Is Australian wheat still meeting the needs of South East Asian markets?

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Key messages

- Australian wheat is well regarded in many South East Asian (SEA) markets for its quality and suitability for a wide range of noodles; however, texture attributes and targets need to be better understood.
- At present, Australia is unable to supply the required volume of wheat with the preferred quality for the growing SEA bread and confectionary markets.
- Wheat customers are seeking greater access to technical market services, training and support.

Background

South East Asia (SEA) is the largest and fastest growing market for Australian wheat, importing 42.9mmt over the past 5 years valued at A$2.6 billion per annum. This represents around 44% of Australia's wheat export revenue and volume for this period. The historically dominant market share held by Australian wheat in SEA has traditionally been underpinned by factors including reliability of supply, proximity to Australian grain ports, which means shorter voyage times, as well as Australian wheat's quality attributes and versatility.

SEA markets are critical to supporting demand and prices for Australian wheat and therefore, extremely important for Australian producers. At present, within these markets, Australian exports are experiencing increasing competition from wheat supplied from the Ukraine, Russia and Argentina at lower prices, as well as strong competition from North American wheat based on function performance for baking applications. To remain competitive in SEA markets and maintain or improve our price differential relative to the alternative suppliers, it is essential that we understand their requirements for wheat.

A better understanding of SEA market needs, then action to better align the Australian industry with those requirements, translates to an improved value proposition and ultimately, Australian wheat will become more competitive. With improved competitiveness, the value returned to growers will be stronger than the scenario where we compete purely on a price basis with grains from low cost origins such as the Black Sea and Argentina, or against highly functional US and Canadian grain.

Aims

To identify the quality attributes and their preferred levels most valued by key SEA wheat end-users for noodle and bread products that can enhance the demand and value of Australian wheat.

Method

Wheat technical and purchasing staff from twenty flour milling companies across Malaysia, Singapore, Indonesia and the Philippines participated in the research project aimed at identifying their preferences and target levels of wheat quality characteristics for a range of fresh noodles and breads and their technical service requirements. The product range included Malaysian style Hokkien noodles, Indonesian fresh noodles (mie basah), Philippines fresh wet noodles, Malaysian loaf bread, Indonesian sweet buns and loaf bread, and Philippines Pan de Sal and sandwich bread.

The project applied choice analysis methodology to collect objective information on the wheat preferences of grain end-users.

The comparative importance of 31 wheat quality, functional and technical service attributes for the selection of wheat for SEA fresh noodle and bread products was ranked from most to least importance by mill technicians and wheat purchasers from each company using a best-worst scaling (BWS) survey method as described by Louviere et al (2013).

The economic value of key quality attributes was determined using Discrete Choice Experiments (DCE) and individual participants identified their preferred, minimum and maximum acceptable levels for key wheat quality and dough rheology characteristics.

Results

For wheat purchasers, perhaps unsurprisingly, price and wheat protein content, overwhelmingly dominate their selection of wheat to buy for fresh noodles and breads in the studied markets. More interesting and less well-known was mill technician's preferences for different attributes when making noodle or bread products.

Fresh Noodles

Noodle texture (firmness and elasticity) and noodle colour (brightness and colour stability) were the quality attributes of most importance when selecting wheat for fresh noodles. Australian wheat has the advantage over alternate origin wheats for noodle brightness, colour stability and yellowness; and is considered the most suitable wheat for fresh noodles in these markets. It is imperative that these advantages be maintained within Australia's wheat classification process to ensure the value of Australian wheat for noodles can be differentiated and remain attractive in the market place.

SEA noodle segment is the largest volume use for the APW class. However, market feedback suggests that a greater texture firmness is required by some markets for premium-style noodles than achieved by using APW wheat. Texture attributes and targets for SEA noodles need to be better understood by the Australian industry, along with standardised objective assessment methods, to ensure Australian wheat can consistently meet the textural firmness required for premium quality yellow alkaline noodles.

Both protein and wet gluten are important measures of flour quality in SEA (related to the firmness of noodle products) with marginally different requirements between the countries studied. Market feedback suggests that the relationship between protein and wet gluten content for Australian wheat has been changing. This needs to be clarified by the Australian industry.

