

The Plant Accelerator®

Knowledge Transfer –

From the Australian greenhouse to the rice fields of Indonesia

AusAID funded PhD student Aris Hairmansis looks forward to applying the new skills and research techniques he acquired in Australia when he returns to Indonesia next year.

Aris grew up in the city of Malang in East Java where he completed a bachelor degree in agriculture. The first three years of study involved course work at Brawijaya University, whilst the final year was spent at the Indonesian Centre for Rice Research (ICRR). Here, Aris was involved in a field project to test the performance of rice following the application of organic fertiliser. Measurements of the plants' height, biomass, weight, seed and other characteristics were taken manually; a time consuming task that required the involvement of a number of technical staff and students.

At the completion of his bachelor degree, Aris worked at ICRR for a couple of years before he enrolled in a Master's degree at Bogor Agriculture University, majoring in genetics and plant breeding. Again, Aris' work was primarily field based; this time working on identifying rice varieties that have the potential for being used as parent lines for hybrid rice in the future.

In 2010, Aris was awarded an AusAID PhD scholarship and he turned to Australia for a better education. With his limited laboratory and greenhouse experience, Aris was keen to join a vibrant research group that would enable him to access such facilities. He joined the laboratory of Professor Mark Tester at the Australian Centre for Plant Functional Genomics (ACPGF) at the University of Adelaide's Waite Campus.

Aris was very excited to work on improving the salinity tolerance of Indonesian rice cultivars during his PhD, as salinity is a major problem of rice production in the coastal areas of Indonesia. Apart

from having access to the latest laboratory equipment, Aris has learned new and invaluable skills in gene technology and has enjoyed interacting with staff and students, many of which have become good friends along the way.



A highlight of Aris' study has been the use of The Plant Accelerator®, Australian Plant Phenomics Facility. The state-of-the-art high throughput imaging facility has enabled Aris to measure the physical attributes (phenotype) of his Indonesian rice varieties in different growth conditions.

“The Plant Accelerator® provides more accurate data than conventional systems, removing the potential for investigator bias. The automated system is faster than conventional methods and I have been able to learn new skills in project design and data analysis using the technology,” says Aris. “The opportunity to undertake my PhD in Australia has been fantastic. I look forward to applying my knowledge when I return to Indonesia, especially by promoting the use of molecular approaches in breeding programs to help bridge the gap between greenhouse based research and field work. I am excited about collaborating with the researchers at ACPFG and The Plant Accelerator® in years to come.”

Aris will return to Indonesia with his wife and two young daughters next year where he will join the ICRR again; this time as a research scientist.