

**PHASE 1 SUMMARY REPORT
IMPROVING THE FUNDAMENTALS OF CANOLA
PRICE RISK MANAGEMENT IN
WESTERN CANADA**

PREPARED FOR

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Agriculture and Agri-Food Canada is pleased to participate in the production of this report and is committed to working with our industry partners to increase public awareness of the importance of the agri-food industry to Canada. Findings, conclusions, and opinions expressed in this document are those of the organizations representing the canola industry that participated in this study and do not necessarily reflect those of the department or the Government of Canada.

GLOSSARY AND ACRONYMS

AgClearing	A concept being developed to secure (insure) cash transactions, protecting either party to the transaction.
Arbitrage	The action of taking advantage of small differences in price between similar and related markets. This activity tends to ensure related markets remain cogently related.
Basis	Basis is the difference between a futures price and a cash price.
Cash-futures correlation	Correlation is a statistical measure which shows the degree to which pairs of variables are related; in this situation, the variables are cash canola prices and canola futures prices.
Convergence	Convergence is the action of futures and related cash markets to tend to move closer to one another as the futures expiry month approaches; typically brought about through the threat of delivery.
Crusher	A crusher is a canola processor.
Deferred Delivery Contracts	A deferred delivery contract specifies delivery of a specific grain at a future date.
Delivery Certificate	The Delivery Certificate is the document used by WCE to transfer ownership of grain (canola) that has been delivered against a futures contract.
First Day Delivery	First Day Delivery refers to the delivery against a futures contract that takes place on the first day that delivery is allowed.
Futures contract	A futures contract is a standardized purchase/sale contract hosted and provided by an established exchange, accessible by the general public.
Futures delivery	Futures delivery is the transfer of ownership of physical grain (canola) from the seller of a futures contract (short) to a buyer of a futures contract (long); the delivery of the appropriate documentation (Delivery Certificates) through the provisions made available by the hosting exchange.
Futures expiry	Futures expiry is a general term referring to specific futures contracts, characterized by the month the contract will end. Used to describe both contracts that allow physical delivery and cash-settled contracts. For example, the November contract is also referred to as the November expiry.
Hedge	(1) <i>noun</i> : a hedge is any transaction aimed at compensating for a possible loss generated by another transaction; (2) <i>verb</i> : to hedge is the action taken to protect or compensate for a loss with respect to another transaction.
Inventory securitization	Inventory securitization is the process of insuring transactions relying on specific inventory.
Inverted market	An inverted market is characterized by higher prices for transactions with near-term transfers of ownership and lower prices for transactions with later transfers of ownership.

Last Trading Day	The Last Trading Day is the last day in which trading is allowed in a specific futures expiry (contract).
Open Interest	Open interest (OI) is the total number of futures contracts outstanding (open) at any specific time; used as a measure of general market interest in the future contract.
Par Delivery Region	Par Delivery Region is the area specified by WCE in which delivery against the canola futures contract is made at futures price.
Pipeline marketing	In grain handling terms, pipeline marketing is a system whereby grain handling firms buy grain from producers and handle it through every step required to get the grain to the end-user. The traditional alternative is a system where some companies buy from producers and sell to others that sell to end-users overseas.
Price risk management	Price risk management is the process of all activities aimed at minimizing price risk over time.
Regular for delivery	Any grain handling facility that is licensed with an exchange to provide storage and handling services for futures deliveries is referred to as regular for delivery, or a regular elevator.
Shipping Certificate	The Shipping Certificate is the document used by the CBOT to facilitate transfer of ownership upon futures delivery.
Spot	Spot is a term referring to immediate transfer of ownership.
Spread	A spread is the difference between two futures expiries at any specific time.
Terminal market	A terminal market is characterized by: substantial grain handling capacity in a close geographic area; many participants; and an active trade between these participants with transfer of ownership taking place at this location.
Threat of delivery	Threat of delivery is the aspect of delivery-based futures contracts that ensures cash-futures convergence, and thus the contract's effectiveness as a hedge tool.
Warrant	The Warrant is the assurance provided by a WCE participant backing the Delivery Certificates it has issued as delivery against futures.

Acronyms used in this report

APP	Advance Payment Program	HTP	High throughput
CBOT	Chicago Board of Trade	IP	Identity Preserved
CGC	Canadian Grain Commission	MGEX	Minneapolis Grain Exchange
CME	Chicago Mercantile Exchange	JRI	James Richardson International
CWB	Canadian Wheat Board	LC	Letter of Credit
DDC	Deferred Delivery Contract	OI	Open Interest
EFP	Exchange for Physical	SWP	Saskatchewan Wheat Pool
FCC	Farm Credit Canada	TER	Terminal Elevator Receipt
FDD	First Day Delivery	WCE	Winnipeg Commodity Exchange
GHTS	Grain handling and transportation system		

EXECUTIVE SUMMARY

This study addresses fundamental changes that have occurred to the canola marketing environment and related producer concerns with:

- ➔ price risk management in canola in general;
- ➔ making effective contracting decisions around wide and variable basis levels; and
- ➔ the effectiveness of the canola futures contract hosted by Winnipeg Commodity Exchange (WCE) as a hedging tool. Producers have expressed concern that there appears to be no real threat of delivery against the canola futures contract, resulting in a lack of convergence (i.e. futures and cash price aligning at contract expiry).

KEY FINDINGS

- ➔ Producers as a group are not sophisticated marketers of canola, most often ignoring fundamental signals from basis and futures spreads. Producers sell and deliver in the fall excess supplies of canola because of cash flow requirements, on-farm storage issues and other practical considerations. Most years the market offers substantial premiums for deferring delivery of canola; however, canola producers continue to sell canola at harvest even in the face of very weak basis levels and low cash prices. Later in the year, producers tend to respond more to price and basis strengthens as the market looks to attract additional stocks of canola.
- ➔ The extreme basis levels in the early part of the crop year are primarily due to the tendency of the producer community to deliver more canola into the system in the fall than the market requires at that time, putting pressure on the storage and shipping capabilities of the system.
- ➔ The Canadian Wheat Board (CWB) procedures for procurement and payment to producers increase the burden on non-CWB crops, particularly canola, to generate cash flow. This exacerbates the pressure on the basis, particularly in the fall, increasing the cost of marketing canola.
- ➔ The Advance Payment Program (APP) is not sufficiently configured to support or accommodate advanced producer marketing techniques. Specifically, it does not appear to reduce the amount of cash canola being sold in the fall nor does it work in conjunction with deferred sales on Deferred Delivery Contracts.
- ➔ Loss of producer confidence in the WEC contract as an effective hedging tool and vertical integration (mergers) within the Western Canadian grain handling and processing sector have contributed to the reduction in the trading volume of canola futures as well as the volumes of exchange for physicals (EFPs) and deliveries.

RECOMMENDATIONS

- ➔ Canola markets have evolved away from identifiable terminal markets where canola was traded actively among many market participants, to individual “pipelines” operated independently by the major grain handling, processing and exporting firms. The culture around these pipelines reduces dramatically any perceived need to trade cash canola with the other market participants. This has also contributed to a reduction in futures trading, EFPs and futures deliveries.
 - ➔ Accepting the definition of convergence which includes all costs associated with delivering against futures, we cannot definitively conclude that the WCE canola futures do or don’t converge to cash values.
 - ➔ Recent changes to the WCE canola futures contract are appropriate measures to increase the viability and effectiveness of the contract as a hedging tool. These include: increased storage; removal of the spread exemption; regular and systematic adjustments to non-par delivery differentials, and; the allowance of 25% of canola purchases where the stocks are stored on-farm and represented by Deferred Delivery Contracts. Further enhancements that would reduce the costs associated with futures delivery are indicated.
1. The canola groups should encourage actions that will reduce pressure on producers to sell and deliver canola to generate cash in the fall.
 - a. Further explore the concept of advanced marketing programs to be provided by the private sector (financial institutions and grain buyers) which encourage producers to defer deliveries by providing cash advances in the fall using deferred delivery contracts as backing. Such a program would complement Agriculture and Agri-food Canada’s Advance Payment Program. It would include an inventory securitization system.
 - b. Encourage the CWB to modify its pricing and delivery mechanisms to allow producers with the flexibility and incentives to (1) increase fall deliveries and (2) defer deliveries until later in the crop year.
 2. The canola groups should work with the WCE to explore ways that will reduce the costs associated with futures delivery including:
 - a. The optimal storage rate as it applies to canola futures.
 - b. Means of enhancing threat of delivery by keeping the cost of delivery (including opportunity cost) as low as possible, possibly through the adoption of a Chicago Board of Trade (CBOT) - style Shipping Certificate.
 - c. Means of reducing the cost of standing for delivery.
 - d. Contract modifications that would reduce the cost of indemnification borne by the short making delivery.

Preliminary consultations with canola producers have indicated general support for the recommendations, with the main provisos being around the economics of the proposed private sector advance program, associated storage requirements, program logistics (how delivered and by whom), and fit with the federal government's APP program.

It is intended that Phase 2 of this initiative further address the recommended actions, and in particular assess the feasibility and design features of the proposed private sector advance program. Communications and educational components to support the implementation of the proposed changes would also be developed for all the appropriate groups as part of the final implementation phase of this project.

1.0 INTRODUCTION

Concerns over canola risk management generally and the Winnipeg Commodity Exchange's (WCE) canola futures contract specifically have been the centre of an ongoing discussion among canola producers for a number of years, recognizing that some fundamental changes have occurred to the canola marketing environment. Of particular interest to producers is how the basis is determined by the industry and how to manage contracting around wide and variable basis levels. Further, producers have expressed concern that there appears to be no real threat of delivery against the canola futures contract, resulting in a lack of convergence (i.e. futures and cash price aligning at contract expiry).

In response to these concerns, a study was initiated in 2005 supported with funding from the Private Sector Risk Management component of the Agricultural Policy Framework within Agriculture and Agri-food Canada (AAFC). This study was directed by a committee with representation from AAFC, the Saskatchewan Canola Growers Association, Saskatchewan Canola Development Commission, the Canadian Canola Growers Association and the Alberta Canola Producers Commission.

The *technical* component of this study was undertaken by John DePape Limited, and considered:

- An analysis of historic basis levels, volatility, futures prices, and convergence;
- A review of technical aspects of current and potential contracting mechanisms, including the hedging effectiveness of the WCE futures contract and the status of cash markets underlying the contract's current delivery region specifications;
- A review of the current and likely future structure of the grain merchandising system in Western Canada;
- An assessment of producers' knowledge, use and effectiveness of contracting mechanisms to manage price risk and market canola and the implications for their financial performance; and
- Recommended remedies to help alleviate the risk and related cost associated with the potential lack of convergence.

As part of this review, several interviews were conducted with representatives of grain companies, crushers, financial institutions, government and agencies that facilitate commodity trading. Please see Appendix A for a complete list of interviewees. The statistical analysis drew on sources of data from the WCE, the Canadian Grain Commission, AAFC, the Chicago Board of Trade and others.

As well, iterative consultations with canola growers were undertaken by Serecon Management Consulting Inc. The research evaluated how canola growers manage price risk in marketing their canola crops, how they view current basis risk, and how they would respond to proposed changes. The consultations explored awareness and usage of available tools. It considered what training, if any, a grower had participated in and what training or information they might require in future, given the proposed changes. Other barriers to use were also explored. Two rounds of consultations were undertaken in Regina, Red Deer, Saskatoon and Brandon with a total of 49 participants:

- ➔ **Round 1 Exploratory Focus Groups (Spring/ Summer 2005):** Current understanding, use and suggested improvements.
- ➔ **Round 2 Workshop and Feedback on Proposed Changes (January/February 2006):** Response to the recommendations set forth in the technical analysis report and support required to implement changes.

The majority of growers consulted had interest and expertise in contracting mechanisms and basis level movement. In addition to the grower attendees, informal representation was included from the Ag Clearing House concept, the Farm Credit Corporation, and the Canadian Wheat Board. A trader and an individual who had extensive involvement in delivering training programs to farmers on contracting and crop marketing also attended.

This report presents a compilation of the findings of the technical analysis report and the producer consultations, with next step actions identified to advance the recommended solutions arising from the study process. This report is intended for the following audiences:

- ➔ Canola growers
- ➔ Other commodity groups who may benefit from the implementation of the recommendations
- ➔ Agencies who may have a role to play in implementing the recommendations, such as the WCE, Canadian Wheat Board, Ag Clearing House, Canadian Grains Commission, financial institutions, grain companies, crushers, and input suppliers
- ➔ Project steering committee members, including AAFC Private Sector Risk Management Partnership.

1.1 CONTEXT FOR THE STUDY

In crop year 2003-04, historically weak and highly variable canola basis levels were experienced throughout Western Canada, particularly in the fall. Many producers saw this as an indication that the canola futures contract hosted by Winnipeg Commodity Exchange (WCE), even though significantly re-vamped in 1995, was not performing effectively, particularly for producer-hedgers. These concerns centre on the perception that weakness and large variability in the basis is a market distortion that ultimately costs producers a great deal of money in real terms as well as

lost opportunities. These concerns have created a particular focus on the concept of convergence in effective cash and futures markets and the alleged lack of it in the WCE canola contract.

The underlying premise for these concerns is the view that the delivery provisions of the canola futures contract do not conform to the underlying cash market causing a deficiency of deliverable supplies of canola being delivered on the contract on a continuing basis. The result is a perceived lack of discipline in the futures market (relative to the cash market) leading to a lack of convergence and a perceived lack of effective hedgeability.

The hypothesis developed by the Canola growers was as follows:

Canola basis levels have the ability to widen (weaken) inappropriately due to an inability of contract holders to accept or make delivery of the physical product, canola.

Canola is considered a cash crop; producers needing cash in the fall to cover operating loans will first look to their canola crop to carry the weight of this liability; other 'special crops' may also be employed to generate cash at this time.

