

Western Australia's noodle wheat industry

Current status and future challenges





Australian Export Grains Innovation Centre

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Australian Export Grains Innovation Centre

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Please note

1. Export and import values often vary dependent upon the source of information – caution should be exercised when interpreting information presented in this publication.
2. All units cited in this report are metric measurements. Of particular note, the unit tonnes is a metric tonne (1000 kilograms).

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Contents



Summary	2
Introduction and purpose	3
1 Current challenges facing the noodle wheat industry	4
Challenge 1 – No incentive for quality	4
Challenge 2 – Privatisation of wheat breeding	5
Challenge 3 – Deregulation not beneficial for noodle wheat	5
Challenge 4 – Noodle wheat is risky to grow	6
Challenge 5 – ANW2 only accepted on a “case by case” basis	8
Challenge 6 – Fluctuating production volumes	8
2 A rationale for retaining a noodle wheat industry	10
Differentiated product	10
Reputation	11
Combination cargo opportunities	11
Natural risk hedge	11
A consistent theme	11
Conclusion	13
Where to from here?	14
Appendix 1 Participants (direct and indirect) in the noodle wheat industry value chain	15
Participants directly involved in the value chain	15
Stakeholders in the noodle wheat industry but not directly involved in the value chain	15
Appendix 2 Statistics	16
Appendix 3 A framework for assessing the need for change and workable solutions	20
Is intervention even required?	20
If intervention is warranted, what form should it take?	21
Glossary & notes	22

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Current status and future challenges

Summary

The Australian noodle wheat industry is facing a range of challenges, including:

- a lack of incentive for growers to adopt high quality noodle wheat varieties
- problems with the stability of the quality of the noodle wheat blend since the abolition of the single desk
- greater price volatility at the grower and customer level
- supply disruptions caused by drought and decreased plantings of noodle wheat.

Failure to address these issues is likely to erode the value of the noodle wheat trade between Australia and its only noodle wheat customers – Japan and Korea.

A current main, and unfortunate, impediment for growers to adopt superior quality noodle wheat varieties is that the Ministry of Agriculture, Forestry and Fisheries Japan (MAFF) tender for noodle wheat has no effective mechanism to reward growers for such actions, although MAFF has signalled previously and currently, its willingness to reward growers for producing noodle wheat. MAFF has indicated that Japan will not oppose a resolution of the challenges facing noodle wheat production in Australia, as servicing the Japanese market is a trade opportunity for Australia. However, to ensure even-handedness in dealing with all its grain trading partners, MAFF will continue to purchase noodle wheat through its General Tender system for the foreseeable future.

Japan has signalled the likelihood of its shift, at some later stage, from a MAFF General Tender to a Simultaneous Buy & Sell (SBS) system – the latter being a partially deregulated structure. However, the move to SBS has been imminent for almost a decade and while the current tender system continues, industry solutions need to be based on the likely maintained role of the tender system.

This document describes the key issues facing the noodle wheat industry over the coming years. These issues are multifaceted, making the identification of a starting point for a potential solution problematic but not impossible.





Introduction and purpose

Over the last 25 years, noodle wheat varietal development has underpinned the production and export of noodle wheat from Western Australia (WA). Grain from WA-bred varieties is strongly preferred by noodle makers in Japan and Korea. The noodle wheat blend, for example, currently makes up around 95% of WA's wheat exports to Japan, with an annual farm gate value in WA of around A\$200 million, or approximately 8% of the farm gate value of all wheat produced in WA.

However, the ongoing success of the noodle wheat trade with Japan and Korea is being jeopardised as seasonal conditions and growers' adoption of non-noodle varieties have lessened the reliable availability of noodle wheat. There has consequently been considerable discussion amongst industry stakeholders as to the merits of any actions taken to arrest this decline.

This report clearly outlines and explains the current problems facing the noodle wheat industry. The intent of the report is to stimulate industry discussion and, subject to the consensus reached, innovative solutions to the current problems facing the noodle wheat industry.

As an aside, it should be noted that some of the challenges may eventually resolve to some extent once Japan implements its foreshadowed move from the General Tender system operated by the Japan Ministry of Agriculture, Forestry and Fisheries (MAFF) to the Simultaneous Buy & Sell (SBS) system, which is a partially deregulated structure. However, the move to SBS has been imminent for almost a decade and as long as the current tender system continues, industry solutions need to be based around its continuation.

Western Australia's noodle wheat industry

Current status and future challenges

1 Current challenges facing the noodle wheat industry

In global wheat trade, a unique and differentiated product is rare. Wheat is highly commoditised, with most classes and varieties able to be easily switched in the event of high prices or lack of supply. For example, around 2008 when there was a shortage of supply of Australian Prime Hard wheat (APH) out of the east coast of Australia, Japan substituted Dark Northern Spring wheat (DNS) from the United States and Canadian Western Red Spring wheat (CWRS) for flour used to produce ramen noodles. Whilst APH is superior to these alternatives for ramen production, when the situation requires, end users can and will switch supply. Likewise in Western Australia (WA), Australian Premium White wheat (APW₂) is typically used in destination markets as all-purpose hard wheat that can easily be substituted for equivalent wheats from alternative origins if the situation requires.

In the case of wheat for white salted noodles (udon noodles) and instant noodles, Japan and Korea respectively, are unable to readily switch suppliers. At present, wheat of the required quality for udon noodles, one of Japan's staple foods, can only be grown in Japan or Australia. Japan cannot produce sufficient wheat domestically for udon noodles due to a lack of arable land, poor economies of scale and variable growing conditions, making the country reliant on imports from Australia. Due to suitable agronomic conditions and judicious wheat breeding in WA, Australia is currently the only international supplier of the unique wheat required for udon noodles. Korea is similarly reliant on WA noodle wheat, but with slightly more flexibility to use a higher proportion of hard wheat in the blend if there is a shortage of noodle wheat from Australia.

Fortunately, at various times Japan has expressed a willingness to pay a premium for a quality product that can be supplied in a relatively stable fashion. However, after many commercially successful years, Australia's noodle wheat industry finds itself at a crossroad, facing a range of challenges without readily apparent solutions. These challenges are described in the following sections.

Challenge 1 – No incentive for quality

The current structure of the Japan Ministry of Agriculture, Forestry and Fisheries (MAFF) General Tender system, under which Japan buys noodle wheat from WA, does not provide any incentive for quality over and above the basic contract specifications; therefore there is no incentive for growers to adopt new and better noodle wheat varieties.

Put another way, once a grower meets the receival specification for noodle wheat, there is no premium to reward the growers who adopt the higher quality noodle wheat varieties – apart from the small tonnage that can theoretically be sold to Japan under the *Minbo* (Export Credit) system.

As of 2015, the only varietal provider with an official noodle wheat breeding program is InterGrain. Because the pricing mechanism for noodle wheat does not reward quality improvement, InterGrain must provide yield improvements to the grower, as a means of conveying value of new noodle wheat varieties to the grower. However, if growers adopt new varieties in response to yield improvement, it is likely that production will increase¹, causing the market price of noodle wheat to decrease due to oversupply. Hence, the apparent initial gross margin benefits of adopting higher yielding noodle wheat can be lessened quickly by the lowering of the noodle wheat price, caused by the aggregated supply. While demand for noodle wheat from Japan and Korea may be stable, variable seasons in Australia can cause supply variation and lead to further price volatility for noodle wheat. For risk-averse growers in Australia, this further reduces the attractiveness of planting noodle wheat varieties.

Although Japanese flour millers, noodle makers and end-consumers may desire ongoing quality improvement in noodle production, there is no mechanism currently in place to convey the value of such improvements to varietal developers or noodle wheat producers. When it was released, Calingiri was recognised as a *compromise variety*. It did not produce particularly high-quality udon noodles, however due to its greater yield compared with existing noodle wheats, it was recognised by Japan and Korea that without Calingiri, they were unlikely to receive relatively consistent noodle wheat supply from WA.

¹ In economic analyses this is typically represented as a rightwards shift in the supply curve.

Challenge 2 – Privatisation of wheat breeding

In the 2000s in Australia, wheat breeding shifted from principally being a publicly-funded, public-sector activity to privately-funded ventures mostly dependent on commercial revenue streams. Therefore, investment in wheat breeding is mostly determined by market-based signals.

Prior to the privatisation of wheat breeding, noodle wheat breeding was undertaken by plant breeders and their support staff, all employees of the Government of Western Australia. Under privatised noodle wheat breeding, however, the salaries of plant breeders and their support staff are paid out of end point royalties. The royalties are paid by the growers of new noodle wheat varieties that are bred by the private plant breeder, InterGrain. The main Australian Noodle Wheat (ANW) variety grown is Calingiri, released in 1997 by the Government of Western Australia's Department of Agriculture – therefore it does not attract a royalty. While Japanese and Korean buyers often pay a price premium for the ANW class (relative to APW2), virtually none of the premium is a revenue stream for InterGrain. Hence, for several years InterGrain has continued to invest in noodle wheat breeding hopeful that it will develop a popular ANW variety to replace Calingiri.

Unless private wheat breeding companies, like InterGrain, generate sufficient revenue streams from growers' use of privately-developed noodle wheat varieties, then future investment in noodle wheat breeding will be jeopardised. Eventually these breeders may see greater returns from directing resources into potentially more lucrative areas such as barley or hard wheats. Because wheat breeding is principally funded by end point royalties, niche markets such as the Japanese and Korean noodle wheat markets are commercially less attractive compared with the much larger markets for APW and AH wheats. Moreover, because plant breeding in Japan is government funded rather than financed via end point royalties, there is a likelihood that ongoing varietal development in Japan, combined with ongoing highly-subsidised Japanese noodle wheat production, could lead to an emerging gap in quality between Japanese noodle wheat and Australian noodle wheat.

In the past, the WA government invested in noodle wheat breeding in support of growers and to enhance trade opportunities. Now, with government having removed itself from the role as provider of noodle wheat varieties, investment in noodle breeding is chiefly driven by market-based commercial imperatives. Relatively small markets like noodle wheat cannot exert a large market pull on plant breeding resources and so rates of improvement for noodle wheat varieties will be constrained by current and future commercial considerations.

Challenge 3 – Deregulation not beneficial for noodle wheat

For smaller wheat markets such as noodle wheat, deregulation has led to unstable and inefficient competition between sellers. Noodle wheat production in Australia currently and historically is based in WA. It is widely accepted that WA wheat growers have benefited from grain marketing deregulation in Australia following the abolition of the AWB single desk in 2008. However, deregulation has not been without some costs. Many grain industry experts acknowledge that the noodle wheat trade is one example where the grower was potentially better off with the single desk, as it created a *quasi* bi-lateral monopoly.

Under the single desk, the AWB issued a *window price* to a range of accredited Japanese trading houses who converted the price to Japanese Yen (JPY) after adding freight (FOB → CFR) and margin. The trading houses would compete vigorously, often self-discounting to the point where they made a loss on the business due to broader strategic objectives or needing to capture freight-related economies of scale.

The AWB, as a single seller into the Japanese noodle market, could positively influence the price received for Australian noodle wheat. After abolition of the single desk, the competition was pushed back more towards local traders in Australia. The emergence of multiple sellers of noodle wheat meant that the opportunity to exercise a degree of monopoly power was lost and so margins for Australian noodle wheat growers were eroded. In instances where traders sell out of their noodle wheat pools or where CBH Grain (which is owned by the grower) discounts, any loss in margin due to competitive tension comes indirectly or directly out of growers' pockets.

Moreover, as the single seller of Australian noodle wheat, the AWB had knowledge of the quantity and quality of stocks at any given point in time. Accordingly, the AWB could ensure consistency of blended quality within a shipping period and even across production years through judicious rationing of stock. Due to its significant noodle wheat expertise residing in-house and its ability to act as both a marketer and trader, the AWB could ensure the reliability and consistency of the end-use functionality of the blended noodle wheat it sold. However it should also be noted that during this time, the task of receiving, storing and shipping the noodle wheat was managed by CBH Operations.

Following deregulation, however, the quality-control advantages of the AWB's single seller status were rapidly eroded and this was exacerbated by the nature of the MAFF tender system structure. Wheat imports into Japan are heavily controlled by MAFF, with high tariffs being applied to wheat not imported via the main MAFF tender system. Noodle wheat imports are subject to a MAFF tender, in which the tender is won by the importer who bids the lowest price.

Western Australia's noodle wheat industry

Current status and future challenges

Under the tender system, as long as the exporter meets the physical grain specifications, there is currently no additional consideration or value given to the functionality (quality) properties of the cargo. Hence, following deregulation in Australia, new exporters of noodle wheat acquire stocks at least cost, with little regard to functionality, as long as the physical specifications of the cargo are met.

Currently, under CBH's Grain Express system, CBH Operations loads vessels as per instruction from the shipper (e.g. an Australian-based seller such as CBH Grain or Emerald), who specifies the classes and any blending ratios required by the MAFF tender.

Traders provide shipments that satisfy the base requirements of the tender but have no additional incentive to ensure the uniformity of functionality (quality) of their cargo(es). For example, there is no financial impact on a shipper sending borderline 11.4% protein wheat instead of a more desirable (from a functionality perspective) 10.5% protein. This is further compounded by the recent changes to the tender specifications which allow ASW1 to interchange with APW2 and ANW2 to interchange with ANW1, with no financial impact. Admittedly, this recent change was put in place as a way to deal with potential supply disruptions. By widening the tolerance, MAFF is expanding the total available pool of potential ASW blend. However it also serves to illustrate the lack of incentive to load quality (either through the best varieties or the best classes) under the current system.

The net effect of the current MAFF tender system and the deregulation of grain export in Australia is greater fluctuation in the quality of noodle wheat shipments. This inter-vessel variability has created problems for the Japanese flour millers, who are themselves expected to provide a consistent quality to their own customers (the noodle manufacturers).

This becomes more of a problem at the tail of the supply curve where particular tender participants have roughly enough stock for one or two vessels, affording them little flexibility to manage quality across vessels. Even if every participant was able to manage quality appropriately, the issue of inter-trader quality variation remains, as there can be considerable variations in quality even within the given contract specifications. For example, the larger players may even manage quality (of both the noodle and hard wheat component of the blend) to keep important noodle characteristics such as peak viscosity or ash in optimal ranges. However this is virtually a pointless exercise if the subsequent vessel (supplied by another trader) is not loaded with the same degree of precision.

In summary, prior to deregulation, the AWB was the sole supplier with full visibility of all noodle wheat stocks in WA, which allowed it the flexibility to better manage quality to ensure consistency of grain shipments. A fairly similar situation currently occurs for suppliers with large market share, as they can pool sufficient wheat stocks to ensure uniformity of quality in contracted deliveries. However, small traders do not have the facility nor the incentive to manage grain quality and so, quality variation across shipments is now greater than previously occurred.

Challenge 4 – Noodle wheat is risky to grow

For some wheat growers, noodle production is viewed as a risky crop. After planting a noodle wheat variety, the crop must then be managed through to maturity to meet a protein specification between 9.5% and 11.5%. If a grower delivers 11.6% protein wheat, and assuming CBH Operations does not “quality optimise” the parcel and allow it into ANW1, the wheat will be downgraded to ANW2. In some years, this may lead to a large financial loss, due to the price difference between classes.

Noodle wheat grading is based on a descending chain of grades that compares unfavourably with the equivalent system for hard wheat. In terms of price at both the grower level and the value in the Japanese tender, ANW1 and APW2 are roughly equivalent. When noodle wheat fails to meet the requirements of ANW1 it is typically downgraded to ANW2; and hard wheat fails the APW2 grading, it will typically be downgraded to ASW1. However, whereas the “best case scenario” for the noodle wheat grower is ANW1, the grower of hard wheat also has the opportunity to meet Australian Hard class (AH) and receive the prevailing premium. Effectively this means there is only downside price risk for an ANW variety. There is no mechanism for rewarding growers for quality which exceeds the general ANW1 quality level.

Added to the risk of growing noodle wheat and achieving the required grade is the yield penalty often associated with planting a noodle wheat versus an APW or AH wheat (e.g. Mace or Wyalkatchem). Growers thus require an appropriate price premium to provide sufficient incentive to grow noodle wheat.

The large price risk associated with growing noodle wheat acts as disincentive for noodle production, especially for grain growers who already face significant climate and price risk in their businesses. Australian grain growers are particularly exposed to these risks as they receive little additional price or production support from their government, unlike their European, North American and Japanese counterparts.

Farming systems in WA have generally become more crop-centric over the last 15 years, leading to increased exposure to the risks associated with growing these crops. On average, farms now devote a larger proportion of their arable farm area to crop production. This change in land use, combined with an apparent increased incidence of drought and frost in some regions, has made growers particularly sensitive to the business risks associated with growing ‘risky’ crops like noodle wheat. Hence it is no surprise that the noodle wheat share of crop production in WA has declined, especially as its profit margins have been inadequate in comparison to similarly risky crops like canola, and to less risky crops like APW varieties that escape ‘cliff-face’ protein windows.

The current situation faced by a potential noodle wheat grower can be illustrated as follows.

Suppose a grower has a 200 hectare paddock that can be sown to Mace (an AH variety) or to Calingiri (an ANW variety). Assume expected relative yields are 2.5 t/ha (for Mace) and 2.2 t/ha (for Calingiri).

Due to seasonal conditions the grower knows the probabilities of Mace achieving the AH, APW, ASW and GP classes are 0.3, 0.5, 0.1 and 0.1 respectively; and the probabilities of Calingiri achieving the ANW1, ANW2 and GP classes are 0.65, 0.25 and 0.1 respectively.

Assume the farm gate prices per tonne for each class are AH (\$280), APW (\$270), ASW (\$250), GP (\$230), ANW1 (\$275) and ANW2 (\$255).

The expected revenue from sowing Mace on the 200 hectares is:

$$\$133,500 = 200 * 2.5 * (0.3*280 + 0.5*270 + 0.1*250 + 0.1*230)$$

The expected revenue from sowing Calingiri on the 200 hectares is:

$$\$116,820 = 200 * 2.2 * (0.65*275 + 0.25*255 + 0.1*230)$$

Hence the grower is \$16,680 worse off for growing Calingiri. To achieve the same revenue, irrespective of which variety was planted, the price of ANW1 would need to be \$333 per tonne. Moreover, even if Calingiri achieved the same yield as Mace and the price of ANW1 remained at \$275 per tonne, the grower would still be \$750 worse off by sowing Calingiri, principally due to the \$20 per tonne price differential between ANW1 and ANW2.

Since deregulation, and importantly, due to volatility in noodle production, unprecedented volatility in the price difference between noodle wheat and hard wheat has been observed. Volatile production volumes feeding into static and relatively price inelastic demand has triggered market price volatility. In turn, these volatile prices trigger production variability through what is known as the cobweb cycle of production response (Figure 1)².

The Japanese and Korean udon noodle markets are relatively stable from year to year. For example, the roughly 1.8 million tonne noodle wheat crop in 2008 (to supply a market with around 0.9 to 1.0 million tonnes of demand based on the noodle component of the blend at the time) resulted in the noodle wheat price (at the grower level) going from a traditional \$10–20 premium over APW2 to a \$10–20 discount to APW2. When deciding on which crop to grow, this risk must be taken into consideration by the prospective noodle wheat grower.

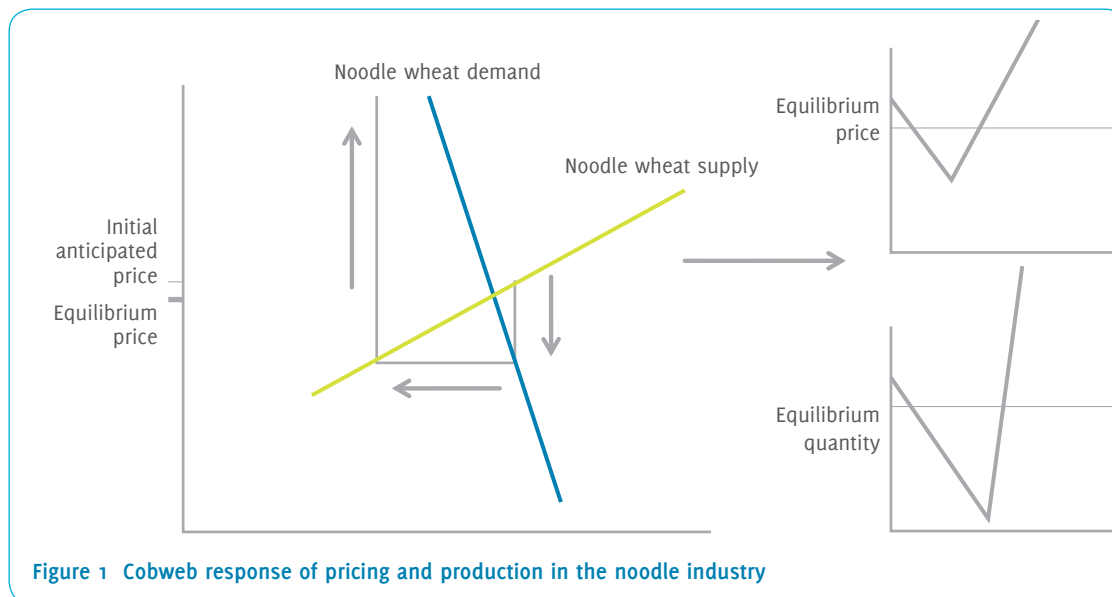


Figure 1 Cobweb response of pricing and production in the noodle industry

² Kalder (1938) first coined the phrase ‘cobweb theorem’ to explain how the nature of demand and supply responses can lead to certain types of fluctuations in market prices.

Western Australia's noodle wheat industry

Current status and future challenges

This greater risk also weakens the incentive to switch noodle wheat varieties, compared with switching APW or AH varieties. Growers who may consider switching from Calingiri to a new noodle wheat variety (e.g. Zen or Supreme) now face an additional \$3.85 per tonne end point royalty that applies to these new varieties (Calingiri attracts no royalty). By contrast, the most popular AH variety Mace, already has a \$3 per tonne royalty and its varietal replacement will not be \$3.85 higher (i.e. \$6.85 per tonne). Moreover, the price risk associated with growing an APW or AH variety is less than the price risk associated with growing an ANW variety. These cost and price factors weaken a grower's incentive to adopt a new noodle wheat variety such as Zen or Supreme.

Challenge 5 – ANW2 only accepted on a “case by case” basis

When the grade requirements of ANW1 are not satisfied, the off-grade grain cascades down into ANW2. As Japan does not typically accept ANW2 (except in rare circumstances and coincidentally at the time of writing this report, due to concerns over having sufficient noodle wheat supply) WA can otherwise have available large quantities of ANW2 with no principal market outlet. ANW2 provides no particular functionality advantage in traditional Australian export markets outside of Japan. Hence, any policy or market innovation which creates a stable market for the ANW2 class will improve the quality of milling wheat cargoes emanating from WA.

Challenge 6 – Fluctuating production volumes

Another problem, partly driven by the abolition of the single desk, but also greatly influenced by climatic variability, is the large fluctuation in the volume of noodle wheat production and consequently, commensurate fluctuations in the market price of noodle wheat, for reasons previously noted. In simplified terms, high production of noodle wheat leads to a large surplus and a collapse in its price. This price collapse then causes many growers to abandon noodle wheat the following year(s), which in turn leads to a shortage and a spike in the noodle wheat price. This creates the well-known cobweb cycle of production and pricing responses illustrated in Figure 1. A price inelastic demand response for noodle wheat in Japan and a more price elastic supply response in Australia is shown.

With such characteristics of the demand and supply responses, the oscillation of price and quantity is destined to increase through time and be inherently unstable. Overlaying the supply response in Figure 1 will be climate-induced shifts in the supply response that will dampen or worsen the magnitude of the oscillation, depending on the size and timing of the supply shifts.

These issues with production volatility have caused major problems with customers in Japan and Korea. Noodles are staple foods in these countries, so any disruptions to supply are met with considerable concern. This issue was brought to a head in the drought-affected WA crop year of 2010–11 where there was an actual shortage of production to serve the bare minimum of demand in Japan and Korea. This undersupply triggered food security and supply stability fears in Japan to the extent to which it was featured in the *Nikkei Shimbun* (Japan's major national financial daily newspaper, Figure 2). The overall tone of the article painted a picture of Japan losing noodle wheat supply as growers switched to wheats targeting the Middle Eastern and Chinese markets.

The fluctuations in price and (more importantly) supply, have MAFF and the Japanese flour mills understandably concerned. Udon noodles are a staple in Japan and the country famously lacks food self-sufficiency. The topics of food security and reliability of supply are extremely important social and political issues in Japan. Hence, any measure that ensures the reliability of noodle wheat exports to Japan will therefore address the key concerns of the Japanese government and flour milling industry.

Production and price volatility causes different problems in the Japanese and Korean markets. In Japan, this volatility is problematic for MAFF, who fixes the domestic wheat price in six-month increments. Hence, its tender process causes it to bear price volatility impacts within those periods. Whilst this shields the domestic flour mills from month to month volatility, they then remain exposed to price changes across each six month block. The Korean flour mills do not receive this level of government protection, so they remain exposed to all price volatility. This volatility causes immense problems for flour millers, who are restricted in their ability to pass on price changes to their customers in the short term, and therefore are required to use imperfect hedge markets (or no hedging at all). There is no futures market for noodle wheat and such a market would lack requisite depth and liquidity. Hence, hedge markets with limited suitability are only partially effective in the management of noodle wheat price volatility.

The impacts of supply and price volatility led to the situation in 2011 where, despite a strong qualitative preference for a blend based on 60% ANW, Japan reduced the ANW component of the ASW blend to 30% to ensure continuity of supply in the wake of an unusually severe drought and reduced noodle wheat plantings. Japan subsequently returned to the preferred 60% ratio in 2012 but was yet again forced to reduce this to 55% in 2013 on the back of lower noodle wheat production caused mainly by the success of the hard variety Mace. For its part, Korea also reduced the ANW component of the blend from 40% down to 30% to deal with the shortage of supply. This instability affects the ease and capacity of flour mills to cost-effectively deliver consistent product to end-users.

