Grain market lingo
What does it all mean?

Before reading this booklet, please read the important note on the introduction page three.
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Introduction

The future of grain growing enterprises is dependent on the generation of sufficient profits to ensure their long-term viability.

The key drivers of profit in a grain enterprise include how much grain can be produced, the cost of producing it and the price received for the grain when it is sold.

The key drivers of profit and productivity include:

1. Growing the most profitable rotation or mix of crops
2. Productivity – turning water into grain
3. Optimising costs
4. Marketing
5. Climate risk management (seasonal forecasts)
6. Implementation and timeliness.

Effective management of both risk and profitability is the key to success in farming. Growers need to manage their operation to maximise whole-farm profit not yield.

The majority of the GRDC's investment portfolio addresses these key productivity drivers with the exception of marketing.

However as grain markets continue to deregulate growers are now taking more of an active role in price risk management. In light of this increasing trend, the GRDC has prepared this booklet which describes the key elements of price risk management available to growers. It is hoped that growers will have a better understanding of price risk management after reading this booklet.

The booklet also includes a number of case studies on how some grain growers utilise the various marketing alternatives available to help them manage price risk in their farming operation.

Peter F Reading
Managing Director
Grains Research & Development Corporation

Important note: It needs to be stressed that in no way does this booklet provide any recommendations or advice on how growers should manage price risk. Its sole aim is to provide a background on the terminology and options available for price risk management and examples on how a number of Australian grain growers utilise these options on their farms. The GRDC, and no person associated with GRDC, has or will receive any remuneration or benefit in connection with the publication of this booklet. Readers should seek advice from an Australian Financial Services licensee before acquiring any financial product referred to in this booklet.
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Acronyms of grain industry organisations

AACL Australian Agricultural Contracts Limited
ABARE Australian Bureau of Agricultural and Resource Economics
ABB ABB Grain
ABS Australian Bureau of Statistics
AGA Australian Grain Accumulators
AGEA Australian Grain Exporters Association
AOF Australian Oilseeds Federation
ARMS Agricultural Risk Management Services
ASX Australian Stock Exchange
AWBI AWB International
AWBL AWB Limited
BRI BRI Limited Australia
CBH CBH Group
CBOT Chicago Board of Trade
GCA Grains Council of Australia
GGA Grain Growers Association
GLA Grain Licensing Authority (WA)
GRDC Grains Research and Development Corporation
ICE International Commodity Exchange (Vancouver)
IGC International Grains Commission
NACMA National Agricultural Commodity Marketing Association
NFA National Futures Association (US)
PPI Producer Price Index
ASX Australian Stock Exchange
UFC United Farmers Cooperative (WA)
USDA United States Department of Agriculture
WEA Wheat Exports Australia
WGA Wheat Growers Association
Risks

At a glance

- Production risk.
- Price risk.
- Growers also deal with delivery and quality risk factors.
- Counterparty risk.

Risk is the uncertainty of an outcome. The outcome is often influenced by factors beyond the control of growers (for example, weather). In investment terms, increasing risk is normally related to an increasing potential for greater gains and losses (as the outcome is less sure). Low-risk investments are unlikely to result in a loss. But the outcome is more predictable, resulting in a limited upside.

Growers face a number of risks in their grain growing enterprise, with the main risks being:

- **Production risk**: The overall production risk relates to factors influencing the total volume produced. These risks include seasonal variation, drought, fire, frost, pests and diseases. Within the context of marketing strategies, production risk usually refers specifically to the risk of production falling below the quantity of grain committed in some form of forward sale.

- **Price risk**: Price risk lies in the movement of grain prices over time. Grain is a commodity traded on world markets and prices are subject to a variety of influences and as such, can be highly volatile.

- **Delivery and quality risk**: This includes factors that can influence meeting contract specifications (for example, location and time, grades and weather).

- **Counterparty risk**: This is the risk of the party the grower is dealing with and the failure for them to perform their part of the contract (e.g. not taking delivery or failing to act within the timeframe required by the contract). The main risk is payment default or the buyer going into liquidation after the grower has delivered their grain.

With no national wheat pool, where payment defaults were masked by the spread across many tonnes and many pool growers, growers are exposed to the direct risk of the counterparty to whom they have sold their grain. Growers should conduct their own due diligence on the creditworthiness of the parties with whom they are dealing.

**Successful risk management requires:**

- The identification of key factors that affect farm profitability and viability.
- The identification of possible price and production outcomes.
- The implementation of management techniques to reduce unfavourable outcomes.
Grower group AgVance Marketing endeavours to explore all grain sale opportunities and to create links with end-users for consistent supply and quality opportunities. By ensuring transparency in grain sales, AgVance marketing can guarantee growers the most competitive price on the day.

**AgVance Farming**

AgVance Farming started as a grower group during 1999 with 13 progressive farming enterprises. Membership has grown to 20 farming enterprises and the company now provides members with agronomic cropping and pasture services; research and development; information forums and tours; farm insurance and grain marketing services.

**Grain marketing**

Grain is sourced from AgVance Farming Company members across north-west NSW. Combined, AgVance members crop about 35,000 hectares — mainly sorghum, barley, wheat and sunflowers with secondary crops, corn, faba beans, chickpeas, triticale and oats.

Annually, AgVance Marketing trades about 15,000 tonnes of sorghum, 12,000t of barley, 8000t of wheat, 1000t of triticale and 100t of faba beans. Most grain is marketed using cash prices (80 per cent) with the remaining through forward contracts.

AgVance marketer Jack Vivers said he could find the best price for a grower, regardless of whether it was for the export or domestic market; human consumption or stockfeed and at anytime — before, during or after harvest.

Jack said his marketing methods were relatively simple and involved keeping in touch with traders, brokers and end-users. He also uses back-to-back trading, where grain sold has a corresponding contract with a grower who is obligated to fulfill the contract.

Jack is not licensed to advise on hedging strategies but keeps growers aware of grain price movements in a weekly newsletter. He also encourages growers to talk with their advisers. Jack said the problem with reporting prices back to growers was that growers were not obligated to sell through the Group and could use the prices to ‘Dutch auction’ a better price elsewhere.

He said back-to-back trading provided the least risk for the group and growers alike.

On the rare occasion, the company will trade a forward contract that is unable to be filled when the contract is due, Jack would either source grain from other members of the group or from outside the group, at the expense of the growers contracted to supply it.

**Key messages**

Developing and fostering strong relationships with growers, buyers and end-users is crucial to the success of marketing grain. Jack said this is achieved only by consistent and regular contact via phone or email. Finding a good dynamic between grower and adviser is important to ensure an effective working relationship.

Jack stressed the key to successful grain marketing was to be precise with all communication. All details should be recorded during sale negotiations and on confirmation. Having a written record of all negotiations allows disputes to be easily resolved.

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**Case Study**

**GRDC Grain market lingo** – What does it all mean?

**Keep communication channels open**

<table>
<thead>
<tr>
<th>Liverpool Plains</th>
<th>NEW SOUTH WALES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Business name</strong></td>
<td>AgVance Marketing</td>
</tr>
<tr>
<td><strong>Location</strong></td>
<td>Liverpool Plains, New South Wales</td>
</tr>
<tr>
<td><strong>Grains traded</strong></td>
<td>Sorghum, barley and wheat</td>
</tr>
<tr>
<td><strong>Annual trading</strong></td>
<td>35,000 tonnes</td>
</tr>
</tbody>
</table>

GRDC Grain market lingo – What does it all mean?
The world marketplace

At a glance

- Price volatility creates risks for growers making production decisions well in advance of their grain sales.
- Growers can track market trends to identify peaks and troughs in the market and identify the most profitable time to sell their grain.
- Knowledge of the marketplace for Australian grain and the major grain exporting countries is also important in identifying potential growth in the grain export industry.

Grain is an internationally traded commodity, with many different elements affecting prices. Grain prices change daily. This price volatility creates risk for growers, who typically are making production decisions six to nine months before the grain will be ready for delivery and sale. Managing price risk uses processes that separate the timing of price setting from the timing of harvest and delivery.

Market trends

Growers can track market trends* for supply and demand using information from the Chicago Board of Trade (CBOT) (see Figure 1). This can assist growers to identify the most profitable times of the year to sell commodities, as seasonality of supply and demand causes peaks and troughs in grain prices over time. Other factors such as drought and costs of production contribute to longer term price cycles.

- In commodity and financial markets, price action moves sideways most of the time, meaning supply and demand forces are roughly in equilibrium or balance. When not in equilibrium, markets move upwards or downwards.
- Underlying market trends need to be identified to determine if changes in price direction are genuine:
  - Use bar charts that record the lowest and highest prices and opening and closing prices for a specific time period (for example, daily, weekly, monthly) to determine underlying market trends.
  - Graph data for a year or more to clearly identify trends.

* See Glossary page 57

FIGURE 1. CBOT Weekly wheat price graph (2002-2008)

Source: ProFarmer
The global market

Australia is a relatively small player in terms of world grain production. During 2005–06 Australia accounted for 6% of total global wheat production (see Figure 2). But in terms of world trade Australia is a major player. Australia exports a large proportion of the national wheat crop (64% during 2005–06) and accounts for 15% of global wheat trade (see Figure 3).

In years when Australia produces an export surplus, world supply and demand set Australian grain prices. If world stocks are high for a particular commodity, annual supply has less of an influence on price. But if world stocks, relative to trade, are low, annual supply strongly influences price.

With changes in the regulation of wheat exports it will become more important for growers to know where the markets are for Australian grain and which countries are major wheat producers, if they are going to be marketing their own grain. There is major growth potential in some of Australia’s main export markets (for example, Africa, Asia, Middle East, Indonesia and Egypt). Figure 4 shows the major export markets for Australian wheat and flour.

Growers who spend all year growing a crop and then sell it on the cash or spot market at harvest, when most other growers are also delivering grain, are exposing themselves to the full consequences of price variability. Simple supply and demand theory indicates that spot or cash prices are likely to be at their lowest when supplies are high and at their highest when supplies are low.
Devising and continually reviewing a marketing strategy that outlines target prices and estimates harvest tonnages are the keys to the success of Brent and Simone Alexander’s grain enterprise near Lockhart, New South Wales.

The Alexander’s crop about 1500 hectares annually and produce, on average about 4000t of wheat, 800t of barley and 700t of canola.

Monitoring daily prices, employing a grain marketer and regularly assessing positions held, are marketing methods employed by Brent and Simone. Using a combination of methods allows the pair to stagger selling and improve cash-flow.

Current marketing methods

How the Alexanders market their grain is determined by the season and market opportunities. Typically they look for the best return at harvest taking into account on-farm storage costs and availability and interest charges.

Forward physical contracts are only signed when they are looking to capture an attractive basis. Most of their forward marketing involves swaps, futures and options.

For the past four years the Alexanders have marketed their grain using these methods and have minimised risk by looking in attractive prices one, two or three years in advance. Forward pricing also means Brent and Simone can capture the Chicago Board of Trade (CBOT) futures price in combination with Australian or United States exchange rates. The basis component of the price is not hedged and this is the part of the price that is most volatile when Australia slips into drought. The biggest decision is whether the current price is attractive enough to lock in.

Most of the Alexander’s bad experiences with marketing have occurred during drought. The pair had forward contracts with a company, which went into receivership. Their contracts were sold and the money from the contracts paid to debtors. This left Brent and Simone exposed to pricing risk for the next harvest and the highest prices for that season gone.

Physically signing contracts can also lead to production risk. During drought, growers can be left with a contract they are unable to fill and prices that are often a long way behind the harvest price.

