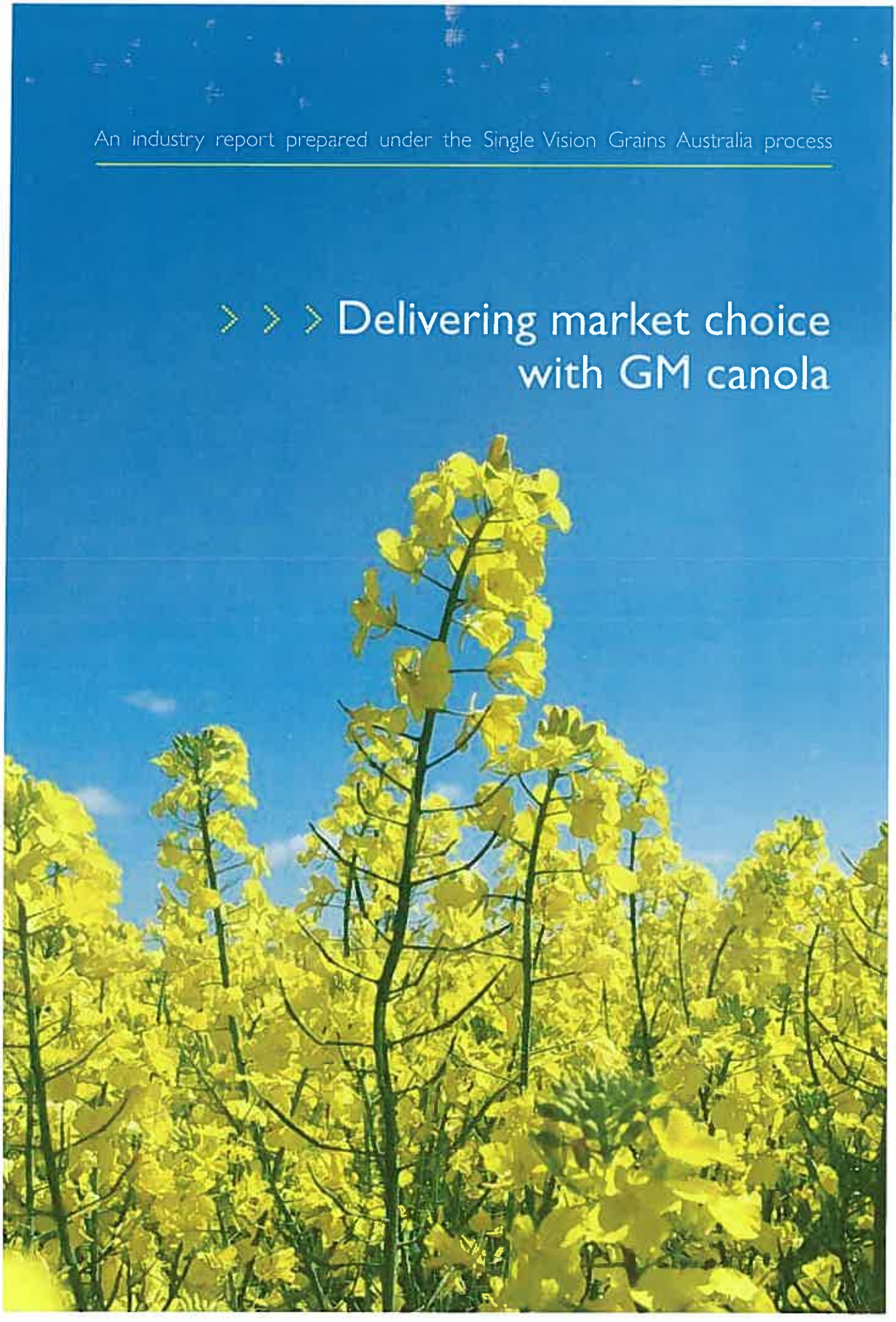
An industry report prepared under the Single Vision Grains Australia process

Delivering market choice with GM canola



Executive Summary

The Australian grains industry has the capacity to deliver and manage the commercial introduction of Genetically Modified (GM) canola.

