

## ESPP webinar Wednesday, 2<sup>nd</sup> February 2022, 14h – 17h CET

### Impacts of reducing “legacy phosphorus” in agricultural soils

Registration and programme updates: [www.phosphorusplatform.eu/LegacyP](http://www.phosphorusplatform.eu/LegacyP)

This ESPP webinar follows on from the SPA (US) [webinar](#) “A Legacy of Phosphorus”, 30<sup>th</sup> September 2021, 18h-19h30 CEST and from the *Frontiers in Earth Science* [special](#) on ‘Legacy Phosphorus’ summarised in [ESPP eNews n°56](#). A [SCOPE Newsletter](#) 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 [info@phosphorusplatform.eu](mailto:info@phosphorusplatform.eu).

**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, US - 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 perspective: 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: tbc

- **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, US - Corn and soybean yield across continuum of soil test phosphorus concentrations under long-term drawdown
- **Emileigh Lucas** – University of Maryland, US - Lessons from manure-applied “legacy-P” drawdown in the mid-Atlantic coastal plain, USA
- **Andrew Margenot**, University of Illinois, US - Legacy phosphorus drawdown at decadal to centennial scales in the U.S. Maize Belt
- **Aimé Messiga**, Agriculture and Agri-Food Canada - Silage corn yield in high-legacy phosphorus soils in southern British Columbia, Canada
- **Tiequan Zhang**, Harrow R&D Centre Agri-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?**

Chair: tbc

- **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
- Tiffanie Stephani, Yara and Fertilisers Europe
- Luke Gatiboni
- Marzena Smol
- Antonio Delgado
- Kari Ylivainio
- Leonardus Vergutz