Brent and Simone prefer not to use physical forward contracts, as they believe the larger companies are often looking to transfer their risk to growers. Large companies tend to take advantage of growers who do not keep up with daily prices and offer prices lower than the current average.
On-farm grain storage

The Alexanders hope to increase their on-farm storage capacity to allow them to market grain through the year as opposed to estimating yields and prices come harvest time. Brent and Simone said marketing grain when the specifications are known is much easier and storing grain on-farm allowed them to price grain from one harvest over years if the prices were attractive. They could also market all grain in the year of harvest, giving Brent and Simone more flexibility.

The Alexanders have one 800t silo and are planning to erect another. They have previously used silo bags and will consider using them again.

Barriers to successful grain marketing

The Alexanders believe that estimating yield is their biggest challenge. The pair expect to hedge part of their crop (between 10-20%) before harvest if prices are favourable. Brent and Simone regularly assess their position and take steps to limit their risk by either pushing the contract out to another year or looking for an opportunity to close-out the position.

The couple’s biggest challenge was estimating tonnages for the 2006 harvest. They said marketing would be much easier if minimum crop estimates were known in advance.

Brent and Simone are always looking to improve their marketing strategies. Simone reads grain marketing information and attends marketing days, asking questions when she needs clarification. She is also looking to further her contacts with end-users to help with the marketing of their grain after harvest.
Using a specialist grain marketing consultant, adopting a mix of marketing methods and making important grain selling decisions before the start of harvest has given Peter Schultz more control over prices received for his grain.

Farming at Nhill, Victoria, Peter produces annually, on average, more than 2000 tonnes of grain from 833 hectares, including 750t of wheat, 500t of barley, 200t of canola and 550t of legumes.

Peter started using a grain marketing consultant about eight years ago in an effort to sustain profitability. He wanted to take more control of his business outside the farm gate and capitalise on the higher end of the grain market.

Deregulation within the grain industry made marketing more complex and while Peter had a solid understanding of the grain industry he felt achieving high grain prices would only be possible with expert advice.

**Being informed**

Peter enlisted the help of a large South Australian grain consultancy firm who have their own farming interests and take a hands-on approach. He uses their weekly newsletter, which summarises grain prices and market trends, to formulate a grain marketing plan for the coming and future seasons. This forward planning ensures critical selling decisions are not left until the end of the season when the pressure of harvest can lead to poor marketing choices.

Peter keeps in regular contact with his consultant, who alerts him to new marketing opportunities. He also invests time in studying markets and trends and regularly attends marketing workshops to increase his knowledge and stay on top of industry changes. Peter said this knowledge was vital to making sound marketing decisions and maximising returns.

**Marketing strategy**

After evaluating all marketing advice, Peter, ultimately makes the final decision on how to sell his grain. For more than eight years his marketing strategy has included a mix of selling methods including a breakdown of cash prices (40%), futures contracts (20%), basis contracts (15%), forward contracts (10%), swaps (10%) and grain pools (5%).

The proportions vary with each season to allow market spikes to be captured. But Peter would be reluctant to increase the proportion of grain sold to pools as he considers too much effort goes into growing the grain to hand over marketing decisions to someone else.

Regularly reviewing his marketing position and keeping in contact with his consultant were the keys to ensuring opportunities were not missed, Peter said.
Cost of production

Peter uses cost of production figures to set target prices and to simplify marketing decisions. He said this was a basic marketing principle for any commodity and the only way to prevent selling at a loss.

With about 2000t storage capacity Peter can store grain at harvest and then market it throughout the year. In 90% of seasons this strategy is employed to even out cash-flow and gain more control when marketing grain.

Excess grain is often warehoused when delivered to a bulk handler as it gives Peter more time to decide on marketing options. Grain can be warehoused for only a few hours or sometimes many months and in the past this strategy has helped Peter achieve significant price advantages even after storage expenses have been deducted.
Grain pricing

At a glance

- There are three components to all grain prices — futures, foreign exchange and basis, and each component has an independent impact on price.
- Futures contracts are a standardised forward contract that is legally binding and traded on an exchange enabling commodities to be sold at a fixed time in the future.
- Exchange rates significantly impact on final grain prices. Most Australian grain is sold in US dollars and then converted into Australian dollars.
- The basis is the difference between the United States futures market price and the price offered for Australian grain.

All grain prices have three components – futures, basis and foreign exchange. Understanding each component and how they impact on price allows growers to apply the same theory to each of the price risk management tools offered by grain marketing companies.

Each component impacts on price – a higher futures and basis and a lower exchange rate will create a higher Australian price.

Movements in the futures market have the main impact on price, followed by foreign exchange, then basis.

Grain price components

Grain price can be broken into three components — futures, foreign exchange and basis. All components impact on price. Movements in the futures market generally have the most influence. While it varies, futures make up about 70% of the price, the balance is made up of foreign exchange and basis.

Breaking grain prices into the individual components can support pricing decisions and help to understand which grain marketing products are best used to price grain.

The relationship of the different grain price components can be expressed in the following way:

\[
\text{Price ($AU/t)} = \frac{(\text{USc/bu futures} + \text{USc/bu basis}) \times 0.3674371}{\text{Australian/US exchange rate ($AU/$US)}}
\]

US futures are quoted in US cents per bushel (USc/bu) and there are 36.74371 bushels in one tonne of wheat grain.
An example of grain price calculation based on the three components (futures, basis, exchange rate)

| Futures price (CBOT – wheat Dec) | 756 USc/bu |
| Basis | +10 USc |
| Exchange rate | $AU = $US0.88 |
| Australian price ($AU/t) | $320/t |

An example of the impact of each of the components (futures, basis, exchange rate)

The different components of the price move over a widely differing range. The following example shows the impact of the different components, based on a shift of 250 USc in the futures prices, a 100 USc movement in the basis and a 10 USc shift in the exchange rate. These ranges have been chosen as they represent a realistic range across which these elements could shift over time.

**EXAMPLE 1. Decrease in futures price of 250 USc/bu**

| Futures prices (CBOT – wheat) | 506 USc/bu |
| Basis | +10 USc/bu |
| Exchange rate | $AU = $US0.88 |
| Australian price ($AU/t) | $215/t |

Results in a 32.8% decrease in the Australian price.

**EXAMPLE 2. Decrease in basis of 100 USc/bu**

| Futures prices (CBOT – wheat) | 756 USc/bu |
| Basis | -90 USc/bu |
| Exchange rate | $AU = $US0.88 |
| Australian price ($AU/t) | $278/t |

Results in a 13.1% decrease in the Australian price.

**EXAMPLE 3. Decrease in exchange rate of 10 USc/bu**

| Futures prices (CBOT – wheat) | 756 USc/bu |
| Basis | +10 USc/bu |
| Exchange rate | $AU = $US0.78 |
| Australian price ($AU/t) | $361/t |

Results in a 12.8% increase in the Australian price.

These examples demonstrate the scale of the impact of the different components on the final price in Australia.
Foreign exchange

The exchange rate significantly impacts on the final grain price received, as most Australian grain is sold in US dollars and then converted into Australian dollars. That is, a lower $AU/$US exchange rate means Australians receive more for each US dollar exchanged and subsequently a higher return for Australian growers.

Exchange rates are hedged through banks, forward exchange contracts or futures markets using $AU/$US futures contracts.

Futures market

The futures market provides the opportunity for buyers and sellers to agree on a price for the sale of a commodity at an agreed time in the future. Price is influenced by the anticipated supply and demand.

- A futures contract is a legal agreement to deliver or take delivery of a commodity, but the contract is not always deliverable. Futures markets can be used to secure a price without having to deliver the commodity.
- The commitment to deliver the commodity is cancelled by ‘closing out’ the contract. In the case of a grower who has sold a futures contract, they would buy a futures contract for the same delivery month thereby cancelling the sold contract and removing the obligation to deliver. Depending on the price movement between selling and buying the grower will either make a profit or loss on the transaction.
- The Chicago Board Of Trade (CBOT) is the largest futures market in the world and is used by buyers and sellers around the world to hedge their price risk. The CBOT is the mechanism around which many of the products offered to local growers are priced.

More detail on futures markets and examples of their use is covered later in this booklet.

Basis price

The Australian grain industry uses the US futures market price as an underlying price, but depending on local supply and demand, quality and a range of other factors, the actual price could be higher or lower than the underlying futures. This difference in price is known as the basis.

- The basis generally is the price in Australia compared with the CBOT wheat futures price. It is calculated in US cents per bushel and is generally quoted in delivered port terms, (Free in Store (FIS) in WA), based on the applicable futures contract (for wheat it is generally CBOT December or March futures).
- The futures and foreign exchange are open traded markets allowing all grain buyers and hedgers to hedge at the same values. Buyers can manipulate the basis, so people keen to buy will offer a higher basis component creating an overall higher price than their competitors. The futures and foreign exchange components will be basically the same.
- A negative basis does not necessarily represent a poor overall price. A more negative basis creates a lower price than a less negative or a positive basis. The basis is referred to as ‘under’ (negative) or ‘over’ (positive) when compared with the futures contract.

Futures values and exchange rates are available on the internet and can be used to calculate the basis component of a price using the following equation:

\[
\text{Basis} = \frac{\text{AU grain price} \times \text{exchange rate} - \text{futures}}{0.3674371}
\]

For example:

- $AU price: $320/t delivered Fremantle Port
- $AU/$US Exchange rate: 0.88
- December futures: 756USc/bu

\[
\text{Basis} = \frac{(320 \times 0.88) - 756}{0.3674371} = 10\text{USc/bu}
\]

The basis is 10c/bu above CBOT December the following year, delivered Fremantle.

The basis can be either positive or negative.

Foreign exchange

The exchange rate significantly impacts on the final grain price received, as most Australian grain is sold in US dollars and then converted into Australian dollars. That is, a lower $AU/$US exchange rate means Australians receive more for each US dollar exchanged and subsequently a higher return for Australian growers.

Exchange rates are hedged through banks, forward exchange contracts or futures markets using $AU/$US futures contracts.
GRDC Grain market lingo – What does it all mean?
The Wimmera Grain Company (WGC) specialises in pulse marketing and processing, working closely with growers and their customers to ensure each party understands what is required to achieve mutual success. Cash prices are taken for about 85 per cent of grain marketed and the remaining 15% of grain is sold using forward contracts.

David and Sam Matthews established the WGC, a privately owned company that specialises in buying, processing and exporting pulses in 1993 at Rupanyup, Victoria. The company created employment opportunities in a small town that was declining as farm size grew. David said adding value to local product seemed to them to be a logical and sustainable industry for their region. Growers benefit from having a local marketer and delivery point and a shortened supply chain where feedback on quality and market requirements is more direct.

David said good communication between growers and end users (for example, malsters, millers, retailers and canners) is essential if they are to improve the ‘value’ of the products supplied. Improving the value is one of the few ways to improve everyone’s profitability.

Strong relationships along the supply chain are essential. Management of the supply chain by identifying who adds value to the process of getting grain to the customers and who is merely ‘along for the ride’ can result in a ‘far more efficient chain’.

**Trading grain**

The company trades about 36,000 tonnes of grain each year. The following table shows a breakdown of the grains and tonnages traded.

Grain is sourced predominately from dryland farmers within a 100 kilometre radius of the processing plant at Rupanyup. David said the low freight cost to the plant is the key determinate of their ability to be competitive. Some high value specialty grains (for example, Azuki beans, navy beans, green lentils and kabuli chickpeas) are grown on irrigation in southern New South Wales and south east South Australia, up to 500km from Rupanyup. Extra freight costs can be absorbed when the value of the product is high.

Specialty grains are usually grown under contract with growers who ‘have the right skills’. Commodity grains are purchased in competition with other buyers and from any grower who can offer their grain to the WGC.
About 85% of grain handled by the WGC is sold into the export market. In some cases this is a direct export into the country of destination and at other times contracts finish alongside the buyers ship at the Port of Melbourne. David said most grains are sold to regular clients and new clients have to pay prior to dispatch or establish export credit insurance before the transaction proceeds. Some grains are packaged down to 2.5 kilogram food service packs for the restaurant trade. David said while it is a very low volume business, it gives a great insight into the different uses for the grains they grow and market.