The principles underpinning the commercialisation of GM canola are that it will be introduced in a manner that:

- Maintains or enhances trade in Australian canola
- Enables market choice along the supply chain
- Is open and transparent
- Provides confidence to all stakeholders, particularly to customers, consumers and governments.

The capacity for implementation will be provided by industry stewardship programs, commercial practises, processes and protocols which address the marketing and technical requirements, the import/export processes and the supply chain mechanisms.

These measures will provide the necessary certainty and confidence to supply chain participants, consumers and governments that GM canola and its products will be managed to meet market and customer requirements. Importantly, these measures will also provide market choice.

Two types of herbicide tolerant GM canola were approved by the Gene Technology Regulator in Australia in 2003, however, commercialisation has been prevented through the implementation of moratoria by state governments. Since this time, the Australian grains industry has reviewed the market requirements for GM canola, and is now ready to incorporate approved GM varieties into the supply chain. The industry considers that the commercialisation of approved GM canola should proceed without further delay.

Major Australian grains industry stakeholders have agreed that Australia is now ready to adopt GM canola, and are committed as demonstrated by their endorsement of this document to deliver market choice.

Accordingly, the Australian grains industry urges governments to recognise the grains industry's ability and commitment, and to support the commercialisation of approved GM canola in Australia.

Introduction

There is broad recognition within the Australian grains industry that gene technology has the potential to play a major role in meeting the demands of food, feed and industrial consumers and that the industry requires competitive access to this technology in which it has made a significant investment.

The environmental, economic and social benefits provided by GM crops, and the need to meet the rapidly increasing international demand for food, feed, fuel and fibre, have resulted in their incorporation into a range of farming systems and supply chains to consumers around the world.

In 2006, 10.3 million farmers in 22 countries grew GM crops. By 2015, this is expected to increase to 20 million farmers in 40 countries. Corn, soybean, cotton and canola comprise the top four GM commodities globally. Over 85 per cent of the Canadian canola crop is now sown to GM varieties and these have been marketed successfully for over a decade.

Since the advent of state-based moratoria in 2003, the Australian grains supply chain has examined and identified supply chain management processes to manage GM canola.

Current industry stakeholder attitudes, requirements, technical processes and commercial preparedness were identified as part of a grains industry project undertaken by Single Vision Grains Australia (SVGA) during 2006-07. Analysis found that the majority of stakeholders support the introduction of GM canola, and are ready to manage its commercialisation. This position was reinforced along the supply chain including technology developers, the seed industry, farmers, transport organisations, handling and storage facility operators, marketers and processors.

The capacity to deliver market choice is built on the comprehensive and world-class protocols and processes that already operate in the Australian grains industry to enable grains and grain products to meet regulatory and customer specifications, and provide confidence to consumers and governments.

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- Provides confidence to all stakeholders, particularly to customers, consumers and governments.

This document outlines the grains industry's capacity to deliver and manage the commercial introduction of GM canola.

Market choice – the requirements

The grains industry has assessed the market requirements for GM canola prior to commercialisation proceeding.

There are three key elements in the delivery of market choice:

- the ability of any supply chain participant to source product that meets a pre-determined set of specifications
- the ability of any supply chain participant to supply product that meets a pre-determined set of specifications
- the ability of any supply chain participant to manage their area of the production, processing, manufacturing and delivery of product to a pre-determined set of specifications.

The work undertaken through SVGA confirms the grains industry supply chain's ability to deliver these market choice requirements through the combination of commercial protocols, processes and practices that are either already in place, or are ready to be put in place (Attachment 1).

The implementation of these supply chain systems provide the capacity for industry to maintain or enhance trade in Australian grains and their products, and operate in an open and transparent manner. They will also provide confidence to all stakeholders, particularly to customers, consumers and governments.

In addition, five market choice criteria have been developed to evaluate GM canola against, to provide assurance that the GM canola meets the requirements for market choice:

- GM canola varieties approved by the Office of the Gene Technology Regulator
- Market segments and supply chain logistics identified to gain understanding of their requirements
- Approval for food and feed importation and consumption in customer countries identified
- Adventitious presence (AP) thresholds for the unintended presence of approved GM events, both in Australia and in importing countries for contractual or labelling purposes, are established (if required)
- Supply chain ability to provide product traceability, verification and contingency plans.

