Varia S., Wood, S., Pratt, C., Adair, R. and **Murphy, S.** (2018) A 'mitey' solution for Australian swamp stonecrop in the UK. XV International Symposium on Biological Control of Weeds, 26–31 August 2018, Engelberg, Switzerland.

Vettraino, A.M., Santini, A., Nikolov, C., Grégoire, J.-C., Tomov, R., Orlinski, A., Maaten, T., Sverrisson, H., Økland, B. and **Eschen, R.** (2018) International phytosanitary legislation and regulations for the establishment of sentinel plants. Sentinel plantings for detecting alien, potentially damaging tree pests – State of the art 2018, 9–12 October 2018, Campus Sursee, Switzerland.

Wood, S.V., Maczey, N., Ellison, C.A., Currie, A., Rabiey, M., Jackson, R.W. and Gange A.C. (2018) Restoration after rust: how are native communities responding to Himalayan balsam biocontrol, and can we improve their recovery? XV International Symposium on Biological Control of Weeds, 26–31 August 2018, Engelberg, Switzerland.

Zhang, J.P., Kenis, M., Haye, T., Girod, P., Xiao, C., Chen, G., Dong, W.X., Chen, J.H. and **Zhang, F.** (2018) Damage on blueberry and larval parasitoids of *Drosophila suzukii* in China. 1st International Congress of Biological Control, 14–16 May 2018, Beijing, China.

2.8. Published abstracts of presentations and posters (20)

Bajwa, B.E., Honey, S.F., Mazhar, M.S. and Mahmood, R. (2018) Phytosanitary Risk Management Program in Pakistan – SPS compliance in horticulture and rice. [Presentation abstract]. In: Pakistan Halal Assembly (Abstracts) Government College University Faisalabad, Pakistan. March 21-22, 2018. Government College University Faisalabad, Pakistan, pp. 59–60.

Colmenarez, Y. (2018) Importancia del control biológico en el manejo de especies invasoras presentes y potenciales en América Latina y el Caribe. [Presentation abstract.] In: Memorias del 45 Congreso de la Sociedad Colombiana de Entomología, 11–13 July 2018, Cali, Colombia. Universidad Autónoma de Occidente, Santiago de Cali, Colombia, p. 50.

Colmenarez, Y. (2018) Producción agrícola sustentable en la región Neotropical y el rol del control biológico para su alcance. [Presentation abstract.] In: Memorias del 45 Congreso de la Sociedad Colombiana de Entomología, 11–13 July 2018, Cali, Colombia. Universidad Autónoma de Occidente, Santiago de Cali, Colombia, p. 76.

Colmenarez, Y., Vasquez, C., Franco, J., **Corniani, N., Gómez, J.,** Cervantes, M. and Torres, L. (2018) Climate change and its implication on biological control: case studies from Latin America. [Presentation abstract.] In: Qiu, D. (ed.) Biological control for a healthy planet. China Agricultural Science and Technology Press, Beijing, China, p. 95.

Costa, A., Moos, M., Zahradníková, H., Simek, P. and Zemek, R. (2018) The effect of wounding and *Spodoptera littoralis* herbivory on plant VOCs emissions in caraway *Carum carvi*. [Presentation abstract.] In: 34th Annual Meeting of the International Society of Chemical Ecology 12-18 August 2018, Budapest, Hungary. Abstract Book. International Society of Chemical Ecology, Kentucky, USA, p. 97.

Costa, A., Vang, L.V., Suu, T.B. and Tran, T.M.H. (2018) Use of semiochemicals in integrated pest management strategies in South East Asia: current status and future challenges. [Poster abstract.] In: 34th Annual Meeting of the International Society of Chemical Ecology 12-18 August 2018, Budapest, Hungary. Abstract Book. International Society of Chemical Ecology, Kentucky, USA, p. 98.

