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## Indian wheat programme as backbone for national food security

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**B**read wheat (*Triticum aestivum* L. Em Thell), a golden cereal, is the most important food grain source for humans and at present, grown on more land area than any other commercial crop. India witnessed one of the greatest success stories of Green Revolution leading to challenging food supply programmes for millions of people. Globally India is recognised for maintaining its second position of wheat producing nations since last 14 years and continued record breaking wheat harvest of 95.9 million tons during 2013-14 make it able to contribute approx. 12% to the global wheat basket. Indian wheat programme has been initiated systematically in 1905 at Pusa, Bihar and after 60 years of continuous efforts the All India Coordinated Wheat Improvement Project was initiated in 1965. The dwarf wheats, introduced under this project, resulted in the Green Revolution and since then, India has released more than 410 varieties for commercial cultivation in different production conditions. Indian wheat programme has made remarkable technological advancements in the form of recent cultivars, production and protection strategies, quality improvement, and dissemination of technologies to stakeholders and production of quality seeds. In India, the biotic and abiotic stresses are potential threat to wheat production but the research efforts have made check on all the rust diseases in such a way that there was no rust epidemic in wheat since last 45 years. Efforts for tolerance to abiotic stresses are also in place that led to harvest more wheat even in years of adverse climate. Although Indian wheat programme has remarkable achievements, there are more challenges ahead in the future to produce 120 million tonnes by 2050. Stagnating yield potential, comparatively low seed replacement, changing climatic scenario, reduced total factor productivity & imbalanced use of fertilisers, yield gaps at farm level are major challenges to tackle for enhanced wheat productivity. The future strategies would be focused to evolve new and innovative production technologies which can fit into the framework of changing wheat production scenario with major emphasis on potential areas of eastern India and central India. For the purpose, some key strategic issues include breaking yield barriers through genetic enhancement, integrating molecular approach for precision breeding, developing wheat genotypes in cropping system perspective, improved varieties for abiotic stresses, disease resistance breeding, conservation agriculture and integrated input management, quality improvement for global trade & nutritional security, efficient post harvest technology to reduce losses, access to quality seeds of wheat and strengthening linkage between research and extension activities so that farmers can harvest more wheat. With collaborative efforts of researchers, farmers, policy makers and extension units, it is expected that present technologies can be further refined and popularized so that wheat production can be enhanced to meet our future demand for sustainable food and nutritional security.

## **Biography**

Sanjay K Singh has completed his Doctorate degree in Genetics & plant Breeding in 1999 from Banaras Hindu University, Varanasi, India and thereafter associated in wheat research and coordination as wheat breeder at the Directorate of Wheat Research, Karnal, the nodal centre for wheat & barley research in India. Released 12 wheat varieties and registered 11 wheat genetic stocks for various traits. Published 206 research papers / abstracts / chapters, etc. pertaining to wheat crop in particular in journals of national / international repute. Recipient of several awards including Lal Bahadur Shastri Young Scientist Award (ICAR) in 2007 & Young Scientist Award of the Council of Science and Technology, UP in 2008.

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