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East met West earlier: ancient wheat tells the tale

Wheat grains nearly 5,000 years old found at a Chinese archaeological site two years ago, have revealed that western man travelled, brought new agriculture and settled in China much earlier than previously thought, in fact by 2,500 years.

Recently published research¹ of ANSTO's* Professor John Dodson and Professor Xiaoqiang Li, State Key Laboratory of Loess and Quaternary Geology, focuses on the Xishanping archaeological site in northwest China where wheat and barley carbon dated to 2,650BC was found.

Professor Dodson said that wheat and barley are not indigenous to China and originated in the Middle East around 10,000 years ago, so the discovered samples had to have come from the West.

"Carbon dating of the Xishanping wheat and barley also showed it to be 2,500 years older than the oldest known Chinese trade route, the Silk Road, which was established in 200BC," said Professor Dodson. "However the exchange was not reciprocal as Eastern agriculture only came West much later."

"Our discovery not only provides new information but also raises key questions about the people who brought wheat to China. Who were they? Why didn't crops from China appear to have been exchanged westward at the same time? How did wheat-based agriculture contribute to the formation and development of the Chinese civilisation? We have many questions and our work will continue until we find out the answers.

"These results are therefore incredibly exciting as it really opens up new avenues of discovery about the history of humans in this region and how civilisations were established.

"The question as to why crops from China did not travel further westward at this time is puzzling," he said. "However it's possible Chinese migration to the West commenced much later and those who travelled East either stayed or did not take rice back with them for some time."

According to Professor Li, agricultural expansion, especially with important crops like wheat and rice, and cultural impacts were huge events for Neolithic Eurasia as human activity is the key to big changes on the land and ultimately big impacts on the environment.

"Early agricultural development included population growth and the expansion of material cultures and language which makes this research even more poignant," he said.

Another major archaeological find in the region twenty years ago is thought to be linked the results and may therefore be very significant as it could be the remains of those who brought the wheat.

¹ *The Holocene* 17, 5, pp. 555-560 and ANSTO's December edition of online magazine *Velocity*
<http://velocity.ansto.gov.au/velocity/ans0020/index.asp>

“In 1987 in the very dry hilly region of Xinjiang in China’s far northwest, archaeologists uncovered what in the end were 100 perfectly preserved corpses which were not only 4,000 years old but also Caucasian, with blond hair, long noses and deep-set eyes,” explained Professor Dodson. “These people possibly came from Turkey, although this is not clear, however we believe they are most likely to be the ones who brought wheat and barley to China.”

Unlike Egyptian mummies the Xinjiang mummies were not royalty but most likely trading people or earlier settlers in the region, as their bodies were found in established burial sites. This is has added further to Professor Dodson’s belief that these people were the early settlers who brought western agriculture to China.

The next stage of fieldwork commenced last month (November 2007) and further samples were taken. ANSTO, which has a major international carbon dating facility at its Lucas Heights site, will be conducting the next batch of carbon dating with results available in early 2008.

More information and to arrange interviews please call Sharon Kelly, Media Adviser on (02) 9717 9575 or 0400 394 085

* ANSTO is the Australian Nuclear Science and Technology Organisation, the country’s national nuclear research and development organisation and the centre of Australian nuclear expertise – over 70 per cent of all radioisotopes used in Australian nuclear medicine are made in ANSTO’s reactor.