讃岐うどん危機？ 豪州小麦が日本離れ
アジア跳ぶ(3)現地ルポ

2013/1/4 2:00 | 日本経済新聞 電子版

日本の讃岐うどんが将来、食べられなくなるかもしれない。原料となる小麦のほとんどを生産しているオーストラリア西部で農家が作付けをどんどん減らしているのだ。理由を探るため現場の豪州西部を訪れると、豪州の農地や農産物を巡る世界の争奪戦が激化している様子が見えてきた。

見渡す限り続く黄金色の小麦畑を幅15メートルの大型収穫機(コンバイン)がうなりを上げて突き進む――。2012年12月下旬、豪州西オーストラリア州の穀倉地帯は小麦の収穫の終盤を迎えていた。



1万1千ヘクタールの農地で小麦を育てる豪有力農家のショーン・パウエル氏(豪州西部クウェイラディング)

自分の農場を案内してくれた有力農家、ショーン・パウエルさん(45)が作っているのは主にパン用などの2種類の小麦で、東南アジアや中東などに輸出される。「多くの農家が日本向けのうどん用小麦を作るのをやめているよ」とショーンさん。自身もピーク時の06年には当時の保有農地の半分でうどん用小麦を作付けしていたが「割に合わない」として09年を最後にやめた。その分、目を向けるのは需要拡大が著しい東南アジアや中国だ。

■うどん基準は「ガラバゴス」

うどん用にブレンドする小麦の6割を占める、もちもちした食感の小麦「オーストラリアン・ヌードル小麦」(ANW)は豪州の農家にとってはニッチ商品だ。それなのに中国や東南アジア諸国が買う汎用性の高い2つの品種と比べ、11年の買い付け価格は1トン当たり約25豪ドル(約2300円)も低かった。たんぱく質10%前後という日本の要求水準を満たさない小麦の価格はさらに安くなる。「ガラバゴス」的な日本の基準は、世界を相手に勝負する豪州の農家に受け入れられなくなっている。

オーストラリアの穀倉地帯で異変が起きている



西オーストラリア州農業・食品省によると、うどん用小麦の栽培面積は04年に小麦全体の約25%を占めていたが11年には約12%に半減し、昨年もさらに減少したようだ。危機感を強める日本の農林水産省と業界関係者は収穫期などに西豪州の生産者を訪ねて生産継続を訴えているという。

ショーンさんの農地はパースから東に約180キロメートルの町、クウェイラディングにある。農家2代目のショーンさんは15年間かけて農地の総面積を2800ヘクタールから1万1000ヘクタールに拡大した。同州の平均的農家の約6.7倍で、山手線内の2倍近い広さだ。小麦収穫の最盛期はほぼ24時間無休で収穫する。1時間当たりの収穫量は45トン。スマートフォンでシカゴの小麦先物相場をチェックしながら、全地球測位システム(GPS)で収穫機を制御して作業するという。

Figure 2 Noodle wheat undersupply triggering fears in Japan



Western Australia's noodle wheat industry

Current status and future challenges

2 A rationale for retaining a noodle wheat industry

The afore-mentioned challenges currently confronting the noodle wheat industry have emerged since deregulation and are, in some cases, a product of deregulation. Previously, under the single desk status of the AWB, a viable and stable value-capture mechanism for the Western Australia (WA) noodle wheat industry existed which also served Japan's needs for reliable supply of noodle wheat of a quality that met end user requirements. Since deregulation however, no similarly viable and stable value-capture mechanism has emerged to serve the joint interests of Australia and Japan. Whilst the general consensus is that the Australian grower has, by and large, benefited from deregulation, the noodle wheat trade is perhaps a rare and unfortunate exception.

The Japanese Ministry of Agriculture, Forestry and Fisheries (MAFF) ought to be commended, as it has proactively investigated various mechanisms to secure the future of the noodle industry. For example, it has proposed various ways in which a premium could be paid to make noodle wheat production more attractive and less risky for growers. Unfortunately the options discussed to this point were generally acknowledged as being unworkable under a fully deregulated free market environment. For example, any attempt to fix the spread between ANW₁ and APW₂ at the grower level would not be feasible as this spread is dictated by the forces of supply and demand.

The actions of MAFF indicate that it sees value in preserving the supply of noodle wheat from Australia. However, despite MAFF signalling its support for the noodle wheat industry in WA, some recent analyses indicate that if growers stop growing noodle wheat and switch to hard varieties, then the growers may not end up greatly worse off. These analyses, however, assume that the export markets for Australian hard grades are perfectly price elastic (i.e. growing more AH and APW wheat will not cause any lowering of farm gate prices). In practice, the assumption of perfect price elasticity of demand may not hold.

If the noodle wheat industry disappears, then it is likely that higher-yielding replacement APW and AH varieties would be grown. This would result in a further one million tonnes or so of wheat supply out of WA being available on average each year (assuming no switching into canola or pasture production). This extra tonnage of milling wheat would then be shifted into existing markets where Australia already has comparative advantage and market share. These markets are likely to be nearby where the additional supply is likely to place some downward pressure on price.

The loss of noodle wheat production would lessen the portfolio of wheat types grown in WA and further commoditise local wheat production, yet Australia is not strongly placed strategically to excel at being a low-cost supplier of wheat. Australia's strategic future is more likely better placed in producing quality assured, affordable, quality differentiated wheats. Hence, the possible demise of the WA noodle wheat industry could be a retrograde strategic shift. This argument to maintain differentiated wheat is discussed in the following section.

Differentiated product

An almost universal principle of commerce is that it is preferable to have a differentiated product, as opposed to a fully commoditised product. Sellers of commoditised product must either take the market price or offer a differentiated service that enables a premium to be extracted. When this principle was applied to canola production in Australia in recent years, premiums of up to \$50/t for non-GMO canola were achieved. The premium was driven largely by the fact that sellers of GMO canola were essentially forced to match the value of Canadian GMO canola, on international markets. However sustainable supplies of non-GMO canola could be sold in Europe, with its preference for non-GMO products, giving Australian producers a *differentiated* product and the ability to extract a premium accordingly.

Unfortunately, WA hard and semi-hard wheats are not particularly differentiated products in the export market. There are few end products which require WA wheat in the same way that the udon noodle market does. Western Australian APW₂, AH and ASW can be substituted for east coast equivalents, as well as North American classes such as DNS, HRW and CWRS. Therefore, when selling into these markets, WA wheat must meet the market price, with little scope to extract a premium due to unique functionality.

This means that if the noodle wheat industry disappears, not only will it likely be replaced by an undifferentiated product, the market will have a further million tonnes of supply out of WA each year (assuming a clean switch from noodle wheat to hard wheat). This extra tonnage of hard wheat must then be shifted into existing markets, likely putting downward pressure on price due to the relative lack of scarcity.

The only way this could be mitigated is if the industry is able to develop new markets for WA hard wheat or breed for specific functionality (such as an APH equivalent that could target the yellow alkaline noodle or bread markets).

Reputation

Western Australia currently has a reputation internationally as a stable supplier of high quality grain. In the Japanese market alone, WA has been a long-term supplier of feed barley, *shochu* barley, horse racing oats and noodle wheat. Japanese customers place a comparatively high value on stable supply, due in part to the country's reliance on food ingredient importation.

Abandoning a long-term, stable market (or at least passively allowing its demise) would lessen the market reputation of WA as a reliable grain supplier. WA grain marketers, when promoting WA grain in international markets, are known to use the state's reputation as a stable supplier to secure business. As WA is an export-focused grain supplier, with little risk of government intervention (such as sudden export curbs, as was witnessed recently in Russia), buyers have confidence entering into long-term arrangements for the offtake of WA grain. It could be argued that this would no longer be a realistic selling point (or at least, a selling point of diminished credibility) if the noodle wheat business ends due to a lack of supply.

Maintenance of the noodle wheat industry may also provide future grain market opportunities in Japan. Preserving existing marketing relationships with the Japanese can serve as a platform for additional grain marketing opportunities that will arise as market deregulation occurs slowly in Japan.

Combination cargo opportunities

Japan's careful path to deregulation is likely to result in MAFF taking less of a direct role in wheat purchasing. Proposed deregulation could see Japanese wheat purchasing move from the General Tender structure to the partially deregulated Simultaneous Buy & Sell (SBS) system (for more information, see AEGIC's report *Australian Wheat to Japan – status, opportunities & outlook*). Simultaneous Buying and Selling (and further deregulation of the market) presents potential additional market opportunities for WA, as it will allow greater freedom in how Japanese flour mills purchase wheat. For example, under the current system, WA hard wheat has no way of entering Japan (apart from as the hard wheat component of the noodle wheat blend), and so it is effectively locked out of the Japanese market. Therefore, SBS may present an opportunity for WA hard wheat to gain access to one of the Asia's most lucrative and attractive hard wheat markets. Recently, the first step in this direction emerged from the Japan–Australia Economic Partnership Agreement (JAEPA), where Australia and Japan agreed that AH and APW will be allowed into Japan via SBS Category 1 (bulk shipment).

An additional advantage of preserving the noodle wheat trade with Japan is the opportunity it provides to capture freight scale economies. For example, Japanese companies such as Zennoh, who buy large volumes of feed barley and noodle wheat, will have a strong position heading into SBS due to their ability to capture combination cargo opportunities, thereby lowering their per tonne freight costs.

The large volume of noodle wheat blend shipped from WA to Japan each year provides freight scale that will support the viability of exporting Australian hard wheats under the SBS system. The large volume of noodle wheat shipped each year also provides freight scale (via either combination cargo or cheaper freight rates) for other commodities shipped between not only WA and Japan, but also between WA and other destinations in North Asia via multi-port discharge opportunities.