GM canola – meeting the criteria

The Australian grains industry has assessed the two types of approved GM canola varieties against the market choice criteria, and as they are met, agrees that planning for the commercialisation of the approved GM canola varieties can commence for the 2008 planting season.

Approved GM canola will be another product within the grains industry supply chain that will be managed according to pre-determined customer and/or regulatory specifications.

In recent years, the Australian grains industry has demonstrated its capacity to manage canola, including GM canola, to meet customer and consumer demands. Two examples are:

- Specialist varieties - the canola industry supply chain in Australia already routinely produces and handles specialist canola varieties and products, for example high oleic and erucic canola. These products are kept separate from other specialist and conventional canola varieties to maintain their integrity and market value of both segregations. The industry has developed and now manages the supply chain infrastructure and handling systems that ensure the identity preservation of the varieties from producer to processor and consumer, with no impact on other supply chain participants.

MARKET CHOICE CRITERIA – GM CANOLA

Step	Action	Status
1	Australian regulatory approval gained GM canola varieties were approved by the OGTR in 2003	✓
2	Market requirements identified Need for segregation to meet the various requirements of domestic and international consumers	✓
3	Threshold levels established • Australian AP thresholds have been established for the presence of GM traits in canola at 0.5% for seed (Australian Seed Federation) and 0.9% for grain (NACMA CSO1 Canola standard) • AP thresholds established in key trading partners, such as Japan (5%) and Europe (0.9%) – for contractual or labelling purposes	✓
4	Importing market approvals in place GM canola varieties have approvals in key importing countries	✓
5	Supply chain processes to meet market requirements Protocols available to segregate throughout the supply chain (Attachment I)	✓

- GM canola importation - Australian canola processors imported GM canola from Canada in December 2006, to overcome domestic shortages. This GM canola was handled through the existing canola industry supply chain infrastructure, from port to processor and consumer. The requirements of all market participants (both canola oil and meal) were met and the effectiveness of the supply chain in providing choice and access was demonstrated.

Industry ability to deliver market choice

Globally, agricultural commodities are being increasingly differentiated in response to a range of drivers – product safety, consumer preference, product traits, process traits, and government regulation.

The Australian grains industry's supply chains are flexible and have the required capacity for existing or new processes to:

- enable GM grains to co-exist
- use a semi-integrated system, or
- provide separate supply chains and infrastructure.

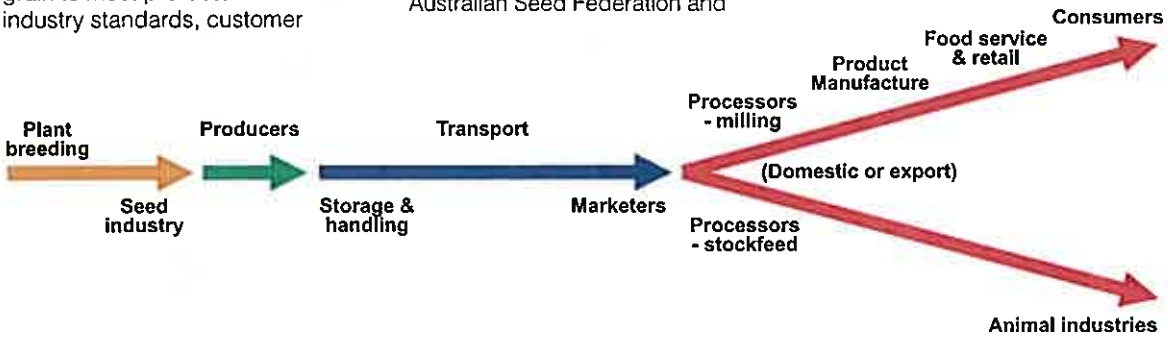
The grains supply chain already has protocols, processes and practices available to deliver market choice. Currently, these processes are applied in the growing, transporting, marketing and processing of special malting barley, noodle wheat, canola, sunflower and maize varieties in Australia. An agreed and comprehensive dataset of measurable standards to specify varietal quality characteristics and parameters is applied along the supply chain as the basis of trade.