Long term trends in the structure of the Western Canadian grain handling and transportation system (GHTS) – toward fewer and larger elevators focused on high throughput and less on storage, as well as the growing importance of domestic crushing – precipitated the changes made to the canola futures contract beginning with the September 1996 expiry (delivery month). These and other trends continue to evolve and it stands that the canola futures contract may not be well positioned or adequately designed to reflect these changes going forward.

An opposing view is that the current canola futures contract works well and may be the best of available alternatives. Supporters of this view claim that the contract is indeed working, that basis variability is simply a characteristic of the market and that absolute convergence is not necessarily a worthy goal, given the trade-offs required to achieve it. For example, increasing deliverable supplies and ease of delivering (a suggested solution to the alleged lack of convergence) could – and likely would – undermine the utility of the market for hedging; too much delivery against futures and the contract risks becoming a cash contract, restricting its use as a hedge.

Regardless of the cause, any disconnect between futures and the cash market reduces a contract's ability to perform properly. This project is aimed at assessing current risk management tools and techniques in canola, particularly the WCE futures and all derivative cash contracts, in an effort to improve the management of risk – both basis and flat price – for all canola market stakeholders. The approach is focused on the current WCE futures contract and basis, and all factors that have an impact on its efficacy, including industry structural issues not directly related to futures and basis.

In view of the fundamental importance of the delivery process with regards to the effectiveness of futures contracts, a firm understanding of the role of the delivery mechanism is required. Its function and performance is measured through an assessment of the futures price convergence on 'spot' cash prices at delivery locations.

It is generally understood that if the basis is more closely related to futures through improved convergence, forward pricing techniques used by producers such as selling futures as a hedge and/or selling cash canola on a basis contract will be more successful in transferring their price risk on canola. Although increased delivery participation – by producers or others – would be expected to improve cash-futures convergence, it is not the only potential means to this end.

NOTE: There appear to be a number of ways to describe basis levels, the multiple uses of which can be confusing; wide vs. narrow, large vs. small, high vs. low, and weak vs. strong are all in contemporary use. In this report we will refer to a basis as being strong or weak. A 'weak' basis is one in which the basis represents a low price and 'weakening' meaning the price is moving lower; a 'strong' basis is one which the basis represents a higher price and 'strengthening' meaning the price is moving higher. Therefore, "\$50 under" is a weak basis; "\$50 over" is a strong basis.

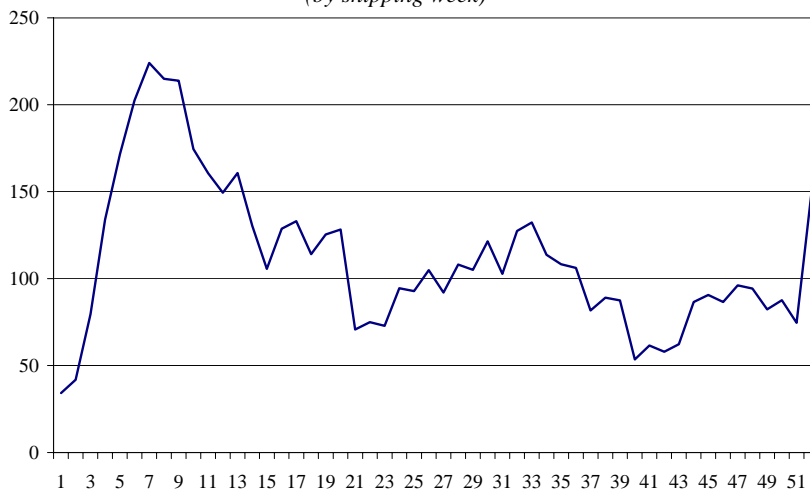
2.0 SUMMARY OF FINDINGS

2.1 FALL DELIVERY OF CANOLA

As a group, producers deliver the greatest amounts of canola (on a weekly basis) at, or immediately following, harvest; typically about 50% of their available canola is delivered before Christmas. Figure 2.1 below shows the ten-year average of this delivery pattern. The greatest deliveries tend to be made in the fall peaking around mid-October before sliding to the last weeks of December. Weekly deliveries then reach a second albeit lower peak just prior to spring seeding before tapering off during the busy spring season; this is seen as a second timeframe during the crop year requiring cash flow. After this period, deliveries tend to be made when convenient, possibly responding to price spikes and to clean out bins prior to the new crop coming in.

A version of this delivery pattern is seen practically every year. It should be noted that these delivery patterns are averages and aggregates; actual deliveries by individual producers may be more price responsive than this analysis suggests.

Figure 2.1: 10-Year Average Weekly Producer Deliveries
(by shipping week)



Source: Canadian Grain Commission, Publication 420.3

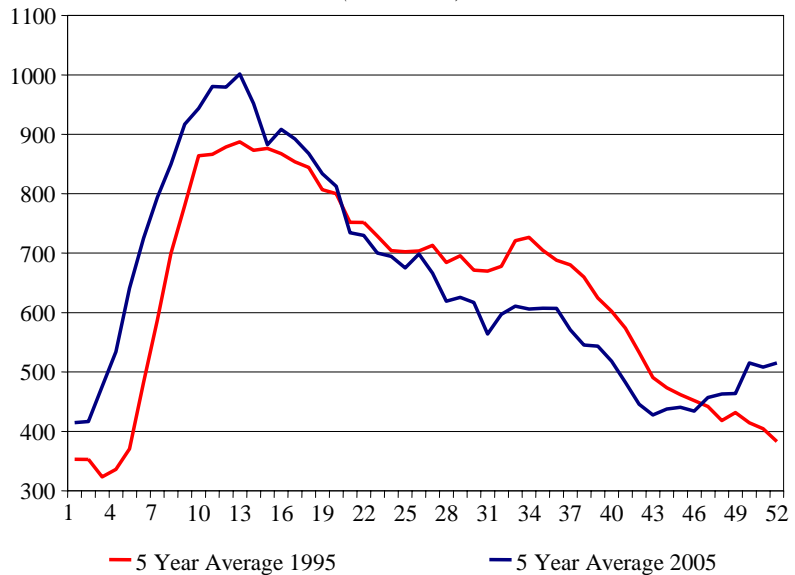
The fall delivery pattern for canola was unaffected by the rationalization of the elevator system to fewer elevators with much higher shipping capacity that occurred through the 1990's. In 2003/4, over 80% of the primary elevator space in Western Canada was considered high throughput (HTP) inland terminals, as compared to just 22% ten years earlier. The ownership of the elevators that are licensed as regular delivery elevators for canola is highly concentrated with four companies, Agricore United, SWP, Pioneer

Grain (JRI) and Cargill accounting for 81% of the regular delivery space for canola.

Although the amount of total storage capacity has dropped only marginally as the elevator system was rationalized (post rail deregulation), how the storage capacity is used has changed dramatically; the HTP nature of the current elevator system attempts to minimize the storage of grain in the system. Interestingly this has had a greater impact on wheat storage (levels of which are fairly consistent throughout the year) but has had only minimal impact on canola storage. Whereas there is about 30% less wheat stored in the system now in any given week than a decade ago, the storage patterns for canola (Figure 2.2) are virtually unchanged with stocks peaking at harvest and immediately following and tapering off through the balance of the crop year.

Figure 2.2: Weekly Canola Visible Supplies

(000 tonnes)



Source: Canadian Grain Commission

Consultations with canola producers confirm that for many, canola is their main (liquid) cash crop and profit generator. As such, canola is delivered in the fall to meet crop input payable commitments. The more cash strapped the producer, the greater the pressure to deliver in fall, even though the return (if sold at the cash or spot price) may not be as favorable as later on. It is recognized that canola is input intensive relative to many other crops but cash from canola is needed to pay for more than just canola inputs. The flow of wheat and malting barley into the marketing system is controlled by the Canadian Wheat Board (CWB) and so producers of these crops cannot rely on them for needed cash flow in the fall. The canola market is relied upon to carry the greatest burden of cash flow requirements in the

fall – even those associated with the production costs of other crops – increasing the pressure to market canola off the combine or soon after. Dependency on canola to generate fall cash is lessened for those with small or diversified operations, for those for whom canola is a minor crop, or if they grow another cash crop such as lentils.

A significant, though unconfirmed volume of fall canola deliveries are typically forward contracted. Better managers attempt to align delivery contracts to match their cash flow needs, or perhaps delay their payable dates to match anticipated delivery dates that will generate better cash prices later in the fall.

A key limitation to deferring delivery of canola to achieve a more favourable price relates to on-farm storage. Some producers have chosen not to invest in on-farm storage, perhaps because they are nearing retirement. Others have variable needs for storage capacity, depending on the demands for storing other crops (such as CWB grains) that cannot be delivered in fall, variable volumes of canola to be stored from year to year and their practice of renting land which may or may not come with storage. For others, their investment in storage has not kept up with their rate of expansion, or poor returns in recent years have limited their ability to invest.

Storing canola is viewed as risky and is a source of anxiety for many. The quality and moisture content of the canola that is harvested is a major determinant of this risk. Heating in the bin can cause significant grade losses. While some growers have invested in drying facilities, others may choose to deliver to an elevator that offers this service. Others choose to deliver a portion of their crop (or a portion of each bin) to confirm grade and to have the flexibility to move the grain around.

Simple convenience and practicality also come into play when determining delivery dates. Other farm work, seasonal employment, and even holidays may prevent delivery at certain times of the year. Some may be averse to delivering in poor (winter) driving months, or may be faced with road bans in their local area. Others do not have a source of labour (nor do they want to incur the associated costs) to load storage bins, check and turn the crop and re-load it on to delivery trucks.

Cash flow needs in a particular year depend on the cash reserves from the prior one to two years, which in turn are related to production risks such as drought, hail and early frost. Lower commodity prices also impact cash reserves and force more fall sales the following year, especially if a decision was made to increase inputs and therefore boost production.

In some cases, delivery at harvest can be advantageous; Identity Preserved (IP) or favorable forward-priced contracts may have been negotiated, a producer might benefit from a good August spot price if his crop is harvested ahead of others in his local area, or an inverted market may exist with early fall prices higher than say October futures, possibly reflecting concern about attracting enough canola into the system because of poor yields.

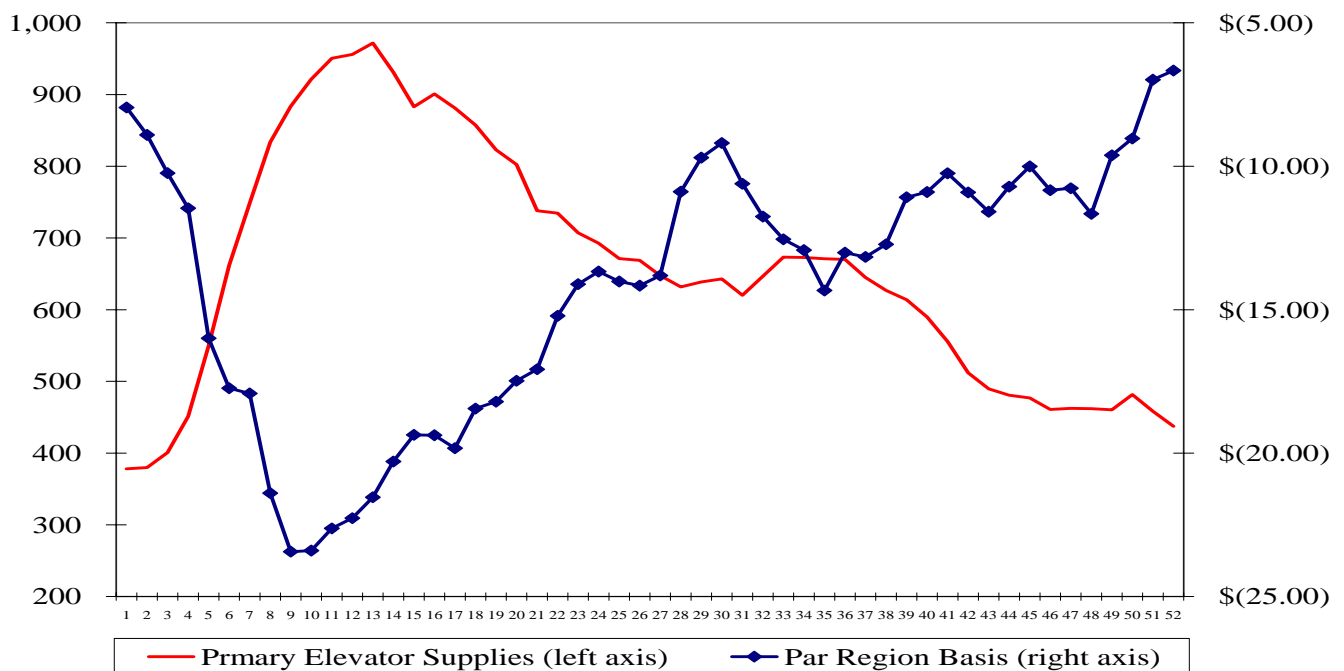
2.1.1 Impact of Delivery Patterns on Basis

The impact of the pace of producer deliveries on price – both flat price and basis – is dramatic. In the event that deliveries are causing canola stocks in the grain handling system to build unnecessarily, prices will reflect the near term over-supply. Although this influences futures prices it is most clear in basis levels.

Figure 2.3 below shows the relationship between canola stocks within the grain handling system and basis levels. Not surprisingly basis is weakest in the fall as producers tend to over-supply the canola marketing channels at harvest. Later in the crop year as stocks begin to dwindle, basis is pushed higher as companies look to attract more canola into their respective pipelines.

In addition to the weak fall basis reflecting the opportunity cost of elevator capacity, we also understand that the weak basis is the market’s way of providing price incentives to defer delivery of canola as the system does not want to get congested with canola. Unfortunately, many producers either do not read or follow these signals or they cannot afford to (as they need to generate cash flow).