**Grain marketing**

Because the pulse industry works almost entirely on cash business, the majority of grain (85%) is sold using cash prices and contracts. David said there is little opportunity for futures trading in the pulse industry and they do not have the internal expertise within the WGC to utilise this marketing tool.

With pulses, forward contracts are usually fixed price, tonnage and quality. Problems can arise if crops fail or there is weather damage prior to harvest. As a result, many growers choose to sell pulses at or after harvest to minimise the risk.

Where forward contracts are used (15% of grain sales), multi-grade options are utilised where possible. The WGC starts contracting once the crop is established.

As markets have become less regulated and the domestic market has grown, the WGC has reduced its reliance on pools for cereal grains. For pulses they have had an increased focus on understanding the supply chain and ensuring information flows to all participants.

David uses a broker to help him stay informed where a market is trading. Crop reports from Canada, the Indian subcontinent and other regions of Australia provide an insight into potential supply and demand. Some reports are subscription based and others are published information (for example, USDA projections and Pulse Canada forecasts). Monitoring markets and increasing his understanding of factors, seasonal, domestic and international, that influence and affect grain prices also assists David in improving the way he markets grain.

**Negative experiences**

Like most growers and traders, the WGC has had some bad experiences with the marketing of their grain. Frosted crops late in the season have resulted in an inability to fill forward contracts for canola and chickpeas. Other bad experiences include non-payment for grain supplied into the domestic dairy market and a basis contract for wheat that was taken out as part of a promotion with a third party. This proved to be a costly exercise for all involved as the risks were not explained at the time the contract was taken out.

David said in many ways the domestic market has more risk associated with it compared to the export market. Domestic terms of trade are often open credit for 30 days plus, with no tools available to cover risk. In comparison, the export trade can use tools such as credit risk insurance and letters of credit.

**Barriers to marketing grain**

David said he is still not completely comfortable with using swaps and the futures market so this lack of knowledge and understanding is an issue.

All grain is transported using their commercial semi-trailer and contractors. Freight costs are a major component of ex-farm gate costs and David said anything that improves efficiency in this area is valuable to all participants in the chain. Efficiency in the transport and handling sector is essential if Australian growers are to remain competitive internationally.
Marketing tools to manage risk

At a glance

- Often termed the cash market, the spot market is the simplest method of selling grain.
- Hedging provides protection for growers against adverse price movements over time.
- Forward (cash) contracts provide growers flexibility for up to two years.
- Futures allow growers, traders or buyers to shift the time of pricing grain, limiting risk to the basis risk.
- Options allow buyers and sellers of grain the opportunity to hedge against unfavourable price movements.
- Commodity swaps allow growers to use risk management tools based on futures markets but without the hassle of dealing directly in the futures market.
- Basis contracts allow growers (the seller) to secure a price for a specified tonnage of grain by locking in all three price components separately (futures, foreign exchange and basis) and possibly at different times.
- Pools offer sellers simplicity and flexibility.

There are a number of alternatives for growers to manage price risk. Successful grain marketing involves managing both production and price risk.

Grain price risk management tools are divided into three categories – cash contracts, derivative based products (futures and options, commodity swaps, basis contracts), and pools.

The options for price risk management fall into two broad categories of pre-harvest and post-harvest as shown in the diagram (see Figure 5). While price risk management strategies are most often used before harvest, they also can be used after harvest for stored grain.

How each of the three components — futures, basis and foreign exchange — are combined is what creates the different contracts available for growers.

For example, simple forward cash contracts lock in all three pricing components at the time of contracting. Other types of contracts allow the grower to manage one or all of the components separately.

Although there is an extensive range of grain price risk management tools available, each can be categorised as cash contracts (fixed grade, multi-varietal, multi-grade), derivative based products or pools (finance, managed, harvest or pre-commitment). These represent different methods of managing the three components of price (futures, basis and foreign exchange).
The spot market

The spot market is the simplest method of selling grain. The price received is the market price on that day for grain for immediate delivery. Payment is made under normal commercial terms (for example 14–21 days). The spot market is often termed the cash market. It provides certainty of price, so there is no price risk for the seller or the buyer, but growers must have grain available for immediate delivery to take advantage of the spot price. In the spot market the five contractual elements of quantity, quality, time, place and price are agreed on the spot.

Hedging

Hedging in futures markets, allows sellers and buyers to reduce their risk. Grain growers can lock in a price for their grain during the production cycle well before the grain is due to be delivered. If a grower is wanting to protect against the risk of wheat prices falling the risk of wheat prices falling leading up to harvest, they sell futures contracts. This hedging allows a growers predicted yield to be protected against possible falls in grain prices.

A grower’s position becomes speculative if he sold futures contracts and did not expect to harvest any grain. Movements in price on the futures market against a grower’s original position determine their overall futures position. See page 25 for an example of a hedge using a futures contract and Appendix II (page 49) for taking a position on the futures markets.

Advantages of the spot market

- Simple and effective in securing a price when it is available.
- Grain can be converted into cash immediately.
- There is no price risk.
- Increased flexibility for growers as they can select when to deliver grain.

Disadvantages of the spot market

- Grain must be available for immediate delivery.
- Sales other than at harvest time require the grower to store or warehouse grain, which incurs storage and interest costs (Cost of carry).
- Lacks flexibility — locks away the three pricing components at the same time.

FIGURE 5. Alternatives to manage price risk
Growers can forward contract grain for delivery in the future, with a price being fixed at the time of contracting. Forward contracts can be made for delivery in up to two years time. Their simplicity makes them the most commonly used hedging tool in Australia. The major forward contracts used in Australia are fixed-grade contracts, multi-varietal contracts and multi-grade contracts.

**Fixed-grade contracts**: the grower contracts to deliver a fixed tonnage of a fixed grade at an agreed time and location for an agreed price.
- Fixed-grade contracts are available for all cereals, most pulse crops and oilseeds.
- Fixed-grade contracts often have higher prices than multi-grade or multi-varietal contracts, as there is less flexibility for the seller and higher risk.
- The price is known at the time of contracting and buyers often pay a premium as they know they are receiving a known quality.
- Growers must supply the specified grade. If they cannot, they must either buy grain, negotiate to change the contract to fit the quality grown or ‘washout’ the contract.

**Multi-varietal contracts**: the grower delivers a specified tonnage of grain at a specified price and location. Multi-varietal contracts differ from multi-grade contracts in that they use the varietal payment system rather than payment based on binned grade. Multi-varietal contracts are typically priced $5-$8/t below multi-grade contracts due to the differing risk profile.
- All grades of wheat can be delivered against a multi-varietal contract and grain is generally delivered to a bulk handler such as GrainCorp or CBH. These contracts are priced similarly to the national pool and allow traders to offer growers contracts that are based off pool pricing.
- A multi-varietal payment system (for example, APW, AH, APN) is used rather than a bin grade payment system. This is where payments are made based on the variety of the grain pay grade rather than how the grain is binned. These contracts avoid cliff-face pricing by paying quality increments across a much wider range. The range includes protein (6–16%), screenings (0–10%) and moisture (8–12%).
- The base price (PW) is fixed in and the grower can choose to lock in grade spreads and increments at the time of contracting or at any time up to a specified date in October or November, depending on the grain merchant (at which time the grades spreads will be determined by the merchant).
- If prices rise, the grower cannot take advantage of the increase but if prices fall they have locked in at a specified price.
- If the grower is unable to deliver, they must either buy in grain to fill their contract or washout the contract with the buyer.
- History shows the basis component is often, but not always, relatively low early in the season. When the contract price has been agreed, the seller can not take advantage of any increases in basis levels later in the season.

**Advantages of forward contracts**
- Easy to understand and simple to use.
- No capital outlay needed.
- Growers are protected against price falls.
- Allows a price to be secured for grain before harvest.
- All costs are known at the time of contracting.

**Disadvantages of forward contracts**
- Do not allow growers to take advantage of price rises.
- After signing the contract, growers must deliver the grain as stated in the contract for the pre-determined price.
- Due to the illiquid nature of these markets, contracts are inflexible and difficult to exit if needed. Calculation of washout costs is not transparent.
- Growers are exposed to counter-party risk and buyers may default.
- Prices often contain a weak implied basis, particularly early in the season. These basis levels often do not compensate the grower for taking on the delivery risk.
Washing out a contract

Washing out a contract refers to the process where one party of the contract makes good their position when they are unable to meet their contract commitment. In a grain marketing context this is related to growers who are not able to deliver grain that has been forward sold due to production failure (but traders can also be forced to washout contracts).

When growers do not produce enough grain to meet a forward contract commitment they have two options: They can purchase the quantity and grade of grain required and deliver it to meet their obligations. In this case they avoid having to washout the contract but will have to carry any loss between the purchase price of the replacement grain and the price they receive under the contract.

If the grower cannot deliver, they must either buy in grain to fill their contract or ‘washout’ the contract with the buyer.

Not all multi-grade contracts offer increments for protein, screenings or moisture. This type of contract is termed ‘flat’.

Multi-grade contracts: like multi-varietal contracts, the grower delivers a specified tonnage of grain at a specified price and location.

- All grades of wheat can be delivered against a multi-grade contract and payment is made based on bin grade (i.e. where the wheat is actually binned and according to its quality specifications and not variety).
- There is minimal quality risk to the grower as generally all grades are deliverable on multi-grade contracts.
- Prices are fixed. Grade spreads and increments can also be fixed at the time of contracting or up until a date around delivery depending on the contract.
- If the grower cannot deliver, they must either buy in grain to fill their contract or ‘washout’ the contract with the buyer.
- Not all multi-grade contracts offer increments for protein, screenings or moisture. This type of contract is termed ‘flat’.

Area-based contracts: growers deliver grain from a specified number of hectares.

- Buyer accepts production and price risks.
- The grower and buyer agree on an expected yield before harvest.
- Area-based contracts rely heavily on trust.
- Close communication between the buyer and seller (grower).
Futures markets

To understand how grain is priced, it is important growers are familiar with futures and how they work. Grain futures are the building blocks around which many other grain marketing products are built.

What is a futures price?

Futures are anticipatory markets. A futures price is a consensus of views expressed as a price – a balance between the views of sellers and buyers, and between the anticipated supply and demand for that commodity. Prices rise when there are more buyers than sellers and fall when supplies (futures sellers) are greater than demand (buyers of futures).

Futures contracts are a legally enforceable promise to buy or sell a standardised quality and quantity of grain at some time in the future at the agreed ‘selling price’.

Grain quality, quantity, delivery time and location are standardised in futures contracts, while price is not specified. But only 2–3% of futures contracts are delivered against, most are cash settled.

The price of each month’s futures contract is determined by buyers and sellers placing bids through licensed futures brokers. Prices are determined by supply and demand forces in a regulated commodity exchange. These operate as an open out-cry system on the floor or an electronic trading platform.

The CBOT is the major international exchange for wheat futures contracts. Wheat futures and options contracts are also traded in Australia through the Australian Stock Exchange (ASX). The Winnipeg Futures Exchange in Canada is the main exchange used for hedging canola (See Appendix II, page 51).

A contract to buy or sell anything has five common features – price, time, quantity, quality and place of delivery.

Futures allow growers, traders or buyers to close down price risk to the difference between the underlying futures and the price of the physical commodity – the basis.

Before the advent of more user friendly hedging tools, international futures and options were the only mechanism outside of pools available for growers to obtain price protection without taking on unacceptable levels of production risk. Hedging using international futures and options also requires the management of “basis”.

The advent of ASX Futures in terms familiar to Australian producers helps to overcome some of the problems associated with hedging international futures and options (that international futures prices can move out of line with local prices i.e. in terms of drought in Australia). The ASX offers wheat, barley, canola and sorghum futures.