- Franco, F., Gómez, J. and Colmenarez, Y.** (2018) The plant health clinic helping farmers to solve phytosanitary problems in Peru: the potato cyst nematode case. [Las clínicas de salud vegetal para ayudar a los agricultores a resolver problemas fitosanitarios en el Perú: el caso de nematodos de cyst de papas.] [Presentation abstract.] *Nematropica* 48(2), ABST 15. <http://journals.fcla.edu/nematropica/article/view/107836/103140>
- Girod, P., Haye, T., Kenis, M., Zhang, J.P. and Zhang, F.** (2018) Evaluation of the potential biological control of *Drosophila suzukii* with Asian parasitoids. [Presentation abstract.] *Journal für Kulturpflanzen* 70, 65.
- Haq, E., **Bajwa, B.E.** and **Honey, S.F.** (2018) Commercial and economic aspects of insect biocontrol agents for management of major insect pests in Pakistan. [Presentation abstract.] In: Qiu, D. (ed.) Biological control for a healthy planet. China Agricultural Science and Technology Press, Beijing, China, p. 251.
- Honey, S.F., Mazhar, M.S., Bajwa, B.E.** and Khan, J. (2018) Recent trends in biological control of *Cydia pomonella* (Lepidoptera: Tortricidae) in Balochistan, Pakistan. [Presentation abstract.] In: Hussain, M. and Ijaz, M. (eds) Abstract book. 1st international and 2nd national conference on challenges and opportunities to boost agriculture in changing climate March 26-28, 2018. College of Agriculture, Bahauddin Zakariya University, Layyah, Pakistan, p. 133.
- Kong, L.L., **Thanarajoo, S.S.** and Vadamalai, G. (2018) Differential gene expression profiles of oil palm seedlings infected with coconut cadang-cadang viroid variants. In: Book of Abstracts. Viroid-2018 International Conference on Viroids and Viroid-Like RNAs, 5–7 July 2018, Valencia, Spain. Universitat Politècnica de València, Valencia, Spain, p. 51.
- Kyaw, H.W.W., Tsuchiya, K., Matsumoto, M., **Kurose, D.**, Iiyama, K., Horita, M. and Furuya, N. (2018) Properties of potato strains of *Ralstonia solanacearum* in Myanmar. [Presentation abstract.] *Japanese Journal of Phytopathology* 84(3), 251.
- Misawa, T. and **Kurose, D.** (2018) Anastomosis group or subgroup identification of strains deposited as *Rhizoctonia solani* in the NARO Genebank. [Presentation abstract.] *Japanese Journal of Phytopathology* 84(3), 257.
- Misawa, T., **Kurose, D.** and Sato, T. (2018) *Stemphylium vesicarium* causing Welsh onion leaf blight is updated to the phylogenetic Subgroup C2 of the genus *Stemphylium*. [Presentation abstract.] *Japanese Journal of Phytopathology* 84(1), 58.
- Shaw, D.** and Tanner, R. (2018) Classical biological control of weeds in Europe – novel but becoming established. [Extended presentation abstract]. *IOBC-WPRS Bulletin* 137, 58–59.
- Tani, S., Iiyama, K., Irie, S., Suga, Y., **Kurose, D.**, Sawada, H., Tsuchiya, K. and Furuya, N. (2018) Phylogenetic analyses of *Pseudomonas cichorii* strains isolated from various plants. [Presentation abstract.] *Japanese Journal of Phytopathology* 84(3), 256.
- Toepfer, S.**, Toth, S. and Zellner, M. (2018) Entomopathogenic nematodes replace soil insecticides in controlling *Diabrotica v. virgifera* (Coleoptera: Chrysomelidae). In: 64. Növényvédelmi Tudományos Napok [Hungarian Plant Protection Days], 20-21 February 2018, Budapest, Hungary. Magyar Tudományos Akadémia [Hungarian Academy of Sciences], Budapest, p. 94. [In Hungarian.] <http://www.magyarovenyvedelmitarsasag.hu/64NTN/NTN64Kiadvany.pdf>
- Toepfer, S.**, Toth, S. Kiss, J. and **Kuhlmann, U.** (2018) Current status of biological control in Hungary: An EU member state and B&R target country. [Presentation abstract.] First International Congress of Biological Control, 14–16 May 2018, Beijing, China. In: Qiu, D. (ed.) Biological control for a healthy planet. China Agricultural Science and Technology Press, Beijing, China, p. 249.
- Tsuchiya, K., Kyaw, H.W.W., **Kurose, D.**, Nakamura, T., Morita, Y., Yano, K., Ajitomi, A., Ooshiro, A., Horita, M., Matsumoto, M., Iiyama, K. and Furuya, N. (2018) Occurrence of bacterial wilt of Zingiberaceous plants in Kyushu district and properties of the causal strains of *Ralstonia solanacearum*. [Presentation abstract.] *Japanese Journal of Phytopathology* 84(1), 68.
- Zhang, J.P., Zhang, F., Liao, R.Y.**, Chen, X. and **Kenis, M.** (2018) Ecological adaptation of *Drosophila suzukii* in northern China. [Presentation abstract.] *Journal für Kulturpflanzen* 70, 63.