Figure 2.3: Average Weekly Primary Elevator Stocks vs. Average Weekly Par Region Basis (Crop Year)



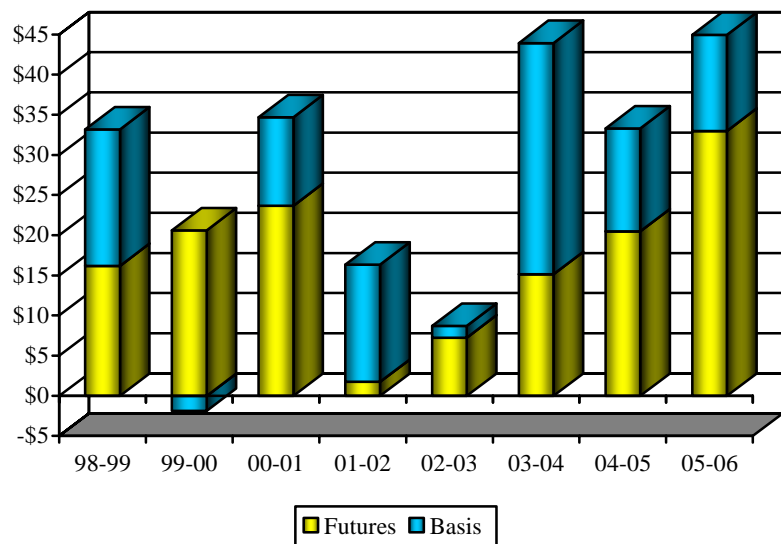
Data Sources: CGC & WCE

2.1.2 Impact of Delivery Patterns on Returns to Growers

It is important to note that basis levels depicted in Figure 2.3 relates to the average basis level available in the corresponding week, and not the basis level that may apply to the sale in that week, if that sale had been forward contracted or the basis had been fixed in advance. Producer response to this chart that was presented during the consultation exercises led to the question of just how much of the fall delivery volume is typically pre-priced. It was suggested that a survey of the grain companies and canola processors could shed some light the distribution of fall cash versus forward contracted deliveries. Likewise, it is unknown as to how much of the fall canola in elevator stocks is pre-sold by the companies. In other words, what is the real supply and demand dynamics in the fall, and how does this drive the price?

Most years the market offers substantial premiums for deferring delivery of canola as depicted in Figure 2.4; however canola producers continue to sell canola at harvest even in the face of very weak basis levels and cash prices. The average gain in futures available to a producer if they sold canola for delivery in May or June was calculated from the average November and July futures prices trading between Oct 1st and Oct 31st. The average gain in the basis was derived from the Par Region basis (best bid, source: WCE) during the Oct 1st to Oct 31st time frame and the following May 15th to June 15th timeframe. The basis gain for 2005-6 was an estimate as actual data was not available at the time of writing.

Figure 2.4: Deferred Delivery Price Gains (\$/tonne), October to May



Source: Winnipeg Commodity Exchange.

In four out of the seven years the gain by deferring was greater than \$33.00 per tonne (\$0.75 per bushel) which would more than offset typical on-farm storage costs.

The years where the futures spreads were the strongest (narrowest) were also the years where delaying delivery gave the least gain. (Strong or inverted spreads are market signals to sell and deliver now and not to defer until later.)

In the 2005-6 crop year, the futures spread showed a sizeable gain by deferring delivery until spring. Among other fundamental factors, this large futures spread was reflective of the increased storage charges on futures delivery.

At the extreme, in the 2003-04 crop year, a grower would have earned as much as \$44 more per tonne had he sold futures in the fall and locked in the basis in the spring with delivery in May rather than the previous October. In fall of 2003, the basis was extremely weak at harvest (in the neighbourhood of \$50 under) and futures spreads were quite large. Here the market was sending the message to defer delivery; those that chose not to (or were unable to) gave up around \$1.00 per bushel on fall-delivered canola.

In 2003, about 3.3 million tonnes of canola were delivered by the end of December and physical stocks of canola in the grain handling system peaked at 952,300 tonnes (in the second week of October, 2003). Without the apparent need by producers to sell (and deliver) canola in the fall, it is estimated that canola basis in the fall could have been stronger by about \$15 to \$20 per tonne (assuming "all else being equal", meaning that export and domestic consumers also adjusted their prices to reflect the producers' "stronger hands"). This means that in 2003-04, improved marketing reducing the pressure to deliver canola in the fall (and thereby strengthening the basis) might have improved producer revenue from canola in an order of magnitude of about \$49.5 to \$66 million.

2.2 USAGE AND HEDGING EFFECTIVENESS OF THE WCE FUTURES CONTRACT

2.2.1 Basis Correlations and Variability

The hedging effectiveness and risk reduction of futures contracts is directly related to the relationship between the cash price and the futures price – or more importantly the change in cash prices to the changes in futures prices. For analytical purposes, this relationship is measured two ways: (1) cash-futures correlation¹ and (2) basis variability, which is a simple measure of

¹ Correlation is a statistical technique which shows the degree to which pairs of variables are related; here, the variables are changes in cash prices and changes in futures prices over the same time periods. The main result of a correlation is called the correlation coefficient (or "r"). If r is close to 0, it means there is no relationship between the variables. If r is positive, it means that as one variable gets larger the other gets larger. If r is negative it means that as one gets larger, the other gets smaller (often called an "inverse" correlation).

2.2.1.1 Canola Cash-Futures Correlations

the range of basis levels over a period of time leading up to each contract expiry.

Canola cash-futures correlations were calculated using daily price changes covering the crop years from 1998-1999 to 2004-2005. The cash prices provided (by WCE) were flat prices (net prices, not basis levels) representing the best Par Region bid provided by the regular elevator operators. Whereas there was no record of which futures expiry (delivery month) was being used by the grain companies to calculate these prices, the correlation analysis was performed on the nearby futures expiry. Correlations for each futures expiry were calculated using daily cash price changes and corresponding daily futures price changes for each delivery month for the 90-day period prior to the Last Trading Day.

Observations:

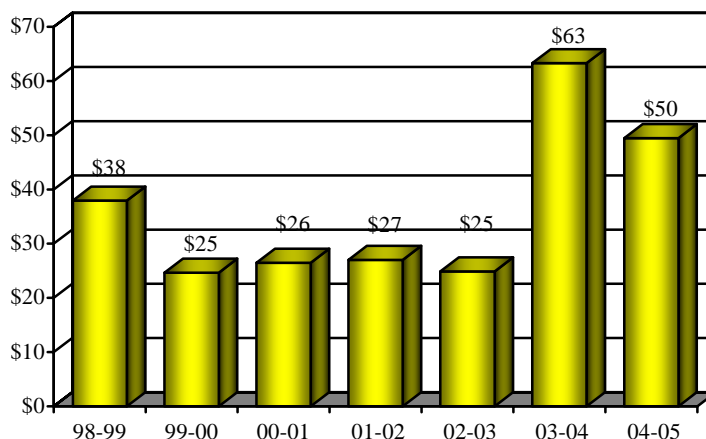
- The September 1998, August 1999, and September 2004 expiries exhibited the lowest coefficients of correlation with 0.581, 0.544 and 0.584 respectively. A significant contribution to these poor correlations is no doubt the fact that the 90-day period considered for each of these began in the previous crop year and through this period, these contracts reflected both old crop values and then new crop values (at different times). Under these circumstances, any old crop to new crop inverse would lower these correlations.
- Based on averages for each contract expiry, correlations generally improve from the beginning of the crop year to the end. This corresponds to what we see in basis variability as well. The basis in the fall tends to have more volatility and variability due to varying and different opportunity costs by each grain company as more canola is delivered than is required; towards the spring, the competition for the remaining canola tends to force bids closer together.
- Based on the average correlations for each crop year, the data suggest that correlations have been improving slightly, with the exception of the 2004-05 crop year, which dropped slightly from the previous year.
- A comparison to similar calculations performed by the Chicago Board of Trade (CBOT) on corn and soybean futures shows that canola correlations are lower than their US counterparts. Although this contributes to the argument that the canola contract does not provide effective hedging, caution must be used in assessing these results: the canola cash prices provided are bids; not transactions and from a number of companies over a fairly large area (delivery region); canola competes with other crops in these elevators which will sometimes impact on price (unrelated to futures); and as the canola market shifts from a domestically driven market to an export market, the cash values can change more than the futures.

2.2.1.2 Variability in the Basis

Examination of the variability in the basis offers an alternate approach to understanding the relationship between cash and futures markets. Whereas correlation analysis captures this same concept (lower basis ranges contribute to higher correlations), this is perhaps a more intuitive approach.

Figure 2.5 below shows the basis ranges for the respective July-September crop years since 1998-9. August has been excluded from this depiction because the August futures contract was never very well used, historically, there has been a large basis variability relative to the Aug because of old crop/new crop shifts and it's low utilization, and the August futures was delisted within the time frame of this analysis.

Figure 2.5: Basis Variability: Par Region Hi-Lo Range (By Sept-July Crop Year)



Source: Winnipeg Commodity Exchange

Observations

- ➔ The basis ranges show evidence of trending wider, particularly in the 2003/4 and 2004/5 crop years.
- ➔ The ranges by delivery month tend to narrow-in through the crop year, going from a September average for the seven years at \$20.25 to the July average of \$14.52.

2.2.2 Convergence

An underlying fundamental of futures markets is the concept of convergence. Convergence is described as the tendency for futures and cash market prices to approach one another leading up to the delivery month (also called the contract expiry²); in this way, futures are meant to

² In this report the term “expiry” is favoured in reference to individual contracts, as in ‘the Sept expiry’. Some futures contracts do not provide for physical delivery and so “delivery month” is an unsuitable term; expiry is more generic and can be used for any futures contract, regardless of its design.

converge with spot cash prices for grain with the same or similar terms as the futures contract (i.e. same location, same grade). It is the generally predictable relationship between cash and futures markets through the concept of convergence that allows futures to provide their economic value of price discovery and risk transference. If futures and cash market prices converge at the same location, futures contract gains or losses are more likely to offset a greater proportion of hedgers' gains or losses resulting from changes in cash market prices during the same period. If prices do not converge, hedgers are not as likely to be protected against cash price changes. As futures tend to track or follow cash markets, they can be used with confidence by anyone in the canola market as a tool to hedge the price of canola at anytime and anywhere.

It should be noted that convergence is not expected in remote areas, far from the delivery locations.

The catalyst of this project was the general sense among some producers that the canola futures contract hosted by WCE does not exhibit convergence and hence does not provide meaningful prices or effective hedging (risk transference). This view was based on the experience in recent years where, throughout Western Canada, the basis levels have been the weakest since the new contract was listed in 1995 (particularly in the fall), with volatility more pronounced than previously.

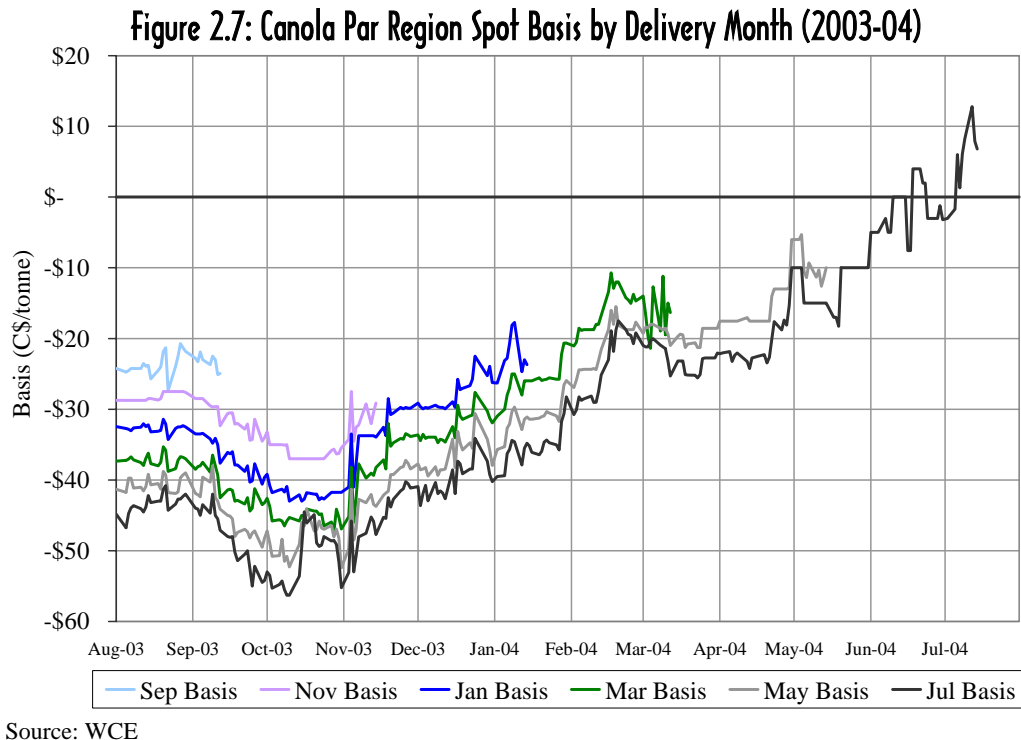
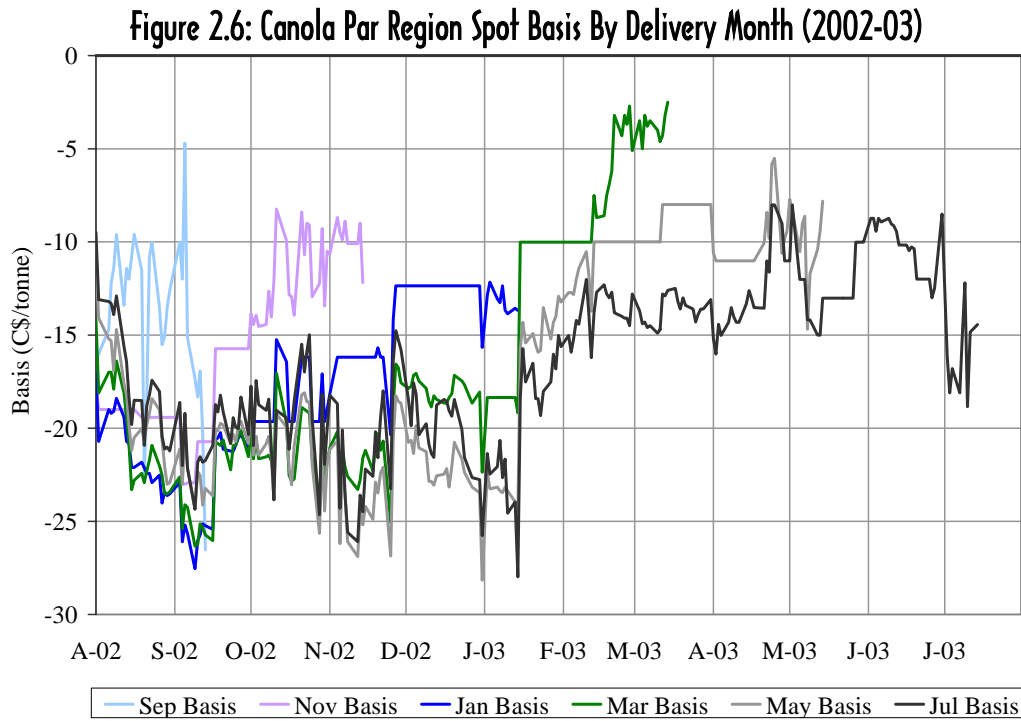
Regarding convergence, the basic question is "to what 'spot' price should the futures price converge?" Moreover, "what is convergence?" Strictly speaking, during the expiry month the futures price for canola should reflect the value of canola instore the regular delivery elevator, plus associated costs. These costs include elevation and any other costs associated with handling and storing canola, as well as the opportunity cost – the value placed on the elevator's storage and shipping capacity. Since we don't know for certain the value of stored canola or the currently applicable costs, it is actually impossible to verify that convergence occurs.