The ASX Milling Wheat Contract is priced off APW2 wheat quality, is flat on moisture and screenings (does not make quality payments) and pays $0.60 per 0.1% protein within a range of 10–11.4%, which is based on stack averages and not the ticketed receipt (See Appendix II, page 50).

Growers will also need to take into account costs of $3–4/t for brokerage costs, interest cost on margin calls and interest forgone on initial deposits.

Margin account and margin calls

To ensure buyers and sellers in a futures market can meet their contractual obligations they are required to deposit funds in a margin account. These funds cover any movements in the market.

If the movement in the market is large and cannot be covered from the margin account buyers and sellers are required to deposit additional funds. The request for more funds is referred to as a margin call.

Advantages of futures markets

- Liquid markets allow easy entry and exit from the marketplace. Prospective grain sales or purchases can be hedged.
- Growers and traders can shift a large portion of their price risk onto someone else.
- Price transparency as a result of publicly available forward price indicators.
- No counter-party risk as the operation of the margining system guarantees the financial integrity of the contract.

Disadvantages of futures markets

- Growers exposed to basis risk.
- Growers must pay initial margins and maintenance margins in losing futures contracts.
- Standardised contracts cannot be changed to suit individuals’ needs.
- Management and constant monitoring is needed.
- If the market moves against the grower and there is no physical commodity to offset this, large losses can be incurred.
Using futures contracts to manage price risk

A grower with an expected harvest of 3000 tonnes wishes to use CBOT wheat futures to manage the risk of a drop in price.

In March he is prepared to hedge about one third of his expected crop or about 1000 tonnes.

**December futures price = 756 USc/bu**

Exchange rate = $AU = $US0.88

\[
\text{Exchange rate} = \frac{\text{Futures price} \times 0.3674371}{0.88}
\]

Equivalent price in $AU = $316/t

The grower sells 7 futures contracts (each of 136 tonnes) to provide cover for 952 tonnes.

**Outcome — Wheat price weakens**

The market for wheat weakens and the best price the grower can contract just prior to harvest is $AU270/t.

**Outcome — Wheat price strengthens**

The market for wheat strengthens and the grower is able to contract just prior to harvest for $AU350/t.

This example assumes the exchange rate and the basis are unchanged at 88 cents and plus10USc/bu between March and November.

No matter where the market moves to, the grower will receive the price they hedged their grain at. This is because a rise in the market means a loss on the futures but an equivalent gain on the cash market.

### An example of a hedge using a futures contract

<table>
<thead>
<tr>
<th>DATE</th>
<th>CASH MARKET</th>
<th>FUTURES MARKET</th>
</tr>
</thead>
<tbody>
<tr>
<td>March</td>
<td>$AU320/t</td>
<td>756 USc/bu @ exchange rate $AU = $US0.88 Equivalent price $AU316/t Sells 7 contracts Total $AU300,832</td>
</tr>
<tr>
<td>November</td>
<td>Sell 952 tonne physical grain @ $AU270/t Proceeds $AU257,040</td>
<td>636 USc/bu @ exchange rate $AU = $US0.88 Equivalent price $AU266/t Buys 7 contracts Total $AU253,232 Gain on the hedge = $AU47,800</td>
</tr>
<tr>
<td>Total Income</td>
<td>= Proceeds (cash markets) + Gain on hedge = $AU257,040 + $AU47,800 = $AU304,840 = $AU320/t</td>
<td></td>
</tr>
<tr>
<td>March</td>
<td>$AU320/t</td>
<td>756 USc/bu @ exchange rate $AU = $US0.88 Equivalent price $AU316/t Sells 7 contracts Total $AU300,832</td>
</tr>
<tr>
<td>November</td>
<td>Sell 952 tonne physical grain @ $AU350/t Proceeds $AU333,200</td>
<td>830 USc/bu @ exchange rate $AU = $US0.88 Equivalent price $AU347/t Buys 7 contracts Total $AU330,344 Loss on the hedge = $AU29,512</td>
</tr>
<tr>
<td>Total Income</td>
<td>= Proceeds (cash markets) – Gain on hedge = $AU333,200 – $AU29,512 = $AU303,688 = $AU319/t</td>
<td></td>
</tr>
</tbody>
</table>
Options

Options provide both buyers and sellers of commodities the opportunity to hedge against unfavourable price movements while still being able to benefit from price movements that are favourable.

An option on a futures contract gives the buyer the right, but not the obligation to buy or sell a futures contract at a specific price at any time on or before the expiry date of the contract.

Options are like price insurance with the buyer effectively paying a premium to the option provider to take on the risk of the unfavourable movement.

Options have an expiry date and a specific price at which the buyer or seller may buy or sell the underlying futures contract if the option is exercised. This specific price is referred to as the strike price.

The premium payable is dependent on the strike price with the premium being higher for a more favourable strike price for the hedger.

There are two types of options:

- **Put options**: give the buyer the right but not the obligation to sell a futures contract at an agreed price on or before a set date.
  - Put options provide protection from price falls by establishing a floor price.

- **Call options**: give the buyer the right but not the obligation to buy a futures contract at an agreed price on or before a set date.
  - Call options provide protection from price rises by locking in a price ceiling.

All options have four key specified features:

- Underlying futures (the contract on which the option is based)
- Expiry date
- Strike price (the price the underlying futures can be sold or bought at)
- and option premium.

Option premiums are determined by interest rates, the length of the insurance period, price trends, price volatility and the value of the strike price.

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**Advantages of options**

- Limited risk with the only cost to the buyer being the premium (i.e. no margin calls).
- Growers who lose their premium typically receive a price better or equivalent to their ‘insured’ price.
- Growers can participate in favourable price gains.
- Options safeguard against unfavourable price falls.
- Increased flexibility and trading possibilities.

**Disadvantages of options**

- Can be very costly and involve an upfront payment of the premium.
- The value of options erodes over time as time to expiry decreases.
- Need to be monitored constantly.
- If the market moves against the grower and there is no physical commodity to offset this, large losses can be incurred.
An example of a put option to ensure a minimum price

A grower with an expected harvest of 3000 tonnes wishes to cover the risk of a price fall for half the crop by purchasing put options for 1500t.

The December futures market is 697 USc/bu and the price of December options are shown in the following table (assuming $AU at $US0.88).

<table>
<thead>
<tr>
<th>DECEMBER OPTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>STRIKE PRICE* (USc/bu)</td>
</tr>
<tr>
<td>640</td>
</tr>
<tr>
<td>650</td>
</tr>
<tr>
<td>660</td>
</tr>
<tr>
<td>690</td>
</tr>
<tr>
<td>700</td>
</tr>
</tbody>
</table>

To purchase a put option for 660 USc/bu the grower must pay a premium of 69 USc/bu (equivalent to 10.45% of the strike price). At a basis of +10 and an exchange rate of $US0.88 this put option would protect or create an estimated minimum price of around $AU280/t less the cost of the option of $AU29/t assuming basis of +10USc/bu and an $AU at $US0.88).

Each CBOT option contract is for 5000 bushels or 136t of grain. To cover 1500t the grower must purchase 11 contracts.

Cost of put options

\[
5000 \times 0.69 = \$US3450 \times 11 = \$US37,950
\]

Plus brokers commission $US50 per contract = 11x 50 = $US550

Total outlay = $US38,500

Exchange rate of $US0.88

Total outlay = $AU43,750 (equivalent to $AU29/t)

Outcome — Wheat price weakens

During the year the wheat price weakens and the grower sells at harvest for $AU230/t.

December wheat futures are now trading at USc540/bu because this is now lower than the put option strike, the put option has appreciated in value to USc120/bu.

Outcome — Wheat price remains strong

During the year the wheat price remains strong and in October the grower forward sells at $300/t.

Because the price has remained high and the time value of the option has decayed the put options are only worth USc5/bu and the grower sells them.
Commodity swaps

Commodity swaps have been developed by local financial institutions and intermediaries to provide growers with a mechanism to use risk management tools based on futures markets but without the hassle of dealing directly in these markets. Commodity swaps are relatively new for agricultural commodities but have long been around for the metal and energy sectors.

Banks offer growers a swap, which is based off the futures market, but is in terms local growers can understand. For example, December CBOT futures are trading at 756USc/bu (which does not mean much to growers). The bank converts this to $AU/tonne and offers growers the option of hedging in $US/t or $AU/t. Each swap is in 100t lots. In this example 756USc/bu futures at an exchange rate of $AU = $US0.88 equates to a swap of around $316/t = (756 x 0.3674371)/.88. Banks generally take a margin of about $5/t and so the swap would be offered to the grower at $311/t.

Swaps are a composite of the futures and foreign exchange components, quoted in Australian dollars. They give sellers a tool to hedge the futures and foreign exchange components without the need to deal with a futures exchange, make a physical grain commitment or lock in the basis.

Swaps give growers an ‘international’ price to which they add or subtract the basis against the swap when the physical grain is actually sold. They allow growers to protect futures and exchange rate risk while leaving basis open. This has worked in favour of Australian growers as basis has generally improved throughout the year.

Basis is set when the seller physically sells the grain. Leaving the basis open means growers are not exposing themselves to delivery risk and are able to sell their wheat to the bidder that is posting the highest basis (best physical price) on the day.

Advantages of swaps

- No requirement to deliver grain so there is little delivery risk.
- There are no initial or maintenance margins (unlike using futures and forward exchange contracts). The profit or loss of the swap is incurred when it matures.

Disadvantages of swaps

- Swaps protect the grower from movements in the underlying physical commodity. If there is no physical commodity underlying the swap position, effectively the grower is speculating on price movements. If the market moves against the grower and there is no physical commodity to offset this, large losses can be incurred.
- Swaps do not have transparent costs as the operator’s margin is hidden in the swap price. This means the seller receives a lower futures price and/or a higher exchange rate than what could be achieved using futures directly (the cost of a swap or the margin that the operator takes is in part compensation for them having to meet margin calls on behalf of the grower). The operator’s margin is not a set amount and can be charged when the swap is established and when it matures.
In March, to protect his position against a fall in wheat prices at harvest, a grower takes out a swap that matures on November 30.

At a futures price of 756 USc/bu and the exchange rate is $AU = $US0.88 the equivalent price in $AU is $316/tonne. The bank takes a $5 margin and offers the swap to the grower at $311.

At maturity on November 30 the price of the swap is determined by the futures price and the exchange rate at that time.

If grain prices have increased in the intervening time the price at maturity will be greater than the price of the swap and the grower must pay the bank the difference. This is offset by the increased price the grower gets for the sale of the physical grain at harvest.

If grain prices have fallen, the price at maturity will be lower than the price of the swap and the bank will pay the grower the difference. This compensates the grower for the lower price received for the sale of the physical grain.

Each of the outcomes is also influenced by any changes in the exchange rate between March and November and the following example shows the different outcome achieved when both the futures price and the exchange rate change over time.

