

Contents

Reviews

- Do crop sensors promote improved nitrogen management in grain crops?
A.F. Colaço and R.G.V. Bramley (Australia) 126

Research articles

- Evaluating alternatives to rice-wheat system in western Indo-Gangetic Plains: Crop yields, water productivity and economic profitability
K.M. Choudhary, H.S. Jat, D.P. Nandal, D.K. Bishnoi, J.M. Sutaliya, M. Choudhary, Yadvinder-Singh, P.C. Sharma and M.L. Jat (India) 1
- Changes in soil characteristics and maize yield under straw returning system in dryland farming
X. Wang, Z. Jia, L. Liang, Y. Zhao, B. Yang, R. Ding, J. Wang and J. Nie (PR China) 11
- Siberian wildrye seed yield limited by assimilate source
M. Wang, L. Hou, Y. Zhu, Q. Zhang, H. Wang, F. Xia, L. Chen, P. Mao (China) and D.B. Hannaway (USA) 18
- Long-term evaluation of tillage methods in fallow season for soil water storage, wheat yield and water use efficiency in semiarid southeast of the Loess Plateau
M. Sun, A.-x. Ren, Z.-q. Gao, P.-r. Wang, F. Mo, L.-z. Xue and M.-m. Lei (China) 24
- Heat stress and yield stability of wheat genotypes under different sowing dates across agro-ecosystems in India
R.K. Jat, P. Singh, M.L. Jat (India), M. Dia (USA), H.S. Sidhu, S.L. Jat, D. Bijarniya, H.S. Jat, C.M. Parihar, U. Kumar (India) and S.L. Ridaura (Mexico) 33
- Sulphur application increases seed yield and oil content in sesame seeds under rainfed conditions
M.A. Raza, L.Y. Feng (PR China), A. Manaf, A. Wasaya, M. Ansar (Pakistan), A. Hussain, M.H.B. Khalid, N. Iqbal, Z.J. Xi, Y.K. Chen, J.X. Chen, F. Yang and W. Yang (PR China) 51
- Aerobic rice system improves water productivity, nitrogen recovery and crop performance in Brazilian weathered lowland soil
A. Froes de Borja Reis, R. Estevam Munhoz de Almeida, B. Cocco Lago, P.C. Trivelin (Brazil), B. Linquist (USA) and J.L. Favarin (Brazil) 59
- Plastic film mulch increased winter wheat grain yield but reduced its protein content in dryland of northwest China
L. Luo, Z. Wang, M. Huang, X. Hui, S. Wang, Y. Zhao, H. He, X. Zhang, C. Diao, H. Cao, Q. Ma and J. Liu (China) 69
- Responses of candidate green super rice and super hybrid rice varieties to simplified and reduced input practice
L. Huang, F. Sun, S. Yuan, S. Peng and F. Wang (China) 78
- Different characteristics of nutrient absorption and utilization between inbred *japonica* super rice and inter-sub-specific hybrid super rice
H. Wei, L. Hu, Y. Zhu, D. Xu, L. Zheng, Z. Chen, Y. Hu, P. Cui, B. Guo, Q. Dai and H. Zhang (China) 88
- Higher density planting benefits mechanical harvesting of rapeseed in the Yangtze River Basin of China
X. Li, Q. Zuo, H. Chang, G. Bai, J. Kuai and G. Zhou (PR China) 97
- Comparative fertilization effects on maize productivity under conservation and conventional tillage on sandy soils in a smallholder cropping system in Zimbabwe
N. Kafesu (Zimbabwe), R. Chikowo (Zimbabwe, United States), U. Mazarura, W. Gwenzu (Zimbabwe), S. Snapp (United States) and S. Zingore (Kenya) 106
- Effects of application methods and urea rates on ammonia volatilization, yields and fine root biomass of alfalfa
M. Li, Y. Wang (China), A. Adeli (United States) and H. Yan (China) 115

Urea deep placement in combination with Azolla for reducing nitrogen loss and improving fertilizer nitrogen recovery in rice field Y. Yao, M. Zhang, Y. Tian, M. Zhao, B. Zhang, K. Zeng, M. Zhao and B. Yin (China)	141	Effects of gravel mulching on yield and multilevel water use efficiency of wheat-maize cropping system in semi-arid region of Northwest China D. Wang, H. Feng, X. Liu, Y. Li, L. Zhou, A. Zhang (China) and M. Dyck (Canada)	201
Effects of reduced nitrogen rate on cotton yield and nitrogen use efficiency as mediated by application mode or plant density Z. Luo, H. Liu, W. Li, Q. Zhao, J. Dai, L. Tian and H. Dong (China)	150	Parameterising wheat leaf and tiller dynamics for faithful reconstruction of wheat plants by structural plant models M. Abichou, C. Fournier, T. Dornbusch, C. Chambon, B. de Solan, D. Gouache and B. Andrieu (France)	213
Soil test phosphorus as affected by phosphorus budgets in two long-term field experiments in Germany T. Zicker, S. von Tucher, M. Kavka and B. Eichler-Löbermann (Germany)	158	Effects of rainwater harvesting planting combined with deficiency irrigation on soil water use efficiency and winter wheat (<i>Triticum aestivum</i> L.) yield in a semiarid area T. Wei, Z. Dong, C. Zhang, S. Ali, X. Chen, Q. Han, F. Zhang, Z. Jia, P. Zhang and X. Ren (China)	231
Switching from conventional tillage to no-tillage: Soil N availability, N uptake, ¹⁵ N fertilizer recovery, and grain yield of durum wheat D. Giambalvo, G. Amato, G. Badagliacca, R. Ingrassia, G. Di Miceli, A.S. Frenda, A. Plaia, G. Venezia and P. Ruisi (Italy)	171	Yields and yield stability of no-till and chisel-plow fields in the Midwestern US Corn Belt A.L.M. Daigh, W.A. Dick, M.J. Helmers, R. Lal, J.G. Lauer, E. Nafziger, C.H. Pederson, J. Strock, M. Villamil, A. Mukherjee and R. Cruse (USA)	243
Virtual nitrogen as a tool for assessment of nitrogen management at the field scale: A crop rotation approach W. Grzebisz, R. Łukowiak (Poland) and G.F. Sassenrath (USA)	182	Urea deep placement for minimizing NH ₃ loss in an intensive rice cropping system Y. Yao, M. Zhang, Y. Tian, M. Zhao, B. Zhang, M. Zhao, K. Zeng and B. Yin (China)	254
Supply response analysis of tobacco growers in Khyber Pakhtunkhwa: An ARDL approach M. Shahzad, A.U. Jan, S. Ali and R. Ullah (Pakistan)	195		