Elevators licensed as "regular" for canola delivery issue Warrants that provide the fiduciary backing of Delivery Certificates. Theoretically, their bids in the spot market should represent their marginal valuation of a Delivery Certificate net of the costs (including the opportunity costs) required to make a delivery. That is, they should be willing to issue a Warrant (sell a Delivery Certificate) in return for an amount equalling the cost of replacing the sold canola. That cost equals the delivered price of canola to the elevator (bid price), plus whatever transactions, execution, and opportunity costs are incurred in the delivery, including the marginal cost of storage and elevation. Perhaps most importantly in the canola market is the opportunity cost; in the event of making a delivery, another party (the long) takes control of those stocks of canola in the elevator. As long as the Delivery Certificate is outstanding, the regular elevator operator must store the equivalent amount of canola and make it available to the long if called; this can reduce the elevator operator's ability to earn revenue from handling canola or other grains at that elevator. It is this potential lost opportunity that gets priced into the cash price of canola.

Assessing convergence in the canola market demands caution. Complicating factors that make determining convergence very difficult include:

1. **Spot bids versus transaction.** Using bid data may give a misleading estimate of the value of spot canola as there can be a considerable range in the bids made by elevator operators in a delivery region on a given day, reflecting local supply and demand dynamics as well as available storage capacity. Therefore it is preferable to use actual transaction price data.
2. **Price relates to end-user value** or the revenues that an elevator operator earns from handling canola. There is the tangible cost of elevating canola (reflected as a cash price in a delivery month that is roughly \$10 per tonne below futures in the Par delivery region), as well as the intangible value of maintaining a long-term end user relationship by meeting demand.
3. **Value of storage capacity.** Delivery on canola futures contemplates storage, not shipment. The Delivery Certificate provides the buyer with a claim on stored canola; elevator operators are reluctant to execute futures delivery because their business model focuses on throughput, not storage. If an elevator is near its effective storage capacity, the basis will widen because the elevator's opportunity cost of providing canola storage is high.
4. **Value of throughput capacity for other grains.** Elevator operators are disinclined to obstruct their ability to handle CWB grains by storing canola for futures delivery. An elevator's share of transportation (rail car allocation) for CWB grains is based on its historical shipment pace.
5. **Transaction costs of taking delivery.** In theory, taking delivery of canola will be uneconomical unless the spot price exceeds the futures price by at least the cost associated with accepting the delivery. The canola contract has delivery potential in 5 large regions (soon to be 6) covering all of western Canada. Delivery Certificates are generic in that they are not a claim on storage in any particular region or elevator. There is an unknown cost factor for the long related to the economics of the futures delivery depending on location relative to his shipping program.

Comparing Par Region cash to futures at expiry has shown a relative inconsistency over the last few years. Figures 2.6 and 2.7 below show the basis levels of Par Region cash canola relative to each delivery month (expiry) for 2002-03 and 2003-04 respectively. Looking at the end of each line in the chart we see where the contract expired relative to underlying cash prices. In 2002-03 (Figure 2.6), basis levels at expiry do not show a pattern indicating consistent convergence; however, basis levels in 2003-04 (Figure 2.7) show a pattern suggesting improving convergence but only as the crop year progresses. In this particular crop year, the canola expiries early in the crop year – Sept, Nov, and Jan – remain at sizable premiums to cash even at final expiry. The later expiries – Mar, May and July – move more decidedly toward a closer convergence; the July even ends up at a premium to the underlying cash at expiry. Looking at other crop years there is neither an apparent pattern nor a consistent sense of convergence.



If we accept the definition of convergence as [cash = futures minus all associated costs], it must be said that the WCE canola contract has a highly variable cost structure that appears to be dependant upon the season. The fall season has the greatest costs associated with delivery as that is when there are the greatest pressures on the system; the spring and early summer has the lowest costs associated with it since there is less pressure on the system.

Complicating factors in the canola contract dissuade elevator operators to view futures delivery as a viable option most of the time, under most conditions. This lack of ongoing interest in arbitraging the cash values against the futures prices is effective in reducing any potential consistency in convergence. The end result is a situation whereby the cash to futures relationship at futures expiry (and by extension, as the market approaches expiries) is not generally predictable.

Although this analysis has not proven it, it appears that cash bids are not related to futures delivery potential; rather, producer bids are based on demand levels. The fact that there appears to be little cash-futures arbitrage – in terms of setting cash prices or for the purpose of threatening delivery – contributes to greater basis variability and weaker convergence.

The wide basis variability during the futures expiry leads to two basic conclusions:

- ➔ Futures delivery is not being reflected in the value of canola (as represented by elevator bids in the Par Region) during the expiry. If it were, the basis would not be as variable, although it could still be at a sizable discount to the futures.
- ➔ This high basis variability is a reflection of the expiring contract being ignored. Typically, cash bids will be based on the next month out, and the open interest and liquidity in the expiring contract will be quite low.

Experience tells us that the cash bids are based on demand values and producers' flat price trigger-prices. During a futures expiry bids are already based on the next futures contract; both of these factors will contribute to basis variability during an expiring contract. This tells us that those that can deliver against futures are not setting their cash bids to farmers relative to futures delivery – even considering the high opportunity costs.

In addition to the measures discussed above (convergence, correlations and basis variability), there are a number of other measures that are useful in assessing the canola futures contract with respect to its role in risk management.

2.2.3 Other Measures of the Usage and Hedge Effectiveness of the Current WCE Futures Contract

2.2.3.1 Open Interest

The open interest (OI) of a futures contract represents the quantity of not yet offset by an opposite futures transaction nor fulfilled by delivery and is often considered as an indication of the level of market liquidity. The maximum OI in a futures contract demonstrates – or at least is indicative of – relative interest in the contract as a hedge mechanism. First Day Delivery (FDD) open interest suggests the level of interest in arbitrating the underlying cash with the futures contract and threatening delivery; the greater the interest in arbitrating spot cash to futures, the larger the OI on the first delivery day.

Observations

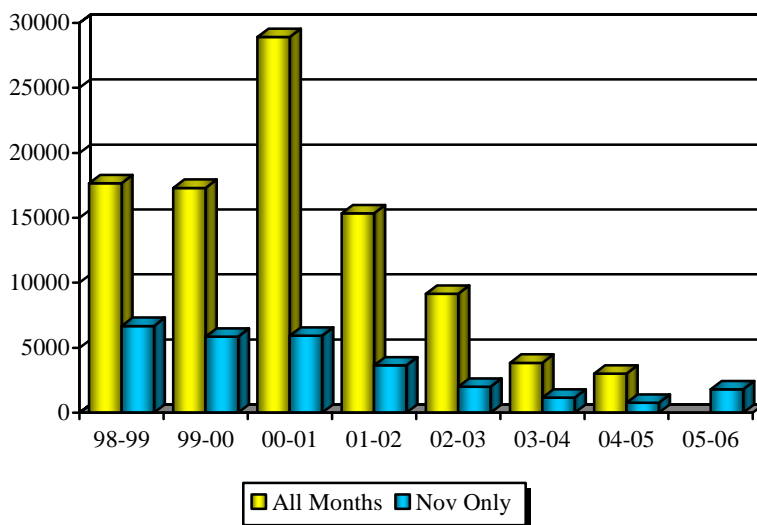
- The maximum OI has maintained or increased its levels on all contract months except the September, which has dropped off considerably; from a high of 4,246 contracts in 1998, the maximum OI in a Sept expiry has dropped to 90 contracts in 2005. (Due to a lack of volume and open interest and general feeling that the Sept does not really respond well to the cash market, the WCE has recently de-listed the Sept expiry for trade.)
- Based on the maximum OI the greatest interest appears to be in the Nov (50,874 2005 maximum contracts) and then the Jan (47,544 maximum contracts) expiries. This is consistent with the cash trade in canola which tends to see more canola moving through the system in the first part of the crop year, prior to the end of December.
- The FDD open interest is often viewed as an indication of the level of interest in the delivery aspect of the contract. Each delivery month is showing a decrease in FDD open interest – for some, dramatic. Whereas in 1998 all expiries combined had an aggregate total of 22,104 contracts open on the first delivery day, in 2005 this dropped to an alarming 5,705 contracts in total across all expiries – a 74% drop in seven years.
- The greatest pressure on deliveries occurs in the fall and early winter for two reasons: (1) producers are anxious to move canola for cash flow and, (2) the basis is weakest in the fall providing the greatest financial incentive for grain companies to deliver (ignoring for a moment the opportunity cost of doing so). For this reason the large drop in FDD open interest in the Nov and Jan expiries should be of particular concern for the WCE.
- Generally speaking, a lack of interest in futures delivery is demonstrated by rolling futures positions forward ahead of the delivery month. Based on the data presented above, this appears to be a current trend in the canola market.

2.2.3.2 Deliveries

An analysis of the deliveries (including redeliveries) made on each of the canola futures contract expiries from Jan 1998 to Nov 2005 revealed a substantial decline. Whereas deliveries in this time period peaked in the 2000-1 crop year with 28,924 contracts, they have dropped to a low of 2,999 total contracts in 2004-5 (a contemporary low) representing a 90%

drop. Between the 1998-9 and 2004-5 crop years, total annual deliveries have dropped about 83%.

**Figure 2.8: Canola Future Usage by Crop Year
Total Deliveries Against Futures (#'s of contracts)**



Data Source: Winnipeg Commodity Exchange. All month total for 2005-6 not available.

As suggested earlier, the greatest delivery pressure comes on the delivery months early in the crop year. The evident drop in deliveries in the Nov and Jan delivery months in particular is perhaps indicative of mounting deterrents to spot-cash to futures arbitrage.

Deliveries as a proportion of total available stocks have also dropped over the last few years, dropping from an annual average of 16% of available deliverable stocks in 2002 to 5% in 2005. It is difficult to argue, therefore, that deliveries are lower due to lower stocks of canola.

Finally, the highest proportional canola futures deliveries to licensed deliverable capacity was 3.6% (Jan 2001) and the lowest was less than 0.01% (May 2005). The trend – as with the trend in deliveries – is toward lower proportional deliveries.

2.2.3.3 Exchange for Physicals (EFPs)

Another indication of the use of a futures contract for cash trade is the volume of Exchange for Physicals (EFPs). These are futures transactions directly related to cash business that can generate open interest in futures.

The total annual volume of EFPs has dropped from a recent peak of 223,401 contracts in 2000 to a low of 106,267 contracts in 2005, representing a 52% drop. Since 2000, the Sept contract has virtually been

2.2.3.4 Volume of Futures Trade vs Crop Size

ignored in EFP and EFR activity. The Nov contract has seen the largest drop in EFP activity, dropping 91% since 1998.

EFP volume as a percent of commercial canola sales (disappearance) has dropped during the study period from a high of 65% in 1997/1998 to a low of 40% in 2003/2004 crop year. This is indicative of a reduction in interest in the futures market as a component of a merchandising program. Although impossible to determine, it is assumed that the purchase of Agricore by UGG to form Agricore United in November 2001 and the general trend to pipeline merchandising are the main forces behind this proportional reduction in EFPs.

A final measure looks at the annual (crop year) volumes of trade in canola futures and compares them to the corresponding level of Canadian production in the same year. This analysis suggests that the canola futures contract trades between about 4 to about 8 times the size of the crop. The most recent years are among the lowest at 4.96 and 4.28 times. Although the ratio has tapered off recently, it is difficult to draw any substantial conclusions from this.

2.2.4 Perspectives on the WCE Futures Contract

Generally, the *producer consultations* confirmed the trends evident in the above analysis.

The specifics of the futures contract and mechanisms like hedging and options to mitigate price risk in canola are not well understood by many producers. Nor is the understanding of what makes up the basis. Some see being active in the futures market as akin to speculation. Producers see these tools as being more applicable to larger operations. They note that brokers are not typically supporting farm use of the WCE futures contract as a hedging tool; they do not function to provide marketing direction or advice, but rather to execute trades. In this regard, some do not feel they have access to expert advice regarding their marketing decisions, a situation that has been exacerbated by the withdrawal of provincial extension services. Their observations of a widening basis, no real threat of delivery and thus perceived lack of convergence have reduced their confidence in using the WCE futures contract as a hedge. It should be noted that among the producers consulted in this phase, none had attempted to deliver against a WCE futures contract. Finally, the observation was made that IP (identity preserved) contracts and the trend to closed-loop marketing in canola may negate the need for a futures market.