**OUTCOME — WHEAT PRICE STRENGTHENS AND EXCHANGE RATE STRENGTHENS**

| Futures price | 656 USc/bu |
| Exchange rate | $AU = $US0.93 |
| Maturity price | $AU259/t |
| Outcome | Bank pays the grower (311 - 259) = $52/t |

**OUTCOME — WHEAT PRICE STRENGTHENS AND EXCHANGE RATE STRENGTHENS**

| Futures price | 856 USc/bu |
| Exchange rate | $AU = $US0.93 |
| Maturity price | $AU338/t |
| Outcome | Grower pays the bank (338 - 311) = $27/t |

**OUTCOME — WHEAT PRICE STRENGTHENS AND EXCHANGE RATE STRENGTHENS**

| Futures price | 656 USc/bu |
| Exchange rate | $AU = $US0.83 |
| Maturity price | $AU290/t |
| Outcome | Bank pays the grower (311 - 290) = $21/t |

**OUTCOME — WHEAT PRICE WEAKENS AND EXCHANGE RATE WEAKENS**

| Futures price | 856 USc/bu |
| Exchange rate | $AU = $US0.83 |
| Maturity price | $AU379/t |
| Outcome | Grower pays the bank (379 - 311) = $68/t |

**OUTCOME — WHEAT PRICE WEAKENS AND EXCHANGE RATE WEAKENS**

| Futures price | 656 USc/bu |
| Exchange rate | $AU = $US0.83 |
| Maturity price | $AU379/t |
| Outcome | Grower pays the bank (379 - 311) = $68/t |
Basis contracts

Basis contracts allow the seller to secure a price for a specific tonnage of grain by locking in the three price components (futures, exchange rate and basis) separately and possibly at different times. The end result is a price in Australian dollars, similar to a multi-varietal or multi-grade contract, but each price component has been managed individually.

Basis contracts became available when forward fixed and multi-grade contracts with fixed basis had an unacceptable delivery risk for most growers. Basis contracts allow growers who experience a production failure an escape clause from physical delivery, as long as the basis leg is not set (although the grower will still be exposed to the futures or foreign exchange leg that has been locked in). As a general rule, when the basis is set, the contract essentially becomes a forward contract (multi-varietal or multi-grade) and takes on the same risks with regards to non-delivery.

Basis contracts can be non-deliverable (i.e. they perform like a swap). If crops fail, growers can exit the basis contract by buying back the futures and currency legs.

These contracts are most suitable when one or two of the price components are at attractive levels. This allows the attractive components to be locked in, leaving the others until they have improved. The three price components need to be fixed at levels that create an attractive price. A strategy often used is to fix the currency and futures components at the same time and leave the basis component un-set until closer to harvest, when it has historically strengthened.

The basis and its management

The basis is the difference between the cash price and the futures price of the commodity at any point in time.

\[ \text{Basis} = \text{Cash price} - \text{Futures price} \]

Factors that affect the basis include:

- Differences in specification of the physical grain being sold and the standard specification of the futures contract.
- The location of the grain being sold and the futures market. Grain in Australia is a long way from Chicago.
- Differences in local supply and demand compared to global supply and demand. A good crop in the northern hemisphere and a localised drought in Australia is likely to see the local cash price gain against the futures price.

The basis accounts for between 10–20% of the price of wheat in Australia. Typically the basis is not as volatile as the futures prices. Changes in basis are usually related to underlying shifts in local supply and demand.

The impact of the basis on price risk management:

If the basis is stable, changes in the futures will be reflected in changes in the cash price. In this situation, futures contracts provide an appropriate risk management tool.

Strengthening and weakening basis:

If futures price decreases compared to the cash price over a period the basis is referred to as ‘strengthening’. In this case growers using futures contracts will get the benefit of the hedge plus some additional upside from the sale of the physical grain, because the basis has increased.

Conversely if the cash price falls compared with the futures price or the futures price increases compared to the cash price the basis is said to be ‘weakening’. In this situation, growers using futures contracts will get the benefit of the hedge but the return will be reduced due to a lower price from the sale of the physical grain.

Advantages of basis contracts

- Components can be managed separately and locked in at different times to maximise the futures and basis levels and minimise the exchange rate.
- If the basis is not locked in, sellers can unwind their futures and exchange rate components without facing a washout risk on the basis component.
- The final return is paid in Australian dollars. Profits or losses incurred by the futures or foreign exchange components are managed by the buyer and deducted or added to the final payment.

Disadvantages of basis contracts

- Need to be managed and have some knowledge of how each of the markets work.
- Commitment to deliver to a fixed basis contract with a particular buyer, restricts the seller to the basis offered by that buyer.
Pools

Pools have traditionally been the backbone of grain marketing in Australia because they offer sellers simplicity and flexibility.

AWB’s National Pool was once the benchmark for wheat, but there is now a wide range of alternative pools available that offer sellers access to a range of different risk management strategies, finance options and payment systems.

Comparing different pools requires the seller to take into account the risk management strategy, accuracy of estimates, cashflow and tax implications, supply chain costs, management fees and payment systems and costs.

Pools are undergoing fundamental changes for the 2008-2009 marketing year. At the time of writing, the details are still emerging, so growers should critically evaluate the structure and rules that apply to the different pool offerings.

Pools are expected to fall into two broad groups:

- **Harvest Pools:** Growers deliver grain at harvest time. As the pool manager does not know how much grain they will receive, it is likely there will be no pre-harvest selling or hedging. There will be no guarantees that pools will stay open all harvest, rather they may close and a second or third pool may open.

- **Contract Pools:** Growers will contract tonnage into pools pre-harvest. These pre-harvest contracts may have a premium paid to the grower over the average pool outcome, to reward the grower for that commitment. This allows the pool manager to start pre-selling grain prior to harvest.

Under these two broad pool categories, pool managers are expected to offer a range of options that relate to:

- **Financing of pool payments:**
  - Is it a distribution pool, with no payment on delivery but where payments to growers are made progressively as pool grain is sold?
  - Is it a harvest loan, with the loan being paid off as pool distributions are made?
  - Is it an advance payment against the grain with the funding cost embedded into the estimated pool return?

- **Hedging strategy:** This is like superannuation where growers can choose from a conservative selling strategy, through to a more aggressive and higher risk/higher return strategy.

- **Region specific pools:** e.g. east coast and west coast pools.

- **Product or grade specific pools.**

Before making any decisions, growers must ensure the credentials of the various pool managers and understand the pool package that is being offered.

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**Advantages of pools**

- Sellers are not involved in the management of the pool. That is undertaken by professional marketers.
- On harvest pools, pre-commitments are not required; so there is no production risk involved.
- Allow physical sales to be spread over a longer period.

**Disadvantages of pools**

- Due to the larger size of pools, the risk cannot be fully hedged, so the estimated returns can fluctuate until the pool closes about 15 months after harvest.
- Pre-harvest pools require growers to contract grain and involve some production risk.
Southern New South Wales grain producer Ben West has added grain swaps and hedges to his marketing strategy with an aim to improve returns from average yield potential and reduce the impact of crop failures.

Ben farms 4000 hectares at Ungarie, NSW, and converted to no tillage cropping in an effort to operate a sustainable, low input, continuous cropping enterprise on his marginal farming land. Despite the high cost of grain production and ever-changing grain markets Ben now targets the most lucrative markets. He aims to maximise grain prices and profit at all times and uses cost of production figures to set minimum selling prices.

Ben adopted marketing tools such as futures and swaps two years ago after financial losses from drought and crop failures and he now considers the tools just as important as stubble retention and healthy rotations. The marketing tools help insure against poor seasons and fluctuating prices with the advantage that a physical commodity is not needed and there are no penalties for not meeting quality standards. Ben also tried weather derivative products but said they were an expensive way of insuring against poor seasons.

Marketing options

Ben uses a range of methods to market his annual production, which includes on average 5000 tonnes of wheat, 300t of barley, 1500t of oats, 500t of canola and 500-1000t of legumes.

Generally 30% of the crop is sold for a cash price, grain pools (10%), swaps (40%), hedging (10%) and supply arrangements (10%). The mix helps to spread risk, is tailored to suit the season and crop rotations, and takes advantage of new marketing products.

Cash prices are only used as an opportunistic means of boosting cash flow and overcoming grain storage problems, while grain pools are used when income needs to be deferred and when prices are at a premium. Options are used to lock minimum grain prices into enterprise budgets. Drought and climate instability have made non-deliverable hedging more attractive and as a result Ben is likely to hedge a greater portion of this season’s crop.

Deliverable contracts lose favour

Due to costly wheat and canola contract washouts following the 2003 drought Ben is reluctant to enter into forward contracts unless the grain is already in storage. He said forward contracts with the large marketers were too expensive and inflexible and as such only considers contracts with direct links to end-users.

Ben has formed long-term supply arrangements with end users based on solid relationships and two-way communication. They have adjustable criteria relative to quality and daily grain availability but generally start from a fixed base price, which is beneficial to both parties. Ben is looking to develop more of these supply arrangements particularly where failure to produce is not penalised.
Using storage smartly

Ben said producing large quantities of grain could make forward planning easier and many end-users preferred larger lots. A grain storage capacity of 3500–4000t including silos, sheds and grain dumps allows Ben to store grain for their lamb enterprise and manage cash flow. He stores all grain if harvest prices are low and sells once prices improve.

Ben hopes to gradually add to his storage capacity to further manage price risk and to provide a form of insurance for his sheep and lamb enterprises.

Barriers

Location and logistics can limit competitiveness in some markets, particularly in Victoria, where local producers have better access and a freight advantage to supply dairy producers. Time could also impact on the business and Ben said allocating and spending more time on marketing his grain was vital to improving marketing outcomes.

Ben prefers to consult specialist grain marketers when he needs information rather than employing a broker on a regular basis. While generally happy with his grain prices there was always room for improvement Ben said.
The Young family, Calingiri, Western Australia, have a saying when marketing their grain — you cannot go broke by locking in a profitable price. Even when the market is rising they see securing a price as a profitable, wise decision.

The Youngs have been proactively marketing their grain for about four years. Ruth has a background in grain marketing and is reasonably confident with the contracts and hedging options available. But, advice is still sought for futures trading.

**Marketing strategies**

The Youngs prefer fixed price contracts, either cash or basis type contracts, over pools for two reasons; one, pools are unpredictable and cash pricing gives a definite price and two, pools are paid out over time compared with cash contracts that are paid out soon after delivery.

The Youngs are comfortable with committing up to 30 per cent of their estimated wheat crop before July, with higher percentages committed later in the year depending on the season. Basis style contracts are used to help minimise the risk of a contract washout.

If the price is right the Youngs believe simple cash contracts are the ideal marketing tool. But, basis-style contracts offer a profitable alternative when the pricing levels of cash contracts are not suitable. Basis style contracts provide flexibility but require more management and understanding and come with their own set of risks.

When using pools the Young family make their decisions based on the past performance of the company offering the pool, current estimates of both the gross returns and the estimated costs and the pool manager’s advertised strategy and aims for the pool (see Table).

**Lessons learnt**

Locking in good prices when the opportunities arise as well as understanding the contract on offer are the Young family’s main marketing strategies.

It is important the contract is for enough tonnes to make a difference to their bottom line. For example securing a great price for 100t out of 3000t is not going to result in a significant difference in profitability or price risk management.

The Youngs believe market research and knowledge of the contract are the keys to profitable, problem-free marketing.
The Young’s five rules to successful grain marketing

• Develop a plan, update it regularly and use it.
• Have a sound understanding of the key components of grain pricing such as futures, foreign exchange and basis.
• Understand the grain handling costs and other fees to be deducted from returns.
• Understand the differences between the prices and contracts offered by different buyers.
• Stay in touch with grain buyers and always phone around for the best price on the day. Do not be afraid to ask for the price you want.

<table>
<thead>
<tr>
<th>CROP</th>
<th>MARKETING STRATEGY</th>
<th>% OF CROP MARKETED USING THIS TOOL</th>
</tr>
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<tbody>
<tr>
<td>Wheat</td>
<td>Pools</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Basis style contracts (hedging, futures, foreign exchange)</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Forward cash contract or cash at harvest</td>
<td>50</td>
</tr>
<tr>
<td>Legumes</td>
<td>Forward cash contracts</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>Cash at harvest</td>
<td>50</td>
</tr>
<tr>
<td>Canola</td>
<td>Forward cash contracts</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>Cash at harvest</td>
<td>60</td>
</tr>
</tbody>
</table>
Norm Jenzen, Cunderdin, Western Australia crops 4000 hectares annually yielding 4000 tonnes of wheat, 1500t of barley, 600t of lupins and 150t of oats. He markets at least half his grain annually taking cash prices and says the positive of cash prices is the known income which assists with cashflow management. Grain pools are used to market 30 per cent of grain and the remaining 20% is marketed using futures and basis contracts.