Bread

Achieving the ideal loaf volume is the single most important valued attribute for mill technicians when selecting wheat for bread. Other bread attributes, such as crumb softness and brightness, are secondary to loaf volume. The most important dough rheology characteristics were: water absorption, dough stability time, development time and strength (Rmax), dough and fermentation tolerance, and wet gluten content. Many of these characteristics are associated with water holding capacity and retaining bread volume and shape.

The volume of the total bread segment in SEA is approximately 4.5mmt, while also one of the fastest growing. This study indicates that Australia has less opportunity to supply wheat for this segment with quality targets for baking performance in longer fermentation or sponge and dough processes and formulations high in sugar and fat, as practised in SEA. Compared to Australian Hard (AH) wheat, North American wheat with quality suited to such baking systems commands a premium that ranges between US$5 and $100/t.

To access this value, the Australian industry must position itself for both immediate research and quality improvement as well as adopt a long term approach to altering market perceptions and understanding of how to best exploit Australian wheats functional characteristics in baking applications. The objective market intelligence data from our current study will be a primary resource for informing the Australian industry of the necessary improvements needed in baking quality of Australian wheat classes thus enabling wheat producers to capture opportunities to supply wheat into this premium-priced wheat segment.

Biscuit, cracker and cake

While this segment was not a focus for this study, many SEA processers expressed a keen interest in the supply of wheat from Australia, including soft wheat, for the production of biscuits, crackers and cakes as there was significant demand by these growing market segments. However, this is a challenge that cannot be addressed simply by changes to classification. As the market has previously indicated, ASFT wheat is suitable for certain end-products in this segment. The greater challenge will be to ensure that suitable wheat varieties are yield-competitive with current wheats. In addition, a commercially viable mechanism for growing production to the point where economies of scale kick in is also critical. AEGIC has initiated an analysis and recommend that a more comprehensive industry review be initiated to explore opportunities in this segment, as well as ways in which these opportunities can be realised.

Technical market services, training and support

While this study confirmed that Australia has a market advantage for the supply of wheat for noodles and as a blending wheat for baking, it was apparent, and somewhat surprising, that the fit of Australian wheat grades to end-use application was not always well understood by the millers interviewed. This information is vital when Australian wheat is competing in a global market to maintain a strong price differential for quality. Grain traders that can market the inherent quality and, hence, value of Australian wheat are well positioned to maximise price opportunities and retain or grow high value markets.

Conclusion

This study documents and reinforces the advantages of Australian wheat for SEA noodles in a fresh noodle market of a total volume of 2.5mmt (6.5mmt inclusive of instant noodles). This single largest market for Australian Premium White (APW) wheat, is experiencing pressure from Black Sea wheat which sells at a discount to APW. The lower price of wheat from the Black Sea region accounts for poor noodle colour, texture and milling performance. The Australian industry is currently over-dependent on price-conscious middle and upper tier noodle segments with this situation recently compounded by the entry of cheap wheat from the Black Sea, Argentina and India in the lower-tier noodle segment. Australian wheat is increasingly competing with cheap wheat produced by countries with a lower cost base and premium hard wheat from North America with suitable baking applications. Recognising this threat and achieving improvement in quality attributes for both noodle and bakery products identified through this study will help Australia maintain its competitive advantage and price position.

Results from this study of quality preferences and specifications for the preferred and acceptable levels of key wheat quality and functional characteristics for SEA noodles and breads can inform Australia's wheat variety classification process of quality requirements for wheat classes. User target levels can guide the selection of benchmark varieties for current wheat classes and quality parameters for amended or new classes. Moreover, identifying target levels and value attributed by users can improve the efficiency and effectiveness of investment decisions regarding wheat quality research by highlighting attributes of most value.

Australian wheat producers can ultimately benefit from this study through better targeted wheat breeding and more effective varietal classification to ensure Australian wheat better suits end-user needs. Producers can then aim to produce a high quality product with the characteristics that meet the requirements of end-users. Market value-share in key SEA markets will then be more confidently defended or increased in the face of greater price and functionality based competition.

References

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Key words

Wheat, quality, noodles, bread

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