

Market Choice in the Canola Industry 2009/10 Season Performance Report



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Executive Summary:

This report details the performance of the Australian oilseeds industry in meeting the 'Market Choice' goal during the 2009/10 season.¹ The 'Market Choice' goal has underpinned the introduction and subsequent adoption of GM canola in Australia.

Information was sourced from the primary participants within the value chain who were involved in the handling and processing of canola. There was no formal data collection initiated for the value chain beyond the processor/crusher sector.

This report highlights the effective segregation of non-GM canola throughout the value chain, demonstrating the ability to deliver to end-users seed, oil and meal from non-GM canola, in accordance with specific customer requirements.

The importance of effective segregation of non-GM canola continues to rise as the number of growers of GM canola increases along with the absolute tonnage and geographic spread. In 2009-10 season, 387 growers signed the Monsanto Licence and Stewardship Agreement (LSA), up from 108 the year before. Hectares increase by over 31,000 Ha, while the geographic area spread within existing states of NSW and Victoria, as well extending to WA, with trial plots underway. As a result of this growth, an additional 45,000 tonnes of GM canola entered the bulk handling system. While the previous (2008-9) season could be considered as an initial test of the capability of the value chain to segregate (albeit, GM being effectively handled in a closed loop environment), this season (2009-10) season was the first opportunity to put the segregation protocols to a test in a meaningful and 'real world' environment.

This report demonstrates the industry was able to effectively employ the segregation protocols from the farm gate through to the processor/crusher, such that market choice was able to be delivered to end users. There were no reported occurrences of end users not receiving canola seed, oil or meal that did not meet their specifications in terms of GM and/or non GM integrity.

¹ Defined as crop season commencing with planting in Autumn 2009, harvest in Spring/Summer 2010, and use in the value chain up until October, 2010.

Grower Adoption:

658 growers undertook the required education and became accredited growers for RR Canola in during 2009. For this season, 312 growers signed planting declarations, some of whom would have achieved accreditation in prior years.

The result was a planted area of 41,835 Ha, with two-thirds of the area planted being in Victoria. 746 Hectares was not harvested, as a result of either non-emergence or the crop being cut for hay/silage.

Table 1 outlines the key data by state for 2009/10.

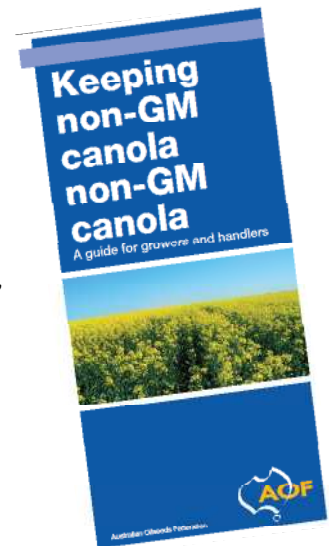
State	Growers Accredited	LSA Signed	Planting Declarations	Areas Planted (Ha)	AreaPlanted but not Harvested*	Tonnes Delivered
NSW	381	248	202	13374	204	12131
Vic	250	122	93	27594	542	46018
WA	27	17	17	867	0	1223
Total	658	387	312	41835	746	59352

* Meaning crops that either failed, or were cut for hay/silage.

Table 1: Key measures for GM canola for 2009/10

The GM canola delivered from the above areas amounted to 59,352 tonnes, representing an average yield of 1.44 tonnes/harvested Ha (versus seasonal average across the country of 1.6t/ha).

The industry provided communication to growers in form of a brochure "*Keeping non-GM canola non-GM canola*" outlining the actions required on their part to ensure that canola grown and intended to be marketed as CSO1-A would maintain its non GM status from the farm gate through to the bulk handling systems. This brochure outlined the requirement for each grower to complete a declaration form, which is provided at the delivery site, confirming the variety and GM status of all canola loads.



Bulk Handling:

Three bulk handlers developed appropriate segregation protocols to ensure non GM (CSO1-A) canola could be effectively segregated from commodity canola (CSO1). It is important to reiterate the market choice philosophy revolves around the segregation of non GM canola.

Notwithstanding the fact that GM canola is marketed as CSO1, and thus is not specifically segregated, bulk handlers did collect data on receipts of GM canola, which serves to provide useful data for this report. There is no guarantee that such data will continue to be collected in the future.