The consultations with *the trade* (grain company officials) also confirmed the general trends observed regarding the outlook for the WCE futures contract. All indicated that their primary interest (in some cases sole interest) in futures is to hedge and that the commonly used deferred delivery contract is based on the futures market/price.

2.2.5 Conclusions the WCE Futures Contract

Some interviewees expressed concerns with liquidity in the canola futures contract and noted that cash trade in Vancouver is very limited and waning; it is not an accurate reflection of export transactions.

The trade confirmed that what “drives” basis levels includes:

- ➔ Local/regional competition;
- ➔ Flat price demand (local crusher and offshore buyers);
- ➔ Supply (instore plus canola being delivered into the system) as it relates to demand, storage and throughput capacity (i.e. are supplies satisfying what is needed or are they in excess or in short supply);
- ➔ Competition from other grains for elevation capacity. Both storage and throughput – particularly and most notably CWB grains.

None of the grain companies interviewed indicated that they arbitrage cash and futures; in other words, no elevator company that can deliver indicated that delivery opportunities influence their determination of basis. Futures delivery economics – cash/futures arbitrage – takes into consideration much more than simply the cash value vs. the futures price and elevation and storage tariffs. Elevator operators will consider lost income from not being able to handle other grains, lost market shares (on canola and other grains) and farmer business lost to local competitors because they couldn’t accept new deliveries (of all grains).

The trade has no interest in taking delivery of canola futures because it values its throughput capacity, does not want to compromise its ability to accept CWB wheat deliveries by having its storage tied up, and acknowledged that IP canola is consuming increasing amount of storage space. As IP canola increases in volume (some estimate it could represent up to 50% of the canola movement in future), the threat of delivery against the WCE canola futures contract will be reduced. Third party deliveries (by farmers or other grain dealers), although technically allowed and provided for in the WCE bylaws, are not attractive to any elevator operator for similar reasons as well as the need for increased indemnification.

In conclusion, the WCE canola futures contract has a recent history of correlations that are lower compared to CBOT soybeans. Although this reflects comparatively poorly on the WCE canola futures contract as a hedge mechanism for canola, this conclusion must be made with great caution. The cash data provided by the WCE is flawed for a variety of reasons (covered above) and could skew the analysis. Conversely, experienced traders and producers intuitively know and understand that the cash-futures price correlation is not as high as CBOT contracts.

Correlations in this study exhibit improvement over the span of a crop year. This is perceived as a reflection of the basis improving from usually very weak levels in the fall to stronger levels in the spring. Not only is the basis stronger in the spring, but there is less canola seeking storage, a situation which contributes to a more certain bidding regime; that is, the

later bids do not need to reflect the opportunity cost of storing canola and the relative uncertainty of how long the canola might be stored, rather they reflect the values required to draw the canola into the system.

Grain companies do not appear to actively arbitrage cash to futures as the terminal operators do in the US. The difference may be in the characteristics of the US marketing system where terminals handle grain for other parties; the Canadian system operates in a materially different manner. In addition, the CBOT Shipping Certificate is different than the WCE Warrant; the Shipping Certificate is not a claim on storage as the Delivery Certificate is here; rather it is a claim on throughput capacity, something that the terminal operators make available in a normal course of business anyway.

Basis variability analysis, comparing WCE canola to CBOT soybeans, indicates that in canola, more price risk is found in the canola basis than with the soybean basis.

3.0 SOLUTIONS GOING FORWARD

3.1 REDUCE PRESSURE ON CANOLA TO GENERATE FALL CASH FLOW

The conclusions of the technical analysis, the trade consultations and exploratory consultations with the producers led to the development of two sets of recommendations, aimed at strengthening the fall basis and improving the WCE canola futures contract. The concluding arguments that led to these recommendations, examples of how the recommendations could be implemented, and producer response obtained from the round 2 consultative workshops is presented in the following sections.

The extreme basis levels in the early part of the crop year are primarily due to the tendency of the producer community to deliver more canola into the system in the fall than the market requires at that time, putting pressure on the storage and shipping capabilities of the system. In an environment where throughput has a greater value than storage, there is an aversion of futures delivery; elevator operators faced with these excessive deliveries weaken basis levels (lower prices) as a signal to producers to defer deliveries until later or incur a significant cost (receive a lower price) for the right to deliver at harvest. Notwithstanding, practically every year excessive volumes of deliveries by producers drive basis weaker in the fall period. Later in the year, producers tend to respond more to price and basis strengthens as the market looks to attract additional stocks of canola. Producers confirmed that they sell and deliver in the fall excess supplies of canola because of cash requirements, convenience and on-farm storage issues such as the desire to avoid the risk of storing canola and the need to free up storage capacity for other grains.

Producers as a group are not sophisticated marketers of canola, most often ignoring fundamental signals from basis and futures spreads (if not ignoring them, they may be unable to act appropriately on the signals due to financial or storage considerations, or marketing constraints for their CWB grains).

Perhaps the most costly issue facing canola producers regarding risk management is the weak basis (i.e. high cost) in the fall. Not only does this weak basis represent an unnecessary cost to producers, the wider basis variability caused by it also represents higher risk, which also must be considered a cost.

An appropriate goal would therefore be to reduce basis risk (variability) and seasonal weakness by focusing on reducing the large fall deliveries of canola into the grain handling system.

Alternate approaches to farm financing would provide producers with appropriate tools to reduce delivering canola in the fall. The goal would be to foster sales at harvest but for deferred positions allowing producers to take advantage of carrying charge markets and still generate cash in the

3.1.1 Private Sector Advance Payment Program

fall. Not only could producers take advantage of higher prices in the spring, it is estimated that fall prices would be stronger as well, ultimately achieving an equilibrium between different delivery periods. This would require new financial mechanisms that could include: lending instruments provided by financial institutions and canola buyers that would provide upfront cash to producers on the basis of deferred sales contracts; alternate approaches to the Federal Cash Advance Programs; enhanced securitization on deferred sales, and; more market oriented pricing by the CWB.

It is recommended that the Canola Grower groups explore further the concept of advanced marketing programs as described below with the eventual goal of establishing a framework and culture supporting this type of marketing protocol. It is recommended that the Canola Grower groups explore with Agriculture and Agri-Food Canada ways to enable producers to employ the proposed advanced marketing techniques in conjunction with the APP.

As indicated earlier, cash flow needs are an extreme driving force in farmers' marketing decisions, particularly in the fall (harvest time). Most operating loans and input loans come due at that time and so, to generate the cash needed to pay or liquidate these debts, producers need to sell at least a portion of their production.

The existing Advanced Payment Program (APP) provided by the Federal Government (through the producer's financial institution) and administered by various producer groups provides cash advances to producers of these crops. The canola APP is administered by the Canadian Canola Growers Association. According to AAFC, "The APP is a loan guarantee program that facilitates access to credit for producers at or after harvest."

This study concluded that while the APP may provide producers with much needed cash in the fall, its applicability to risk management is limited, based on the following factors.

- The loan is based on only 50% of the anticipated price for the producer's region. It is assumed this is to mitigate the market risk associated with providing the advance; indeed, in the APP documentation there is a discussion of the implications of the market price dropping prior to the producer selling his crop and repaying the loan. Moreover, the loan must be repaid upon the delivery and sale of any canola.
- The APP does not take into consideration the potential of a locked-in price for deferred delivery which has no market risk (as the price is fixed), nor does it contemplate application to specific deferred sales. It stands to reason that the loan could be expanded with little risk if the program recognized these types of contracts.

- ➔ Aimed at fostering “orderly marketing”, these cash advance programs allow producers to hold inventory as they wait for better prices. However, often better prices are not often seen or acted upon. Moreover, experience has shown that the capacity of these programs is not enough to stem the tide of farm sales and deliveries in the fall which are the main contribution to lower prices (weaker basis).
- ➔ Current APP rules stipulate that producers must repay any outstanding advances upon selling the underlying commodity. Therefore, producers will sell (and physically deliver) canola in the fall prior to taking out an advance. Deliveries in the fall are substantial (as indicated in this study) and the advances are taken out on later sales and deliveries.

The PSAP Concept

Contracting programs operated and administered by the private sector could be established that enable producers to take advantage of market conditions that offer to pay a premium for later (deferred) delivery, while also receiving cash in the fall. In this manner, these private sector advance programs would be directly linked to confirmed deferred sales. The advancement of cash through these programs would enable producers to sell their canola (or other crop, for that matter) at harvest time, locking in a price for deferred physical delivery. They would receive a portion of the value at the time of the sale, and the balance upon physical delivery at a later time.

Means of securitizing these transactions also would need to be explored. Canola buyers or financial institutions offering these contracted advances will need a form of security to enable them to make the advance on the basis of on-farm stored grain and a forward contract. (One possibility is the security provided by the AgClearing concept as explored by the Western Barley Growers Association, supported by Agriculture Canada’s Private Sector Risk Management Program.)

Those providing these programs could include grain companies and dealers, and crushers. Life science firms (such as Dow and Monsanto) may play a role in this type of orderly marketing as they get increasingly involved in closed-loop procurement, processing and distribution programs. Other organizations that could play roles in this type of program include financial institutions (providing the advance), the Canadian Grain Commission and others that may play a role in the securitization of the transactions³.

³ Although this analysis is aimed at canola, producers of any crop could benefit from this type of program. Even producers of CWB grains could benefit in the event that the CWB offered deferred pricing to take advantage of deferred pricing opportunities.

Please see Appendix B for a comparison of the features, pros and cons of the proposed program, in comparison to existing forward pricing/deferred delivery mechanisms and the government advance payment program.

The following is an example aimed at identifying and describing the potential steps and players involved in the program:

1. On October 1, a producer sells 500 tonnes of canola to a grain company on a deferred delivery contract for delivery during the last half of May. Instead of receiving the spot price of say, \$260.00 per tonne, the deferred contract offers \$300.00 per tonne; on 500 tonnes, this means \$150,000; a difference of \$20,000 to the producer (\$40.00 per tonne or \$0.91 per bushel).

An alternative approach would see the producer sell 500 tonnes of deferred canola futures (25 contracts). At a later time, he would then lock in his basis as well. Although the net impact to the producer would be similar, the mechanics and the security requirements would be somewhat different with the financial institution.

2. The grain company hedges in the futures market its purchase from the producer in the traditional manner.
3. The producer takes the confirmed sales contract to his financial institution as proof of his sale and commitment to deliver at \$300 per tonne, documenting that he will receive a total of \$150,000 for his canola. The producer may also need to prove or document that he has proper storage facilities for the canola and may be required to advise the exact location of the canola and allow periodic monitoring of the canola in store.
4. The financial institution or the producer secures the transaction by registering the transaction with AgClearing, or through some other prescribed process that satisfies the security requirement. (It should be noted that grain companies or processors could also forward the cash to the producer.) For the purposes of this example, we assume that the cost of this securitization is borne by the producer and costs \$0.50 per tonne (\$250 in this example).
5. Upon being satisfied with the producer's sale and documentation, the financial institution advances a prescribed proportion of the value of the contracted sale to the producer; for this example, we will assume it is 80% of the contract value. This would mean the advance would be in the amount of \$120,000. It is assumed that at least a portion of this money would be used to retire or reduce debt; if provided by the producer's financial institution, reduction of debt could be a requirement.

It is undetermined what the appropriate or accepted proportion of the contracted value would be advanced. However, the goal in this program would be to advance as much as possible to the producer on the strength of confirmed sales. Whereas loans and other advances (such as the Federal Cash Advance Programs) provide lower proportions advanced (such as 50%) due to the inherent market

uncertainties and risk, this program could provide a greater proportion of the value of the grain as there is no market risk.

6. Interest on the advanced cash is charged at a prescribed or negotiated rate; for this example, we will assume a rate of 6%. In this example, this means a total interest cost of approximately \$4,550.
7. The net outcome for the producer is \$20,000 more income on his grain sold at harvest at a cost of \$4,800 (\$250 + \$4,550) plus (possibly) the cost of managing the storage of the canola (i.e. aeration). The net benefit in this example (assuming no storage costs⁴) is \$15,200 (\$30.40 per tonne, or \$0.69 per bushel). In addition, there may be added benefits such as reducing financing costs by shifting to a lower interest rate.

In the event that there is substantial acceptance of this type of program, there would be ancillary benefits in that market values would improve for non-contracted grain as well.

These proposed advance programs would be different than the Federal Cash Advance Programs in that they would:

- ➔ Foster more advanced marketing techniques
- ➔ Proportionally provide more cash in the fall
- ➔ Have a positive impact on market prices (even for grain not contracted), i.e. strengthen cash basis levels.

This type of advance program could also apply to other commodities.

3.1.1.1 Producer Response to the PSAP

3.1.1.1.1 Fit with Current Options

The concept of the PSAP was endorsed in principal by the canola producers participating in the round 2 consultations. Key benefits were seen to be the flexibility offered by the contract, the availability of one more tool to help manage price risk, and the ability to spread deliveries out over the year to match cash flow needs and to take better advantage of future pricing.

The grower consultation process confirmed several reasons why the APP, as it is currently designed, appears not to enjoy extensive uptake amongst canola growers, except for the interest free portion. The \$250,000 APP limit and the \$50,000 limit on the interest free portion have been continuing and increasing sources of dissatisfaction, especially amongst

⁴ We assume no storage cost as it is assumed that producers have on-farm storage already. However, we acknowledge that some producers may be required to invest in additional storage.

larger growers, because of farm consolidation and expansion. Other issues include a perceived lack of benefit from the interest portion, having to deal with multiple agencies for different crops, a relatively high application fee for canola (relative to CWB grains) and delays in receiving payments.

