Preface

Founded in 1933, CIEC (Centre International Engrais Chimique) has accomplished to be one of the oldest scientific organizations that foster the implementation of scientific knowledge in the field of fertilizer research into crop production. The 25th International CIEC Symposium in Groningen (The Netherlands) hosted by the Groningen Institute for Evolutionary Life Sciences (GELIFES) is located in the very heart of intensive crop and livestock production in Europe. This implies that the region is an important cornerstone for food security nationwide. In general, intensive agricultural production faces several problems, among others the contamination of animal products and manure with antibiotics, and the enrichment of groundwater with nitrate, which limits its use as drinking water. In both cases fertilizer strategies offer an efficient way to tackle these challenges efficiently. In the first case, antibiotics could be replaced at least partially by feed supplementation with phytopharmaceuticals, in particular glucosinolate-containing crop plants. High glucosinolate contents are hereby warranted by a sufficiently high sulfur supply. In the latter case, an efficient reduction of nitrogen losses will only be feasible if the nitrogen input by mineral and organic fertilizers is limited. Then advanced technological equipment in the field of precision agriculture and personal cultivation know-how is required for a site- and crop-specific nutrient management, which maintains a high production level without compromising food and environmental quality. Here again, a sufficiently high sulfur supply is essential to ensure nitrogen utilization efficiency on arable and grassland. But there is more to the major plant nutrient sulfur, for example its role in resistance against biotic and abiotic stress. At this point basic fertilizer research needs to go hand in hand with physiological and molecular studies in order to identify regulatory mechanisms so that it is possible to exploit the full potential of an adapted sulfur supply, which can exceed the physiological crop demand under stress conditions. International experts who look back to 28 years of sulfur research in the field of fundamental, environmental and agricultural aspects came to Groningen in order to present latest findings and to outline visionary future directions. At this point we would like to thank the local organizers who made the 25th CIEC Symposium an unforgettable event for all participants!

Ewald Schnug
President of CIEC

Silvia Haneklaus
Secretary General of CIEC