The supply chain management processes are driven by standards, quality management procedures, stewardship programs and commercial contractual arrangements. These support the trade of grain to meet pre-determined industry standards, customer specifications and regulatory requirements at critical points along the supply chain.

The quality management procedures in place vary from formal systems such as those based on Hazard Analysis Critical Control Point (HACCP) and International Organization of Standardization (ISO) through to proprietary systems, industry codes of practices and best agricultural or manufacturing practice. The focus on quality management through the supply chain ensures that the requirements of suppliers and receivers are understood and met, and form part of the verification process.

The industry has a range of stewardship programs and codes of practice or conduct in place or which can be introduced for commercial production of GM canola. These enable sharing of relevant information and consultation for the seamless movement of product into and along the supply chain and, where and when appropriate, the management of non-compliance. Examples of these include the Australian Seed Federation and Australian Oilseeds Federation codes of practice, the NACMA professional development (training and accreditation) program and other support programs.

Commercial contractual arrangements underpin supply chain operations and management. NACMA contracts and trade rules are the accepted and recognised basis for facilitating commercial grain trading activity. The NACMA contracts and trade rules will be utilised in the trading of GM canola. In addition, there are established contractual procedures between storage and handling operators and marketers, between transport operators and industry participants, and in relation to GM canola there will be contracts between technology developers, seed companies and growers. These contractual arrangements articulate the responsibilities and obligations of the respective parties and provide a basis for recourse in the event of non-compliance or breach of contract.



Market choice – strong industry support

The Australian grains industry has relied on the adoption of innovation to secure its global competitiveness. The industry needs access to technology to remain at the forefront.

GM crops have been grown for over a decade around the world and numerous studies have proven the benefits derived from these new varieties along and beyond grain supply chains.

The Australian grain industry's estimated gross value of production in 2005-06 was $8,613 million from 43,042,000 tonnes of summer and winter crops. Australia has a strong global reputation of delivering quality grain products that meet customer specifications and a solid track-record of ensuring that the requirements of both domestic and export customers are met.

The industry recognises that not all supply chain participants may choose to adopt GM canola, and hence, the supply chain must be in a position to offer and provide choice at all times in order to maximise opportunities for all supply chain participants.

The Australian grain industry is ready to move ahead with the commercialisation of the two types of approved GM canola without further delay.

The industry urges governments to recognise the grains industry's ability and commitment, and to support the commercialisation of the approved GM canola in Australia.

Grains industry endorsement

Mr Michael Iwaniw
Managing Director,
ABB

Mr Rob Hall
General Manager - BioScience
Bayer CropScience

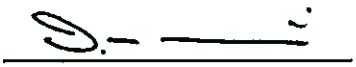
Mr Tom Keene
Managing Director,
Graincorp

Mr Lyndon Pfeffer
Agforce Grains President

Mr Robert Green
General Manager - Commercial
Strategy and Business Development,
Cargill

Mr Dan Mangelsdorf
Chairman,
Grain Growers Association

Mr Joe Di Leo
Managing Director,
Allied Mills

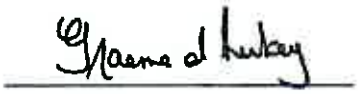


Mr Imre Mencshelyi
Chief Executive Officer,
CBH

Mr Peter Reading
Managing Director,
Grains Research and Development
Corporation

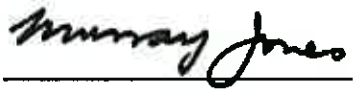
Mr Robert Green
Chairman,
Australian Oilseeds Federation