3. Other outputs

3.1. Support for introduction of classical biological control agents

Biological control agent studied	Target weed/ Insect pest	Status end 2018	Released in 2018	Country of release or intended release
<i>Archana geminipuncta</i> and <i>A. neurica</i> (Noctuidae)	<i>Phragmites australis</i> , common reed	Petition submitted for review in 2018	No	Canada
<i>Archana geminipuncta</i> and <i>A. neurica</i> (Noctuidae)	<i>Phragmites australis</i> , common reed	Petition submitted for review in 2018	No	USA
<i>Ceutorhynchus scrobicollis</i> (Curculionidae)	<i>Alliaria petiolata</i> , garlic mustard	Permission for release obtained in 2018	Yes	Canada
<i>Ceutorhynchus scrobicollis</i> (Curculionidae)	<i>Alliaria petiolata</i> , garlic mustard	Petition recommended by Technical Advisory Group (USA); pending	No	USA
<i>Cheilosia urbana</i> (Syrphidae)	<i>Pilosella</i> spp., Hawkweeds	Released in 2017	Yes	Canada
<i>Cheilosia urbana</i> (Syrphidae)	<i>Pilosella</i> spp., Hawkweeds	Petition recommended by Technical Advisory Group (USA); pending	No	USA
<i>Rhinusa pilosa</i> (Curculionidae)	<i>Linaria vulgaris</i> , Yellow toadflax	Permission for release obtained in 2018	No	USA
<i>Cyrtobagous salviniae</i> (Curculionidae)	<i>Salvinia molesta</i> , salvinia	Permission for new release obtained in 2018	Yes	Zambia
<i>Carmenta mimosa</i> (Sesiidae)	<i>Mimosa pigra</i>	Permission for release obtained in 2018	No	Zambia
<i>Listronotus setosipennis</i> (Curculionidae)	<i>Parthenium hysterophorus</i> , parthenium weed	Application submitted for review in 2018	No	Tanzania
<i>Aculus crassulae</i> (Eriophyidae)	<i>Crassula helmsii</i> , Australian swamp stonecrop	Permission for release obtained in 2018	Yes	UK
<i>Listronotus elongatus</i> (Curculionidae)	<i>Hydrocotyle ranunculooides</i> , floating pennywort	Supporting research undertaken in 2018 for PRA resubmission in 2019	No	UK
<i>Merochlorops cf. dimorphus</i> (Chloropidae)	<i>Hedychium gardnerianum</i>	Host range testing resumed following approval of CABI-ICAR three year workplan which includes export	No	New Zealand
<i>Mycosphaerella polygoni-cuspidati</i> (Mycosphaerellaceae)	<i>Fallopia japonica</i>	PRA submitted for experimental field trials	No	UK


3.2. Extension material

CABI staff contributed to 108 extension materials in the Plantwise knowledge bank in 2018. This included 63 Pest Management Decision Guides, 6 Plantwise factsheets for farmers, 32 other factsheets, and 7 photosheets which can be seen here: <http://www.plantwise.org/KnowledgeBank/SearchResults.aspx?q=aa:cabi%20AND%20yr:2018>


A further 13 extension materials were produced in the African Soil Health Consortium project: 3 for use by intermediaries and 10 for direct use by farmers. These, and more, can be found here: <http://africasoilhealth.cabi.org/materials/>


A further four technical briefs on FAW were developed in the Action on Invasives programme for awareness campaigns. Four photo guides and a FAW lifecycle document were disseminated across Uganda and Zambia. Two videos on FAW were also developed for Ghana and Uganda. 6 brochures and pamphlets were developed and disseminated across urban and rural populations in Pakistan, 6 public service messages and 1 video documentary were developed and aired on local and national cable and satellite television stations in Pakistan.

Ten photobooklets on the pests and diseases of coffee, mango, citrus, onion, cabbage, sorghum, tomato, potato, rice and beans were prepared by Jayne Crozier, Rob Reeder, Steve Edgington, Sarah Thomas, Julien Lamontagne-Godwin and Phil Taylor. The guides are available online on the Plantwise knowledge bank <https://www.plantwise.org/KnowledgeBank/SearchResults.aspx?q=Photoguide>.

Cruz, I., Bruce, A., Sevgan, S., Akutse, K.S., Mohamed, F.S., Niassy, S., Rangaswamy, M., Sidhu, J., Goergen, G., **Rwomushana, I.**, Kasina, M., Ba, M., Aboagye, E., Stephan, D., Wennmann, J., Neering, E. and Mushobozi, W (2018) Biological control and biorational pesticides for fall armyworm management. In: Prasanna, B.M., Huesing, J.E., Eddy, R. and Peschke, V.M. (eds) Fall armyworm in Africa: a guide for integrated pest management. First edition. CIMMYT, México, CDMX, pp. 63–88. <https://repository.cimmyt.org/handle/10883/19204> 

Holmes, K., Babendreier, D., Bateman, M., Chaudhary, M., Grunder, G., Mulaa, M., Durocher-Granger, L. and Faheem, M. (2018) Biopesticides Manual Guidelines for Selecting, Sourcing, Producing and Using Biopesticides for Key Pests of Tobacco. CABI, Wallingford, UK, 144 pp.

Jepson, P.C., Murry, K., Bach, O., Kachigamba, D., Ndeithi, F., Miano, J.K., McCracken, T., **Onyango, D.**, Nthenga, I., Agboka, K., Byantwale, S. and DeGroot, H. (2018) Pesticide hazard and risk management, and compatibility with IPM. In: Prasanna, B.M., Huesing, J.E., Eddy, R. and Peschke, V.M. (eds) Fall armyworm in Africa: a guide for integrated pest management. First edition. CIMMYT, México, CDMX, pp. 29–44. <https://repository.cimmyt.org/handle/10883/19204> 

McGrath, D., Huesing, J.E., Beiriger, R., Nuessly, G., Tapa-Yotto, T.G., Hodson, D., Kimathi, E., Elias, F., Obaje, J.A., **Mulaa, M.**, Mendes, A.P., Mabrouk, A.F.A. and Belayneh, Y. (2018) Monitoring, surveillance and scouting for fall armyworm. In: Prasanna, B.M., Huesing, J.E., Eddy, R. and Peschke, V.M. (eds) Fall armyworm in Africa: a guide for integrated pest management. First edition. CIMMYT, México, CDMX, pp. 11–28. <https://repository.cimmyt.org/handle/10883/19204> 

