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“Knowledge-based, Smart Agriculture and Contract Farming”

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Speech Topic: A New Paradigm for Plant Nutrition

Abstract:

Nutrient inputs play a critical role in raising crops and livestock for food security, human nutrition and other uses in the bioeconomy. Their production and management must change to more effectively nourish crops, reduce harmful environmental impacts caused by nutrient losses and contribute to restoration of soil health. A new paradigm for plant nutrition follows a food system and circular economy approach in which multiple socioeconomic, environmental and health objectives must be achieved. The coming 10-20 years will be most critical for making the transition to a global food system in which all stakeholders look at food and nutrients in a holistic manner, including their hidden environmental, health and socio-economic costs. The outcome of this transformation will be a new societal plant nutrition optimum rather than a purely economic optimum. The new nutrient economy will become an integral component of a low carbon emission, environment-friendly and circular economy, supporting the food and nutrition requirements of a rising global population and improving the income and livelihood of farmers worldwide. The fertilizer industry has embraced this new vision and is undergoing a significant transformation towards sustainability as a core business objective. Science and engineering will underpin these efforts, but the entire science culture must change, towards new ways of working that stimulate new discoveries and reward faster translation into practice. Greater focus on explicit pathways to agronomic applications, reality checks and rigor in claims of utility are needed, as well as more sharing of know-how and critical resources, open innovation and entrepreneurship.

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