In WA, the receipt of GM canola was handled on a 'closed loop' system, (as per NSW/Victoria in 2008/9), where as in NSW and Victoria, segregation protocols were developed by both ABA and GrainCorp such that non GM canola would be able to be handled alongside commodity canola within the bulk handling system.

Diagram 1 outlines the typical testing protocol undertaken by the east coast bulk handlers, and CBH has indicated that a similar approach would be adopted in WA for the 2010/11 season, following the approval of an exemption order under the *Genetically Modified Crops Free Areas Act 2003*, permitting the cultivation of GM canola in that State.

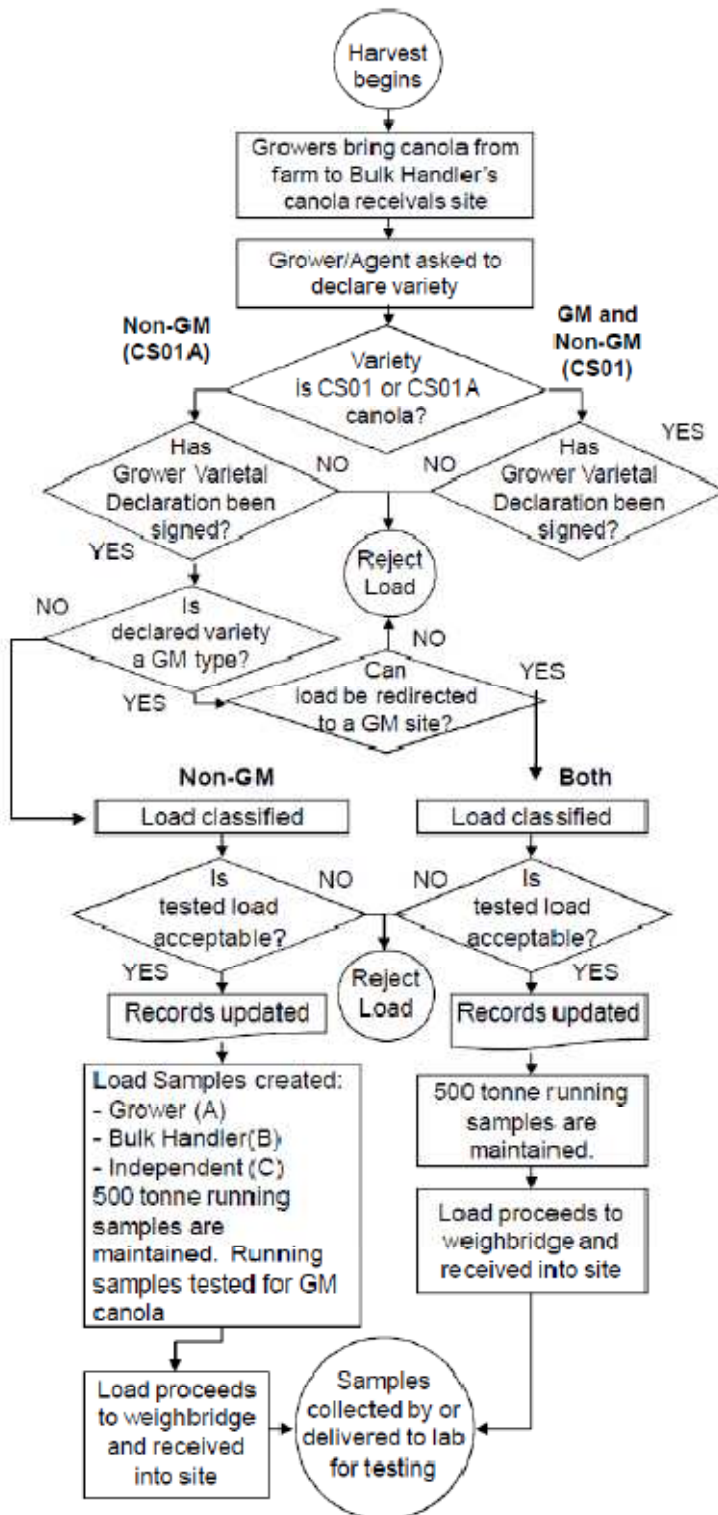


Diagram 1: Segregation Protocols- courtesy GrainCorp

The following measures were undertaken by grain handlers to assess the quality and standard of canola delivered for storage, including monitoring for presence of GM, to ensure integrity of non-GM (CSO1-A) canola segregations.

