Market study for product development technologies for nurturing small and medium sized bakeries

Summary
A market study was undertaken to help identify opportunities to expand the use of Australian wheat in Asian consumer markets. Bread consumption is rising even in non-traditional bread eating countries in Asia. Consequently, there has been an increase in the number of small and medium sized bakeries to meet the needs of consumers. The introduction of these newcomers in the bread manufacturing industry could present opportunities for Australian wheat in making high value bread products. Current manufacturers produce breads using high speed processing lines and prefer North American wheat flour rather than Australian wheat flour because Australian doughs do not meet the criteria for processability on these lines. These high speed lines were designed to work with North American doughs and therefore most bread manufacturers are locked into using this wheat flour. The Centre for Grain Food Innovation (CGFI) has conducted a market study to identify the need for product development technologies among the newcomers in bread manufacturing in Asia. The information will be used to develop the desired technologies to facilitate the greater use of Australian wheat flour in this new market segment.
Conclusions

From Batt, P.J. & Rola-Rubzen, M F. (2012). Enhancing the functionality of Australian wheat and flours derived from Australian wheat in Indonesia, Malaysia, Singapore, Thailand and Vietnam, Crop Updates, 28 & 29 Feb, Perth WA.

To varying degrees in all five countries (Indonesia, Malaysia, Singapore, Thailand and Vietnam), bread is produced not only for the domestic markets but also for export markets. In this segment, there is a general requirement for non GM wheat and for traceability to the farm gate to provide assurances that the grain is not contaminated by chemical residues or the use of prohibited or non prescribed chemicals. There is an immediate need for the industry to explore an appropriate mechanism to facilitate the greater adoption of on-farm quality assurance systems among Australian grain growers.

Since the abolition of the single desk, millers and several of the larger corporate bakeries have spoken of the greater variance in products derived from flours produced from Australian wheat. While the wheat continues to meet established quality specifications, the variance has increased presumably as a result of exporters sourcing from a greater number of growing areas and blending the wheat before shipment. It may be appropriate to explore the use of geographic indicators as a means of assuring customers of improved functionality.

With a growing shortage of skilled labour and the need to standardise product quality, there is a growing trend among many institutional users of Australian flour towards the use of premixed flours. While premixes are predominantly used for the production of traditional wholemeal, multigrain and seed breads which are perceived to be more healthy, premixed flours are also being used by many small retail bakeries, franchises and hotels. As the majority of premixed flours are imported from Europe for subsequent blending with locally produced flours, there is a need to explore how premixed flours derived from Australian wheat perform compared to the European alternatives. For similar reasons, the use of frozen doughs and partially cooked frozen bread loaves, buns, rolls and pastries is expanding. It may be opportune to explore if the performance of products derived from frozen doughs can be improved by the greater use of flours derived from Australian wheat.

There is an on-going demand for market research as the market is rapidly evolving. There is a need to go beyond the millers and to establish collaborative long-term relationships with the major users of flours derived or potentially derived from Australian wheat.

Recommendations

From Batt, P.J. & Rola-Rubzen, M F. (2012). Enhancing the functionality of Australian wheat and flours derived from Australian
The bread market in South East Asia is rapidly expanding as a result of greater westernisation, increasing personal disposable income, convenience, the increasing assortment and greater range of products available, and the perception that bread is a healthy product. While Canada and the US are the major suppliers, Australian wheat and wheat from numerous other countries are often blended and milled. For Australian wheat, after the abolition of the single desk, millers have reported a greater variance in the quality of the Australian wheat they receive. While the product still conforms to the desired specifications, the variance is much greater. This suggests the need for some regional or geographic indicators to be used and the need for varieties to be segregated. Some concerns were also raised by millers about the need for a quality assurance system. As many of the large scale bakeries produce for an export market, traceability is mandatory to provide assurances that the product is free from chemical residues. While white breads and buns dominate the market, the most rapidly growing segment of the market is for wholegrain and multigrain products. In this segment of the market, most customers are moving towards the use of premix flours, imported primarily from Europe. Similarly, there is a growing trend in both pastries and the loaf bread segment for the use of frozen dough and partly baked (70%) frozen bread. While it is possible to import flours derived from organic wheat, it is almost impossible to source the other ingredients necessary to produce organic breads.

**Outcomes**

**Economic outcomes:**

A better understanding of consumer trends in the Asian bread market and the quality attributes Asian bakers look for in flour will help identify opportunities to expand the use of Australian wheat flour in Asia. In addition, a greater understanding of the flour and bread market requirements in this region will assist in the development of new technologies for the manufacture of quality breads using Australian wheat flour. These outcomes will lead to improved value-chain capture for Australian wheat with added demand and value for the crop.