Seasonal conditions and opportunities have seen the percentage of grain marketed using cash prices increase during the past few years.

Norm said they have used the current marketing methods – cash prices, pools and futures and basis contracts – for the past eight years. These methods provide price protection on a percentage of their crop sown (20%) prior to sowing, a known price that assists cashflow management and pools defer income and spread their risk.

Unseasonal conditions can present issues when marketing grain using forward markets such as futures and basis contracts. Norm said the most difficult part of the process is trying to estimate crop production. He also suggests using basis and futures contracts initially with only small grain parcels so growers can ‘test the water’ and get a feel for how the process works. He said it is easy to watch the markets and say that is what you would or would not have done at particular times, but when you have money involved you learn very quickly. Norm also suggests growers utilise non-deliverable contracts such as swaps early in the season until they are more certain about their crop production.

Prices for barley are normally secured the same day the grain is delivered to the silo. For wheat, Norm uses the services of a grain marketing consultant who advises him to warehouse the grain and market grain parcels according to quality.

**Word of warning**

Norm warns about delivering on time to cash contracts. He said they have cancelled contracts when they have been in the money but have not delivered the grain on time.

It is important growers read contracts carefully and fully understand their requirements and commitments as part of the contract they are signing. Be organised, check contracts regularly and keep in close contact with the company with which the contract has been taken out.

Using a marketing consultant or broker who monitors the market on a daily basis on behalf of their clients and who has a range of contacts is beneficial to any businesses’ grain marketing programme Norm said, particularly when trading on the futures market and utilising basis contracts.

**Successful grain marketing**

Norm suggests the keys to successful grain marketing are having good relationships with your buyers and keeping them informed on how the season is progressing.

Ensure your buyers are reliable at paying as the best price is not the best option if you do not get paid.
A range of grain marketing methods spreads the risk and ensures one South Australian farming partnership remains profitable and sustainable.

The partnership farms 1300 hectares at Cummins, SA, cropping about 1000ha of the property annually and producing on average 1400 tonnes of wheat, 600t of barley, 100t of oats and 400t of oilseeds. The entire crop is sold to the export market with transport costs making the domestic market unviable.

The partnership has found success with a range of marketing methods during the past five years. Each harvest cash prices are used for 35 per cent of grain sales, grain pools (35%), forward contracts (15%) and basis contracts (15%).

Until five years ago the business sold grain to the national pool or for cash prices at harvest. But the wide range of marketing options available prompted the business to change their tack. Grain is now forward sold up to 2-3 years in advance and grain pools are mainly used for wheat and barley.

Forward contracts allow growers to lock in a price before harvest but do not allow growers to take advantage of any price increases in the market. The business takes out multi-grade forward contracts for sales of wheat, barley and canola.

The business relishes the flexibility offered by basis contracts and the help it provides with managing one or more of the three price components (futures, foreign exchange and basis). Fixed basis contracts are used, allowing the locking in of the futures, currency and basis.

But basis contracts need to be constantly managed and if all components do not move in a positive direction returns can be affected.

During the 2006 growing season, the business used basis contracts but the basis moved in the wrong direction, resulting in contracts being washed out. But this turned out to be a better option than delivering the grain against the contracts. During 2005 the business took out basis contracts for the 2007–08 and 2008–09 harvests. Since then futures prices have risen significantly and the business bought back the 2007–08 futures.

The business enlists a grain broker to help with marketing decisions and receives quarterly newsletters and regular grain marketing updates. Grain marketing updates are received daily from October to February and weekly for the remainder of the year. Regular contact with the broker is maintained throughout the year.

Using a planned marketing approach allows the business to forward plan and achieve short, medium and longer term goals. The business plan aims to improve productivity and plan for the business and family needs. The financial performance and position of the business is regularly reviewed to ensure cash generated is adequate to meet farm input costs. It is also believed the business needs to continue to improve their knowledge and understanding of grain marketing strategies to maintain a successful business into the future.
Scott Chirnside, Inverleigh, Victoria, believes a knowledge of world markets, growing a quality product and taking different approaches to obtaining premium prices are the keys to successful grain marketing.

Scott said in the long term, better specification and gathering together of large quantities of similar grain to provide buyers with consistency, quality and predictable performance will enable long-term relationships to develop and above average prices to eventuate. This is opposed to thinking of grain as a bulk commodity.

Scott aims to run a diverse agricultural-based operation in which profit, the environment and sustainability share equal value with the quality of their products and the lives of their participants. He crops 1350 hectares of his 2400ha property producing, annually, 2200 tonnes of wheat, 2700t of barley and 1000t of oilseeds.

**Marketing grain**

Basis contracts are used to manage all three price components forming the core of Scott’s marketing.

This has particularly become the case during drought years and when frost has been an issue. Scott uses basis contracts to market 50 per cent of his grain annually. The failure to produce expected yields during the 2006 harvest indicated up to 75% of the crop would have been better-priced using basis contracts.

Scott began forward marketing, grasping attractive forward physical contracts and some currency hedging, during 2000-2001. But basis contracts gave the company the ability to lock in both currency and commodity prices at or near their peaks or at a position they believed was good.

Barley had not been marketed this way, as there was a lack of world exchange for malt or feed barley of the similar size to Chicago for wheat and Winnipeg for canola.

Scott said basis contracts were particularly lucrative during the 2002 drought when the Chicago price was high and currency positions were good. Locking in these high prices with a solid basis position returned $336/t for some large quantities of wheat. Even though yield was down, gross margins still exceeded $1400/ha.

Educating and forming relationships with feed grain end users could allow Scott to take some opposite positions to growers on basis contracts and provide both sides with a win.

Scott uses forward contracts (25%), mainly multi-grade contracts for wheat and barley, cash price (15%) and grain pools (up to 5%) to market the remainder of his grain. Grain pools are only used to market grain that is above their budget. During drought, the percentage of grain marketed using cash prices may increase if grain is held on-farm to sell locally.

Scott said there were often risks with forward physical positions in canola for example, during the 2006 harvest. Frost and wind completely wiped out Scott’s canola crop, resulting in contracts being washed out and rolled over, impacting on cashflow when it was at its lowest. In the future, Scott will limit himself to basis contracts and not lock in the basis until he knows he will have a crop to market.

Barley from the 2006 harvest was stored on-farm before being sold off-farm for $290-$300/t to save on transport costs to Geelong. Scott was also able to capitalise on the significant increase in feed demand from the livestock industry.
Nathan Wheeler believes trying new approaches while remaining conservative and spreading the risks are the keys to successful grain marketing.

Nathan crops 1000-1200 hectares of his property at Nhill, Victoria producing annually about 1400 tonnes of wheat, 1000t of barley and 250-300t of legumes.

For the past four years Nathan has used cash prices to market about 50 per cent of his grain, pools (30%), futures contracts (15%) and forward contracts (5%). These marketing methods have allowed him to spread the risk and find comfort in knowing a percentage of the crop is locked in prior to harvest. It also spreads cash flow throughout the year.

**Forward markets**

Nathan is looking to increase the percentage of his crop marketed using futures and forward contracts. He said using marketing tools such as forward (multi-grade and tonnage based contracts) and futures contracts offer him more flexibility in the marketing of his grain. The positives include the assurance of a good price early in the year, protection against price falls and the ability to set benchmarks.

Using forward contracts means growers must set target prices before the amount of grain to be marketed is known. As harvest approaches and production is guaranteed growers can commit more grain as costs are locked in and more accurate estimates can be made for grain yield, leaving only a small tonnage to sell or store on-farm.

But Nathan warns that if the season does not turn out as predicted, contracts need to be carefully monitored. The likely reduced yields and production costs and profit margins will need to be recalculated and higher target prices set. If there is concern about being unable to deliver, growers need to either buy grain to fill their contract or ‘washout’ the contract early.

During the drought Nathan has had to washout some contracts early at minimal cost. He also said selling to the highest bidder was not always the best option, as there had been cases where they had to chase up payments.
Grain consultants

Specialist grain consultants are an important part of Nathan’s grain marketing strategy. Nathan receives daily emails from the Australian Wheat Board along with electronic newsletters from his grain consultant detailing futures market trading and current market updates. He also receives daily text messages from Elders with current grain market prices. Nathan keeps in regular contact with his marketing consultant, speaking with him two to three times a month and uses the information received on email and via text messages to assist in key marketing decisions.

Hurdles

Transport of grain to end users and markets is also an issue for Nathan. The family does not own a large semi trailer and with no full-time staff it is a juggling act to get everything done. Nathan said researching and working with a grain-marketing consultant had helped him manage his time more effectively.

Nathan believes having larger tonnages to trade, such as 1000t or more, opens up market avenues and allow growers to deal directly with malsters and large companies, rather than going through grain traders. The larger companies deal with one person rather than buying small grain parcels from a number of people and growers can stagger their delivery times.
Converting prices back to the farm gate

At a glance

- Converting prices back to an on-farm price allows them to be compared on a common basis.
- When calculating farm gate prices it is important to account for all costs.
- Farm gate prices are the actual dollars producers receive for their grain.

Grain prices need to be compared on a common basis to ensure maximum farm gate returns. Converting price bids back to a common farm gate (on-farm) price allows growers to easily compare commodity prices regardless of the delivery point and also compare storage, freight and handling costs. Farm gate prices are equivalent to the actual dollars received for the grain.

There are five delivery points for grain price quotes:

- On-farm
- Local silo
- Delivered port
- Gross
- Free on board (FOB).

All costs need to be accounted for when calculating farm gate prices (see example). Farm gate prices will differ between growers depending on the distance from the farm to the delivery point.
How to convert prices back to farm gate

Converting pool prices:

Farm gate (on-farm) price = FOB – {storage and handling + finance and underwriting + transport costs (farm to silo) + levies and interest + silo to port}

Pool = APW FOB (Junee, NSW) = $440.16

- Storage and handling = $27.39
- Finance = $11.91
- Underwriting = $2.02
- Transport costs = $10.00
- Levies = $3.65
- Silo to port = $19.70

So,

Farm gate price = $440.16 – (27.39 + 11.91 + 2.02 + 10.00 + 3.65 + 19.70)
= $365.49

Converting delivered port prices:

Farm gate (on-farm) price = Port price – freight costs = Silo equivalent price – {transport charges (farm to silo) + levies}

Port price (Port Kembla, NSW) = $505.00

- Freight costs = $22.26
- Transport costs = $10.00
- Levies = $3.00

So,

Farm gate price = $505.00 – 22.26
= $482.74 (silo equivalent price) – (10.00 + 3.00)
= $469.74

Converting Free in store (FIS) prices*:

Farm gate (on-farm) price = FIS – {CBH receival + grain assessment costs + rail freight + transport costs (farm to silo) + levies}

FIS (flat price Kwinana port zone) = $374.50

- CBH receival costs = $8.30
- Grain assessment costs = $1.05
- Rail freight (MGC site) = $5.27
- Transport costs (farm to silo) = $10.00
- Levies = $3.00

So,

Farm gate price = $374.50 – (8.30 + 1.05 + 5.27 + 10.00 + 3.00)
= $346.88

* Converting FIS prices is only relevant to WA growers.
### Additional information sources