This PSAP would address a fundamental problem with the current Advance Payment Program (APP) that is, not having a specified future delivery date with incentives to hold it to that date. At the time of writing (2006) the APP rules require that the first grain out must be used to repay the APP. The PSAP also addresses the issue with the eligibility limits associated with the APP. Presumably; the PSAP would not have a limit and could better match the cash flow needs of larger producers.

A significant concern with both the APP and the proposed PSAP is that these mechanisms are really just ways to draw on future earnings of the producer, therefore increasing his reliance on debt.

The decision to take a PSAP contract would not preclude or replace decisions to forward contract in the spring for later delivery of that crop.

The growers consulted felt that the PSAP would complement current deferred delivery contracts that are entered into well in advance of harvest and are subject to crop loss risks. The most recent example was the August frosts in 2004 experienced in Saskatchewan. It was suggested that the PSAP would be particularly attractive to those who sell a large percentage of their crop in fall due to cash flow pressures.

The PSAP could function as a replacement for an operating line which many growers may not be able to secure with their financial institutions because of a weak financial position. Those relying heavily on trade credit or younger farmers in expansion mode who may have maxed out on their operating line could particularly benefit from the PSAP. Those growers were likely the ones most likely to feel fall delivery pressures.

The ability for one to secure operating financing is dependent on their degree of capitalization. Well capitalized growers have borrowing capacity available to them and they can take advantage of input savings through to holding out for a better market price. Growers who are under-capitalized are comparatively disadvantaged at both ends, thus polarizing the profitability of these two groups even further.

The better managers, as recognized by their financial institutions, were able to secure bank financing, leveraging the value of their inventories if necessary, and saw no need for an additional program, unless there was a demonstrated cost advantage.

Of the growers consulted, the majority indicated interest in using this mechanism for at least some of their canola crop, with a range of delivery months from December through to August. On average, they would expect about 75% of the purchase price to be paid up front with the remaining

3.1.1.1.2 Program Features and Uptake

25% on delivery. If less than that, it was felt that there would be no advantage over the current government program, and more significantly, the costs and additional time would not be worth the advance.

A key feature of the PSAP would have to be (near) immediate issuance of the advance cheque. These growers would not be prepared to wait for weeks until the cheque arrives. Immediate cash is fundamentally the attraction of true cash sales.

Many provisos to an actual decision to use this tool were identified:

- ➔ The price contracted for, relative to the current futures and cash price;
- ➔ Storage availability;
- ➔ Crop quality and related storage risk;
- ➔ The costs:
 - Interest and application fees, relative to traditional bank financing.
 - Storage costs, especially if investment in advanced storage/aeration or drying systems was required. Those with storage generally feel their systems meet their needs now and are not a factor in negotiating deferred delivery contracts.
 - Additional grain handling costs/work to harvest, fill bins, empty bins and truck. Canola must be turned, on average every three months if stored on the farm. The cost (loss) must be factored in because each time it is turned it suffers some cracking.
 - Insurance.
 - Opportunity cost, if the price contracted for turns out to be lower than the spot price at delivery; and
- ➔ The net anticipated economic benefit to justify the business case to invest in the required storage to support the adoption of this type of contract.

In the opinion of the canola growers consulted, concerns or anticipated weaknesses with the PSAP concept rest with a number of factors beyond the cost relative to the anticipated benefit. These issues may in turn impact uptake and include:

- ➔ Reluctance to deal with another (third) party administering the advance;
- ➔ Concern that this means government would off load the function of the Advance Payment Program to the private sector and withdraw their program, and therefore the guarantees and interest free portion of the advance;
- ➔ A feeling that the contract may be advantageous for the first couple of years, but once “hooked”, that advantage in the market place will disappear;

3.1.1.1.3 Possible Providers

- ➔ A feeling that the current system offers signals that savvy marketers can and do take advantage of. If the basis was smoothed out over the year, than these marketers could not take advantage of the extremes they now enjoy. Some competition is healthy but if all or most companies offer the program, its benefit to individual growers would be diluted. Growers are looking to optimize their marketing opportunities, not just the price.

One question that was raised related to the ability to trade these contracts, and whether they offered a speculative opportunity.

Mixed opinion was evident in regard to the preference for a possible provider of this type of contract. Ultimately, it would come down to who could deliver it at the lowest cost. Some felt that multiple providers would increase competition and bring down the cost. Others felt it would be best rolled in with the existing delivery mechanism of the APP, which is familiar, especially if the target for PSAP is cash strapped farmers some of whom may be regarded as less successful managers. The advantages of having it administered under one entity with the APP would be that the chance of abuse (over pledging the same inventory) would be mitigated, and another administrative entity would not be necessary. Simplicity and avoidance of another middle man were seen as key success factors in delivering this type of program. Arguing for one entity to deliver the advances (under the APP) however, the participants could not readily see how a PSAP could operate in tandem with the APP and cautioned that the two programs should not compete with one another.

As a general observation, the account managers with the banks that a grower would typically deal with are not perceived to have a very good understanding of the futures market and canola pricing mechanisms. They tend to value the crop at today's spot price, rather than really understand the nuances of the markets and the potential value that might be realized. Furthermore, a grower that is known to trade in futures is seen as being a speculator, and therefore considered more risky. The differentiation between a producer/marketer (having the grain in the bin to sell) and a speculator (trading without grain in the bin) was made. A private sector advance program, regardless of who offers it, could address these issues because the future revenue is definite and secured.

It was noted that in many rural locations, the banking industry has backed off of financing farms and many branches no longer have a local agricultural business manager. It was felt that if financial institutions were to offer the PSAP, then they would have to make a commitment to bring back local managers with agricultural expertise.

A disadvantage of having one entity, especially the banks, offering this program would be that it would tie the customer even more so to that lender. To illustrate this resistance, some growers see the current requirement of having the financial institution sign off on the APP to be a

“slap in the face” as they see this as support rather than a loan per se. As such, they and would prefer it to be handled by the grain company.

One grower suggested that Farm Credit Corporation (FCC) could be a natural to get involved because they are positioned as a government agency to support agricultural programs. They could play a role in initiating the PSAP, but may not necessarily continue to deliver it in the long term.

The grain companies/crushers could offer the PSAP as a service to their customers and as an incentive to attract canola. According to some growers however, it is unlikely that this type of contract offered by any one grain company would, in itself, attract the grower’s business. Reasons for dealing with one supplier or buyer are complex and based on many factors, of which contracting options may be just one element in the service/price offering. Offering this type of contract to preferred growers might be seen as a form of favouritism. In principal, it was felt that the grain companies do not want be perceived in this manner, but in practice, it was felt that different basis levels are offered to different farmers anyway, based on the historical relationship.

A key disadvantage (from the producers’ perspective) of having the grain company offering it would be that they would know better exactly what deliveries they could anticipate, and therefore could manipulate the price accordingly. The contract would “obligate” a grower to sell to that grain company, thus removing a degree of healthy competition for that grain which may present a pricing opportunity to the seller. It was detailed in the report and acknowledged by the producers that that competition in the grain handling system had shrunk substantially over the past several years and that the environment for canola marketing had changed accordingly.

Another fear related to the grain companies offering the PSAP would be that they would try to tie the contract to input sales in the spring. They would know exactly when the payments on the inputs would be due and therefore when deliveries would be made to free up cash. The same principal could be applied to anticipating cash needs for expenses such as GST payments. If this type of contract was offered by all companies and basis variably declined overall, a concern was expressed that canola pricing could, in effect, be subject to collusion. Further, the costs of offering the program could be rolled into the basis, further clouding the ability to read market signals. Tying in input supply, purchasing of that crop and financing was seen as tantamount to a closed-loop production system that many growers are feeling they are moving toward anyway.

It was cautioned that credit or loan programs offered by the private sector (grain companies/input suppliers, and seed companies) shouldn’t overlap with one another.

Basis variability between buyers at the local level and at a point in time was considered to be reflective of a healthy market. However, as grain companies get more and more focused on throughput and turn, they will, theoretically, be competing more aggressively to attract grain. More

3.1.2 Securitization of Inventories

throughput also means an opportunity for growers to share in the increased profits derived from the volume by providing (and being paid) for the on-farm storage required to support the increased turns in the pipeline. The question was raised in the groups as to whether there was less storage in the pipeline now with the consolidation of the grain companies and fewer country elevators. It was felt that storage capacity probably hasn't been reduced but emphasis on throughput has increased. The PSAP mechanism supports the idea of on-farm storage. As noted previously, the grain companies could theoretically benefit from uptake of this contract because they would know ahead of time the exact volume contracted for and at what price, which in turn could allow them to better manage their sales. Basis contracts alone do not provide this degree of assurance.

The Canola Grower groups should work toward developing a transaction, cash advance and inventory securitization system that can be used with deferred delivery contracts that provide cash advances.

The canola industry (as well as other commodities) would benefit from improved inventory financing. Linked to the recommendation regarding the Private Sector Marketing Advance Program and the Federal Advance Payment Programs (both discussed above) is the recommendation that improved inventory securitization should be explored and implemented. This could also apply to inventories tied to futures delivery.

Whether the producer is borrowing from his financial institution or taking out a cash advance (either Private Sector or APP), absolute financing amounts and costs (interest) could be improved if inventories were secured.

One initiative that may facilitate the provision of this additional security is the AgClearing concept as currently being explored by the Western Canadian Barley Growers Association, supported by Private Sector Risk Management Partnership (PSRMP) funding. Salient features of this initiative are:

- It aims at providing an entity and business structure that assures payment and delivery, standardizes rules and also measures and manages risk.
- It provides management of transactional risk between counter parties as opposed to systems that attempt to secure the financial integrity of the counter parties through bonds, insurance and other forms of securitization.
- The contract clearing system is said to be more secure and less costly than any other risk mitigation technique and is widely used in many commodity based industries.

The AgClearing concept aims at securing transactions, however it does not appear to secure inventory. In other words, it provides a secure backing to deferred delivery transactions where no payments are made until physical

3.1.2.1 Producer Response to Securitizing Inventories

delivery is executed. If a counter party to the transaction defaults (say the seller defaults) then the other party (the buyer) is compensated for any change to the market price of the underlying commodity (if the price moves higher than the transaction price, the buyer receives this difference).

For the AgClearing program to work with the proposed program being recommended by this analysis, it would need to be able to cover any advances made on the defaulted grain sale as well as any adverse market price changes.

Improved securitization of on-farm inventories would need to provide banks and other financial institutions with lower inherent risk and increased confidence to provide marketing loans to producers (meeting required criteria) who have entered into deferred sales.

Generally, the producers consulted felt that securitization of their inventory, in order to take advantage of the proposed private sector advance program and the proposed modification to APP, would not be practical.

Many were unclear as to how securitization would work and how it would be different from a bank that would use the inventory as security against an operating line. Distinction between securitizing the transaction and/or the inventory needs to be made.

Many felt that there were sufficient mechanisms in the market place now to make securitization unnecessary, even to support the advance programs.

The key point of resistance in regard to securitization was that growers with established trust relationships with the grain buyers felt they would be subsidizing those who have not established such trust but wanted to engage in these contracting arrangements.

It was suggested that the least astute managers would be most likely to abuse the system, therefore would be in most need of securitization.

Another main concern stemmed from the cost of securitization, and reluctance to have another entity involved in the marketing process. It was acknowledged that the cost of the securitization would have to reflect the risk, for example having the canola go off quality, getting stolen, etc. Further, if securitization meant dedication of a particular bin, then locking and inspections would be assumed, further adding to the cost, which would be unacceptable.⁵ The participants were almost unanimous in their feeling that the mechanism could work effectively on a trust or honour basis, as occurs with other contracting arrangements. The seller would agree to sell a set amount of canola of a particular grade, and would have the confidence that he could deliver that canola on the date required, based on his storage capacity and system, and of course, the quality of canola that

⁵ Note: inspections apparently are not anticipated under the Ag Clearing concept.

went into the bin initially. If the canola deteriorated, or he had pledged a volume that he couldn't deliver just to get the advance, contractual remedies such as pre-set discounts or penalties would apply, or at the extreme, fraud charges could be laid if the crop was misrepresented or over-pledged.

Growers clearly want to maintain control of how they manage their storage (i.e. being able to turn the canola in that bin or move it around), especially if they are on the hook for delivering a specified quality. Further, failure to deliver would identify that seller as a risk, therefore precluding the buyer from offering the contract in future.

The practicality of dedicating bins of canola for a specified future delivery contracts also comes into play. Growers may wish to move some of the crop around, or take some canola off each bin for earlier delivery in order to manage storage risk. Further, if a large producer has differing levels of canola quality in storage in different bins, they may choose to decide which canola they will deliver to best satisfy the different quality requirements of the different contracts as those delivery dates approach, or likewise to sell to repay the APP.

Any benefit of securitization would have to be clearly demonstrated to the canola growers (i.e., if they were able to secure a lower interest rate, higher overall price, a higher percentage of the crop value advanced, or a higher limit in the case of the APP), in order for the concept to be justified. These benefits would have to be weighed against the cost of securitization and the effort required to put it in place. The ability to securitize based on the quality of the storage system may also be a factor.

3.1.3 CWB Procurement

The canola grower group should encourage the CWB to modify the CWB's pricing and delivery mechanisms to allow producers with flexibility and incentives to (1) increase fall deliveries and (2) defer deliveries until later in the crop year. This should be communicated with both a letter and an in-person meeting.

The CWB procedures for procurement and payment to producers increase the pressure on non-CWB crops, particularly canola, to generate cash flow. This exacerbates the pressure on the basis, particularly in the fall, increasing the cost of marketing canola (weak fall basis is the way producers are paying high handling and storage costs).

The procurement procedures that are followed by the CWB do not allow producers of CWB grains to market their crop to take advantage of market-based price opportunities. Put another way, they can't respond to market signals as they do with other crops.

Although the CWB now provides a number of pricing options for producers, they appear aimed at providing pricing alternatives only and do not contemplate increased delivery options (beyond some very limited alternatives) or the ability to defer delivery to capture market-based carrying charges.

3.1.3.1 Producer Response to the CWB Recommendation

Please see Appendix C for a description of CWB marketing as it relates to this study.

There was general endorsement but little discussion by the producers consulted on this recommendation. It was felt that this would reduce the pressure for some growers to deliver in the fall, but would not impact those who don't feel that cash flow pressure. Generally the producers acknowledged that there was a need to address these program changes from a whole farm perspective and that the previous three recommendations would apply to all crops and not just canola. As such, more orderly marketing would occur. As for CWB reform, it was noted that wheat and canola should operate under a similar set of rules in order for the market place to function properly. Note that these consultations were held around the time of the 2006 federal election, and one of the Conservative Party's campaign promises was to "allow western grain farmers to be able to participate voluntarily in the Canadian Wheat Board". As such the focus of the discussion was more on the chances of this happening, ideas for what a new entity might look like, the need for harmonization with the US, trade issues, and other resulting impacts, then on the feasibility of the recommendation per se.

3.2 REDUCE COSTS ASSOCIATED WITH DELIVERY AGAINST THE WCE FUTURES CONTRACT

Key features of the industry structure as they relate to the effectiveness of a futures contract are:

- Vertical integration (mergers) within the Western Canadian grain handling and processing sector has likely reduced the trading volume of canola futures as well as the volumes of EFPs and deliveries.
- Canola markets have evolved away from identifiable terminal markets where canola was traded actively among many market participants, to individual "pipelines" operated independently by the major grain handling, processing and exporting firms. The culture around these pipelines reduces dramatically any perceived need to trade cash canola with the other market participants. This has also contributed to a reduction in futures trading, EFPs and futures deliveries.

In the assessment of the futures contract it was determined that:

- WCE canola correlations are lower than CBOT contracts. These measurements indicate a higher basis risk to hedgers than in other markets (as more of the price risk is found in the basis). Based on the average correlations for each crop year, the data suggest that

correlations have been improving slightly, with the exception of the 2004-05 crop year, which dropped slightly from the previous year.

- ➔ Basis variability during the delivery month indicates an absence of active arbitraging of cash and futures by regular elevator operators (those that can deliver against futures). This leads to the conclusion (supported by comments made by the market participants) that delivery against futures is not seen as a key component of their operations. This is supported by the pipeline operational structure indicated above.
- ➔ EFPs and deliveries against futures have trended lower over the last few years. This is also indicative of separate pipeline marketing and the absence of cash-futures arbitrage.
- ➔ The cost of securitizing futures deliveries through the issuance of Letters of Credit by the short is reducing the threat of delivery and likely having a negative impact on correlations and ultimately convergence.
- ➔ Under the current market conditions, there is no apparent benefit derived by the canola futures contract provision allowing third party deliveries against futures.
- ➔ Recent changes to the WCE canola futures contract are appropriate measures to increase the viability and effectiveness of the contract as a hedging tool. These include: increased storage; removal of the spread exemption; regular and systematic adjustments to non-par delivery differentials, and; the allowance of 25% of canola purchases where the stocks are stored on-farm and represented by Deferred Delivery Contracts (DDCs).

Accepting the definition of convergence which includes all costs associated with delivering against futures, we cannot conclude WCE canola futures do not converge to cash values, nor can we conclude that they do converge. We recognize that the opportunity costs associated with futures delivery are quite different at different times of the year due to producer delivery patterns as compared to market needs; and it is not possible to clearly measure these costs. We also suspect that, generally speaking, companies that have elevators licensed as regular for delivery do not consider futures delivery in the general course of business; they acknowledge to setting their bids at these elevators on the basis of the cash market (buyers' demand) and not on the potential of futures delivery.

It is recommended that via a letter and an in-person meeting, the canola grower group encourage WCE to continue to explore (and implement) the optimal storage rate as it applies to canola futures.

The WCE has increased storage charges associated with futures delivery from \$0.08/tonne/day to \$0.12/tonne/day. As indicated before, this is viewed as an appropriate modification aimed at balancing storage and throughput revenues. The benefits here are two-fold:

3.2.1 Increase WCE Futures Storage

3.2.2 Stocks Requirements for Delivery

1. Increased storage charges will increase the attractiveness of futures delivery, thereby increasing the threat of delivery, creating better convergence and healthier spread trade.
2. Increased storage charges will support wider inter-month spreads which will in turn make deferring producer deliveries more attractive. With the appropriate private sector financial instruments and/or programs in place, this should have the effect of strengthening the fall basis, as indicated above.

Caution is recommended here. In the event that the recommendations in this report are fully implemented, producers will be paid to store their canola on their farms (by deferring cash sales and deliveries). Also, the elevator basis will be used increasingly to attract canola from the farm into the system at the appropriate or needed time, and less to discourage deliveries. In this environment – along with the other suggestions concerning the futures contract – it is assumed that inter-month spreads will remain wide, reflecting the higher cost of storage. If storage rates are too high, there is the potential that cash spreads would make deferring delivery very attractive, forcing the cash market to bid premiums over the futures for spot cash grain.

Although raising storage rates won't reduce the cost associated with futures delivery it will serve to more closely balance storing grain with shipping it.

It is recommended that via a letter and an in-person meeting, the canola grower group encourage WCE to continue to explore means of enhancing threat of delivery by keeping the cost of delivery (including opportunity cost) as low as possible. One possible step would be to adopt a delivery process based on a CBOT-style Shipping Certificate as opposed to the current Delivery Certificate.

As the Delivery Certificate used with the canola futures contract is a claim on stored canola (requiring canola to be stored), delivering canola puts a strain on the throughput needs of the elevator operator. In comparison, Shipping Certificates used by the CBOT with various futures contracts, as a claim on throughput capacity (not requiring grain to be physically stored in the terminal) more closely reflects the realities of the contemporary cash market.

Recent changes have been implemented by WCE aimed at increasing the threat of delivery by mitigating the impact of futures delivery on the throughput of the regular elevators. These include the institution of allowing Delivery Certificates to be backed by canola stored in non-delivery elevators and the allowance of up to 25% of a company's Delivery Certificates to be backed by DDCs in the same region.

3.2.3 Reduce the Cost of Standing for Delivery

It is recommended that via a letter and an in-person meeting, the canola grower group encourage WCE to explore means of reducing the cost of standing for delivery.

Although there are no real “hard” costs of standing for delivery of futures contracts (with the obvious exception of paying for the canola received through delivery), the uncertainty concerning the actual geographic location of the canola received through delivery creates a cost associated with the risk of the canola being out of position for the long taking delivery. In the event that a market participant stands for delivery of canola futures to augment its sourcing of cash canola, there is a real possibility that when it calls for the canola (so it can be shipped), it is made available in a location from which it cannot be economically shipped to the market location required.

This uncertainty of geographic location and the potential for higher than expected freight costs (to get the canola to the market required) contributes substantially to the perceived and actual cost of standing for delivery. This factor expands the cash premium (over futures) required before futures longs will choose to stand for delivery as a way of arbitraging the cash and futures markets. This means that the cash (basis) must move (strengthen) substantially before taking delivery is perceived as an economical option in the cash market.

The canola grower group could encourage WCE to explore means of reducing the cost of standing for delivery by:

- Reducing the geographic area that physical canola can be made available for futures delivery. This would create a greater sense of certainty regarding the geographic location the physical canola will be made available for shipping.
- Lowering the differentials offered for stocks shipped from non-par delivery regions, making delivery in these regions more of a safety-valve delivery option rather than attempt to equalize the threat of delivery in all delivery regions. This would create a greater focus on the Par Region, providing greater geographic certainty for the long.
- Delivery Certificates are currently generic, meaning that the Certificates do not identify the eventual shipping region when the Certificate is delivered against futures. Making the Delivery Certificates region specific would contribute to a greater sense of geographic location for the long.

The purpose of generic Delivery Certificates was to provide the short with flexibility in terms of storing the canola that is required to back the Certificates (they could keep canola in any number of regular elevators throughout all delivery regions, not in just one region) and flexibility in terms of which regular elevators they chose to eventually ship the canola from. Along with some other adjustments (such as moving to a Shipping Certificate as mentioned elsewhere and allowing all canola stocks in the

3.2.4 Reduce Indemnification on the Futures Short

elevator system operated by the short (regardless of their location) as backing of the certificates) the total delivery region could be modified (i.e. made smaller) so that the futures are much more focused on a smaller geographic region. This would make standing for delivery an economically viable option for longs at cash prices much closer to futures; this would contribute to greater correlations and better convergence.

It is recommended that via a letter and an in-person meeting, the canola grower group encourage WCE to explore contract modifications that would reduce the cost of indemnification borne by the short making delivery.

One large friction on making delivery is the WCE requirement that the firm making delivery must post an Irrevocable Letter of Credit (LC) representing at least 100% of the value of the canola being delivered and as much as 125%. Whereas LCs are not expensive to issue, they effectively tie up operating credit. Some firms acknowledged that this requirement has reduced their incentive (and at times even their ability) to deliver against futures.

As WCE futures contracts have been modified over the last number of years, the Terminal Elevator Receipt (TER) was dropped as the deliverable document, and along with it was lost the solid backing of the Canadian Grain Commission (the CGC issued the TERs). Without the third party security, the cost of securitizing delivery documents has risen dramatically. Alternate securitization must be developed to minimize the cost of delivery while ensuring the integrity of the contract. These could include:

- ➔ Bonding of delivery elevators, including their Warrants / Delivery Certificates, by the CGC (or a private sector insurer). Currently, CGC bonding of grain companies provides protection to producers only. If CGC bonding were extended to cover futures Delivery Certificates, the cost of futures delivery could be reduced dramatically. (The bond would be used to protect the long taking delivery, in the event that the grain was not made available when called.)
- ➔ Securitization of Delivery Certificates in the same fashion as suggested for deferred producer sales, as discussed elsewhere in this report.

3.2.5 Producer Response to the Modifications to the WCE Canola Futures Contract

The set of four recommendations dealing with changes to the WCE contract was discussed altogether with the producers.

Overall, it was apparent from the groups that the growers did not have sufficient background on the nuances of the WCE contract to offer much insight or addition to the recommendations as proposed. They did, however, endorse the recommendations “in theory”.

It was acknowledged that the WCE is facing issues with the viability of its contracts for various commodities, including canola. As identified in the report, some contract months are at risk of, or have been, withdrawn. Many do not understand the weakness and limitations of the current WCE contract. They agreed, however, that changes are needed for the WCE contract, but could not anticipate what the WCE reaction to these changes might be or offer suggestions as to tactics or arguments to negotiate with WCE on these issues.

Some of the perceived benefits of these changes that were stated included:

- A better reflection of the actual costs to a grower when making a contracting decision.
- (Hopefully) a reduction of the costs within the system.
- A more efficient grain marketing system overall that puts grain in position at the right time in the right quantity at the right place.
- A system that supports paying the grower to store grain and maintain the condition of that grain, that is, treating the grower as an extension of the buyer (value chain).
- Improved correlation between futures and cash prices, which would be most impacted by securitizing delivery certificates. The basis would tighten.
- The current contract, designed with retail delivery... *“tries to discover a price all over, and so everybody has more basis and delivery risk”*. With the changes, a delivery option may not be available to a Manitoba producer in, say, Alberta, but it was felt that *“the cash to cash arbitrage would take care of that”*.

The recommendation to increase WCE storage rates, while supported, would need further elaboration to explain how it would improve the effectiveness of the WCE contract and ultimately address price. It was generally acknowledged that on-farm storage is the cheapest and there is no sense in building a system that heavily invests in expensive commercial storage to allow for delivery against futures contracts that may not pay for itself in the long term. The benefit in this recommendation would be to pay the farmer for investing in on-farm storage.

The recommendation to securitize delivery certificates was seen to have particular merit in that it offers a similar degree of security that the board grains enjoy through the CWB. The issue in regard to canola is the storage risk which can drastically reduce the value of the crop in the bin. Apparently the Grain Commission conducted an assessment of securitizing and bonding issues in 1993 or 1994. It was suggested that this work be reviewed as it relates to the current recommendation.

Further education would be needed to increase the uptake of the WCE contract for canola futures.

3.3 EDUCATION AND EXTENSION SUPPORT

3.3.1.1 Producer Response to Education and Extension Requirements

It is recommended that as an integral part of this initiative going forward, educational components be developed for all the appropriate groups. This would take place as Phase 3 of this project following Phase 2, the development of the specific private sector advance instruments.

The concepts being presented and recommended in this report will require an educational component to enhance the marketing and financial expertise of producers, farm advisers and consultants, grain companies, processors, government staff and the financial community.

- Producers and farm marketing advisors need to understand clearly how to take advantage of market signals that indicate whether to sell in spot position or deferred position.
- Financial institutions will need to be clear on the advantages of these strategies and be able to support their producer-clients in this activity through marketing loans linked to deferred sales.

Specific content of producer directed communications and education, as identified through the consultation process, could include:

- Mechanics of the PSAP, its applications, benefits and fit with other contracting mechanisms, programs (especially the APP) and price risk management tools.
- An introduction to the concept of basis and the influences on basis levels.
- Economic cost benefit analysis of the PSAP, with a focus on storage methods and costs.
- Information that supports the effectiveness of the WCE futures contract as a hedging tool and increases grower confidence in using it as such. This would include communication of any changes implemented and their intended impact.
- A general trends update, including such topics as the impacts of grain handling consolidation and the move toward IP contracts and close-looped marketing systems.

Preferred methods of learning entail:

- Short, small group training sessions. Growers have limited time to attend courses or participate in marketing clubs.
- A dynamic reference document to go back to at the time they are making their decisions.
- One-on-one sessions with a dedicated expert known to the producer on a first-name basis, perhaps sponsored by their respective grower association at no or minimal cost. One option could be to deliver this service via a 1-800 number.

