



## T R I B U T E

### **The Historic Relationship Between M. S. Swaminathan and Yuan Longping**

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During international training courses in hybrid rice technology in past years, we would introduce students from different countries to Yuan Longping, the “Father of Hybrid Rice.” When we did so, we would also introduce another figure in the following words: M. S. Swaminathan, who has been acclaimed by *Time* magazine as one of the twenty most influential Asians of the 20th century and who received the first World Food Prize in 1987, is a former Director General of the International Rice Research Institute (IRRI). In our eyes, there is an inseparable bond between Dr. Swaminathan and Professor Yuan Longping.

This reminds us of a series of unforgettable stories involving the two great men.

#### *THE ORIGIN OF THE TITLE “FATHER OF HYBRID RICE”*

Dr. Swaminathan and Professor Yuan got to know each other when Dr. Swaminathan was serving as the Director General of the IRRI. In April 1979, Prof. Yuan, as one of four experts from China, was invited to attend an International Rice Conference held by the IRRI at its headquarters in Manila, the Philippines, and gave a speech on “Hybrid Rice Breeding in China.” This was the first time that China’s research on hybrid rice was being publicly introduced to the international community. The speech set out the research results in developing the “three-line” system to utilise rice heterosis, and this stimulated great interest among the participants.

Three years later, in 1982, Professor Yuan visited the IRRI again to participate in the annual International Rice Research symposium. Dr. Swaminathan awarded Prof. Yuan the honorary title of “Father of Hybrid Rice.” He declared:

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Yuan Longping, we call him the father of hybrid rice, [and it] is well-deserved, and his success is not only the pride of China but the pride of the world, and his achievement has brought the gospel of hybrid rice to the world.

Dr. Swaminathan once again praised Prof. Yuan in a message on the occasion of Prof. Yuan's 80th birthday:

During the last forty years, you have worked hard to achieve the rice hybrid miracle. No one thought that hybrid vigour can be exploited in a commercially successful manner in a self-pollinated crop like rice. You have made the impossible possible.

Dr. Swaminathan readily and fully expressed recognition and plaudits for Prof. Yuan's innovative research on hybrid rice, and supported and endorsed the spread of the hybrid rice programme all over the world. Dr Swaminathan, who considered the role of hybrid rice in improving productivity and profitability to be of historic significance, once said: "I pray for the prosperity of Chinese rice farmers under your loving care. We are deriving immense benefits from your work on hybrid rice."

#### *BRINGING CHINA'S HYBRID RICE TO THE WORLD*

Encouraged by China's success in the aspect of hybrid rice research, the IRRI conducted its own hybrid rice research programme after 1979. The programme had been suspended because of some technical snags that were thought to be too difficult to overcome. Dr. Swaminathan invited Prof. Yuan to carry on cooperative research along with IRRI scientists to breed hybrid rice cultivars of high yield and multi-adversity resistance that were suitable for growing in tropical or subtropical areas. Following that, Prof. Yuan arranged up to three visits to the IRRI every year to give technical guidance and transfer his experience and knowledge, accumulated through his long-term work, to his foreign colleagues. He visited the IRRI more than 30 times and strengthened exchange and cooperation with the IRRI. Dr. Swaminathan discussed with Prof. Yuan the joint preparation of a technical handbook on hybrid rice. A concise course on hybrid rice (in Chinese and English) was published in 1985. It has become an excellent textbook for hybrid rice technology training internationally.

Thanks to the IRRI, rice breeders of many countries gained access to China's precious germplasm resources, which are indispensable for breeding hybrid rice. As a result, scientists from the IRRI and other countries succeeded in breeding many sterile lines with outstanding morphology and high-yield hybrid combinations, and remarkable results have been achieved from their production and application.

In particular, Dr. Swaminathan decided that the first International Symposium on Hybrid Rice should be held in Changsha, China, in 1986, under the auspices of the IRRI. He personally led a team to Changsha to discuss hybrid rice research and development with rice scientists from more than 20 countries.