Ms Paula Matthewson
Chief Executive Officer,
CropLife Australia



Mr Graeme Lukey
Executive Director,
Flour Millers' Council of Australia

Mr Chris Melham
Chief Executive Officer,
Australian Seed Federation

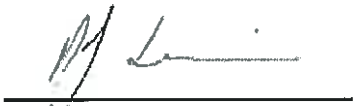


Mr Murray Jones
President,
Grains Council of Australia

Mr Jose Manuel Madero
Managing Director,
Monsanto Australia Limited

Mr Geoff Honey
Chief Executive Officer,
NACMA

Mr Keith Glasson
Managing Director,
Pioneer Hi-Bred Australia Pty Ltd

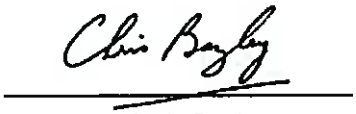


Mr Jock Laurie
President,
NSW Farmers' Association

Mr Chris Morkane
Group GM Director,
Riverland Oilseeds

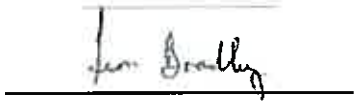
Mr Doug Rathbone
Managing Director,
Nufarm Limited

Mr Brett Roberts
Chair,
Grains Council, South Australian
Farmers' Federation

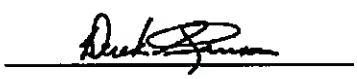


Mr Chris Bazley
Managing Director,
Pacific Seeds Pty Ltd

Mr Simon Ramsay
President,
Victorian Farmers' Federation



Mr Leon Bradley
Chairman,
PGA Western Graingrowers



Mr Derek Clauson
President,
Grains Section, WA Farmers'

Other endorsements

The following organisations are not direct members of the grains supply chain, however, they recognise that the Australian grain industry is ready to move ahead with the commercialisation of approved GM canola and support market choice.

Professor John Lovett
Chairman
Agrifood Awareness Australia Limited

Mr Dick Wells
Chief Executive Officer
Australian Food and Grocery Council

Mr Ben Fargher
Chief Executive Officer
National Farmers' Federation

Dr Anna Lavelle
Chief Executive Officer
AusBiotech

Attachment 1

A summary of the Australian grain industry protocols and processes. For further detail refer to "Principles for process management of grain within the Australian supply chain - a guide for industry in an environment where GM and non-GM grain is marketed".

TECHNOLOGY AND VARIETY DEVELOPMENT		
Objective: To develop and supply approved varieties of GM canola		
Activity managed:	**Protocols met:**	**Processes:**
Genetic purity of breeders' varieties and cultivar description	• Office of Gene Technology Regulator, Licence for Dealings Involving an Intentional Release of GMs into the Environment [1,2] • Internal Quality Assurance Systems and Identity Preservation procedures[3] • Australian Seed Federation National Code of Practice for Seed Labelling and Marketing[3]	• Activity complies with OGTR licence and requirements • Imported material covered by AQIS declaration and meets industry standards, is approved by the OGTR and it does not contain any unapproved events • Testing occurs depending on origin of materials
Assessing new varieties for Australian conditions and release of variety to seed growers	• OGTR license requirements[1,2] • Agricultural Pesticides and Veterinary Medicines Authority Act, approval to use herbicide[4]	• Traits are researched and assessed against standards • Comply with APVMA and label requirements
Intellectual Property	• Granting of technology license from technology developer to a seed company licensee • Commonwealth of Australia Plant Breeder's Rights Act 1994[5] • Commonwealth of Australia Patents Act 19906	• Commercial license agreement • Activities comply with legislative requirements

SEED INCREASE		
Objective: To increase seed stocks of selected approved GM canola varieties from technology developers, conduct field-trial evaluation and deliver proven variety seed to commercial seed-growers to increase seed for sale		
Activity managed:	**Protocols met:**	**Processes:**
Breeding of seed in nurseries	• OGTR licenses are required for breeding nurseries • Breeder supervises nursery • Documented procedures and actions	• Varieties and their characteristics are identified and labelled, products from nurseries do not enter the commercial grain trade • Field trials are contained in small plots, harvested seed screened • All actions according to documented procedure
National variety trials	• Testing for GM status of each seedlot entering trials[6] in previous breeder seed generation • The national variety trial framework is used • Varieties are grown under ASF Best Practice Guidelines[7] • Documented procedures to maintain product integrity	• Varieties that have passed all tests are distributed to NVT for evaluation • Varieties grown are identified and labelled • Harvested seed disposed of according to protocols
Variety commercialisation	• Varieties are grown under ASF Best Practice Guidelines[7] • Each lot of breeder's seed to be commercialised is tested for GM status	• Varieties and stock are identified, labelled and tested for GM status • Inventory control • Market approval granted
Basic (foundation) seed increase	• Varieties grown under ASF Best Practice Guidelines[7] • Each lot of grower line of basic (foundation) seed traceable via limited generation system to breeder seed of confirmed GM status • Documented procedures to maintain product integrity	• Grower may need to comply with contractual arrangement with Technology Provider • Varieties are identified, labelled, tested and accompanied by a test certificate to confirm their GM status • Inventory control • All actions according to documented procedure

ON-FARM PRODUCTION		
Objective: To grow and deliver canola to the range of market specifications		
Activity managed:	**Protocols:**	**Processes:**
Purchasing, receiving, storing and treating seed prior to planting	• Contractual agreement between seed company (technology licensee) and grower may be required which cover: • Commercial terms — Regulatory requirements (OGTR and APVMA) — Technology requirements (eg crop and field management plans, stewardship protocols) • The ASF code of practice for seed labelling and marketing, the ASF seed certification scheme[3,7] • The ASF national code of practice for seed treatments[8] • Documented procedures to maintain product integrity	• Grain growers may operate under contractual terms and conditions prior to gaining access to GM seed • Grain growers use crop and field management plans as basis of crop planning, management and operations • Seed is accompanied by a label statement of GM status, origin and quality; seed stored to maintain identity and integrity • Seed treatments as required • All actions according to documented procedure
Planting seed	• Contractual agreement between seed company and grower • Documented procedures and actions	• Crop planting in compliance with any crop and field management plans or contractual arrangements • All actions according to documented procedure
Crop Management	• Contractual agreement between seed company and grower • Quality systems, and legislative and market requirements • Documented procedures and actions	• Crop production in compliance with any crop and field management plans or contractual arrangements • Crop management complies with quality, regulatory and market requirements where applicable, including monitoring • All actions according to documented procedure
Harvest	• Contractual agreement between seed company and grower • Harvesting, transport and storage equipment to standard; contractors controlled • Documented procedures and actions	• Harvest planned and conducted in compliance with crop and field management plans and stewardship protocols • Equipment inspection and clean-down; contractors provide attestation to compliance; grain samples kept where relevant; stock control • All actions according to documented procedure
Delivery to storage	• Customer, NACMA and AOF standards [10,11] • Vendor declarations[10] • Contractual agreement between seed company and grower • Documented procedures and actions	• Harvested grain quality to customer standards • Complete vendor declaration and instruction documentation; grower monitors contractors • Delivery to storage in compliance with crop and field management plans • All actions according to documented procedure

ACCUMULATION & STORAGE		
Objective: To accumulate, sample, classify and store grain delivered by growers according to industry standards		
Activity managed:	**Protocols:**	**Processes:**
Grain receival, storage and consolidation	• Receival points for canola declared at pre-harvest meetings held by bulk handling companies (BHC) & private storage agents and via media and direct mail campaigns • Receival agent storage and handling agreement • Vendor declaration • Grain classified to NACMA, AOF and buyer standards[10, 11] • Grain stored per industry standards and QA procedures[12] • Documented procedures and actions	• BHC and private storage agents notify industry of canola receival points and delivery requirements as part of standard practice; prior to receival, storage operators confirm canola storage requirements and capacity with end-users • Standard industry practices for delivery and handling • Receival depot operator checks documentation of each delivery parcel; consistent declaration through industry • Sampling, testing and classification to AOF standards and buyer requirements at receival; samplers and handlers trained in and comply with receival procedures and standards according to QA guidelines • Grain receival, segregation, storage, movement, stock control and documentation according to classification and NACMA, AOF, BHC, private storage agent and end-buyer standards and requirements • Clean-down procedures to industry standards and requirements where required • Sampling and testing may occur in storage and on out-turn • Documentation attesting to quality and integrity of grain provided to transporters for end-buyer assurance, records maintained