Natural risk hedge

Another additional benefit of retaining the noodle industry is that for some growers, noodle wheat production can offer a natural hedge against drought. Explaining further, in drought years when grain production volumes are low, if noodle varieties have been sown, they are likely to attract high price premiums relative to APW varieties. Price premiums act as a natural price hedge due to the price inelastic demand response for noodle wheat and the restricted production of noodle wheats (and other wheats) in dry years. By contrast, the sowing of APW varieties in such dry years results in little price advantage as milling wheats are sold in much more price elastic markets. Hence, although the greater price risk for the ANW class lessens its attractiveness to highly risk averse growers, the high premium available when state-wide yields are low does provide incentive and reward for growing noodle wheat. However it is also important to reiterate that any spike in the noodle wheat price has its own set of problematic consequences, as excessive volatility also imperils the current model.

A consistent theme

Each of these aforementioned factors links back to an emerging theme – As each year passes it becomes increasingly difficult to mount a solid defence of noodle wheat as an economically rational alternative to hard wheat. Even basic “back of the envelope” calculations are sufficient to indicate that there is an issue regarding the viability of noodle wheat production. If we were to conservatively peg Mace's yield to 110% of Calingiri and with all other things remaining equal, the ANW1 price would need to be 10% higher than the APW2 price to ensure that noodle wheat was to remain an attractive option. Then, assuming that there is this 10% price spread at time of planting, growers need to account for the other previously mentioned factors:

- Noodle wheat must land within a stipulated protein window, creating additional risk compared to grades where there is simply a minimum protein requirement.
- ANW1 is the upper limit for noodle wheat, whereas for hard wheat there is the ability to achieve the AH grade.
- As a grade with a fluctuating supply base and a relatively fixed demand, the price of noodle wheat is comparatively sensitive to the balance between supply and demand heading into harvest.

Western Australia's noodle wheat industry

Current status and future challenges

This is why some question whether the loss of the noodle wheat industry would even be a negative for growers. This is not an unreasonable view to take — particularly in light of such relatively unattractive economics. To expand on a previous point, in 2008 a large noodle wheat crop caused ANW to drop below APW₂, which up until that point had been relatively rare. Causation and correlation are notoriously tricky to unpick, and the fact that this precipitous drop in the ANW price relative to APW happened during the first year of deregulation led to some linking the two, with one being causative of the other. However it was in fact the static nature of Japanese and Korean demand and the consequent inability of those markets to absorb a huge oversupply which was the principal cause. By contrast, a sudden doubling of the hard wheat crop in any given year does not create the same issues, as the extra supply can be absorbed by any number of markets across Asia and the Middle East.

Despite this seemingly pessimistic view of noodle wheat, it is the contention of AEGIC that a healthy noodle wheat industry creates a range of knock-on effects which ultimately benefit growers. However in order to harness these benefits, action may need to be taken to mitigate the shortcomings associated with growing noodle wheat relative to hard wheat.

Meanwhile, painting a picture via economic theory or by demonstrating the long term strategic benefits of a healthy noodle wheat industry only tells part of the story. Anecdotes may be the bane of a statistician's life, yet they can provide a powerful narrative by showcasing examples of actual behaviour. As part of the creation of this report, AEGIC therefore sought comment from a range of growers to take a pulse-check regarding how they currently view noodle wheat within their overall cropping plan. The responses received were sobering, even in terms of the prospects for the 2015–16 crop, let alone beyond this year. A sole anecdote which is at odds with the broader view of noodle wheat is of limited cause for concern. However, when there is a consistent theme across all responses, it can lend considerable weight to any pessimistic prognosis for noodle wheat.

These growers have kindly given AEGIC permission to use selected highlights of their responses, in order to convey this consistent theme. We have however, elected to respect privacy by not publishing the names of these growers. The following quotes are those illustrative of the consistent theme:

"...didn't grow any noodle wheat this year (520ha of Fortune in 2014). Many noodle growers might lose their interest in noodle (no one talks about noodle wheat)."

"...Because...some yield penalty (about 10%) of noodle wheat (Fortune) as compared to Mace...narrow protein window of Noodle wheat...due to dry August 2014 (higher protein)...had to sell more quantity of ANW₂...which resulted in a large discount...lack of a good price signal in Feb/March (budget time) 2015..."

"ANW₁ noodle suffered due to the dry August...(however) the dry August increased the protein in Mace..."³

³ This is an important point to highlight. Due to the protein window for ANW₁, the growers are often unable to offset any loss of yield against protein-linked price upside, as they are able to do with hard wheat, which has no upper protein limit.

"Dalwallinu area has gone away from noodle wheats because of the price difference between noodle and H₂ over the last few years..."

"...talked to 8 other (local) noodle growers...all of them stopped growing noodle wheat this year..."

"... (local seed cleaner) advised that 80 to 90% of wheat in area is AH (probably Mace) this year...probably 10 to 15% is APW and Noodle wheat varieties..."

"Planted 1000ha of Calingiri this year...the only local grower (that he knows of) who grew noodle wheat..."

"Grew 6500ha of Mace (out of a total crop of) 8500ha this year...intended to grow 800ha of Calingiri (same area as last year)... (however) ran out of Mace seed..."

"It is at harvest when we keep seed for the following year's crop and with no indicated price premium over H₂ for 2015 then with Mace out yielding the current noodle varieties...the dollars per hectare for growing noodle wheats are just not there..."

"Keep in mind that historically the noodle price was indicated as a premium over the price of APW₂ on the day. i.e. plus \$25 over whatever the price was for APW₂ in the following season...this allowed planning for the following season's crop based on the expected return per ha..."

"Our cropping decisions are driven by dollars per ha, crop rotation and risk minimisation. The current noodle Cash price offered by some buyers of plus \$13 over the price of APW₁ for 2014 crop is too little too late..."

"We grew 1740ha of Calingiri in 2014 and this year we didn't grow any. We have 34ha of Zen wheat in to bulk up for next year...the remainder is Mace..."

"We have stopped growing Calingiri due to poor price and agronomically it's not stacking up against Mace..."

"I think there will be an overall reduction in Noodle plantings in the district. This used to traditionally be a big noodle growing area but has reduced over time. More noodles are now grown in western and southern districts..."

"The other concern is the carryover stocks have reduced as the domestic stock feed market bought noodle grain as it was the cheapest grain this year with little off speck grain around..."

"I personally see a fit for some noodle wheat in my system but I know all other growers around me have ditched it because there was no reward for growing it in the last few years and often a price penalty."

"There definitely needs to be active buying on a daily basis by the grain buyers to promote a premium otherwise the area will dwindle more. Farmers are not stupid, they will not continue to grow something with marginal rewards for a higher risk..."

"I have approximately 220ha of noodle wheat in this season — mainly Calingiri, but have 20ha of Supreme and 20 Zen as a trial... (compared to) 400ha of Calingiri (last year)."



Conclusion

This discussion paper identifies and details the challenges facing WA's noodle wheat industry. By highlighting both the direct consequences and the less apparent knock-on effects of these challenges, we hope to stimulate industry discussion so that useful and workable solutions can be discovered. In the near future, following discussions with GIWA, AEGIC intends to release a follow-up report which outlines the options proposed by industry stakeholders, plus any additional ones developed by AEGIC in consultation with the noodle industry. AEGIC welcomes further opportunities to outline and discuss the challenges facing the noodle industry in order that industry debate is well-informed.

In assessing the rationale for change and the merit of a potential course of action, it is helpful to use some of the following criteria:

1. Would the proposed course of action overall be positive or negative for noodle wheat growers?
2. If the proposed course of action is positive for growers, will this lead to benefits in the medium to longer term for traders, MAFF and Japanese flour mills, assuming the current MAFF tender process continues unchanged?
3. Does the proposed course of action create winners and losers within the current MAFF tender process?
4. Is the proposed course of action realistically able to be implemented or are there "deal breakers" which would make it impossible to implement?

5. Is the proposed course of action fit for purpose irrespective of whether the MAFF weekly tender system continues or whether there is a shift to SBS?
6. Likewise, is the proposed course of action workable for both Japan and Korea?

If a potential course of action is judged to be favourable by these criteria then we contend that, at the very least, it may form a useful starting point for reaching a solution palatable for all stakeholders and, in particular, noodle wheat growers.

In the medium term, the introduction of higher-yielding hard wheat varieties is a direct threat to the maintenance of a stable noodle wheat industry in Western Australia (WA). Higher-yielding hard wheat varieties are likely to be more profitable for growers, relative to current noodle varieties. Even with an increase in the yield of noodle varieties, it is expected that hard wheat varieties will continue to dominate the area planted to wheat in WA. With lesser relative profitability, noodle wheat varieties will tend to be planted opportunistically, to capitalise on their higher prices after years where there is a shortage. However, such grower behaviour will lead to an occasionally amplified supply response, and will increase the volatility of supply and prices. This opportunistic behaviour by growers will exacerbate the volatility of end point royalty payments received by a breeder of noodle wheat varieties. Such volatility weakens the attractiveness of investing in noodle wheat breeding.

