

# On the shoulders of **GIANTS**



This edition of *Rice Today* helps launch the 50th anniversary of the International Rice Research Institute (IRRI).

Right at the beginning, our rice breeders, notably Peter Jennings and Hank Beachell, who can be seen in this issue's centerfold (pages 30-31), developed high-yielding shorter-stemmed rice varieties that helped boost rice production across Asia from the mid-1960s until today. This helped prevent famine and saved millions of hectares of natural ecosystems from being converted to farmland.

Despite their own successes, I suspect that our esteemed predecessors would have never imagined the nature of the future scientific successes that have been built on their hard work. I say this with some trepidation. Peter was an important mentor for me and I know how he hates to have words or thoughts attributed to him!

In 2005, rice was the first crop to have its genome sequenced. Since then, technology has progressed rapidly, opening more possibilities to decode thousands more rice genomes. This would allow us to unlock the genetic diversity of rice and make it more widely available in breeding new, resilient, and high-yielding rice varieties.

It is this kind of foresight that has helped IRRI scientists deliver a whole range of innovative research solutions to farmers over the past 50 years. More than 860 rice varieties developed from IRRI breeding lines have been released, including the recent submergence- and drought-tolerant rice. There has also been a research-driven shift to ecologically based pest management and integrated nutrient management that has helped reduce pesticide use and rationalize fertilizer applications. The potential of other technologies, such as hybrid rice, are yet to be fully realized.

Asia, as the producer and consumer of more than 90% of the world's rice, has been one of the biggest beneficiaries of rice research. But, as we have seen in the recent issues of *Rice Today*, rice production is now gaining ground in Africa. This issue looks at how Africa is modernizing its rice production by improving its farming equipment. The recent meeting among the member countries of the Africa Rice Center concluded with a set of plans to make the region more self-sufficient.

Quite significantly, IRRI's research scope continues to broaden in terms of geography and also in networks. Our strong partnerships with other institutions have helped multiply our impact worldwide. By fostering new private-sector partnerships, we see another avenue opening to add value to our research and provide new ways to deliver it—helping us help poor rice farmers and consumers.

Tomorrow holds ongoing challenges for rice science. We need an additional 8–10 million tons of rice each year for the next 20 years to meet anticipated demand. But, climate change looms as a particular threat to rice production. Hence, this issue looks at how we can conserve water and reduce greenhouse gas emissions to help minimize the effects of rice production on climate change. We also pay particular attention to the delayed Indian monsoon that has significantly reduced crop production in India.

As we look to the future and celebrate our past achievements, I would like to take the opportunity to honor the passing of a true giant in our field, Dr. Norman Borlaug. The legacy Norm leaves with us is his enduring compassion for people, commitment to overcome poverty, and his insatiable curiosity to find solutions to help feed millions of people not only during his time but in the coming generations. May these qualities live on in us and be fostered in all new scientists, the next giants in agriculture.

An aerial photograph of the International Rice Research Institute (IRRI) campus. The image shows a large complex of modern buildings with various roof colors (white, grey, yellow), surrounded by green lawns and some trees. The campus is situated in a rural area with fields visible in the background.

Robert S. Zeigler

**Dr. Robert S. Zeigler**  
Director General  
International Rice Research Institute

# HIDDEN TREASURE



The International Rice Research Institute's (IRRI) 50th anniversary is approaching soon. As I ponder the history that makes this event significant, two key words come to mind—travel and change. We have also successfully concluded The Rice Trader Americas 2009 conference (and, on a very personal level, I have witnessed my daughter's first birthday).

## TRAVEL

How much have we physically or mentally traveled in the years that have passed just to get to where we are? More challenges lie on the road ahead. Every hurdle we overcome may seem like mere passing moments, but these successes add to the stature of the Institute that is so deeply rooted in its resolve to support sustainable global food production. Think of the many scientists from around the world who pass through the gates of IRRI to arm themselves with the knowledge that saves lives. These journeys are often amazing.

In fact, I was struck by a story I read some time ago about Mr. John D. Rockefeller's determination to make it to the grand opening of the Institute after being stranded first in Singapore because of aircraft problems, and then again in Hong Kong, after flying there as a solution to the earlier problem. As we all now know, IRRI's founder did make it to the opening of IRRI, but only by making the sacrifice of procuring an airplane of his own. Thankfully, his kindness and ingenuity over the years have helped the world in many ways.



Business travel has always been a mixed blessing. It is especially necessary for people who are part of the international rice trade or the global scientific arena. We can all learn from these trips, yet, the time spent traveling can also be viewed as a sacrifice. Last month, I had a long trip in which I drove many miles from California to the Midwest. Apart from that, I also found time to fly to Asia to attend the Thailand Rice Convention 2009. I was honored to deliver an address during the event and also to network with a global audience of rice professionals that included Rice Today's very own Mr. Duncan

Macintosh (associate publisher) and Mr. V. Subramanian (managing editor). Highlighting the future of the world's largest rice exporter (Thailand), the event was an opportunity for the leaders in rice trade to air their views and make a mid-year review of the current situation and the road ahead—a road made even more bumpy by the 2008 food crisis and the supply-demand dynamics that continue to shape markets.

