



## Dr. Te-Tzu Chang

Researcher, Institute of Botany, Academia Sinica, Taiwan



### **Most important awards, prizes and academies**

*Awards:* John Scott Award and Medal (for the invention of IR8 dwarf rice); International Service in Agronomy Award; Frank Meyer Award and Medal on Plant Germplasm and International Service in Crop Science Award of the CSSA; Rank Prize in Food and Nutrition, London; Tyler Prize for Environmental Achievement. *Academies:* Agricultural Association of China, Taiwan; American Society of Agronomy; Crop Science Society of America; Institute of Biology, UK; Society for the Advancement of Breeding Research in Asia and Oceania; Crop Science Society, Philippines; Foreign Associate of the National Academy of Sciences, USA; Fellow of the National Academy of Agricultural Sciences, India; Third World Academy of Sciences, Trieste, Italy; Academia Sinica; Hon. Foreign Member, American Academy of Arts and Sciences.

### **Summary of scientific research**

Dr. Chang directed his attention to crop improvement and genetic resources conservation. He played a pivotal role in the 'Green Revolution' in rice by introducing and incorporating the sd-1 semidwarfing gene from Taiwan which confers high productivity on tropical rices, and supported continuing advances by supplying useful germplasm. He also rescued numerous threatened land races and wild rices through collaborative field collecting and persuading Asian and African nations to deposit their national rice collections for safekeeping in the IRRI Germplasm Center with

the guarantee of repatriation, and helped China, the USA, India and Taiwan in designing modern seed preservation banks. In addition, he trained more than a thousand young rice workers from developing nations in rice production, breeding, and germplasm conservation.

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### Main publications

Chang, T.-T., 'Genetics and Evolution of the Green Revolution', *UNESCO-CSIC Symp. On Biology and Ethics*, CSIC (Madrid, 1979), pp. 187-209; Chang, T.-T. and Li, C.C. 'Genetics and Breeding', *Rice: Production and Utilization*, AVI (Westport, 1980), pp. 87-146; Chang, T.-T., 'Sustaining and Expanding the Green Revolution in Rice', *South-East Asia's Environmental Future: The Search for Sustainability*, UN University Press (Tokyo, 1993), pp. 291-320; Chang, T.-T. *et al.*, 'The Conservation and Use of Rice Genetic Resources', *Adv. Agron.*, 35, pp. 37-91 (1982); Chang, T.-T., 'Conservation of Rice Genetic Resources: Luxury or Necessity?', *Science*, 224, pp. 251-6 (1984); Chang, T.-T. *et al.* 'Management and Utilization of Plant Germplasm Collections', *Beltsville Sympos. on Agric. Research* 13, Kluwer (1989), pp. 127-59; Chang, T.-T., *Expansion of the U.S. National Seed Storage Laboratory*, National Academy Press (1988); Chang, T.-T., 'The Case for Large Collections', *The Use of Plant Genetic Resources*, Cambridge Univ. Press (1989), pp. 123-56; Chang, T.-T., 'The Human Factor', *Plant Genetic Resources Conservation: Perspectives for the 2000s*, TARI, Taichung (Taiwan, 1994), pp. 123-4; Chang, T.-T., 'The Origins and Early Cultures of the Cereal Grains and Food Legumes', *The Origins of Chinese Civilization* (California, 1983), pp. 65 ff.; Chang, T.-T., 'The Impact of Rice on Human Civilization and Population Expansion', *Interdisciplinary Science Review*, 12, pp. 63-9 (1987); Chang, T.-T., 'Plant Genetic Resources: Key to Future Food Production', *Iowa State J. Research*, 59, pp. 325-496 (1985); Chang, T.-T., *Managing Global Genetic Resources: Agricultural Crop Issues and Policies*, National Academy Press (1993); Chang, T.-T., 'Rice', *The Cambridge World History of Food*, Cambridge Univ. Press (2000), Vol. I, pp. 132-49; Chang, T.-T. *et al.* (eds.), *Food Needs of the Developing World in the Early Twenty-First Century*, The Pontifical Academy of Sciences (1999), p. 475.