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## Employment

### Professor

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1 Mar 2021 → nu

## Research outputs

### Acting pre-emptively reduces the long-term costs of managing herbicide resistance

Varah, A., Ahodo, K., Childs, D. Z., Comont, D., Crook, L., Freckleton, R. P., Goodsell, R., Hicks, H. L., Hull, R., Neve, Paul & Norris, K., 2024, In: *Scientific Reports*. 14, 14 p., 6201.

### Current and future glyphosate use in European agriculture

Neve, Paul, Matzrafi, M., Ulber, L., Baraibar, B., Beffa, R., Belvaux, X., Farré, J. T., Mennan, H., Ringselle, B., Salonen, J., Soukup, J., Andert, S., Duecker, R., Gonzalez, E., Hamouzová, K., Karpinski, I., Travlos, I. S., Vidotto, F. & Kudsk, P., 2024, (E-pub ahead of print) In: *Weed Research*.

### RNA and protein biomarkers for detecting enhanced metabolic resistance to herbicides mesosulfuron-methyl and fenoxaprop-ethyl in black-grass (*Alopecurus myosuroides*)

Lowe, C., Onkokesung, N., Goldberg, A., Beffa, R., Neve, Paul, Edwards, R. & Comont, D., 2024, In: *Pest Management Science*. 80, 6, p. 2539-2551 13 p.

### The role of interspecific variability and herbicide pre-adaptation in the cinmethylin response of *Alopecurus myosuroides*

Comont, D., Crook, L., Hull, R., Sievernich, B., Kevis, S. & Neve, Paul, 2024, (E-pub ahead of print) In: *Pest Management Science*.

### Image-based weed recognition and control: Can it select for crop mimicry?

Coleman, Guy Robert Yeoman, Bender, A., Walsh, M. J. & Neve, Paul, 2023, In: *Weed Research*. 63, 2, p. 77-82 6 p.

### The blackgrass genome reveals patterns of non-parallel evolution of polygenic herbicide resistance

Cai, L., Comont, D., MacGregor, D., Lowe, C., Beffa, R., Neve, Paul & Saski, C., 2023, In: *New Phytologist*. 237, 5, p. 1891-1907 17 p.

### Dissecting weed adaptation: Fitness and trait correlations in herbicide-resistant *Alopecurus myosuroides*

Comont, D., MacGregor, D. R., Crook, L., Hull, R., Nguyen, L., Freckleton, R. P., Childs, D. Z. & Neve, Paul, 2022, In: *Pest Management Science*. 78, 7, p. 3039-3050

### Weed Adaptation as a Driving Force for Weed Persistence in Agroecosystems

Neve, Paul & Caicedo, A. L., 2022, *Persistence Strategies of Weeds*. Upadhyaya, M. K., Clements, D. R. & Shrestha, A. (eds.). Wiley, p. 302-324

### Adaptation at different points along antibiotic concentration gradients

Lagator, M., Uecker, H. & Neve, Paul, 2021, In: *Biology Letters*. 17, 5, 6 p., 20200913.

**Adopting epidemiological approaches for herbicide resistance monitoring and management**

Comont, D. & Neve, Paul, 2021, In: Weed Research. 61, 2, p. 81-87

**Allelochemicals as multi-kingdom plant defence compounds: towards an integrated approach**

Hickman, D. T., Rasmussen, A., Ritz, K., Birkett, M. A. & Neve, Paul, 2021, In: Pest Management Science. 77, 3, p. 1121-1131

**Fitness Cost Associated With Enhanced *EPSPS* Gene Copy Number and Glyphosate Resistance in an *Amaranthus tuberculatus* Population**

Cockerton, H. M., Kaundun, S. S., Nguyen, L., Hutchings, S. J., Dale, R. P., Howell, A. & Neve, Paul, 2021, In: Frontiers in Plant Science. 12, 12 p., 651381.

**Genomic-based epidemiology reveals independent origins and gene flow of glyphosate resistance in *Bassia scoparia* populations across North America**

Ravet, K., Sparks, C. D., Dixon, A. L., Kuepper, A., Westra, E. P., Pettinga, D. J., Tranel, P. J., Felix, J., Morishita, D. W., Jha, P., Kniss, A., Stahlman, P. W., Neve, Paul, Patterson, E. L., Westra, P. & Gaines, T. A., 2021, In: Molecular Ecology. 30, 21, p. 5343-5359 17 p.

**Investigating the origins and evolution of a glyphosate-resistant weed invasion in South America**

Gaines, T. A., Slavov, G. T., Hughes, D., Kupper, A., Sparks, C. D., Oliva, J., Vila-Aiub, M. M., Garcia, M. A., Merotto, A. & Neve, Paul, 2021, In: Molecular Ecology. 30, 21, p. 5360-5372 13 p.

**Population genomics of selectively neutral genetic structure and herbicide resistance in UK populations of *Alopecurus myosuroides***

Dixon, A., Comont, D., Slavov, G. T. & Neve, Paul, 2021, In: Pest Management Science. 77, 3, p. 1520-1529

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Lati, R. N., Rasmussen, Jesper, Andujar, D., Dorado, J., Berge, T. W., Wellhausen, C., Pflanz, M., Nordmeyer, H., Schirrmann, M., Eizenberg, H., Neve, Paul, Jørgensen, R. N. & Christensen, Svend, 2021, In: Weed Research. 61, 3, p. 147-153

**The blackgrass genome reveals patterns of divergent evolution of non-target site resistance to herbicides**

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**The costs of human-induced evolution in an agricultural system**

Varah, A., Ahodo, K., Coutts, S. R., Hicks, H. L., Comont, D., Crook, L., Hull, R., Neve, Paul, Childs, D. Z., Freckleton, R. P. & Norris, K., 2020, In: Nature Sustainability. 3, p. 63-71

**Alterations in life-history associated with non-target-site herbicide resistance in *Alopecurus myosuroides***  
Comont, D., Knight, C., Crook, L., Hull, R., Beffa, R. & Neve, Paul, 2019, In: *Frontiers in Plant Science*.

**Evolutionary epidemiology predicts the emergence of glyphosate resistance in a major agricultural weed**  
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**Molecular mechanisms of adaptive evolution revealed by global selection for glyphosate resistance**  
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**Changes in the proteome of the problem weed blackgrass correlating with multiple-herbicide resistance**  
Tétard-Jones, C., Sabbadin, F., Moss, S., Hull, R., Neve, Paul & Edwards, R., 2018, In: *Plant Journal*. 94, 4, p. 709-720

**Gene drive systems: do they have a place in agricultural weed management? Gene drive and weed management**  
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**The future of sustainable crop protection relies on increased diversity of cropping systems and landscapes**  
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**The power and potential of genomics in weed biology and management**  
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### **What good is weed diversity?**

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### **A generalised individual-based algorithm for modelling the evolution of quantitative herbicide resistance in arable weed populations**

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### **Interpopulation variability and adaptive potential for reduced glyphosate sensitivity in *Alopecurus myosuroides***

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### **Opportunities and challenges for harvest weed seed control in global cropping systems**

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### **Agricultural Weed Research: A Critique and Two Proposals**

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**Multiple herbicide resistance in a glyphosate-resistant rigid ryegrass (*Lolium rigidum*) population**

Neve, Paul, Sadler, J. & Powles, S. B., 2004, In: *Weed Science*. 52, 6, p. 920-928

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