



ESPP webinar Wednesday, 2nd February 2022, 14h – 17h CET Impacts of reducing "legacy phosphorus" in agricultural soils

www.phosphorusplatform.eu/LegacyP

This ESPP webinar follows on from the SPA (US) <u>webinar</u> "A Legacy of Phosphorus", 30th September 2021, 18h-19h30 CEST and from the Frontiers in Earth Science <u>special</u> on 'Legacy Phosphorus' summarised in <u>ESPP eNews n°56</u>. A <u>SCOPE Newsletter</u> special issue will summarise this ESPP webinar and the SPA webinar, and will also include other abstracts submitted to the ESPP webinar as well as a selection of c. 20 relevant recent scientific publications: proposals for publications to be included should be sent to <u>info@phosphorusplatform.eu</u>.

14h00 – 14h30 (4 x 5 min + 10 mins discussion)

Opening: What do we mean by "legacy P"?

Chair: Christiana Staudinger, Jakob Santner, University of Natural Resources and Life Sciences, Austria

- Phil Haygarth, Lancaster University, UK European perspective
- Andrew Sharpley, University of Arkansas, USA: Phosphorus Legacies: Redefining the scientific, economic, and policy nexus to mitigate future water resource impairment
- Achim Dobermann, IFA (International Fertilizer Association): Industry perspective
- **Rich McDowell**, AgResearch, New Zealand: predicting soil P changes if fertiliser use is stopped, agronomic and environmental targets

14h30 – 15h00 (5 x 4 min + 10 mins discussion)

Europe: impacts of drawing down legacy P on crop yields (long-term trials)

Chair: Kasper Reitzel, University of Southern Denmark

- **Inge Regelink**, Wageningen University Research, Netherlands: 17 years trials on grassland in The Netherlands
- **Debby Van Rotterdam**, Nutrient Management Institute, Netherlands Legacy soil P: a mass balance approach in a 10- year mining experiment
- Agnieszka Rutkowska, State Research Institute for Soil Science and Plant Cultivation, Poland Long term effect of unbalanced fertilization with phosphorus and nitrogen a case study for Poland
- Sabina Braun, Swedish University for Agricultural Sciences, Sweden Grain yields and soil P changes from >50 years of soil fertility field experiments
- **Vladimir Nosov**, PhosAgro, Russia Sustainable crop production: decreasing phosphorus rates or splitting phosphorus application?

15h00 – 15h40 (8 x 3 min + 15 mins discussion)

Worldwide: legacy P, draw down, soil phosphorus

Chair: Steve Hallam, International Fertiliser Society

- Yu Gu, Wageningen University Research, Netherlands Potential of soil phosphorus saturation index for evaluating crop yield and runoff risks
- **Amy Shober**, University of Delaware, USA Corn and soybean yield across continuum of soil test phosphorus concentrations under long-term drawdown
- Emileigh Lucas, University of Maryland, USA Lessons from manure-applied "legacy-P" drawdown in the mid-Atlantic coastal plain, USA
- Andrew Margenot, Maria Rothman, University of Illinois, USA Legacy phosphorus drawdown at decadal to centennial scales in the U.S. Maize Belt
- **Tiequan Zhang**, Harrow R&D Centre Agi-Food Canada Legacy phosphorus in soils sustained crop yields with reduced soil phosphorus loss for 14 years
- Barbara Cade-Menun, Agriculture and Agri-Food Canada Soil phosphorus concentrations and wheat yields in a long-term fertilization study in Saskatchewan
- **Paulo Pavinato**, University of Sao Paulo, Brazil Legacy P availability in Brazilian tropical soils for sustainable crop production

15h40 – 15h50 – break

15h50 – 16h20 (3 x 5 min, 10 min questions)

How does legacy P or draw-down impact losses to surface waters?

- Victoria Barcala, Deltares, The Netherlands: Processes controlling the flux of legacy phosphorus to surface waters at the farm scale
- Juliane Hirte, Agroscope, Switzerland Reducing legacy soil phosphorus to tolerable levels for surface waters: A case study from Switzerland
- Sarah Stackpoole, US Geological Survey Legacy and contemporary phosphorus contributions influence river water quality trends in the conterminous United States

16h20 – 17h00 (8 x 2 minutes, 20 mins discussion)

Conclusions from panel of experts

Chair: Steve Hallam, International Fertiliser Society

Panellists are invited to draw conclusions (and future perspectives), 2 min each, and also to monitor and animate the discussion in the Chat and in the above questions/discussion sessions.

- Jim Elser, Flathead Lake Biological Station, University of Montana, USA
- Luke Gatiboni, North Carolina State University, USA
- Marzena Smol, Polish Academy of Sciences, Poland
- Antonio Delgado, University of Seville, Spain
- Kari Ylivainio, Natural Resources Institute (LUKE), Finland
- Leonardus Vergutz, Mohammed VI Polytechnic University, Morocco