Western Australia's noodle wheat industry

Current status and future challenges

Implementing a workable solution for the noodle wheat industry should have as its core goal the stabilisation of supply and the improvement in the quality of noodle wheat supplied to Japan and Korea. If a workable solution is found then the frequency and magnitude of price spikes (and price crashes) will be lessened and producers and consumers will mutually benefit from greater stability, as will breeders of noodle wheat varieties.

Ultimately, this document's utility will be judged by the extent to which it either catalyses change that secures the future of the noodle wheat industry in WA, or enables a well-informed consensus for no specific action.

Despite agreeing there is a problem, some industry stakeholders may form the reasonable view that the best response is to take no remedial action allowing market forces to prevail. Others may see the loss of the noodle wheat industry of minimal importance, as growers can then reallocate noodle wheat hectares to hard wheat varieties or other crops. Still others may opt for specially-designed industry policies and actions that reinvigorate the noodle industry.

Where to from here?

It is AEGIC's intention that this discussion paper should form the starting point for industry discussion and debate focused on identifying the most broadly beneficial course of action for the noodle wheat industry. In cooperation with GIWA, AEGIC will collate the views of stakeholders, including their proposed course of action. AEGIC will then release a follow-up report detailing this industry feedback and any additional separate proposals identified by AEGIC. Throughout the process, GIWA will manage all industry consultation and any subsequent proposed industry actions.

Therefore, with GIWA's approval, AEGIC proposes the following process:

1. Release of this discussion paper to industry, allowing sufficient time for stakeholders to properly assess the challenges and establish potential outcomes or actions.
2. GIWA to consult extensively with all key stakeholders.
3. Establish a transparent, public submission process whereby stakeholders have the opportunity to provide their official position and suggested actions.
4. AEGIC will then collate these submissions for publication in a follow-up report.
5. GIWA to then manage the resultant consultation process and determine potential remedial action.

AEGIC emphasizes that the noodle wheat grower is the ultimate stakeholder in this consultation and review process. Whatever actions are taken, they must ultimately serve the interests of the grower. Whilst it is envisaged that industry is unlikely to approve any action which creates a negative financial impact to their own bottom line, whatever action is taken must give priority to the interests of growers, inasmuch as an economically healthy grower production base creates flow-on effects for the trade and end-users. These concerns can be addressed in two ways. It is important that growers have the opportunity to provide their own input into the consultation process. In addition, whatever official position each industry stakeholder takes, they must ultimately be accountable to growers.

Appendix 1 Participants (direct and indirect) in the noodle wheat industry value chain

Participants directly involved in the value chain

The noodle wheat grower – grows noodle wheat, delivers to a CBH receival point and nominates to a trader.

CBH Operations – receives, stores and loads noodle wheat onto vessels.

Shippers – buy noodle wheat from the grower and sell to Japanese trading houses on an FOB basis as ASW blend (typically but not always, 60% noodle wheat and 40% hard wheat)

Japanese trading houses – buy ASW blend on an FOB basis, add freight, fix currency and offer to MAFF in Japanese Yen (JPY). Often also have a role buying flour from the mills and selling to noodle makers.

Ministry of Agriculture, Forestry and Fisheries (MAFF) – buys ASW blend from the Japanese trading houses, fixes the price in JPY for three months and sells to Japanese flour mills.

KOFMIA – aggregates demand based on delivery port on behalf of miller members.

Japanese flour mills – buy ASW blend from MAFF, process into flour and sell to either JTHs or noodle makers.

Korean flour mills – buy wheat in combination with each other, via KOFMIA.

Japanese noodle makers – produce finished products (udon noodles) from flour. In Japan, can be either large corporations such as Shimadaya, down to individual restaurants producing premium udon noodles.

Stakeholders in the noodle wheat industry but not directly involved in the value chain

AEGIC – the Australian Export Grains Innovation Centre (AEGIC) is jointly funded by the Department of Agriculture and Food, WA and the Grains R&D Corporation. AEGIC provides national leadership and enables collaboration and capacity building in Australia's export grain industry with the end goal of returning enhanced value to growers.

Department of Agriculture and Food, Western Australia – the state government agency concerned with agricultural industry development in WA. It provides a range of support services to the agriculture and food industries.

GIWA – the Grain Industry Association of Western Australia Inc (GIWA) was formed in 2008 to represent the interests of those in the WA grain supply chain. GIWA has seven Councils including GIWA Wheat Council, GIWA Barley Council, GIWA Trade Council, GIWA Oilseeds Council, GIWA Pulse Council, GIWA Oat Council and GIWA AGI Council.

GRDC – the Grains R&D Corporation (GRDC) is the national statutory body charged with the administration of national grains R&D. It co-invests in wheat breeding, pre-breeding R&D and supports key institutions such as Wheat Quality Australia and AEGIC. Its main activity is co-funding grain industry research projects.

Seed breeding companies – expend considerable resources in breeding new varieties suitable for udon noodles. At this stage the only company participating in this market is InterGrain.

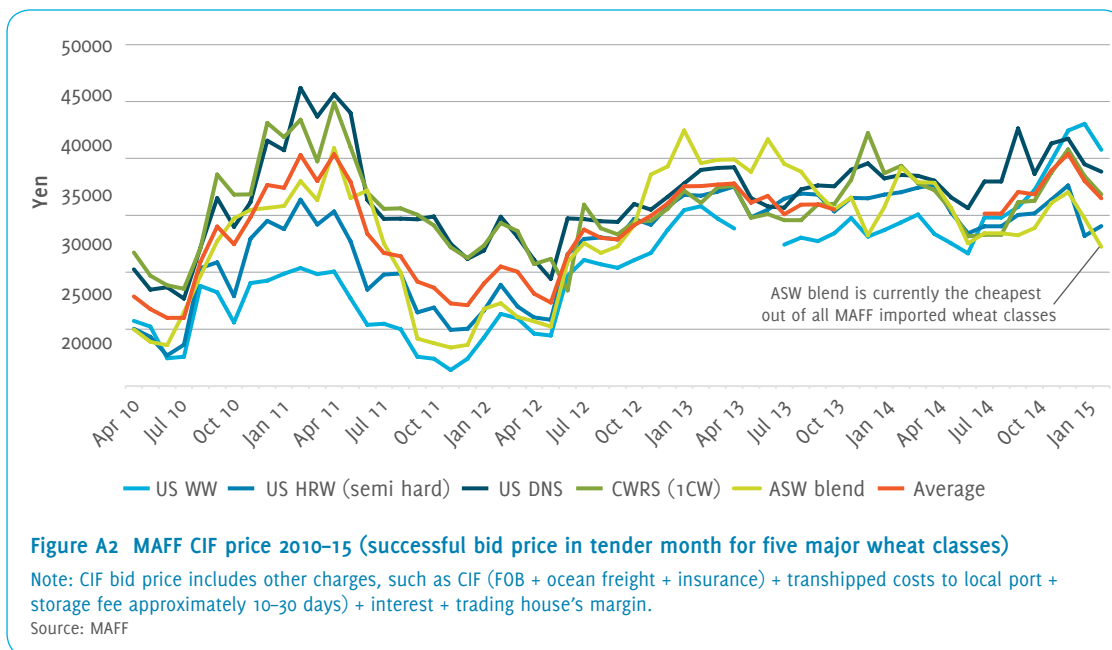
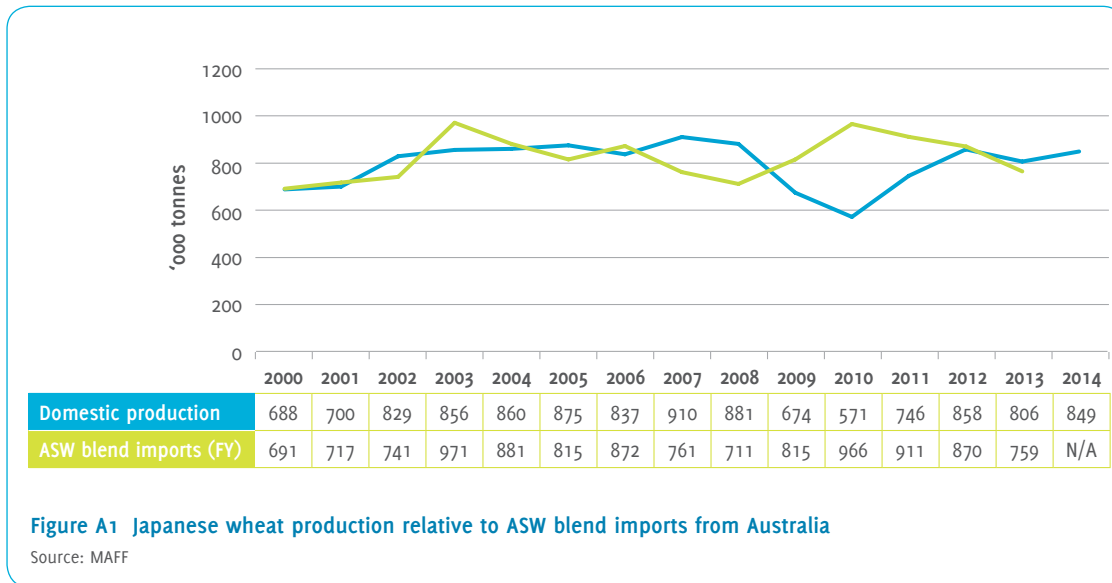
Wheat Classification Council – the Council determines wheat classes/grades based on market requirements. The Council is overseen by Wheat Quality Australia.