3.3. Distribution maps of plant pests/diseases

54 *Distribution Maps of Plant Pests/Diseases* were issued, and can be found here: <https://www.cabdirect.org/cabdirect/search/?q=sc:fv%20or%20sc:fw&sort=Relevance&facets=1&facet1f=Year&facet1v=2018&facet1o=OR>

3.4. Awareness-raising materials

In addition to numerous blogs, press material, etc., the following are noted:

Gange, A., Currie, A., Ab Razak, N., **Ellison, C., Maczey, N., Wood, S.**, Jackson, R. and Rabjey, M. (2018) The threat of invasive species to biodiversity: Biological control of Himalayan balsam. Profile, Open Access Government. <https://www.openaccessgovernment.org/biological-control-himalayan-balsam/44711/>

Smith, D. (2018) Living collections of microorganisms adopting biosecurity best practice. Infectious Diseases Hub. <https://www.id-hub.com/2018/01/16/living-collections-microorganisms-adopting-biosecurity-best-practice/>

Ryan M.J. (2018) KEEPING HISTORY ALIVE! A blog for the Science Museum 'Superbugs' Exhibition, Science Museum, London <https://blog.sciencemuseum.org.uk/keeping-history-alive/>

Ryan M.J. (2018) Inside the archive collecting historic moulds. An interview for the Science Museum London <https://www.youtube.com/watch?v=Si4K15ugNiw>

CABI and IPP-CAAS (2018) Video for 10th Anniversary of the MARA-CABI Joint Laboratory for Bio-safety. 6 min.

4. CABI staff, students and associates

4.1. Scientific Staff

Where located	Family name	First name	Highest degree
Brazil	Colmenarez	Yelitza	PhD
Brazil	Corniani	Natália	PhD
Brazil	Gomez-Vargas	José-Maria	MSc
Brazil	Neves	Eduardo	MSc
China	Li	Hongmei	PhD
China	Liu	Zhi	MSc
China	Tang	Rui	PhD
China	Wan	Min	PhD
China	Zhang	Feng	PhD
China	Zhang	Jinping	PhD
China	Benton	Andrew	BSc
Costa Rica	Hidalgo	Eduardo	PhD
Ethiopia	Gurmessa	Negussie	PhD
Ghana	Boafo	Hettie Arwoh	MSc
Ghana	Clotey	Victor	PhD
Ghana	Duah	Solomon Agyeman	MA
Ghana	Hevi	Walter	MPhil
Ghana	Oppong-Mensah	Birgitta	BSc
Hungary	Toefer	Stefan	DnatSc
India	Chaudhary	Malvika	PhD
India	Jadhav	Arun	BTech
India	Jain	Sudhanshu	MBA
India	Khanna	Kritika	MA
India	Nagpal	Akanksha	MTech
India	Pandit	Vinod	PhD
India	Rajendran	Ganeshamoorthy	MSc
India	Ramasamy	Gopi	MPhil
India	Singh	Namrata	MSc
India	Thakur	Manju	PhD
Kenya	Agwanda	Charles	PhD
Kenya	Akiri	Morris	PhD
Kenya	Bundi	Mary	MSc
Kenya	Chacha	Duncan	BSc
Kenya	Chege	Florence	MSc
Kenya	Day	Roger	PhD
Kenya	Gakuo	Stephanie	MSc
Kenya	Kansiime	Monica	PhD

Where located	Family name	First name	Highest degree
Kenya	Karanja	Daniel	PhD
Kenya	Karanja	Lucy	MSc
Kenya	Kimani	Martin	MSc
Kenya	Migiro	Lorna	PhD
Kenya	Mugambi	Idah	MSc
Kenya	Mulaa	Margaret	PhD
Kenya	Mulema	Joseph	PhD
Kenya	Musebe	Richard	PhD
Kenya	Nambiro	Elizabeth	PhD
Kenya	Njunge	Rahab	Bed
Kenya	Nunda	Winnie	BSc
Kenya	Ochilo	Willis	MSc
Kenya	Odero	Hilda	MSc
Kenya	Oduor	George	PhD
Kenya	Onyango	David	MSc
Kenya	Oronje	MaryLucy	PhD
Kenya	Otieno	Washington	PhD
Kenya	Romney	Dannie	PhD
Kenya	Rware	Harrison	MSc
Kenya	Williams	Frances	MSc
Kenya	Witt	Arne	PhD
Malaysia	Annamalai	Sivapragasam	PhD
Malaysia	Chan	Fook Wing	BSc
Malaysia	Chan	Hong Twu	MSc
Malaysia	Costa	Arnaud	PhD
Malaysia	Faheem	Mohamad	MSc
Malaysia	Thanarajoo	Sathis Sri	PhD
Netherlands	Danielsen	Solveig	PhD
Netherlands	Schaap ¹	Ben	MSc
Netherlands	Valverde	Alvaro	MSc
Netherlands	Vos	Janny	PhD
Pakistan	Ahmed	Ashfaqe	MSc
Pakistan	Ahmed	Rauf	MSc
Pakistan	Ahmed	Shakeel	PhD
Pakistan	Akhtar	Naheed	PhD
Pakistan	Ali	Irshad	MSc
Pakistan	Ali	Kazim	PhD
Pakistan	Asad	Haibat Ullah	PhD
Pakistan	Asif	Muhammad	MSc
Pakistan	Aslam	Naeem	MSc

