**Session Proposal**

# Session Title

Global and regional trends in cropland nutrient balance and use efficiency

# Session Organizers

Achim Dobermann, International Fertilizer Association (IFA), Paris, France, adobermann@fertilizer.org, (primary contact)

Francesco N. Tubiello, Statistics Division, Food and Agriculture Organization of the United Nations (FAO), Rome, Italy, Francesco.Tubiello@fao.org

# Session Description

In this session we will present and discuss major trends in nutrient use and use efficiency in crop production worldwide. We will focus on the following main themes: (i) nutrient input-output balances and their importance for food security, soil health, and environment, (ii) different trajectories of nutrient use efficiency, targets and indicators, (iii) emerging soil nutrient limitations for global crop production, and (iv) monitoring nutrients. The symposium will build upon data and methodologies assembled recently in the global Cropland Nutrient Balance database ([Cropland Nutrient Balance database](https://www.fao.org/faostat/en/%22%20%5Cl%20%22data/ESB)) for all countries since 1961, as well as other recent data collection efforts. A panel of all speakers will discuss future needs and research directions.

# Format

5-6 Oral presentations, panel discussion, accompanying poster session if there are sufficient submissions

# Proposed Speakers

Speaker 1: Nutrient input-output balances and their importance for food security, soil health, and environment (tbd, member of the Cropland Nutrient Balance group, e.g. Francesco Tubiello, FAO or Xin Zhang, University of Maryland)

Speaker 2: Nutrient use efficiency: recent trends and targets for sustainable agro-food systems (tbd, member of the Cropland Nutrient Balance group, e.g. Achim Dobermann, IFA)

Speaker 3: The role of managing manure in agricultural nutrient cycles (tbd, member of the Cropland Nutrient Balance group, e.g. Tan Zou, University of Maryland or Luis Lasalletta, Poly. University of Madrid)

Speaker 4: Emerging soil nutrient limitations for global crop production (tbd, member of the Cropland Nutrient Balance group, e.g. Patricio Grassini, University of Nebraska-Lincoln)

1-3 voluntary speakers tbd