MEETING REPORT

Potential pathways for increasing the productivity of wheat and barley*

The 55th All India Wheat and Barley Research Workers’ Meet was organized to review work done under the All-India Coordinated Wheat and Barley Improvement Programme during 2015–16 and finalization of work plan for 2016–17.

Trilochan Mohapatra (Indian Council of Agricultural Research (ICAR), New Delhi) in his inaugural address congratulated wheat workers for their efforts towards self-sufficiency in production and stressed for strong collaboration with International Maize and Wheat Improvement Center (CIMMYT, Mexico) for achieving world food security. He also remembered M. V. Rao for his significant contributions. He emphasized to increase productivity of wheat from 3 tonne/ha to 5 tonne/ha by exploring the possibility of using rust resistant genes from rice.

S. S. Siwach (Chaudhary Charan Singh Haryana Agricultural University (CCSHAU), Hisar) presented the wheat production scenario in Haryana. G. P. Singh (ICAR-IIWBR) emphasized on achieving the projected 140 million tonnes wheat production by 2050. He mentioned that 11 wheat varieties were notified during 2015–16. He also informed that IIWBR was the first in the world to sequence Karnal bunt genome and assured that the coordinated programme will proactively handle the new emerging issues, including wheat blast reported across the Indo-Bangladesh border.

J. S. Sandhu emphasized strong monitoring, use of genomic tools, value addition and bridging yield gaps by effective resource management for attaining potential yield.

Martin Kropff (CIMMYT) appreciated the Indian wheat programme for a strong association with CIMMYT and being proactive in introducing semi-dwarf wheat leading to the green revolution. Gurbachan Singh (Agricultural Scientists Recruitment Board, New Delhi) stressed on ‘doubling farmers’ Income’ through increasing the productivity or savings on inputs. He also emphasized on developing high-yielding varieties with more straw to meet the fodder demand. K. P. Singh (CCSHAU) highlighted contributions made by the university in the development of high-yielding wheat and barley varieties. He added that Haryana was honoured twice with the Krishi Karman Award for highest wheat productivity during 2010–11 and 2011–12. He also remembered the contributions of Rao Bahadur Choudhary Ram Dhan Singh, who was honoured with the Sir Maynard Ganga Ram Prize.

Subject-wise concurrent sessions were organized to review the research done during 2015–16 and setting the agenda for 2016–17. A special session on ‘Strategies to increase productivity of wheat and barley under changing climate scenario’ was also organized. Kropff in his presentation on wheat research for sustainable food security, emphasized that more food has to be produced using cutting-edge research. He suggested collaborative research between ICAR and CIMMYT apart from implementing open-access data and cross-border germplasm exchange. H. S. Dhaliwal (Eternal Institute of Agricultural Sciences (IIWBR) spoke on ‘Status of wheat blast accomplishment till now, future requirements and benefits, and time-frame to reach the end-users.

The other sessions were programme review for 2015–16 and progress of research in the Central Zone (CZ). The

*A report on the 55th All India Wheat and Barley Research Workers’ Meet held at Chaudhary Charan Singh Haryana Agricultural University (CCSHAU), Hisar from 21 to 24 August 2016, and organized by the ICAR-Indian Institute of Wheat and Barley Research, Karnal in collaboration with the CCSHAU, Hisar.
work plan was formulated for each research team through participatory approach.

Crop improvement team recommended to revise the sowing time under irrigated timely sown (from 10–20 to 1–15 November) and late sown (15–25 to 10–25 December) trials in North West Plains Zone (NWPZ). Yield limit for acceptance of trials in North Hills Zone (NHZ) under rainfed and late sown restricted irrigation was raised by 5 q/ha from the existing level. Targeted breeding programme for developing new genotypes responsive to higher inputs and conservation agriculture practices and developing genotypes with long coleoptiles for deeper seeding to enhance anchorage and lodging tolerance was also a part of the recommendation.

Resource management group recommended adopting zero tillage for better income since yield levels in zero and conventional tillage were almost the same. To improve the nitrogen use efficiency, urea top dressing should be done just before irrigation which also gives higher productivity; application of Green Seeker technology will improve the efficiency further. Relay cropping of wheat in cotton should be adopted for higher inputs and conservation agriculture practices and developing genotypes with long coleoptiles for deeper seeding to enhance anchorage and lodging tolerance was also a part of the recommendation.

Pomegranate fruit cracking in dryland farming*

In India, livelihood security of 70% of the farming community is dependent on success or failure of crops in drylands. Pomegranate is one of the most suitable horticultural crops that promises sustainable livelihood security in these regions due to its very high return on investment (ROI), and good performance in dryland areas with very low requirement of irrigation. Pomegranate fruits are in great demand in the domestic as well as export market. Further, the fruit has tremendous potential for value addition due to its total utilization as food and pharmaceutical ingredient. A modest estimate of ROI in pomegranate ranges from Rs 2.00 to Rs 10.00 lakhs/ha as net profit against Rs 1.00–2.00 lakhs/ha from traditional crops in dryland farming.

Arid and semi-arid regions occupy almost 53.4% of India’s land area, where rainfall is erratic and often comes in a few heavy spells of short duration resulting in high run-off, instead of replenishing the groundwater. In the dry ecosystem, climatic variability results in the regressive pedogenic processes which modify the physical, chemical and biological

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* A report on the one day workshop on ‘Fruit Cracking and Soil Health Management’ held at the ICAR-National Research Centre on Pomegranate, Solapur on 3 October 2015. The workshop was held in collaboration with the Society for Advancement of Research on Pomegranate, Solapur.