1. On secondment from Wageningen University & Research

Where located	Family name	First name	Highest degree
Pakistan	Bajwa	Babar Ehsan	PhD
Pakistan	Dhaunroo	Ashfaq Ali	MSc
Pakistan	Faisal	Shah	MSc
Pakistan	Farooq	Muzammil	MSc
Pakistan	Honey	Sabayan Faris	PhD
Pakistan	Humayun	Malik Amir	PhD
Pakistan	Imran	Muhammad	MSc
Pakistan	Keerio	Imam Din	MSc
Pakistan	Khan	Kausar	PhD
Pakistan	Khan	Muhammad Hamza	MSc
Pakistan	Khan	Saad Muhammad	MSc
Pakistan	Mahmood	Riaz	MSc
Pakistan	Mohsin	Muhammad	MSc
Pakistan	Nabi	Ghulam	MSc
Pakistan	Rehman	Abdul	MSc
Pakistan	Rehman	Hafiz Mahmood	PhD
Pakistan	Riaz	Rehan	PhD
Pakistan	Safdar	Umair	PhD
Pakistan	Saleem	Yasir	MSc
Pakistan	Shahbaz	Hamzah	MSc
Pakistan	Ullah	Fazl	MSc
Pakistan	Usman	Muhammad	PhD
Rwanda	Silvestri	Silvia	PhD
Switzerland	Babendreier	Dirk	DnatSc
Switzerland	Bateman	Melanie	PhD
Switzerland	Cortat	Ghislaine	MSc
Switzerland	Eschen	René	DnatSc
Switzerland	Grossrieder	Manfred	MSc
Switzerland	Grunder	Julien	MSc
Switzerland	Häfliger	Patrick	DnatSc
Switzerland	Haye	Tim	DnatSc
Switzerland	Heeb	Luca	PhD
Switzerland	Hinz	Hariet	DnatSc
Switzerland	Holmes	Keith	PhD
Switzerland	Jenner	Emma	PhD
Switzerland	Jenner	Wade	PhD
Switzerland	Kenis	Marc	DnatSc
Switzerland	Kuhlmann	Ulrich	DnatSc
Switzerland	Nacambo	Saidou	MSc
Switzerland	Schaffner	Urs	DnatSc

Where located	Family name	First name	Highest degree
Switzerland	Seehausen	Lukas	PhD
Switzerland	Stutz	Sonja	DnatSc
Switzerland	Tambo	Justice	PhD
Switzerland	Weyl	Philip	PhD
Switzerland	Wood	Anna	PhD
Trinidad & Tobago	Ramnanan	Naitram	MPhil
Uganda	Alokit	Christine	MSc
UK (Egham)	Bachmann	Denise	MSc
UK (Egham)	Buddie	Alan	PhD
UK (Egham)	Burdon	Georgina	BSc
UK (Egham)	Cafá	Giovanni	PhD
UK (Egham)	Caggiano	Benedetta	PhD
UK (Egham)	Caine	Thelma	
UK (Egham)	Cobb	Emma	MSc
UK (Egham)	Cock	Matthew	PhD
UK (Egham)	Constantine	Kate	MSc
UK (Egham)	Crozier	Jayne	PhD
UK (Egham)	Djeddour	Djami	MSc
UK (Egham)	Edgington	Steve	PhD
UK (Egham)	Ellison	Carol	PhD
UK (Egham)	Flood	Julie	PhD
UK (Egham)	Godwin-Keene	Georgina	
UK (Egham)	González-Moreno	Pablo	PhD
UK (Egham)	Hudson	Ken	MSc
UK (Egham)	Kaniah	Hashini	BSc
UK (Egham)	Kermode	Anthony	BSc
UK (Egham)	Kurose	Daisuke	PhD
UK (Egham)	Lamontagne-Godwin	Julien	MSc
UK (Egham)	Lawrence	Sharon	
UK (Egham)	Luke	Belinda	PhD
UK (Egham)	Maczey	Norbert	PhD
UK (Egham)	Madden	Esther	BSc
UK (Egham)	Minter	David	PhD
UK (Egham)	Murphy	Sean	PhD
UK (Egham)	Offord	Lisa	BSc
UK (Egham)	Pollard	Kate	MRes
UK (Egham)	Pratt	Corin	MSc
UK (Egham)	Reeder	Rob	PhD
UK (Egham)	Reeve	Mike	PhD
UK (Egham)	Ryan	Matthew	PhD