GRAIN OUT-TURN		
Objective: To out-load canola from storage facilities and transport it to domestic and/or export markets		
Activity managed:	**Protocols:**	**Processes:**
Grain parcel identification and management pre-loading	• Inventory control procedures and QA systems[12]	• Documented procedures and QA systems used to meet customer order by identifying and physically inspecting grain, managing movement of grain parcels within storage facility, obtaining and retaining samples, supervising loading, providing documentation attesting to grain parcel quality, status and integrity. Documentation travels with the grain • Standard industry practices for delivery and handling of the correct product as per commercial contract
Grain loading to road or rail transport	• Inventory control procedures and QA systems[12] • Freight agreements	• Grain delivery and external transport equipment to required standard and cleanliness prior to loading of grain; documentation of grain parcel quantity, quality standards and GM status provided to transport operator and accompanies parcel to buyer, records kept. Contractors operate as per storage operator requirements. • Agreements between storage agent and purchaser/owner followed by transporter; use of dedicated units as required • Transport operators follow guidelines and provide documentation attesting to inspection, cleaning and use of transport units as required
Grain receival	• Receival at domestic buyer storages and export terminals per contract	• Grain is received at buyer storage or export terminal and either consolidated or identity preserved as per user, market, and shipper procedural and contractual requirements

MARKETING		
Objective: To supply contracted canola or canola products to domestic or export markets to meet specifications		
Activity managed:	**Protocols:**	**Processes:**
Domestic marketing	• Trading contracts eg NACMA contracts (food and feed) • FSANZ[13] - food labelling requirements	• Compliance with customer contract terms and conditions and market and regulatory requirements • Sampling and testing may occur • Terms and conditions comply with regulations
Export marketing	• Trading contracts (food and feed) • AQIS regulations[14]	• Compliance with customer contract terms and conditions; and market and regulatory requirements — includes all importing country regulatory requirements — independent inspection assessment may occur • Compliance with AQIS quarantine and phytosanitary requirements

END PRODUCT MANUFACTURE		
Objective: To ensure canola products are processed and manufactured to meet the needs of human, stockfeed and industrial end-users. Processed and manufactured products are packaged and distributed to the marketplace as required.		
Activity managed:	**Protocols:**	**Processes:**
Product acquisition, processing and manufacturing, packaging	• Trading contracts (food and feed) • FSANZ[13] - food labelling requirements • Internal quality systems • AOF Code of Practice for the Bulk Transport of Vegetable Oilseeds, Meals and Hulls by Road and Rail and AOF Code of Practice for the Cleaning of Containers and List of Prohibited Immediate Prior Loads[15]	• Customer contract terms and conditions • Sampling and testing may occur • Terms and conditions comply with regulation • All processing, manufacturing, labelling and packaging processes followed to meet customer and regulatory requirements • Product is transported as per standards industry guidelines

References:

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2. Canola Industry Stewardship Principles, Gene Technology Grains Committee, 2003
3. Australian Seed Federation national code of practice for seed labelling and marketing, 2005
4. Agricultural Pesticides and Veterinary Medicines Authority Act, 1992
5. Commonwealth of Australia Plant Breeder's Rights Act 1994
6. Commonwealth of Australia Patents Act 1990
7. Australian Seed Federation best practice guidelines for management of AP in canola Varieties, June 2006; and Seed Certification Scheme
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10. National Agricultural Commodities and Marketing Association, commodity standards and declarations, 2007
11. Australian Oilseeds Federation, standards manual, 2007
12. Segregating GM and non-GM grain in the Australian Grain Storage System, CSIRO, 2004
13. Food Standards Australia New Zealand Act, 1991, FSANZ Food Standards Code, 2007
14. Australian Quarantine and Inspection Service, Exporting Regulations, 2007
15. AOF Code of Practice for the Bulk Transport of Vegetable Oilseeds, Meals and Hulls by Road and Rail, and AOF Code of Practice for the Cleaning of Containers and List of Prohibited Immediate Prior Loads 2005; AOF Trading Standards 2007