

Preface

Founded in 1933, CIEC (Centre International Engrais Chimique) has accomplished to be one of the oldest scientific organizations that fosters the implementation of scientific knowledge in the field of fertilizer research into crop production. The 23rd International CIEC symposium in Son (Norway) hosted by the Norwegian Institute of Bioeconomy Research (NIBIO) and the Norwegian University of Life Sciences (NMBU) was the northernmost venue in its history. Accordingly it was thematically dedicated to plant nutrition and fertilizer issues for the cold climates. Plant production in northern latitudes is characterized by a number of limiting factors such as short vegetation periods with harsh temperature conditions, and often also extreme soils, high in clay and organic matter. All these factors impede the efforts of plants to acquire water and nutrients and the utilization efficiency of fertilizers. The region around Son belongs to one of the marine environments most affected by agricultural activities. This made the conference an important platform for presenting and discussing research on issues for identifying and limiting the diffuse contamination of water bodies with nutrients from agriculture, in particular phosphorus and nitrogen. The negative impacts of climate change are well-known, however, beneficial effects on agricultural production in the cold climates are less often addressed. Degradation of soils is regularly accompanied by losses in soil organic matter. A site-specific fertilizer management needs to preserve the natural status of the organic matter content in soils. On bog soils fertilization needs to overcome effectively for example severe copper deficiency. In invited lectures *Dr. Peter Dörsch* (University of Life Sciences, Institute for Plant and Environment, Ås, Norway), *Prof. Dr. Bal Ram Singh* (Agricultural University of Norway, Department of Soil and Water Sciences, Ås, Norway), *Dr. Andrea Ulrich* (Federal Office for Agriculture FOAG, Bern, Switzerland) and *Dr. Hans Marten Paulsen* (Thuenen Institute, Institute of Organic Farming, Trenthorst, Germany) presented cutting-edge research and state-of-the-art facts on the different themes mentioned above. Last, but not least I would like to thank the local organizers who made the 23rd CIEC Symposium an unforgettable event for all participants!

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