Where located	Family name	First name	Highest degree
UK (Egham)	Seier	Marion	PhD
UK (Egham)	Sharma	Divya	BSc
UK (Egham)	Shaw	Richard	PhD
UK (Egham)	Smith	David	PhD
UK (Egham)	Stewart	Helen	BSc
UK (Egham)	Taylor	Bryony	MSc
UK (Egham)	Taylor	Phil	PhD
UK (Egham)	Thom	Nikolai	BA
UK (Egham)	Thomas	Sarah	PhD
UK (Egham)	Thompson	Emma	
UK (Egham)	Tymo	Lukasz	MSc
UK (Egham)	Varia	Sonal	BSc
UK (Egham)	Whelan	Rhian	BSc
UK (Egham)	White	Gretel	PhD
UK (Egham)	Wood	Suzy	BSc
UK (HQ)	Allen	Uma	MSc
UK (HQ)	Beale	Tim	BSc
UK (HQ)	Beverley	Claire	PhD
UK (HQ)	Bishop	James	BSc
UK (HQ)	Cameron	Katherine	MSc
UK (HQ)	Carter	Bettina	BSc
UK (HQ)	Charles	Lucinda	BSc
UK (HQ)	Cole	Stephanie	BSc
UK (HQ)	Cooper	Ward	BSc
UK (HQ)	Cousins	Debbie	BSc
UK (HQ)	Curry	Claire	BSc
UK (HQ)	Dey	Kate	BSc
UK (HQ)	Djuric	Miroslav	MPhil
UK (HQ)	Doroszenko	Anton	PhD
UK (HQ)	Doughty	Laura	PhD
UK (HQ)	Dueñas-Lopez	Manuel-Angel	PhD
UK (HQ)	Durocher-Granger	Lena	MSc
UK (HQ)	Fielder	Hannah	PhD
UK (HQ)	Finch	Lizzie	PhD
UK (HQ)	Finegold	Cambria	MSc
UK (HQ)	Head	Tracy	BSc
UK (HQ)	Hemming	David	PhD
UK (HQ)	Holland	William	MSc
UK (HQ)	Holmes	Tim	PhD
UK (HQ)	Hoskins	Isobel	PhD

Where located	Family name	First name	Highest degree
UK (HQ)	Holt	Alistair	BSc
UK (HQ)	Iqbal	Mariya	MSc
UK (HQ)	Jay	Tabitha	MSc
UK (HQ)	Day	Charlotte	MSc
UK (HQ)	Makepeace	Caroline	BSc
UK (HQ)	Mcgillivray	Lesley	PhD
UK (HQ)	Musker	Ruthie	MSc
UK (HQ)	Neave	Suz	MSc
UK (HQ)	Norris	Wendie	PhD
UK (HQ)	O'Brien	Tim	BSc
UK (HQ)	Osborne	Janice	BSc
UK (HQ)	Palmer	Mark	MSc
UK (HQ)	Parfitt	Claire	BSc
UK (HQ)	Parr	Martin	PhD
UK (HQ)	Perrins	Penny	BSc
UK (HQ)	Pittaway	Tony	PhD
UK (HQ)	Rendell-Dunn	Alexis	BSc
UK (HQ)	Richards	Gareth	PhD
UK (HQ)	Roberts	Phil	PhD
UK (HQ)	Robinson	Andy	PhD
UK (HQ)	Ruffhead	Holly	MA
UK (HQ)	Rumsey	Abigail	MSc
UK (HQ)	Simpson	David	PhD
UK (HQ)	Stewart	Janet	MSc
UK (HQ)	Swarbrick	Phil	PhD
UK (HQ)	Sumares da Cruz Nunes	Ana Luisa	PhD
UK (HQ)	Taylor	Robert	BSc
UK (HQ)	Wakefield	Nicola	BSc
UK (HQ)	Weeks	Lalitha	MSc
UK (HQ)	Whitehead	Brandon	MSc
UK (HQ)	Wilford	Shankari	BSc
UK (HQ)	Wood	Rachel	BSc
UK (HQ)	Zhang	Qiaoqiao	PhD
Zambia	Phiri	Noah	PhD
Zambia	Chiluba	Mwape	PhD

4.2. CABI staff working towards a research degree.

Where located	Name of staff member	Degree for which registered	University	CABI supervisor(s)
China	Liu Zhi	PhD	CAAS Graduate School, China	–
Ghana	Boafo, Hettie Arwoh	PhD	University of Ghana	Marc Kenis
Ghana	Oppong-Mensah, Birgitta	MSc	Andrews Uni, Canada	-
India	Singh, Namrata	PhD	Amity University, Gurgaon Campus, New Delhi	-
Kenya	Chacha, Duncan	MSc	University of Nairobi	–
Kenya	Karanja, Lucy	PhD	University of Nairobi	–
Kenya	Ochilo, Willis	PhD	University of Nairobi	–
Pakistan	Ashfaq Ahmed	PhD	University of Karachi	–
Pakistan	Muzammil Farooq	PhD	Bahauddin Zakaria University Multan, Pakistan	–
Pakistan	Naeem Aslam	PhD	University of Agriculture, Peshawar, Pakistan	–
Pakistan	Yasir Saleem Khan	PhD	Sindh Agriculture University, Tandojam, Pakistan	–
UK	Bryony Taylor	PhD.	Imperial University	Sean Murphy
UK	Curry, Claire	MSc	University of Central Lancaster	–
UK	Kermode, Anthony	PhD	Royal Holloway, University of London	Matthew Ryan
UK	Lamontagne-Godwin, Julien	PhD	University of Reading	Rob Reeder
UK	Pollard, Kate	PhD	Royal Holloway, University of London	Marion Seier
UK	Varia, Sonal	PhD	Royal Holloway, University of London	Sean Murphy
UK	Wood, Suzy	PhD	Royal Holloway, University of London	Norbert Maczey

