**Session Proposal**

1. **Session Title**

Soil Management Practices on Soil Health in Plastic Greenhouses

1. **Session Organizers** (List the names, affiliations, and contact details of the session organizers. Indicate the primary contact person.)

**Gary Feng**, USDA-ARS, United States, gary.feng@usda.gov, primary contact person

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**Session Description**

Plastic greenhouse, also known as high tunnel system, is one of the most popular types of protected agriculture due to its cost-effectiveness and ease of maintenance. Crop growth suppression and soil-borne diseases caused by continuous cropping obstacles are becoming more and more serious in plastic greenhouses. Soil management practices such as tilling, cultivating, adding fertilizers and lime, growing cover crops, applying compost or manure, rotating crops significantly affect soil properties and its health. This session will focus on the impact of various soil management practices on soil health indicators including physical, chemical, and biological properties, processes, or characteristics of soils, and soil health assessment in plastic greenhouses. In addition, this session also welcomes experience and knowledge related to secondary salinization, acidification, and pathogen control in plastic greenhouse soils. These studies will be shared during the symposium on the impacts of sustainable soil management practices on soil health in the plastic greenhouses. The symposium will also provide a networking opportunity for early-career soil scientists as well as established international soil scientists.

1. **Relevance**

This session is highly relevant to the congress’s theme of “Soil and the Shared Future for Humankind” as it helps to address the soil degradation that occurs in plastic greenhouse cultivation, and is of great significance to promoting the sustainable land use and ensuring food security.

This session is organized with the auspices of Soils and Land Use Change Commission 4.3 – IUSS Division 4 –The Role of Soils in Sustaining Society and the Environment. The LEAD CONVENER is the chair of Commission 4.3 of Division 4.

1. **Format**

Oral presentations, poster presentations, and panel discussions.

1. **Proposed Speakers**

Speaker 1, Emma Liang, research Fellow at the University of Melbourne. She focuses on sustainable nitrogen (N) management through the “5 Ps” principles (Production, People, Planet, Policy and Partnerships) with multidimensional N metrics (i.e., N use efficiency, virtual N factor, N footprint, N neutrality, reactive N spatial intensity, N boundary, N price and N equity). She has built interdisciplinary background in life cycle assessment, soil science, environmental and food science, big data analytics, econometrics and GIS analysis.

Speaker 2, Fengzhi Wu, professor of Northeast Agricultural University (China), a leading professor in soil science, she has published more than 200 papers in journals such as Molecular Plant, Plant Physiology, Science of the Total Environment, Waste Management, Biology and Fertility of Soils, Plant and Soil, Chinese Agricultural Science, and Acta Horticulturae Sinica, including more than 100 SCI papers, 3 ESI highly cited papers, over 3,870 citations (Google Scholar), and an h-index of 35. In addition, she has published two monographs and received 7 provincial and ministerial science and technology awards.

Speaker 3, Lijuan Yang, professor at Shenyang Agricultural University. She is a "Distinguished Professor of Liaoning Province", "Outstanding Talent of Liaoning Province", and the leader of the academic direction of "Nutrient Management and Efficient Utilization of Resources" at Shenyang Agricultural University. She is a leading expert in high tunnel soils. She has published more than 50 academic papers and received one first prize and three second prizes in Liaoning Province Science and Technology Progress.

Speaker 4, Jie Zhang, professor of Hohai University, Vice Dean of the College of Agricultural Sciences and Engineering. She conducts research on the improvement of secondary salinization of soil in facilities, plant response to high temperature stress, and efficient use of crop watet. She has presided over or participated in many scientific research projects such as the National Natural Science Foundation, the National Key R&D Program, the Jiangsu Provincial Science and Technology Support, and the Jiangsu Provincial Natural Science Foundation. She has published more than 80 academic papers, received 2 provincial and ministerial scientific research awards.

Speaker 5, Xingang Zhou, Northeast Agricultural University, College of horticulture

Speaker 6, Qing Chen, China Agricultural University, College of Land Resources and Environment,

Speaker 7, Jinlong Dong, Institute of Soil Science, Chinese Academy of Sciences