Wheat Quality Australia – the GRDC and Grain Trade Australia established the company Wheat Quality Australia (WQA) to be responsible for wheat variety classification. WQA ensures that the quality of the classes of wheat available in Australia, now and in the future, meets the processing and end product requirements of key markets. WQA does this through two bodies: the Wheat Classification Council (Council) and the Variety Classification Panel. The panel is composed of technical experts who assess and classify new wheat varieties into the classes established by the Council.

Western Australia's noodle wheat industry

Current status and future challenges

Appendix 2 Statistics



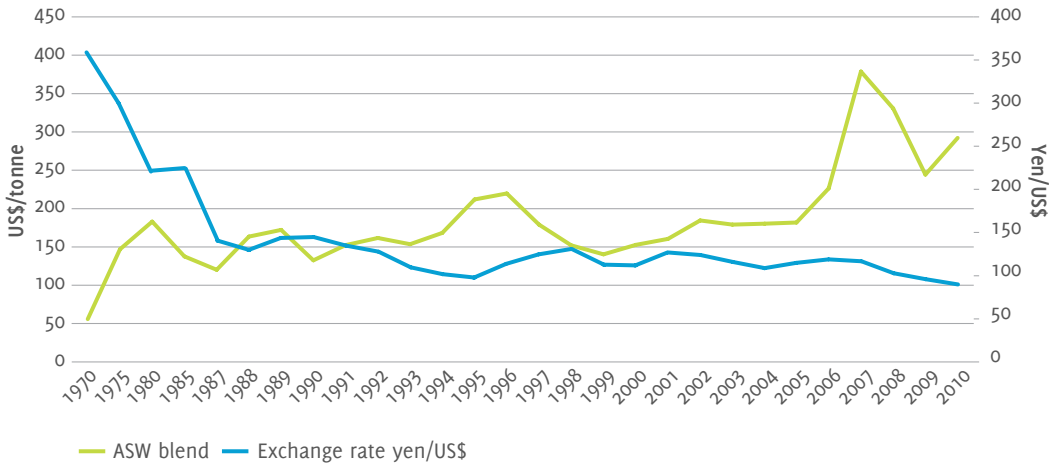


Figure A3 Historical MAFF FOB price chart 1970 to 2010

Source: MAFF

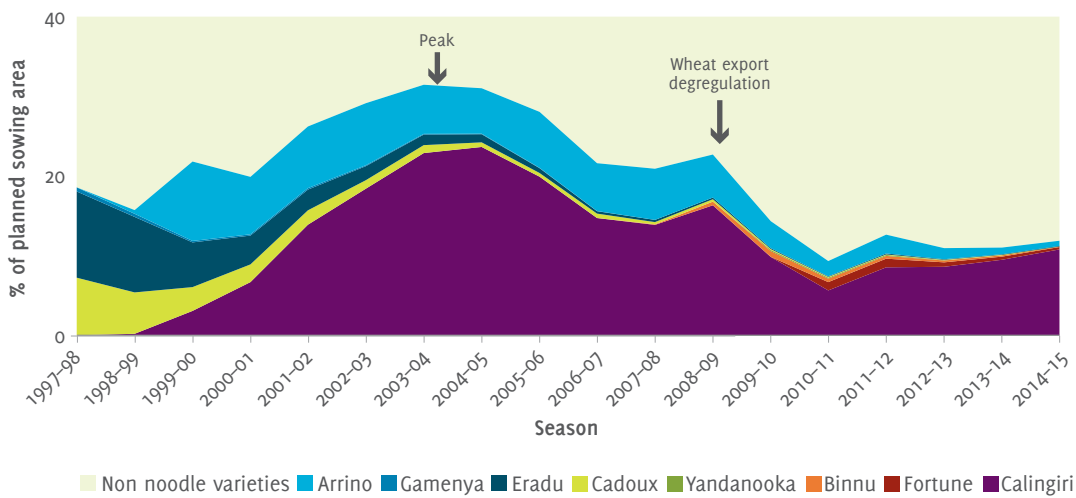
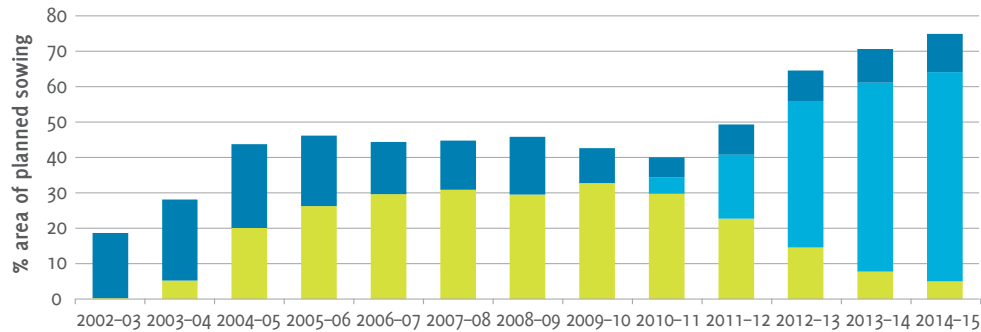


Figure A4 Wheat varieties grown in Western Australian, showing the peak and decline of the adoption of ANW varieties

Source: CBH/Department of Agriculture and Food Western Australia

Western Australia's noodle wheat industry

Current status and future challenges



	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Wyalkatchem	0.27	5.24	20.07	26.27	29.64	30.86	29.51	32.73	29.75	22.73	14.53	7.73	4.98
Mace	-	-	-	-	-	-	-	0.04	4.62	18.01	41.39	53.38	59.1
Calingiri	18.42	22.88	23.66	19.91	14.73	13.88	16.32	9.83	5.64	8.54	8.61	9.48	10.78

Figure A5 Percentage of wheat area in Western Australia planted to Mace, Wyalkatchem and Calingiri wheat varieties

Source: CBH/Department of Agriculture and Food Western Australia

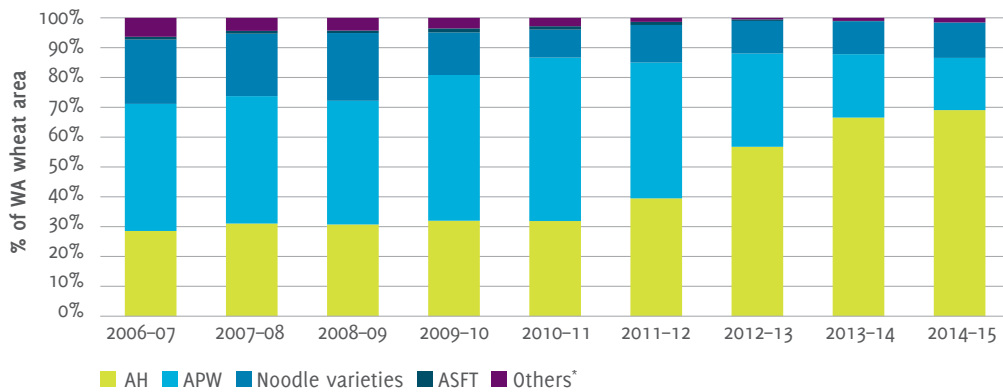


Figure A6 Percentage of wheat area in Western Australia planted to different grades

Note: Varieties with less than 0.06% of total crop area in 2014-15 season are not included