1. Grain handlers collect varietal declaration forms at delivery.
2. Each grain handler uses proprietary sample stand protocols and quality testing regime to assess grain quality on delivery. This includes taking samples of each load delivered for traceability.
3. Grain handlers segregate according to their site specific procedures, ensuring that segregation measures maintain non-GM status of CSO1-A canola segregations.
4. Grain handlers test running samples to monitor the integrity of the non-GM segregation. Using lateral flow test strips to test for presence of GM.
5. Sampling and assessment of grain quality and status is also undertaken on grain being out-loaded from sites by road or rail.
6. Grain handlers prepare declaration documents confirming both grain quality and GM status on out-load that are provided upon delivery.

Additional testing may occur if required by the customer, or as determined by the grain handlers, to ensure compliance with internal processes and product/customer specifications

ABA and GrainCorp both operate quality assurance programs, and engage external and independent audit programs to confirm quality and identity preservation plans are appropriate and deliver on customer requirements.

With ABA, CSO1-A canola was received at five storage facilities in Victoria and NSW. Samples of canola grain were taken from each truck load and retained for record and traceability. Composite samples were also taken from the stack every 500 tonne. ABA tested composite samples, 170 in total, returning one false positive result. The individual load samples were then each tested and there were no positive results obtained.

During the 2009/10 harvest GrainCorp received 17,010 deliveries of non-GM canola and tested 690 'composite' receival samples. Each composite receival sample collected by GrainCorp consists of between 15 and 20 individual truckload samples. Testing of the composite receival samples returned seven GM canola 'positives', which were confined to four sites. Two of the seven 'positives' were confirmed as 'false' positives. (i.e. on re-checking, a positive reading was not recorded).

From the remaining five positive tests, individual truckload samples which constituted the composite samples, were tested for the presence of GM canola, and these were traced back to four individual truckloads of CSO1A containing some GM material, delivered to two separate locations (Dunolly and Lillimur in Victoria).

Statistically representative samples from these stacks were sent for DNA analysis and returned a result of 1% GM, within a 500t stack. Within the 2000 t outturn stack the AP was <0.25%, well below the 0.9% threshold. An investigation was carried out and grain testing equipment was identified as a likely source of low level co-mingling.

No grower loads were found to have been mis-declared. Any detections of GM material were tracked back to a specific location or site, where outturn of canola was appropriately managed.

Pricing of CSO1 and CSO 1A tended to follow international experience, where the non GM segregation trades at a premium. While this is driven by a number of factors, any day-to-day variation in pricing between the two segregations was not an influencing factor on market choice. Daily market prices for both CSO1 and CSO1A were provided publicly on websites of major trading houses.

In terms of the ultimate measure of whether 'Market Choice' was delivered, there were no reports on any customer of either east coast bulk handler having received grain which did not meet specification in terms of GM or non GM status.

Processing/Crushing:

The non GM canola (CSO1-A) grown in NSW and Vic was processed by domestic crushers (including, but not limited to, Windemere Oilseeds, Cootamundra Oilseeds, MSM Milling, Cargill and Riverland Oil Processors) and sold to domestic oil and meal customers on the east coast of Australia with a small amount of whole seed exported to international customers. By definition, seed traded and processed as CSO1-A contained no more than 0.9% GM canola. The CSO1-A was the major segregation in this season.

The 'commodity' canola segregation, CSO1, for canola grown in Victoria and NSW, included just over 58,000 tonnes of GM canola and was sold into the domestic crush market. The WA 'closed loop' GM grain was successfully exported.

Cargill Australia and Riverland Oilseed Processors processed the majority of the CSO1 segregation, utilising domestic markets for meal and domestic and international markets for the oil.

Grain handlers and domestic crushers have proprietary, documented, quality control procedures to ensure appropriate identity preservation of the two industry standards of canola. The following measures are undertaken by the processors to ensure customer requirements are met and market choice is delivered.

