



Dr. Keerti S. Rathore

Dr. Keerti Rathore is a Professor of Plant Biotechnology at Texas A&M University, College Station, Texas. He earned his Bachelor of Science and Master of Science degrees in India, followed by a Ph.D. from Imperial College, London. Although his Ph.D. research and early postdoctoral work were in basic sciences (electrophysiology), he transitioned to applied sciences, learning crop biotechnology at Purdue University while working on a Rockefeller Foundation-funded Rice Biotechnology project.

At Texas A&M University, Dr. Rathore focused primarily on cotton but also worked with other crops such as sorghum, rice, and potato. At the time, cotton was highly recalcitrant to transformation and regeneration, beyond the capabilities of public sector laboratories. Dr. Rathore devoted considerable time and effort to understanding all aspects of generating transgenic cotton, eventually developing and publishing detailed protocols for the benefit of the cotton biotechnology community. His laboratory was also the first to demonstrate the utility of the CRISPR/Cas9 system for targeted knockout of a gene in the cotton genome. Additionally, his team has engineered cotton plants to resist, tolerate, or outcompete various biotic stresses (nematodes, fungal diseases, insect pests, weeds) and abiotic stresses (drought).

Dr. Rathore conceived and developed the Ultra-low Gossypol Cottonseed (ULGCS) trait and obtained deregulation and food/feed-use approval for the event TAM66274 in the USA—a rare feat for a public institution scientist. His goal is for global adoption of ULGCS for humanitarian use, envisioning that one day ULGCS will be as valuable as fiber as an alternative protein source. This dual-purpose use of the crop should improve the sustainability of cotton cultivation.

Many undergraduate and graduate students, postdoctoral fellows, and six international visiting scientists have been trained in Dr. Rathore's laboratory. He collaborates with many national and international scientists and has been invited to present seminars nationally and internationally. Dr. Rathore has conducted invited workshops on Plant Biotechnology in Argentina, Ecuador, and Taiwan. He has served as a review panel member for the NSF/SBIR/Agriculture Biotechnology program (2002–2009).