4.3. Research Students

Where located	Name of student	Degree to which attachment will contribute	University of student	CABI supervisor(s)
China	Chen Ju-Hong	MSc	Jilin Agricultural University	Zhang Jinping
China	Cheng Yumeng	MSc	Huaibei Normal University	Li Hongmei
China	Gu Haojing	MSc	Beijing Agricultural College	Li Hongmei
China	Mi Qianqian	MSc	Huazhong Agricultural University	Zhang Jinping/ Zhang Feng
China	Zhang Yan	MSc	Gansu Agricultural University	Li Hongmei
China	Zhong Yongzhi	PhD	Yunnan Agricultural University, China	Zhang Jinping, Tang Rui, Zhang Feng
China	G Mahendra Singh	PhD	Graduate School of CAAS	Xu Jianchu (ICRAF Kunming)/Zhang Feng
Pakistan	Muhammad Jalal	PhD	Quaid-i-Azam University	Aamir Humayun Malik
Pakistan	Shomaila Iqbal	PhD	Pir Mehr Ali Shah Arid Agriculture University	Aamir Humayun Malik
Switzerland	Augustinus, Benno	PhD	University of Fribourg, Switzerland	Urs Schaffner
Switzerland	Franić, Iva	PhD	University of Bern, Switzerland	René Eschen
Switzerland	Girod, Pierre	PhD	University of Neuchâtel, Switzerland	Marc Kenis, Tim Haye
Switzerland	Linders, Theo	PhD	University of Bern, Switzerland	Urs Schaffner
Switzerland	Driss, Laetitia	MSc	University of Avignon MSC	Marc Kenis
Switzerland	Stahl, Judith	PhD	University of Bremen, Germany	Tim Haye, Dirk Babendreier
Switzerland	Banu Belmiro Irénio	MSc	University of Bern, Switzerland	Robert Reeder
UK	Lily Peck	PhD	Imperial College	Matthew Ryan
UK	Tara O'Neil	PhD	Royal Holloway, University of London	Belinda Luke
UK	Louise Pomfrett	MSc	Royal Holloway, University of London	Julien Lamontagne-Godwin
UK	Ellie Spence	PhD	Warwick Univeristy	Steve Edgington
UK	Grace Munyumbwe	MSc	Royal Holloway, University of London	Belinda Luke

4.4. Masters of Advanced Studies in Integrated Crop Management

The Masters of Advanced Studies in Integrated Crop Management (ICM) is an initiative started in 2015 as a collaboration between CABI's centre in Switzerland, the University of Neuchâtel, and the Jura Canton. Scientists, teachers, extension officers and policy makers come to Switzerland to enrich their knowledge about the importance of ICM, supporting its adoption as a long-term strategy to address global challenges (<http://www.cabi.org/about-cabi/cabi-centres/switzerland/mas-icm-course/>, <https://www.unine.ch/mas-icm>).

List of participants, 2018 academic year.

Surname	Given name	Education	Job title	Professional affiliation	Country
Abubakari	Mohammed Sherif	BSc	Agricultural Officer	Ministry of Food and Agriculture	Ghana
Bulya	Ann	BSc	Agricultural Economist	Kayunga District Local Government	Uganda
Nyalungwe	Nixon Edson	BSc	Principal Agriculture Officer	Ministry of Agriculture, Irrigation and Water Development	Malawi
Taffa	Ermias Teshome	MSc	Plant Pathologist	Sinana Agricultural Research Center	Ethiopia
Webb	Francine Lorraine	BSc	Plant Health / Food Safety Specialist	Rural Agricultural Development Authority	Jamaica
Daud	James Muema	BSc	Principal Agricultural Officer	Ministry of Agriculture and Fisheries Development	Kenya
Handiganala Munireddappa	Mahesh	MSc	Student	University of Agricultural Sciences, Bangalore	India
Mukashimwe	Melanie	BSc	Research Technician	Rwanda Agriculture Board	Rwanda
Nguyen	(Thi Kim) Ngan	MSc	College Lecturer	Southern Agriculture College	Vietnam
Sreesparalingam	Rajeshkanna	MSc	Assistant Director of Agriculture	Regional Agricultural Research and Development Centre	Sri Lanka
Gondwe	Tiwonge	BSc	Agriculture Officer	Ministry of Agriculture	Zambia
Buteme	Ruth	BSc	Teaching Assistant	Uganda Christian University	Uganda