Source: CBH/Department of Agriculture and Food Western Australia

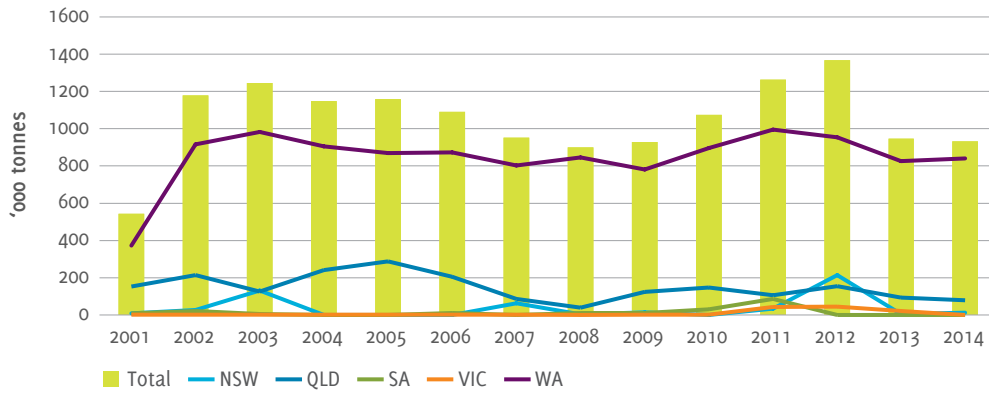


Figure A7 Volume of wheat exported from the states of Australia to Japan

Source: ABS

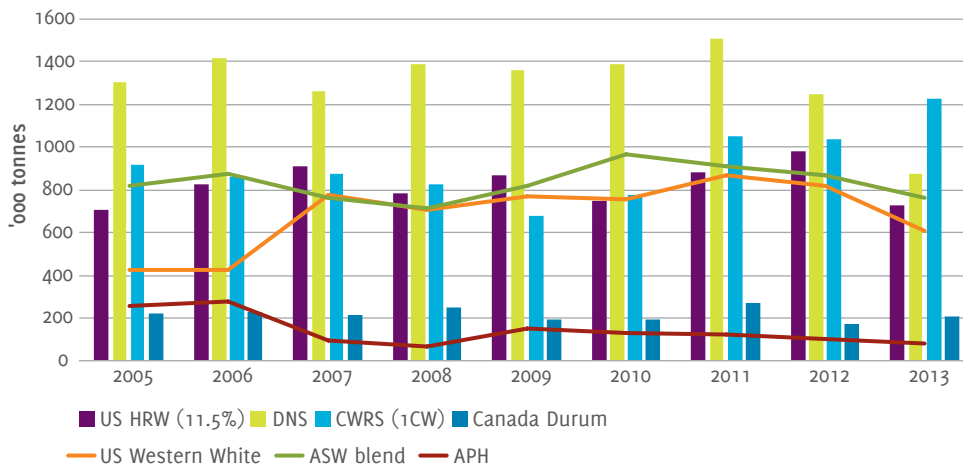


Figure A8 Volume of different types of food wheat imported into Japan

Source: MAFF

Table A1 The estimated annual requirement of ASW blend by Japan and Korea

	Japan		Korea		Total
	'000 tonnes	%	'000 tonnes	%	'000 tonnes
ANW	510	60	255	30	765
APW	340	40	595	70	935
Total ASW blend	850	100	850	100	1700

Note: Noodle wheat (ANW) has been specially blended for the Japanese and Korean markets

Source: Industry source

Western Australia's noodle wheat industry

Current status and future challenges

Appendix 3 A framework for assessing the need for change and workable solutions

When looking at the current state of the noodle wheat industry it can be difficult to decide exactly which part to tackle first, so a good deal of time can be wasted just looking at the problem, thinking “How did *this* happen?” Wide-ranging, multi-faceted problems can often trigger paralysis, with the problem being either too poorly defined or simply appearing too difficult to solve.

In the case of the noodle wheat industry, first there needs to be consensus as to whether any action at all is required. It is AEGIC's firm view that, when you look at the current evidence and then follow the likely chain of cause and effect, without proactive intervention the chances of there being a similar-sized noodle wheat industry in ten years appears small. However it is also unlikely that this will be a view shared unanimously across all stakeholders. The counter-view needs to be respected where, even if we lost the noodle wheat industry, there would be no net disbenefit for growers who could simply go “all in” with hard wheat varieties or alternative grain crops.

With this in mind, it may be helpful to establish some broad parameters and to identify some of the key issues which need to be considered in order to emerge with a clear view on exactly what action, if any, needs to be taken. The following is not intended as a way of corraling the reader into arriving at consensus with AEGIC. On the contrary, the greater degree of diversity we see in viewpoints, the more likely we are to eventually reach a well-considered conclusion which has undergone rigorous stress-testing.

Is intervention even required?

Before any solutions can be proposed or evaluated, industry first needs to agree that there is a problem in the first place. In order to achieve this, there are some key questions which need to be addressed:

- Do you think that, without intervention, the noodle wheat industry will be as large in 10 years as it is today?
- Do you think that, even if growers lost the noodle wheat industry, they could simply switch to hard wheat (or other crops) and would therefore see no net disbenefit? How would you quantify this?
- If you agree that the noodle wheat industry will gradually disappear and that this would impact grower profitability (either directly or indirectly), do you believe that something can be done about it or do you think that any actions taken would be futile, with the irresistible power of supply and demand holding primacy?

- Do you believe that there are fundamental shortcomings associated with selling niche grain in a fully deregulated (and competitive) environment into a monopsonistic¹ government tender environment?
- Do you believe that intervention would have been effective if enacted earlier? However have we now progressed past the point where the noodle wheat industry is salvageable?

Arguments for not intervening

- The recent downtrend in noodle plantings is temporary and the market will self-correct when undersupply eventually triggers a resurgence in the noodle wheat price, leading to increased plantings.
- Intervening to resurrect the noodle wheat industry runs counter to the post-single desk, free market ethos favoured by growers and industry.
- If noodle wheat becomes unprofitable for growers relative to other cropping options, growers should simply move to these alternative crops. For example, if growers switch from noodle wheat varieties to hard wheat varieties, they can increase their exposure to attractive markets where there are multiple buyers operating under a private, non-tender based importation system.

Arguments for intervention

- Without intervention, the noodle wheat industry will rapidly decline, due to poor relative profitability compared to hard wheat and risks associated with falling into the protein window.
- Outside of noodle wheat, WA lacks a truly differentiated wheat grade. If growers switch to a wheat program based entirely around hard wheat, they will be fully exposed to the recent entry of Black Sea wheat into traditional markets. According to some forecasts, within the next few decades, Russia, Ukraine and Kazakhstan will be producing an additional 25 million mt of medium and high protein hard wheats. According to some milling customers, certain Black Sea wheat grades match the performance of Australian APW, at a significantly lower price point.
- Losing the noodle wheat industry will impact the ability of WA growers to gain exposure to the recently opened Japanese hard wheat market, both in terms of freight scale and reputational damage associated with the disrupted supply of noodle wheat. Japanese millers may be wary of basing major flour product lines on APW or AH. They are concerned about WA's ability to provide stable, uninterrupted supply.

¹ A market with a single large buyer. As opposed to a monopoly, where there is a single large seller.

If intervention is warranted, what form should it take?

Assuming there is consensus that some form of intervention is warranted, industry must then look at exactly what form this intervention should take. The concept of taking action to secure the future of the noodle wheat industry is incredibly broad, so it would be helpful to establish some parameters and basic framework for a solution. When someone is facing a huge, and therefore daunting, task, they are often best served by breaking the task down into more manageable chunks.

Firstly, it would be useful to identify the core features required for a workable solution:

1. The grower must be the ultimate beneficiary, acknowledging that from the grower's benefit emerges benefits for the wider grains industry. This means that non-noodle wheat growers should not be expected to cross-subsidise any solution. In the event that there is minor, indirect cross-subsidisation identified, it must be offset by equal or greater indirect benefits, such as facilitating access to Japan's hard wheat market.
2. The cost of any intervention must be borne equitably and by those with the financial resources to do so.
3. The solution must be practical in terms of how it can be integrated into the current noodle wheat production and export value chain.
4. The solution cannot create asymmetrical benefits for one participant at the expense of another.
5. The solution must incentivise each player to act in the interests of the overall industry.
6. Unintended consequences must be identified, and if they work against the core purpose of the solution, this solution must be abandoned.
7. The solution should be subject to subsequent review to reveal if it is achieving what was intended.
8. The solution should be both robust yet flexible to accommodate change within and outside the noodle wheat industry.

In AEGIC's view, the core challenges which need to be addressed are, in the short term, ensuring that growers are sufficiently incentivised to grow noodle wheat and, in the longer term, a sustainable model for the continuation of noodle wheat breeding is required. It is AEGIC's contention that, unless this occurs, the agronomic gap between noodle wheat and hard wheat will continue to widen, requiring ever larger (and therefore increasingly economically unviable for mills) premiums over APW and AH.

To distil these challenges down to their actionable content, *incentives of some form must flow towards noodle wheat growers and ultimately, funding in some form must flow to noodle wheat breeding.*

Lastly, in the interests of maintaining scientific and rational rigour, it would be remiss of AEGIC not to point out that industry stakeholders may have unique insights that reveal the core problem is an entirely different one to that represented by AEGIC. Perhaps AEGIC has fundamentally misread some core aspects of the current situation, creating a *junk in, junk out* faulty conclusion. Hence to arrive at a useful solution or response, nothing should be above scrutiny.

Western Australia's noodle wheat industry

Current status and future challenges

Glossary & notes

AWB	Australian Wheat Board
AEGIC	Australian Export Grains Innovation Centre
AH	Australian Hard
ANW	Australian Noodle Wheat
APH	Australian Prime Hard
APW	Australian Premium White
APWN	Australian Premium White Noodle
ASW	Australian Standard White
CFR	Cost and freight
CIF	Cost of insurance and freight
CWRS	Canadian Western Red Spring
DNS US	Dark Northern Spring
FOB	Free on board
GIWA	Grain Industry Association of Western Australia Inc
GMO	Genetically modified organism
HRW US	Hard Red Winter
MAFF	Japan Ministry of Agriculture, Forestry and Fisheries
PNJ	Premium noodle wheat for Japan
PNK	Premium noodle wheat for Korea
SBS	Simultaneous Buy and Sell
YAN	Yellow Alkaline Noodle (ramen and chow mein)

All units cited in this report are metric measurements. Of particular note, the unit tonnes is a metric tonne (1000 kg).



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