After more than a month on the road, it is nice to finally be home. Sacrifices and the costs associated are best appreciated when the moment has passed, when the benefits can be savored.

Travel also offers a chance to think. The most profound thought I had during the trip was a look back at our ancestral family farm's wheat crop, while sitting peacefully in a quiet hotel lobby.

## CHANGE

It struck me even here that the place I left long ago had changed. The look of the farm had changed; so did the varieties in the fields. Soybeans were being planted here for the very first time, and it was only then that I realized how the same observation of change could be made for IRRI and the science behind the rice plant. IRRI has grown in both size and influence over the past 50 years—an important change that recognizes the larger role the Institute has in feeding an ever-increasing population. One could say that dealing with change is a difficult but necessary part of evolution and the backbone of success. Change, in this case, could only be described as a great blessing.

To end my quarterly thoughts, I want to wholeheartedly thank the hardworking scientists, benefactors, and especially the founders who have made IRRI possible. Their efforts gave birth to the Green Revolution. Now, their work continues to save countless lives. Specifically, I want to thank the Philippines for playing host to IRRI for the past 50 years and for the country's role in co-hosting the upcoming "The Rice Trader-World Rice Conference." My thanks go especially to Secretary of Agriculture Arthur Yap.

  
**Jeremy Zwinger**  
Publisher

# Learning from the plants



It was around 5:30 on an April morning in 1988 in Ciudad Obregón, Mexico, when I heard a knock on my hotel room door. I opened it a crack and there stood Nobel Peace Prize Laureate Norman Borlaug. “Come on, let’s go,” he razzed me with a sly wink and a smile. “The plants are up early around here.”

The evening before, after dinner, he had asked me if I could accompany him the next morning to the nearby sprawling experiment station of the Centro de Investigaciones Agrícolas del Noroeste (CIANO) located just a few kilometers down the road. He wanted me to take some “portrait” photos of wheat plants against the backdrop of the early-morning azure sky that this part of the fertile Yaqui Valley is famous for. When he said “early” I didn’t think he meant predawn. But, I should have known better!

“Just a second,” I said, with a voice that I hoped implied I had been waiting for him. I don’t think I had ever moved so fast. I quickly tied my shoes and grabbed my Nikon camera. In any event, we were soon speeding down the local highway, named in his honor, as the dawn approached.

We were both in this prosperous agricultural region of northwestern Mexico with most of the Wheat Program staff of the International Maize and Wheat Improvement Center (CIMMYT). The staff was on its annual spring-time sojourn at CIANO to nurture and study the new wheat lines being advanced for farmers in developing countries. I was there as the Program’s science writer/editor to document the latest research achievements. Norm, on the other hand, was there officially as a CIMMYT “consultant.” He was asked to assist with running the latest batch of 25 or so young wheat research trainees from all over the world through the rigors of field work associated with wheat breeding such as pulling plants and selecting seed.

As the sun rose, the lighting was perfect and the sky was as blue as I’d ever seen. No one else was around. It was just the two of us walking among the bread and durum wheat plots in which the plants—nearly ready for harvest—reflected a golden luster. As Norm selected plants for me to frame against the sky with my camera, he told me that he learned a lot from the plants during his daily early-morning hikes, observing, for example, how the ripening heads might quake in a sudden gust of wind. He felt that the bread wheats and durums all had their distinct “personalities.”

That morning, Norm was particularly interested in getting a good portrait of triticale, a man-made cereal derived from crossing a wheat “mother” with a rye “father.” He hoped to come up with a cover shot for a book (*Triticale: a promising addition to the world’s cereal grains*; see <http://snipurl.com/rzrsf>) about the research progress with this grain that can combine some of wheat’s qualities for producing noodles, pastries, and some breads with rye’s disease resistance, drought tolerance, hardiness, and adaptability to difficult soils. This book was to be produced soon by the U.S. National Research Council. He thought that the ripe triticale plants were the most photogenic of all at this growth stage and I agreed, using up the remainder of my film, taking shots from a variety of angles, until the sun was already quite high in the sky and it was time for breakfast.

I’ll always remember that particular morning in northwestern Mexico. When I moved on to work at the International Rice Research Institute (IRRI) in 1995, I unfortunately didn’t have many opportunities to touch base with Norm any more. The last time was when the global agricultural diplomat swung by the Philippines in late April 1999 and made a brief stop at IRRI to confer with researchers here.

Norm left the stage last 12 September at age 95. If only all of us could live such a long, passionate, persistent, and persuasive life, as former IRRI economist Robert Herdt heralds in his tribute to Norm, beginning on page 32.

All of us—and the plants—will miss Norm.

A handwritten signature in black ink that reads "Gene Hettel". The signature is written in a cursive, flowing style.

**Gene Hettel**

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