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<tr>
<th>Acronym: ABARE</th>
<th>Full name: Australian Bureau of Agricultural and Resource Economics</th>
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<tbody>
<tr>
<td>Website: <a href="http://www.abareconomics.com">www.abareconomics.com</a></td>
<td>Role: ABARE is an Australian Government economic research agency providing independent research and analysis.</td>
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<th>Acronym: ABB</th>
<th>Full name: ABB Limited</th>
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<tr>
<td>Website: <a href="http://www.abb.com.au">www.abb.com.au</a></td>
<td>Role: Provides grain storage, processing, logistics, marketing and trading services.</td>
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<th>Acronym: ABS</th>
<th>Full name: Australian Bureau of Statistics</th>
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<tr>
<td>Website: <a href="http://www.abs.gov.au">www.abs.gov.au</a></td>
<td>Role: ABS is an Australian Government statistical department that publishes a whole range of national and state statistics.</td>
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<tr>
<th>Acronym: AGEA</th>
<th>Full name: Australian Grain Exporters Association</th>
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<tr>
<td>Website: <a href="http://www.agea.com.au">www.agea.com.au</a></td>
<td>Role: To provide efficient access for Australian grain to international markets and involvement in all aspects and at all levels of the grain trade.</td>
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<th>Acronym: AOF</th>
<th>Full name: Australian Oilseeds Federation</th>
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<tr>
<td>Website: <a href="http://www.australianoilseeds.com">www.australianoilseeds.com</a></td>
<td>Role: An industry organisation designed to promote Australian oilseeds through better communication between industry and customers, industry lobbying and provision of standards and protocols for trading.</td>
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<th>Acronym: ARMS</th>
<th>Full name: Agricultural Risk Management Services</th>
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<td>Website: <a href="http://www.arms.graincorp.com.au">www.arms.graincorp.com.au</a></td>
<td>Role: Provides specialist grain and oilseed price risk management products, market reporting, financial product advice and training services to agricultural producers and consumers.</td>
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<th>Acronym: ASX</th>
<th>Full name: Australian Stock Exchange</th>
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<td>Website: <a href="http://www.asx.com.au">www.asx.com.au</a></td>
<td>Role: Provides a secure method of trading shares in publicly listed companies.</td>
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<td>Website: <a href="http://www.awb.com.au">www.awb.com.au</a></td>
<td>Role: Provides finance, insurance, commodity risk management, rural merchandise, fertiliser and livestock markets, real estate and wool through Landmark.</td>
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<th>Acronym: No acronym</th>
<th>Full name: Agracorp Pty Ltd</th>
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<tr>
<td>Website: <a href="http://www.agracorp.com.au">www.agracorp.com.au</a></td>
<td>Role: A subsidiary of CBH Group offering a range of grain marketing products.</td>
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**Acronym:** No acronym  
**Full name:** Cargill  
**Website:** www.cargill.com.au  
**Role:** Provides grain, beef and cotton marketing, and commodity risk management services to producers. Cargill also provides grain storage and handling and flour milling services.

**Acronym:** CBOT  
**Full name:** Chicago Board of Trade  
**Website:** www.cbot.com  
**Role:** A global commodity futures exchange that trades treasury bonds, corn, wheat, soybeans and minerals.

**Acronym:** CBH  
**Full name:** CBH Group  
**Website:** www.cbh.com.au  
**Role:** A WA cooperative that stores, handles and markets grain.

**Acronym:** No acronym  
**Full name:** CBH Grain  
**Website:** www.cbhgrain.com.au  
**Role:** A subsidiary of CBH Group offering a range of grain marketing products to SA and VIC growers.

**Acronym:** CWB  
**Full name:** Canadian Wheat Board  
**Website:** www.cwb.ca  
**Role:** A grower-controlled organisation that markets wheat and barley grown by western Canadian growers. It is the largest marketer of wheat and barley in the world accounting for more than 20% of the international market.

**Acronym:** No acronym  
**Full name:** Elders  
**Website:** www.elders.com.au  
**Role:** Provides finance, insurance, commodity risk management, rural merchandise, fertiliser and livestock, wool and real estate marketing.

**Acronym:** Emerald  
**Full name:** Emerald Group  
**Website:** www.emerald-group.com.au  
**Role:** Offers grain pools, finance, and risk management services in all States.

**Acronym:** No acronym  
**Full name:** Glencore Grain  
**Website:** www.glencoregrain.com.au  
**Role:** Provides grain marketing services to growers.

**Acronym:** No acronym  
**Full name:** GrainCorp  
**Website:** www.graincorp.com.au  
**Role:** Bulk grain storage, handling, marketing, merchandising and logistics.

**Acronym:** GCA  
**Full name:** Grains Council of Australia  
**Website:** www.grainscouncil.com  
**Role:** National organisation representing the interests of Australia's 30,000 grain growers through State partners.
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<th>Acronym</th>
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<tr>
<td>GGA</td>
<td>Grain Growers Association</td>
<td><a href="http://www.graingrowers.com.au">www.graingrowers.com.au</a></td>
<td>South-east Australian grower organisation providing members with one voice and support.</td>
</tr>
<tr>
<td>GPWA</td>
<td>Grain Pool Pty Ltd</td>
<td><a href="http://www.grainpool.com.au">www.grainpool.com.au</a></td>
<td>Specialist marketing organisation that exports WA grain (barley, lupins, canola, pulses and cereals) worldwide.</td>
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<tr>
<td>NACMA</td>
<td>National Agricultural Commodity Marketing Association</td>
<td><a href="http://www.nacma.com.au">www.nacma.com.au</a></td>
<td>Provides the grain trading industry with standards, trade rules, contracts and dispute resolution and a voice on industry issues.</td>
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<tr>
<td>ProFarmer</td>
<td>ProFarmer Australia</td>
<td><a href="http://www.profarmer.com.au">www.profarmer.com.au</a></td>
<td>Supplies independent information on agricultural news, farming information and strategic grain marketing advice for growers and agribusiness.</td>
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<tr>
<td>ASX</td>
<td>ASX Corporation (Australian Stock Exchange)</td>
<td><a href="http://www.AsX.com.au">www.AsX.com.au</a></td>
<td>Provides exchange-traded and over-the-counter financial services.</td>
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</table>
**Acronym:** WEA  
**Full name:** Wheat Exports Australia  
**Website:** www.wea.gov.au  
**Role:** The government regulator that manages the accreditation of bulk wheat exporters, monitors compliance of exporters under their export licenses, conducts audits of exporters and investigations under the direction of the Minister.

**Acronym:** WGA  
**Full name:** Wheat Growers Association  
**Website:** www.wheatgrowers.com.au  
**Role:** WA based lobby group to protect the interests of A-class AWB shareholders (wheat growers).

**Acronym:** WCE  
**Full name:** Winnipeg Commodity Exchange Inc  
**Website:** www.wce.ca  
**Role:** The Exchange trades agricultural commodity futures contracts and options on futures contracts for canola, feed wheat, and western barley.
GRDC Grain market lingo – What does it all mean?
Appendix I

Futures markets and hedging — taking a position

Hedging is the term used for the management of price risk using the futures market. Establishing an equal and opposite position in the futures and cash markets, allows growers, buyers and end-users to protect themselves against adverse price movements.

- **Short hedge**: the grower faces the risk that prices will fall between the time of sowing crops and selling grain. Sellers can counter this risk by selling futures to protect against future price falls. This is known as a short hedge or going short.

- **Long hedge**: the buyer faces the risk of increased prices in the future. To offset the risk, they can buy futures to protect against future price increases. This is known as a long hedge or going long.

**The Clearing House**

The Clearing House for each futures exchange ensures all participants in the futures honour their obligations under a futures contract.

Because all trades are registered with the same Clearing House, it can check one transaction off against another transaction to close out a previous position, allowing buyers and sellers to quickly remove previous commitments.

Registering all contracts at the Clearing House eliminates the need for buyers of futures contracts to keep track of all successive sellers.

**Margins**

Both buyers and sellers must deposit money into a secured account with the Clearing House. This money is called an initial margin and ensures all contracts are credible and financially stable.

Open futures contracts require futures brokers, on behalf of their clients, to pay maintenance margins (margin calls) on all ‘losing’ hedge positions. This ensures both buyers and sellers uphold their obligations to the Clearing House.

**Speculators**

Speculators trade a number of contracts at any one time. They aim to capture small profits by successfully guessing the direction of small price movements in the market.

They aim to buy futures at low prices and sell futures at a higher price or sell high and buy lower, making a profit margin both ways.

Speculators do not want to take delivery of the grain and play an important role by adding depth or ‘liquidity’ to the market.
Futures contract specifications

Chicago Board of Trade (CBOT) — wheat futures contract

- **Basic trading unit**: 5000 bushels (136t)
- **Quotations**: Prices are quoted in US cents and quarter cents per bushel.
- **Tick size**: ¼ cent/bushel ($US12.50/contract)
- **Daily price limited**: 30c/bushel ($US1500/contract above and below the previous day’s settlement price. No limit in the spot month (limits are lifted two business days before the spot month starts).
- **Contract months**: March, May, July, September and December.
- **Trading hours**: Open auction: 9.30am – 1.15pm (Chicago time)
  Electronic: 6.32pm – 6am and 9.30am – 1.15pm (Chicago time). Trading in expiring contracts closes at noon on the last trading day.
- **First notice day**: Last business day of the month proceeding the contract month.
- **Last trading day**: The business day before the 15th calendar day of the delivery month.
- **Last delivery day**: Seventh business day following the last trading day of the delivery month.

Australian Stock Exchange (ASX) — wheat futures contract

- **Basic trading unit**: 20 metric tonnes
- **Deliverable grades**: Australian feed wheat (FED1) or better and milling wheat (APW2) or better.
- **Pricing point**: NSW track (Newcastle and Port Kembla)
- **Quotations**: Prices are quoted in Australian dollars/metric tonne.
- **Tick size**: Tick value is $0.10/t or $2/contract.
- **Contract months**: January, March, May, July, September, November.
- **Trading hours**: 9.50am-5pm (Sydney time). Trading ceases at 12pm on maturity date.
- **Notice day**: Any business day within the delivery period on which notice of delivery is given via lodgment of tender documentation with the Australian Clearing House.
- **Last trading day and maturity date**: The third Thursday of the maturity month, provided this is a trading day.
- **Delivery period**: Starts on the second business day of the contract month and ends at 3pm on the last trading day.
International Commodity Exchange (ICE) — canola futures contract

Basic trading unit: 20t. A minimum of five units (100t) is needed to register a trade.

Deliverable grades: Non-commercially clean Canadian canola with a maximum dockage of 8%; all other specifications to meet No. 1 Canada canola or deliverable at a $5.00/net tonnes premium, commercially clean No. 1 Canada canola or deliverable at an $8/net tonnes discount, commercially clean No. 2 Canada canola or deliverable at a $13/net tonnes discount, non-commercially clean Canadian canola with maximum dockage of 8%, all other specifications to meet No. 2 Canada canola.

Quotations: Price is quoted in Canadian dollars (C$) and cents/t.

Tick size (minimum price fluctuation): C$0.10/t or C$2.00/contract.

Daily price limit: C$30.00/t above or below previous settlement.

Contract months: January, March, May, July, and November.

Trading hours: 9.30am – 1.15pm (Central time)

First notice day: One trading day before the first delivery day.

Last trading day: Trading day preceding the 15th calendar day of the delivery month.

Last notice day: First trading day after the last trading day of the delivery contract.
Glossary

Act of God
Acts of God are natural events that no-one has control over such as floods, fire and drought. Acts of God clauses do not include untimely rains and are rarely found in grain contracts.

Arbitrage
Buying and selling grain, futures, options and market tools including freight, quality and location, at different prices to profit from a price discrepancy.

Ask
The price a seller will sell a futures contract for.

At-the-money option
An option with an equal or approximate strike price to the current market price of the underlying futures contract.

Bar chart
A chart that graphs the high, low and settlement prices for a specific trading session over a given period of time.

Basis
The difference between the current cash price and the futures cash price for a commodity.

Basis risk
The risk of the basis weakening.

Bear market
A grain market that is weakening or on a downward trend.

Binned grade (ES)/Storage grade (WA)
The grade given to a commodity according to where a bulk handler stores grain (e.g. H1, APW2). Some storage grades are paid with increments and others are paid a flat price.

Broker
A company or person executing futures and options orders on behalf of financial institutions, commercial institutions and the general public.

Brokerage fee
The fee charged by brokers for executing a transaction.

Bull market
A grain market that is strengthening or on an upward trend.

Buying hedge
Buying futures contracts to protect against a possible price increase of cash commodities to be bought in the future. When cash commodities are bought, the open futures position becomes closed as an equal number and type of futures contracts are sold compared to those initially bought.

Call option
An option that gives the buyer the right, but not the obligation, to buy the underlying futures contract at the strike price on or before the expiration date.

Carry
The cost of finance and storing of grain.

Charting
Using price graphs to analyse market behaviour and anticipate future price movements.

Clear
The process used by the Clearing House to maintain records of all trades and settle margin flow on a daily mark-to-market basis for its clearing member.

Clearing Corporation
An independent corporation that settles all trades made at the CBOT. The corporation acts as a guarantor for all trades it clears, reconciles all clearing member firm accounts each day, ensuring all gains have been credited and all losses have been collected, and sets and adjusts clearing member firm margins for changing market conditions.

Clearing House
A separate corporation of a futures exchange that settles trading accounts, clears trades, collects and maintains margin monies, regulates delivery and reports trading data. They act as third parties to all futures and options contracts.

Clearing Margin
A financial safeguard to ensure clearing members perform on their clients’ open futures and options contracts.

Clearing Member
A member (usually a company) of an exchange Clearing House. Members are responsible for the financial commitments of clients that clear through their firm.
Close-out
To cancel a position on the futures market.

Closing price
The last price paid for a commodity on any trading day. A company's net gains or losses, margin requirements and the next day's price limits, based on each futures and options contract settlement price is determined by the exchange Clearing House. If a closing range of prices exists, the settlement price is determined by averaging the prices.

Commission house (wire house)
An organisation or person that accepts orders to buy or sell futures contracts or options on futures, and takes money or other assets from their clients to support the order.

Contract grades
The standard grades of commodities listed in the rules of the exchanges. These grades must be met when case commodities are delivered against futures contracts. There is often a schedule of discounts and premiums allowable for delivery of commodities of less or better quality.

Contract (delivery) month
The month when delivery can take place under the terms of a futures contract.

Convergence
The term used to refer to the cash and futures prices coming together (i.e. the basis approaches zero) as the futures contract nears expiration.

Counter-party risk
The risk that a contract or pool provider (counter-party) will not perform on some or all of their obligations in a timely manner.

Currency risk
The risk that a rally in the $AU against other currencies will negatively impact on the $AU return to growers.

Deferred delivery
The physical delivery of grain at a set price at a set time in the future.

Deferred (delivery) month
The month(s) in the longer-term when futures trading is occurring, as distinguished from the nearby (delivery) month.

Delivery
The cash commodity is transferred from the seller of a futures contract to the buyer of the futures contract.

Delivery points
Locations and facilities designated by a futures exchange where commodity stocks may be delivered to fulfill a futures contract.

Equilibrium price
The market price where commodity supply equals demand.

Estimated pool return (EPR)
The pool return published at various silos. May or may not include finance costs and management fees.

Estimated pool return FOB
The gross pool return at FOB. The media usually quote this pool estimate.

Estimated silo return (ESR)
The net pool return at a particular receival point.

Exercise
Action taken by the call option holder if they wish to buy the underlying futures contract or the action taken by the put option holder if they wish to sell the underlying futures contract.

Expiration date
The specific date a month proceeding the futures contract delivery month, on which the options on futures expire.

Expiration time
The time of day by which all exercise notices must be received on the expiration date.

Expire
The last day on which an option can be converted into a futures contract.

Export parity
Australian grain prices are the same value as international export grain prices.

Farm gate price
The amount growers receive for their grain after all storage, handling, freight and other costs (e.g. marketing) have been deducted from the gross value back to the farm gate.
Fixed-grade contracts
A specified tonnage or quality of grain is delivered at a fixed time and location at an agreed price.

Force majeure
An event that prevents the contract being delivered on time (e.g. flood, rail or shipping strike).

Forward (cash) contract
A cash contract where a seller agrees to deliver a specific cash commodity to a buyer sometime in the future. Forward contracts are privately negotiated and are not standardised.

Forward contracts
An agreement between a buyer and seller for delivery of a physical product, at a set price at a point in time in the future.

Free on board (FOB)
The gross value of grain loaded onto a ship without the storage and handling costs subtracted.

Free on rail (FOR)
The gross value of grain loaded on rail wagons without the storage and handling costs subtracted.

Free in store (FIS)
The value of grain inside CBH stores in WA.

Futures contract
A legally binding agreement made on the trading floor of the futures exchange to buy or sell a commodity at a point in the future. Futures contracts are standardised according to quality, quantity, delivery time and location, with the only variable being price, which is determined on the trading floor of the exchange.

Futures exchange
A central marketplace where buyers and sellers meet and trade futures and options on futures contracts.

Futures price
The price of a commodity as decided by public auction on a futures exchange.

Futures risk
The risk of falling futures prices negatively impacting on local prices.

Harvest advance
Cashflow and taxable income provided at harvest. It is a payment against pool deliveries and because it is a payment for grain delivered it may be subject to GST.

Hedging
Offsetting the price risk inherent in a cash market position by taking an equal but opposite position in the futures market.

Holder (Option buyer)
The person who has bought either a call or put option. The option buyer receives the right, but not the obligation, to assume a futures position.

Import parity
The price at which grain will be imported into Australia. Australian grain prices usually trade between export and import parity.

Initial margin (original margin)
The amount deposited into a person’s margin account when an order is placed to buy or sell a futures contract.

Intrinsic value
The amount of money that can be realised by exercising an option with a given strike price. The intrinsic value is measured by the difference between the strike price and the futures price.

Liquidity risk
The risk of buying or selling a physical or futures position at a time when there are not enough participants to allow the sale or purchase to occur.

Long hedge
Buying futures contracts to protect against possible price increases of cash commodities to be bought in the future.

Long position
A trader or marketer is holding grain for sale with no contract to fill.

Margin call
When a Clearing House or brokerage firm calls their members or clients to ensure margin deposits are bought up to the required minimum level.
**Margin call risk**
The risk of a business not having the necessary liquid funds to meet the margin call on a futures contract, and the closure of the contract resulting in the loss of funds and exposure to a potential poor marketing outcome.

**Market order**
An order to buy or sell a futures contract of a nominated delivery month to be filled at the best possible price and as soon as is possible.

**Minimum price fluctuation (Tick)**
The smallest allowable increment of price movement for a contract.

**Multi-grade contracts**
An agreement between a buyer and seller for a specific quantity of a range of wheat grades to be delivered at a fixed time and location at an agreed price.

**Multi-varietal contracts**
An agreement between a buyer and seller for a range of varieties to be delivered at a fixed time and location at an agreed price. Growers are paid using a multi-varietal payment system rather than a bin grade system.

**Nominated estimated pool return (NEPR)**
Set in mid November of the year of harvest, the NEPR is used as a benchmark by pool managers and banks providing harvest advances or lines of credit. It also provides the benchmark against which an underwritten value is calculated.

**NPV pool return**
The pool return discounted for the cost of finance and time value of money to allow it to be compared to a cash price. The NPV pool return varies between growers according to their individual tax regime and cost of capital.

**Option**
A contract that gives the right but not the obligation to buy (call) or sell (put) a particular commodity at a certain price for a period of time.

**Option buyer**
The buyer of a call or put option.

**Option premium**
The amount paid by the option buyer to the option seller for the rights granted by the option.

**Option seller**
The seller of a call or put option. Option sellers sell options in return for a premium.

**Out-of-the-money option**
A call option with a strike price above or a put option with a strike price below the current futures price. Out-of-the-money options have no intrinsic value.

**Pay grade**
Grades given to wheat (Australian Premium White wheat varieties) under the golden rewards pay system (e.g. AH, APW, ASW and AGP). Wheat is stored as different grades depending on screenings, protein and other characteristics (e.g. ASW1, H2, AGP1, APW2, feed) but is given the pay grade APW as well as the storage grade.

**Payment terms**
Payment terms refer to the terms on which the buyer and seller agree the buyer will pay the seller for the commodity. The end of the week is defined by NACMA as midnight on Sunday. The delivery date is the date the physical grain and title is transferred to a buyer. For direct delivery to a pool or contract both occur at the same time. Where grain is warehoused, delivery to the buyer is the date when the bulk handler transfers the title to the buyer.
Common payment terms from trade to grower:

**30 dewd**
Payment occurs 30 days end week of delivery.

**15 dewd**
Payment occurs 15 days end week of delivery.

**Prompt**
Payment occurs within three days of delivery.

**Immediate**
Payment occurs on the same day as delivery.

**30 demd**
Payment occurs 30 days end month of delivery.

**Spot**
Payment occurs at the time of delivery.

**Physical market**
The grain market where the actual product is sold.

**Pool**
A grain marketing tool that combines all sales and deducts all costs, distributing average returns to growers.

**Pool loan or drawdown**
A loan or allowable line of credit that can be drawn against equity in a pool. Taxable income and GST liability implications exist.

**Pool risk**
The risk of the return from the pool decreasing or under performing returns available from using other market tools.

**Port price**
The current cash price for grain delivered to a designated port.

**Price risk**
The risk of prices falling.

**Production risk**
The risk of production falling below the quantity priced.

**Put option**
An option that gives the buyer the right, but not the obligation, to sell the underlying futures contract at the strike price on or before the expiration date.

**Quality risk**
The risk of grain quality not making the grade of a fixed grade contract.

**Rally**
An upward trend in the market.

**Risk**
The uncertainty of outcome.

**Short hedge**
Selling futures contracts to protect against possible declining prices of commodities to be sold in the future.

**Short position**
A trader or marketer has a contract to fill but does not have enough grain to fill the contract.

**Silo price**
The price at the receival point free of all costs.

**Speculator**
Someone who endeavours to profit from buying and selling futures and options contracts by anticipating future price movements.

**Spot price**
The current cash price today.

**Storage risk**
Risks (e.g. weevils, fire, moisture) that may occur while grain is in storage.

**Strike price**
The price where the futures contract underlying a call or put option can be bought (if a call) or sold (if a put).

**Swaps**
A pricing mechanism that allows growers to fix the Australian dollar price for a portion of the commodity produced in the future. The basis for the price is not locked in, allowing growers to take advantage of a strengthening market position.
**Target price**

The price set by the grower that they hope to achieve. Below this price growers are reluctant to sell their grain. The target price set should cover the total costs of production (i.e. variable and overhead costs) and include some profit margin to cover debt servicing, tax payment, family labour costs, financing costs and a margin for off-farm investment.

**Trends**

Trends describe the general direction in which a market is moving. Markets move either sideways (market in balance), upwards (uptrend) or downwards (downtrend). Price trends are most noticeable for grains where large quantities are involved, being traded internationally by a number of exporting and importing countries. Market analysts often watch the futures markets for these grains to determine overall price trends. A break in the patterns indicates a change in the underlying trend.

A downward trend is highlighted by each successive point in the market normally being lower than the previous low and each successive high point is lower than the previous high.

An upward trend is highlighted by each successive point in the market being higher than the previous high and each successive low point being higher than the previous low.

**Volatility**

The measurement of the change in price over a specified time period.

**Wash out**

When grain cannot be supplied to the contract, a value for the grain is determined by the contract buyer on the outstanding tonnes. Refer to the terms and conditions of a contract.

**Washout risk**

The risk of higher commodity prices when a forward contract cannot be filled due to a production failure. If this occurs, the seller is liable to pay the buyer the difference in prices multiplied by the tonnage that has been contracted or the replacement cost of grain not delivered.

*Source: NACMAWA*
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