4.5. CABI Associates and Fellows

Where located	Name	Highest Qualification	Role
Afghanistan	Zakariya Faizi	MSc	CABI Associate, Afghanistan
Australia	Thompson, Michael	BSc	Plantwise consultant
Bolivia	Bentley, Jeffery	PhD	Plantwise consultant
Malaysia	Heong, K.L.	PhD	CABI Associate, Malaysia
Malaysia	Lum Keng Yeang	PhD	CABI Associate, Malaysia
Malaysia	Sastroutomo Soetikno S.	PhD	CABI Associate, Malaysia
Malaysia	Loke Wai Hong	PhD	CABI Associate, Malaysia
Malaysia	Ahmad Said Sajap	PhD	CABI Associate, Malaysia
Malaysia	Jeremy Ngim C.K.	BAgSc	CABI Associate, Malaysia
Sri Lanka	Vakeesan Arulanandam	BSc	CABI Associate, Sri Lanka
Sri Lanka	W.M.PT. Bandara	MSc	CABI Associate, Sri Lanka
Switzerland	Gassmann, André	DnatSc	Consultant
Switzerland	Dougoud, Julien	MSc	Plantwise consultant
UK	Boa, Eric	PhD	Plantwise consultant
UK	Evans, Harry C.	DSc	Emeritus Fellow
UK	Hunt, David	PhD	Emeritus Fellow
Peru	Ponce, Javier F.	PhD	CABI Associate, Peru/Bolivia

4.6. Technical support

Centre	Name	Qualification
China	Mi Qianqian Yijun	MSc
China (Joint Lab)	Liu Yinmin	MSc
China (Joint Lab)	Zhan Haixia	MSc
Kenya	Karanja, Peter	HNDip
Malaysia	Haji Razali Baki	
Pakistan	Hussain, Aqil	BSc
Pakistan	Anjum, Daud Hussain	Matric
Pakistan	Ahmed, Ejaz	Matric
Pakistan	Rasheed, Khalid	Intermediate
Pakistan	Ali, Saqib	Graduate
Switzerland	Beberat, Lise	DiplGard
Switzerland	Cloşca, Cornelia	MSc
Switzerland	Willemin, Florence	DiplGard
UK	Clayton, Teresa	
UK	Hannon, Janet	
UK	Southey, Freddie	

4.7. Temporary Research Students

These students contribute to projects, but are not expected to produce a thesis. They may be report coauthors or occasionally paper coauthors.

Where located	Name	Highest degree	University	Dates (2017)
China	Dong Yitong	BSc	Changjiang University	June – August 2018
China	Huan Huan	BSc	Inner Mongolia Agricultural University	May – June 2018
China	Ge Mengting	BSc	Anhui Normal University	July – August 2018
China	Xin Shuaicong	BSc	Changjiang University	June – August 2018
China	Zhang Yupan	BSc	Biological Control	Northwest Agriculture and Forestry University
Ghana	Mensah, Samuel Adjei	BSc	Univesity of Cape Coast	June – August
Kenya	Micfanaka, Steven	MSc	University of Nairobi	June – October
Pakistan	Shakeel, Muhammad	MSc	PMAS Arid Agriculture University Rawalpindi, Pakistan	September – December
Pakistan	Nasreen	BSc	Karakoram International University Gilgit, Pakistan	July – December
Switzerland	Besomi, Gaia	BSc	University of Neuchatel	June – Mid July
Switzerland	Deluigi, Janisse	BSc	University of Fribourg	June – July
Switzerland	Knecht, Arthur	BSc	ZHAW Wädenswil	May – September
Switzerland	Corbat, Oceane	MSc	University of Neuchatel	mid May – 31 October
Switzerland	Gütlin, Ayaka	BSc	University of Basel	mid-May – mid-August
Switzerland	Kerim, Aylin	BSc	University of Bielefeld	April – June
Switzerland	Beltrando, Koichi	BSc	Harper Adams University UK	30 Apr – 31 Aug
Switzerland	Messer, Tamar	BSc	University of Lethbridge	1 May – 31 August
Switzerland	do Carmo, Stephanie	BSc	University of São Paulo – USP	16 April – 31 July
Switzerland	Craig, Lindsay	BSc	Simon Fraser University	1 May – 31 August
Switzerland	Laing, Christie	BSc	Simon Fraser University	1 May – 31 August
Switzerland	Ediger, Mariah	BSc	Thompson Rivers University	1 May – 31 August
Switzerland	Grunsky, Anna	BSc	University of Victoria	1 May – 31 August
UK (Egham)	Cole, Josh	BSc	Warwick University	April – july
UK (Egham)	Peters, Rik		HAS University of Applied Sciences	March – August
UK (Egham)	Jacob Horner		Royal Holloway, University of London	July – August
UK (Egham)	Aston Saini		Royal Holloway, University of London	July – August
UK (Egham)	Jovaras Krasauskas	BSc	Royal Holloway, University of London	Jan – March
UK (HQ)	Sunmbo Olorunfemi	MSc	Royal Agricultural University	Jun – Sept



contact CABI

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