- ➔ Advice and information provided by the grain companies and possibly other influencers such as brokers and account managers with financial institutions.
- ➔ Farm situation specific simulation tools that would allow the canola grower to try different options and see the costs and net benefit for entering into different contracting arrangements, given their particular cash flow needs, level of production, storage capacity and so forth. This would imply the preparation of a detailed economic study at the micro level in order to provide the inputs to the simulation model.

It was acknowledged that to some extent, the understanding of marketing amongst the farm population is a generational issue and that with the turnover in generations that is underway, the average knowledge level will improve, providing the mechanism is there to provide the training. Growers may be reluctant to share marketing insight amongst themselves, because they either “*don’t want to show how ignorant they are*” or they have figured out a system that works for them and don’t want to jeopardize that.

4.0 NEXT STEPS

The producer consultations confirmed the recommendations proposed in the technical report. While many of the producer participants felt that currently, there were adequate tools to manage price risk (and basis variability) in canola, they would also welcome other tools and enhancements to assist in the marketing and price management of their crop.

Many of the changes proposed for canola would apply to other commodities as well. There is strong logic for managing price risk from a whole farm perspective, and specifically to address some of the distortions due to differing marketing systems and program administration between the CWB and canola.

Several questions and concerns have been identified in Phase 1 of this initiative, particularly in regard to the proposed private sector advance program, who would offer it, and the requirement for securitization.

The objective of **Phase 2** of this project is to develop in detail the concept of the (PSAP) in order to evaluate its likelihood of being a legitimate risk management tool, commercially viable and designed in a manner that is neutral, efficient, trustworthy and able to perform in the manner expected. Executed through consultation with stakeholders, the expected result should prove to all stakeholders – producers (users), financial institutions and grain dealers (providers), and government and other industry organizations and agencies (WCE, CWB, CGC) – the viability and value of the recommended program and approach to risk management.

Some very specific research activities were also identified through the review process, some of which may be considered in the Phase 2 activities for this initiative. In summary, these include:

1. A series of interviews with possible PSAP delivery agents including financial institutions, canola buyers and other grain dealers. The purpose of these interviews will be to:
 - ➔ assess concept interest.
 - ➔ identify barriers to implementation and possible solutions/modifications
 - ➔ determine what design aspects, information, analysis and models these delivery agents would require in order to advance a decision to offer and proceed with program design.
2. Determination of the actual amount of fall deliveries that are pre-priced (including the delivery time period specified), derived from interviews with the grain companies/crushers and a producer survey. In addition, determination of the actual (relative and absolute) amount sold at spot prices and delivered at harvest and shortly thereafter.

3. Quantification of the level of utilization of the different contracting mechanisms and tools available to manage price risk in canola. On farm storage capacity and intentions to increase should also be assessed.
4. Identification of, and further research into, efficient storage technologies. Fundamental to the implementation of set one of the Phase 1 recommendations (reducing pressure on canola to generate cash flow) would be a thorough understanding of storage risk and associated practices and costs. This review would also include an analysis of condo storage capacity, usage and economics.
5. Continued monitoring of the progress of the Ag Clearing House concept and adaptation of this securitization option to canola, if appropriate.
6. Review of the work completed by the Grain Commission in the early 1990's in regards to securitizing and bonding. Further exploration of this securitization option with agencies such as the CGA.
7. A study of the US Farm Loan Program/USDA Loan Redemption Program, features of which may apply to a Canadian canola advance program.
8. A micro economic analysis to assess the impact that the uptake of the PSAP might have on prices achieved and bottom line profitability for canola for typical farm operator scenarios. This would require documentation of realistic cost estimates for adopting these programs, such as the costs of storage, grower handling and re-handling, interest and securitization.
9. A macro economic study to assess the potential impact that the PSAP might have on basis levels at various levels of uptake. It is recognized that the upfront costs of setting up something like the PSAP with the securitization requirement is substantial. A critical mass of acceptance is required to achieve the desired impact on the market. The cost cannot be prohibitive in the sense that a small number of early adopters would be forced to bear the cost of set up. This macro economic information may be crucial in convincing the private sector to offer the PSAP, or to achieve modifications to the CWB policies.
10. Supplemental on-going monitoring, research and discussions as necessary (i.e. CWB, APP, WCE, Canadian Grain Commission), to ensure that any changes to the operating environment for marketing Canadian canola is considered in the design of the PSAP.
11. Monitoring of the "Pilot Option Project" an initiative of the Canadian Canola Growers Association, its applicability to canola and any impact it may have on the design, delivery and potential uptake of the PSAP.

Finally, several suggestions were offered through the consultation process regarding the need for industry and producer training and marketing/pricing decision support systems. There is an opportunity for the canola producer groups to take the lead in this regard, particularly in coordinating marketing and training specialists, a function that appears to have been downloaded from the provincial agricultural departments. Funding and delivery of this type of service would necessitate some coordination with industry, colleges, and governments, as well as other producer groups. Likewise, the development of resource materials and simulation programs to help with decision making could come under this type of private-public partnership. It is anticipated that the development of this education component would be addressed in **Phase 3**, the implementation phase of this initiative.

APPENDIX A

CONTACTS MADE IN THE PROCESS OF THIS STUDY

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APPENDIX B

PROGRAM COMPARISON

	Existing Forward Pricing/DDC's	ESCAP/APP	Proposed Private Sector Advance Program
Features	<p>Future delivery date, price, volume and quality specified</p> <p>Payment is received when delivery is made</p> <p>Typically contracted in advance of harvest</p>	<p>Advance of up to 50% of estimated annual average farm gate price to a maximum of \$250,000, all crops combined</p> <p>Up to \$100,000 interest free maximum for ESCAP (doubled as of May 2006)</p> <p>ESCAP can be rolled in to APP</p> <p>ESCAP repayment extended to 18 months</p> <p>60% of ESCAP instalment received based on intended seeded acres, 40% on confirmation of seeded acres</p> <p>Advance must be repaid with first sale of crop</p> <p>Requires crop insurance</p>	<p>Future delivery date, price, volume and quality specified as in standard Deferred Delivery Contract</p> <p>75-90% of the payment would be received when contracted, the balance on delivery</p> <p>Price would reflect market values for deferred delivery minus interest costs (related to the advance payment)</p> <p>Contracted when volume/quality confirmed (at and post harvest)</p> <p>Advance repayment tied only to delivery against deferred contract</p> <p>Advance could be provided by financial institution or canola buyer</p> <p>Optionally – advance could be offered on the basis of a futures sale (hedge)</p>
Pros	<p>Enjoys high uptake</p> <p>Simple and well understood</p> <p>Grower can match delivery to cash flow needs</p> <p>May align with fall delivery dates</p> <p>Provides assurance of price to grower who may be able to lever contract with financial institution to negotiate operating line</p> <p>Grain buyers use as a competitive tool to attract and retain grower's business (trust relationship)</p>	<p>Provides cash in the fall to meet cash flow needs</p> <p>Interest free benefit</p> <p>Competitive interest rates on interest bearing portion</p> <p>A long standing program with good awareness</p>	<p>Provides cash in the fall to meet cash flow needs</p> <p>Provides better prices due to carrying charges in the market prices</p> <p>Provides guaranteed prices</p> <p>Compensates grower for storing grain (carrying charges)</p> <p>Relieves pressure on grain handling system re fall delivery of canola (thereby tightening up the basis in the fall – this benefits fall deliveries as well)</p> <p>Limited only by volume produced and stored</p> <p>No obligation to repay advance with the next delivery of canola; subsequent to contracting in this program, producers may take advantage of selling opportunities without impacting the advance.</p> <p>Encourages canola marketing based on appropriate market signals</p> <p>Provides buyer with known inventory to meet pipeline requirements</p> <p>Expected to enhance deferred trade in canola futures; enhance spread trade; improve liquidity</p>

	Existing Forward Pricing/DDC's	ESCAP/APP	Proposed Private Sector Advance Program
Cons	<p>Growers may feel tied in to grain company offering contract, particularly if they have trade credit with them for inputs</p> <p>Requires on farm storage</p> <p>Risk of not meeting quality/volume commitment (production risk)</p> <p>Risk of storage loss</p>	<p>Application fee(s)</p> <p>Multiple administrative agencies (e.g. CCGA, CWB)</p> <p>Requires bank sign-off</p> <p>Limits are insufficient for large operations</p> <p>Some delay in receipt of payment</p> <p>Some producer negativity to using (stigma)</p> <p>Producer is obligated to repay the advance sold at the same rate the advance was issued</p> <p>There is no guarantee of price, unless the grower has a corresponding forward contract</p> <p>Encourages fall delivery of canola (prior to taking advance)</p> <p>Encourages a “hold and sell spot” approach to marketing; does not encourage deferred marketing strategies</p>	<p>Would require securitization of inventory</p> <p>Requires secure on-farm storage (condo storage could be used as well)</p> <p>Unique program cost to grower; storage, interest, securitization (program would only be used if these costs were covered by higher achieved prices)</p> <p>Risk of storage loss</p> <p>Potential producer negativity to using</p> <p>Requires training of producers, financial institutions and canola buyers to ensure awareness and uptake</p>

APPENDIX C

CWB MARKETING

The CWB is the single desk marketing agency responsible for selling Western Canadian wheat and barley in export markets and domestic human consumption markets. The mandate of the CWB is to maximize returns to farmers (through its role as a single seller, and by applying some purchasing power with respect to the railways and grain companies), and to provide equitable access for farmers to sales and equitable returns (through the price pooling arrangements whereby farmers receive the same payment for products of the same grade).

When the CWB requires stocks of grain to satisfy its sales, it allows producers to delivery grain into the elevator system through the issuance of Contract Calls which entitles producers that have entered contracts with the CWB for specific grain to deliver a set percentage of his available grain. In this way the CWB controls the flow of grain into the system in an attempt to provide orderly and equitable marketing to producers.

For his deliveries to the CWB, the producer receives an Initial Payment for the grain, which is approximately 70 percent of the estimated pooled (final) price⁶. Upon delivery of the grain to the country elevator, the agent pays the farmer the Initial Payment minus country elevator fees (i.e., for elevation, cleaning and other services) and rail freight charges.

This controlled flow of CWB grains into the elevator system denies producers the ability to market (deliver) CWB grains in a fashion that would help satisfy their cash flow needs. This forces producers to rely on non-CWB grains such as canola (and others) for cash flow, intensifying the need to sell canola.

The CWB has established new contracts that allow limited earlier pricing of grain. However, there is limited provision for increasing deliveries in the fall (for cash flow) and there are no provisions or incentives to defer deliveries until later in the crop year.

This is not meant to be a rigorous analysis of CWB pricing policies; rather it is aimed simply at identifying the shortcomings of CWB contracts with regards to providing marketing flexibility and the ability to use CWB grains as cash crops, thereby sharing the cash flow burden more equitably among crops. The following is a brief summary of CWB contracts in this regard:

Fixed Price Contract

- ➔ Producers can lock in a fixed price based on estimated basis levels for the crop year and CWB-forecasted futures prices.
- ➔ Cannot participate in price rallies later in the crop year.
- ➔ There is no provision for increased delivery in the fall (for cash flow)
- ➔ There is no incentive to defer delivery (no premium)
- ➔ Receive full payment within 10 days of delivery (no Final Payment)

⁶ Going forward, in the event the CWB loses its government guarantees, it is anticipated that the Initial Payment will – by necessity – be even a smaller proportion of the final expected return.

Basis Payment Contract

- ➔ Producers can lock in a “pooled basis” meaning a basis that reflects the pooled price.
- ➔ Producers accept futures risk.
- ➔ No provision for increased delivery in the fall (for cash flow)
- ➔ There is no incentive to defer delivery (no premium)
- ➔ According to the CWB⁷:
“The CWB does not use the basis to attract wheat deliveries or encourage storage. The CWB offers a flat price structure across all futures months. The basis levels for the forward futures positions are adjusted to reflect the flat price equivalent to the most nearby available basis and corresponding futures contract. For example, the daily December basis and futures when added together will result in the same contract price as the July basis added to the July futures. The CWB will not offer a better July basis to encourage farmers to store grain for later delivery.”

Early Payment Options

- ➔ EPO’s provide producers with the option of early pricing, thereby stepping out of the pool; there is no Final Payment.
- ➔ Contract discounts (to the PRO) are in area of \$4.00 per tonne, meant to cover risk, administration and time value of money.
- ➔ There is no provision for increased delivery in the fall (for cash flow)
- ➔ There is no incentive to defer delivery (no premium)
- ➔ Incremental payments for later sign up and delivery aimed at covering time value of money (not storage), in the area of \$0.05 to \$0.30 per tonne.
- ➔ According to the CWB: *EPO returns are comparable to CWB pool returns, less the cost of the “EPV discount”*.⁸

Guaranteed Delivery Contracts for Feed Barley & feed wheat

- ➔ Contract allows producer to deliver all contracted amount within a smaller pool period.
- ➔ Producers cannot respond to higher spring prices (if there were any) by selling deferred contracts for later pool period.
- ➔ 100% of contract amount is called by specific date (limited amounts only).
- ➔ There is no provision for increased delivery in the fall (for cash flow)
- ➔ There is no incentive to defer delivery (no premium).
- ➔ Limited access to increased cash flow.

Daily Price Contract (DPC) Pilot Program

- ➔ This contract provides an opportunity to capture a daily cash price based on U.S. grain elevator prices. A separate basis and futures contract is not available.
- ➔ Must sign up prior to crop year begins (July 22, 2005) indicating volume of grain to be delivered.
- ➔ There is no provision for increased delivery in the fall (for cash flow)
- ➔ There is no incentive to defer delivery (no premium)
- ➔ Receives payment in full within 10 days of delivery (no Final Payment).

⁷ http://www.cwb.ca/en/contracts/ppo_workbook/pdf/2005-06/part1_may2005.pdf (page 8)

⁸ http://www.cwb.ca/en/contracts/early_payment/pdf/ws-wheat2005.pdf