At the opening ceremony of the symposium, he pointed out that the population of developing countries was getting larger and larger while their arable land was shrinking. The only way out was to raise grain yield per unit of crop land. In this regard, China's hybrid rice has been successful and has played a role in solving the problem that is worthy of emulation. Dr Swaminathan also told Prof. Yuan that

The discovery of wild pollen abortive rice is a turning point in the process of hybrid rice breeding, while successful large-scale seed production paved a solid foundation for its massive popularisation. This time we have come here to learn from you in real earnest.

Dr. Swaminathan presented a plaque to the Hunan Hybrid Rice Research Centre (HHRRC), the world's first research institute specialising in hybrid rice research, with the hope that Centre would develop into an international centre for hybrid rice research and training.

The full text of the English inscription is as follows:

### *Hunan Hybrid Rice Research Centre*

The International Rice Research Institute is honoured to commemorate the first International Symposium on Hybrid Rice at the Hunan Hybrid Rice Research Centre. It is singularly appropriate to hold the symposium at this historic site where, through the elegant research of Prof. Yuan Longping and other Chinese scientists, and the dedicated work of extension workers, hybrid rice became a commercial reality.

At present, the plaque is embedded on the base of a statue of the goddess of peace that has stood in the Hunan Hybrid Rice Research Centre. The statue with the plaque have become a symbol of peace and happiness for mankind.

### *INSPIRATION FOR YOUNG PEOPLE*

In 2004, the International Year of Rice, Prof. Yuan Longping was selected for the World Food Prize. Dr. Swaminathan and Prof. Yuan met again at the World Food Prize ceremony in Des Moines, Iowa. Dr. Swaminathan, who was recipient of the first World Food Prize in 1987, and the chairman of the 2004 World Food Prize symposium, introduced the 2004 laureates, Prof. Yuan Longping and Dr Monty Jones, to the gathering.

Introducing Prof. Yuan, he said:

I think Prof. Yuan Longping is not only a practical breeder, but has also got what is called a breeder's eye, the ability to select and so on. You have to be a combination of a Luther Burbank and also the modern breeder to combine the sexes in practical breeding, and he certainly combined the two, with very hard work.

Again, I want to [say], there is a large number of young people here, so I'll take a minute for them to say what Dr. Norman Borlaug nearly 40 years ago, when he was addressing

students in my then institute, the Indian Agricultural Research Institute New Delhi, said, 'You know, plants speak, but they don't speak aloud. They only whisper. If you were to remain in your room, you would think they are dumb, but if you go near them, they'll talk to you and reveal their secrets.'

That's what happened to Prof. Yuan Longping. He always remained close to the plants, so the plants revealed their secrets to him, and he was a very successful breeder."

Prof. Yuan summarised his scientific research experience and life insights in four words: knowledge, diligence, inspiration, and opportunities. Diligence requires sweat and involves bearing hardship and practice. Rice cannot be grown in books or on computers. It makes us understand the truth: people, especially young people, must take advantage of their youth to study hard. In the process of learning, they must work hard and strive more. The interweaving of efforts and knowledge will generate inspiration, and only when opportunities come can they seize them. All success is not by chance, but by necessity.

These instances show how a deep friendship was established between Dr. Swaminathan and Prof. Yuan. It is their similar pursuit of scientific truth and identical dedication to society that gave them a high degree of common understanding and identity.

Dr. M. S. Swaminathan was an international presence with broad-minded and high-level managerial talent. As the Director-General of the IRRI, he made international scientists uphold rice research, just like promoting the development of hybrid rice in the world. He played an important role in promoting other international facets of the IRRI and made outstanding contributions to its development. His legendary life and gentle demeanour were admirable and heart-warming.

Dr. M. S. Swaminathan and Professor Yuan Longping have both passed away, but they will live in our hearts. Their words and deeds will give us strength and inspire us.