Identity preservation and maintenance of CSO1 (commodity) canola is assured the following steps:

1. A Declaration as to the GM status of the grain is required on the delivery advice (delivery docket) from the grain handler or grower.
2. All loads are required to be tested for quality parameters.
3. Oil processed from CSO1 canola grain will be identified and handled as a separate oil type and stored in separate, identified tanks
4. Meal processed from CSO1 canola grain will be identified and handled as a separate meal type and stored in separate, identified store.
5. The transport of CSO1 derived oil and meal to customers is in accordance with the AOF Code of Practice for the Bulk Transport of Vegetable Oils by Road and Rail, for oil and meal derived from GM canola grain.

Of importance, oil derived from CSO1, (which includes oil derived from GM canola) is not required to be labelled as originating from GM canola, under 1.5.2 of the Food Standards Code, as no DNA or novel protein is present in the refined oil.

Identity preservation and maintenance of CSO1–A (non-GM canola) is assured by:

1. A declaration of GM status is required on the delivery advice (delivery docket) from the grower or grain handler
2. All road deliveries are required to be tested for quality parameters and in addition to testing with lateral flow test strips to verify the non-GM status.
3. To ensure that the identity of non-GM canola is preserved, processors have modified existing internal quality procedures to ensure the integrity of all grain stored on site.
4. Non-GM canola is segregated on site with each processor implementing proprietary site protocols to ensure the quality and integrity of product.
5. Where required by customers, meal and oil derived from non-GM canola will be clearly identified, stored and handled as separate products to ensure compliance to customer specification.
6. An adventitious presence of 5% on non-GM derived meal is permitted in non-GM meal. However no testing is done and no cheap and easy tests exist.
7. Where requested by customers , documentation will declare that the meal or oil was “derived from non-GM canola in accordance with the AOF definition”

In excess of 5000 lateral flow strip tests were supplied by Monsanto to crushers. Tests were undertaken to determine if presence of Roundup Ready canola in CSO1-A non-GM canola. The test is qualitative rather than quantitative.

There were 4500 lateral flow strip tests undertaken to determine if presence of Roundup Ready canola in CSO1-A non-GM canola. The test indicates the presence of RUR seed, not the quantity.

Additional testing may occur as required by the customer or as determined by the facility operator to ensure compliance with internal processes and product/customer specifications

Cargill and Riverland both operate quality assurance programs and engage external and independent audit programs to confirm quality and identity preservation plans are appropriate and deliver on customer requirements.

Cargill has conducted over 3000 lateral flow strip tests since the 08/09 season at the two plants at which it processes canola seed. In addition Cargill is using Australian Superintendence Company for an independent verification and conducted approximately 200 tests on their behalf.

For the 09-10 season Riverland conducted around 1000 tests on site at the processing facility in Numurka and about 500 tests have been undertaken at offsite storage facilities. This number is expected to increase considerably for the canola produced in 2010.

Commercial confidentiality prevented either processor revealing how many, if any, tests on CSO1-A recorded a positive result in terms of the presence of GM canola in CSO1-A loads. However, reassurance as to the integrity of the segregation and supply of oil and meal from non-GM seed is provided by the absence of any advice indicating that customers of the processors received oil or meal deliveries that did not meet their contractual requirements. This serves to provide confidence that market choice was able to be effectively delivered to the oil and meal customers of processors.

End Use:

No specific data collection exercise was undertaken within the end-user sector of the value chain. Consequently, food processors and manufactures, the food service and consumer segments were not approached to provide input to this report. However, it is known that some food processors insist on oil from non-GM canola (and make labelling claims to this effect), and require sufficient documentary support from their suppliers as to the non-GM status of the seed used to produce the oil being used. The public statements by some end users as to the non-GM status of their business or specific brands requires sufficient due diligence to ensure compliance with relevant consumer protection legislation, such as the *Consumer and Competition Act (2010)* (formally, the *Trade Practices Act, 1974*). Such claims would not be able to be made without sufficient confidence in the value chain to be able to effectively segregate non-GM canola.

The stock feed sector was specifically approached in regard to the effectiveness of delivery of 'market choice' with regard to non-GM meal. While no incident could be identified where a delivery of meal from non-GM seed was delivered which did not meet the customer's requirements, the absence of a cost effective and timely testing option for the presence of GM canola within non-GM canola meal was highlighted.

As with the delivery of oil from non-GM seed, delivery of non-GM meal is supported by rigorous segregation protocols within the upstream value chain, supported with appropriate documentation. Where more rigorous testing is required (for oil or meal), over and above that inherent in the supporting documentation, this becomes a negotiated arrangement between buyer and seller.