**Achievements/Benefits**

The following is a summary of the findings of the Market Report. Batt, P.J. & Rola-Rubzen, M F. (2011), Exploring opportunities to enhance the functionality of Australian wheat and flours derived from Australian wheat in Indonesia, Malaysia, Singapore, Thailand and Vietnam. Curtin University.

In the five target countries, Indonesia, Malaysia, Singapore, Thailand and Vietnam, the bread market can be clearly divided into three groups: (1) loaf bread; (2) buns; and (3) cakes and pastries. Sliced white bread is the predominant product in the loaf bread market. However, the most rapid growth in this segment is occurring for wholegrain and multigrain products. Within this market segment, it is important to differentiate between large scale corporate bakeries, boutique manufacturers and traditional bakeries. For large scale bakeries: (1) flour is usually delivered in bulk (15-20 tonnes) once or twice a day in tankers directly from the mills. A Certificate of Analysis generally accompanies each shipment enabling full traceability; (2) the key purchasing criteria are reliable delivery, consistent quality and a competitive price. Customers do not readily change suppliers because of the potential impact a variation in flour quality may have on the bread making process; (3) most customers prefer the flour to be delivered unadulterated, that is, they would rather add bread enhancers or other ingredients themselves. This allows them greater control of the product and is less expensive; (4) the flours delivered are predominantly a blend of Australian, Canadian and US wheat. Canada and the US are recognised as the major suppliers of wheat for bread flour because of its higher protein content; (5) breads with additives are common, where the product is enhanced through the addition of vitamins (B1, B2 and B3) and minerals (calcium (Ca) and iron (Fe)); (6) most breads are free of preservatives. In the tropics, the high temperature and high humidity dramatically reduce shelf life. In many instances, products are replaced on the retail shelves on a daily basis, with unsold products being frozen or reprocessed for the institutional market; (7) there is little recognition of the need or benefit from flours derived from wheat that has been grown in a sustainable manner. However, for the majority of corporate bakeries, the flour must be derived from wheat that is non GM, as many of these bakeries export their products.

The boutique bakeries which include hotels, cafes and retail chains, generally manufacture all three products. Loaf bread usually comprises 20% of the product mix, buns 60% and pastries 20%. In this market segment: (1) the flour is generally delivered in bags once a week or once every two weeks. Products are mostly delivered by distributors, rather than transacting directly with the mill; (2) most customers are moving towards the use of premixes. Reasons for this include: (i) lack of skilled labour; lack of space; and the need to standardise product quality. (ii) the major suppliers of these premixed flours are...
European; (iii) most of the premixes are designed to be blended with local flours; (iv) there is a growing trend in both the pastries and loaf bread segments to use frozen dough and partly baked (70%) frozen bread; (v) smaller boutique operations are specialising in the production of traditional European breads to compete with large corporate bakeries; (vi) while it is possible to import flour derived from organic wheat, it is almost impossible to source the other ingredients necessary to produce organic bread.

The market for buns can be broadly described as soft, sweet and white. The product is supplemented by a variety of both savoury (meat and fish) and sweet (chocolate) fillings that are primarily eaten as a snack. In this market segment, innovation is essential, with most bakeries introducing at least one new product a month. However, few products are truly innovative; most are simply a new product variant. The price range across all markets is remarkably similar, with an individual serve costing between AUD 65 and 80 cents.

The market is expanding and the key drivers for this expansion include: (1) an increasing personal disposable income; (2) greater westernisation, mainly through travel; (3) convenience; (4) the availability of an increasing assortment and range of products; and (5) the perception that bread is a healthy product.

Most of the expansion at the retail level is occurring in the full service sector where bakeries endeavour to offer consumers a total experience through an open kitchen.

Most customers are satisfied with their current suppliers. Flour from Japan is widely recognised as the market leader because it is white (and unbleached), finely ground, has low ash content, is high in protein (through the use of blended wheats from the US and Canada) and has superior packaging. However, Japanese flours are expensive.

Major problems throughout the region are primarily associated with the age of the flour. Flour which has been stored for too long is more likely to be infested with weevils. Furthermore, many bakers report significant differences in the baking quality commensurate with the age of the flour.

Few bakers have direct experience with Australian flour, but most recognise that Australian wheat is used in blends. Since the abolition of the single desk, millers are reporting greater variance in the quality of the Australian wheat received. While the product still conforms to the desired specifications, the range is much greater. This suggests the need for some regional or geographic indicators to be used and for varieties to be segregated. Concerns were also raised by millers about the decision by Cooperative Bulk Handling (CBH) to abandon the Better Farm IQ system. For those bakeries that produce for an export market, traceability is mandatory to provide assurance that the product is free from chemical residues.

Additional information
A link to more recent research is provided below: