In memorium

K. B. SINGH

An outstanding plant breeder and a distinguished pulses breeder of international repute, a Fellow and a senior member of the Society, Dr. K. B. Singh passed away on December 1, 2000 at New Delhi. Afflicted with dreaded ALS (amytropic lateral sclerosis), KB, as his friends and colleagues fondly knew him, could not survive the onslaught of the ALS or Lou Gehrig's disease in spite of best possible medical attention.

Born in village Sohwal, Ghazipur district, in eastern U. P. on December 1, 1934, in a Shrivastava Kayastha family, Kharg Bahadur Singh, had his early education in the village and matriculated in first class in 1949 from Victoria Government High School in Ghazipur, U.P. Due to his keen interest in agriculture, he joined the agriculture branch and passed Intermediate (Ag.), B.Sc. (Ag.) and M.Sc. (Ag.) from Government Agriculture College, Kanpur affiliated to Agra University, Agra in 1951, 1953 and 1955 respectively. It will be surprising for the friends and admirers of KB, that this world class plant breeder started his career as an Assistant Agriculture Officer in 1955 and got soon promoted as the Block Development Officer (BDO) in a small hamlet Chiraigaon in Varanasi District of U.P. In persuit of a profesional research career, he joined Punjab Agricultural University (PAU) in 1961 and was posted at Lahaul and Spiti Vally, a difficult area in Himachal Pradesh for a short period. He developed and introduced the production of virus-free seed potato in the Lahaul Vally which brought prosperity to farmers and established potato seed production in the Vally in a big way. He was responsible to introduce dwarf wheat at high altitude of Punjab at the time of its introduction to the rest of India. Very eager to do much better in the field, he left PAU for higher studies in USA and obtained Ph.D. degree in Agronomy from University of Wyoming, USA with highest grade points in 1963. After coming back to India in 1963, he joined the Govind Ballabh Pant University of Agriculture and Technology, Pantnagar, U.P. as an Assistant Professor and worked on wheat and barley. Later KB once again joined PAU, Ludhiana as an Associate Professor (Pulse Breeder/ Economic Botanist) in 1964 and got promoted to Professor (Senior Pulse Breeder) in 1972 and then became Head, Department of Plant Breeding in 1973. During all these years he was working on pulse crops in general and chickpea in particular and had already made a place for himself among the pulse workers in India. Mungbean cultivar G 65 developed by KB while at PAU, Ludhiana was the first 60-day cultivar released in India and formed the basis for summer cultivation of mungbean. Similarly kabuli chickpea cultivar L 550 also developed by him has been widely grown in India since 1974.

Keeping in view his knowledge and experience of pulses breeding, KB was invited to join International Crops Research Institute for Semi-Arid Tropics (ICRISAT) as Chickpea Breeder in 1974. His valuable contributions in Chickpea Breeding at ICRISAT brought him yet another recognition and KB was offered the position of Principal Chickpea Breeder (ICRISAT) in 1978 and was posted at International Centre for Agricultural Research in the Dry Areas (ICARDA), Alleppo, Syria. He lead the joint ICARDA/ICRISAT programme on kabuli chickpea improvement upto 1995. With in this period he was also the Acting Leader, Food Legume Improvement Programme of ICARDA (1987-88). In collaboration with the team of researchers at ICARDA, KB developed what has come to be known as the "winter chickpea technology". The technology involved sowing of kabuli chickpea in winter instead of the traditional spring sowing, to take advantage of winter rainfall. However, this did not prove to be as easy as it sounds, because the winter-sown chickpea was challenged by cold and a devastating fungal disease, known as ascochyta blight. Known for his determination, dedication and committment, KB was not deterred by these constraints. He developed new screening techniques to identify promising material, and a new breeding methodology which involved the use of wild relatives and landraces of chickpea. The fruits of his hard work became visible when the new

winter chickpea cultivars that could withstand the challenges of ascochyta blight and cold stress, and yielding twice as much as their spring-sown counterparts were developed. The winter chickpea technology hit the headlines, and spread fast in the Western Asia and Northern Africa (WANA) region. Farmers were pleased with the high yields of new cultivars and happily adopted them. One of the first winter chickpea cultivars, ILC 482, was identified as high yielding and disease resistant in 20 countries of the world. Alongside this activity, KB was instrumental in training a large number of young researchers from the national programes in the WANA region, in developing new cultivars resistant to diseases, insect pests and abiotic stresses. The genetic stocks and breeding materials, developed by KB in collaboration with national partners, have been shared with National Agricultural Research System (NARS) in about 50 countries and to date, over 84 improved cultivars (over 80 chickpea cultivars and four belonging to other crops) developed by KB have been released in 26 countries across the world - Asia, Africa, Europe and North America for general cultivation.

Throughout his career KB took keen interest in collection, evaluation, and utilization of germplasm and published two germplasm catalogs. Genes for resistance to cyst nematode and cold, and "yield genes" from wild to cultivated species were transfered for the first time by him. A total of 25 germplasm lines resistant to ascochyta blight, fusarium wilt, leaf miner, bruchid, cyst nematode, cold and drought identified by him were registered in Crop Science.

A prolific writer and thinker, KB authored 340 scientific publications which included: more than 200 refreed journal research articles in the major international journals; an edited monograph, "The Chickpea", published by CAB International (U.K.) in 1987; an edited reference book, "Breeding for Stress Resistance in Cool-Season Food Legumes" published by John Wiley & Sons (U.K.) in 1993; one edited conference proceeding. "Ascochyta Blight and winter sowing of chickpea" by Martinus Nijhoff/Dr. W. Junk Publishers The Hague, The Netherlands in 1984 and two catalogs: "Kabuli Chickpea Germplasm Catalog" by ICARDA in 1983 and "An Annoted Bibliography of Chickpea Genetics and Breeding" by ICARDA/ICRISAT in 1984.

On his retirement from active service, Dr. K. B. Singh left ICARDA in December 1996 and settled down at A-313, Meera Bagh, New Delhi 110 041. To make best use of his vast experience and talent, Food and Agriculture Organization (FAO) of the United Nations appointed him twice as a short-term consultant, first from October to December 1997 and then again from February to April 1998 to assist the strengthening of Pulses Research Programme in Bangladesh.

An excellent teacher, guide and a perpetual source of inspiration to his colleagues and students, KB taught plant breeding at two agricultural universities (G.B.Pant University, Pantnagar and PAU, Ludhiana) in India from 1963 to 1973 and at two international institutions (ICRISAT and ICARDA) from 1974 to 1995 and guided 9 Ph.D. and 12 M.Sc. students. Over 100 scientists from 30 developing countries received training in chickpea breeding from him.

A recepient of several awards and honours, Dr. K. B. Singh was a Fellow of the National Academy of Agricultural Sciences (NAAS) in India and Indian Society of Genetics and Plant Breeding. He was a Visiting Scientist at the University of California, Davis, U.S.A. in 1984-85 and a Visiting Professor, at the University of Western Australia in 1992-93. An awardee of Sigma XI and Gamma, Sigma Delta, Dr. K. B. Singh delivered several invited lectures and seminars in different institutions in several countries.

A remarkable scientist and a very fine human being, Dr. K. B. Singh will continue to be always remembered by the grain legume research workers and scores of his friends and colleagues throughout the world.

Survived by his wife Mrs. Raj Singh, a son, a daughter and four grand children, Dr. Singh's demise on his 66th birthday is very deeply mourned and condoled by the Indian Society of Genetics and Plant Breeding with a pray that his departed soul may rest in peace. We wish to convey our heartfelt condolences and deep sympathies to the bereaved family.

M. C. Kharkwal
Secretary, ISG&PB