

C O N T E N T S

Applying 4R Nutrient Stewardship to Wheat	3
Terry L. Roberts and Rob Norton	
Nutrient Deficiency Photo Application for iPhone/iPad Released	3
Global Wheat Production and Fertilizer Use	4
Steve Phillips and Rob Norton	
Improving Soil Fertility and Wheat Crop Management Through the Long-term Study of Cereal Crop Rotations	7
Brian Arnall and Fernando García	
The Diversity of Nitrogen Use Efficiency for Wheat Varieties and the Potential for Crop Improvement	10
Malcolm J. Hawkesford	
How Will Climate Change Affect Wheat Nutrition in Australian Cropping Systems?	13
Shu-kee Lam, Deli Chen, Roger Armstrong, and Rob Norton	
Nutrient Management for Wheat in a Variable Climate	16
Rob Norton	
Optical Sensor-based Nitrogen Management for Irrigated Wheat in the Indo-Gangetic Plains	18
Bijay-Singh, R.K. Sharma, Jaspreet-Kaur, M.L. Jat, K.L. Martin, Yadvinder-Singh, Varinderpal-Singh, H.S. Thind, H.S. Khurana, M. Vashistha, W.R. Raun, and R. Gupta	
Topdressing Nitrogen in Modern Winter Wheat Varieties	21
B.I. Sandukhadze and E.V. Zhuravleva	
Wheat Grain Nutrient Concentrations: Wide-scale Average Values May Not Be Adequate for Field Nutrient Budgets	24
Tom Jensen and Rob Norton	
Yield Responses and Potassium Use Efficiency for Winter Wheat in Northcentral China	26
Ping He, Jiyun Jin, Hongting Wang, Rongzong Cui, and Chunjie Li	
2012 IPNI Crop Nutrient Deficiency Photo Contest Announced	28
Development and Evaluation of Nutrient Expert for Wheat in South Asia	29
Mirasol Pampolino, Kaushik Majumdar, M.L. Jat, T. Satyanarayana, Anil Kumar, V.B. Shahi, Naveen Gupta, and Vinay Singh	
Wheat – the Staff of Life	32
Rob Norton	