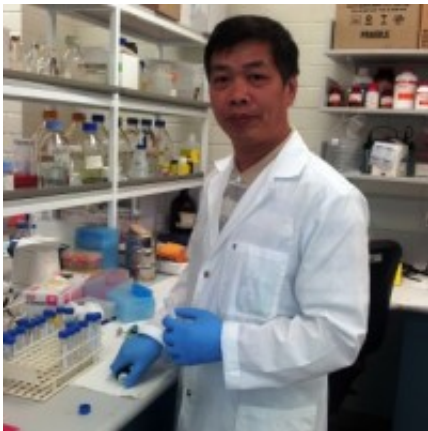


# Wheat discovery could boost international market for Australian growers

May 27 2014, by Jo Manning

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Professor Wujun Ma

A new wheat quality discovery by a Murdoch University researcher has the potential to add one per cent or \$50m to the \$5bn wheat market in Australia.

Murdoch's newly-appointed Professor in Grain Protein Chemistry Wujun Ma, has worked with wheat grains on a genetic level to produce new lines of Australian wheat which are richer in protein and better for bread-making.

Wheat proteins control quality traits such as colour, texture and taste, as well as attributes such as disease resistance and climate adaptability.

"It will make our wheat more competitive with grain in the Chinese market where Australian wheat is often viewed negatively," said Professor Rudi Appels, chair of the Australia-China Centre for Wheat Improvement.

"Our environment of long, hot summers affects protein levels in wheat grains which in turn impacts bread quality. Professor Ma's new wheat lines have significantly increased the functional protein component in [wheat grain](#), making the baking quality of low protein Australian wheat comparable with the high protein American wheats.

"This is a significant gain and will open up new international markets for an industry which exports 80 per cent of what it produces."

Professor Appels said the work could also help wheat-producing countries with warming climates to maintain all-important [protein](#) levels.

The breakthrough came when Professor Ma and his team identified a [wheat variety](#) in Italy which had beneficial genetic characteristics not seen in Australian varieties before.

Professor Ma was able to introduce these characteristics into Australian varieties and his research group is planting an entirely new wheat type for release to breeders programs in the coming weeks.

Extensive testing and refinement of the wheat lines will follow in the coming years to ensure the [wheat lines](#) have the ability to tolerate periods of drought and frost. Professor Ma's research colleague Hollie Webster is investigating the complex genetic regulatory mechanisms underpinning drought tolerance in wheat.

A comprehensive range of quality testing plus large scale field trials are required before the new [wheat](#) lines can be used by growers.

Provided by Murdoch University

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