



**Australian Oilseed Federation**

# **Japan Australia Technical Mission**

**Final Report**

**November 2000**

**Dr R J Mailer and Mr G Masters**



## Contents

---

Objectives	4
Benefits	5
Body of Report	6
Recommendations	9

Appendix 1 - Agenda

Appendix 2 - Delegates

Appendix 3 - Methods of JOPA

Appendix 4 - Australian canola quality results

## Objectives

---

The objective of the travel was to meet with the Japanese Oilseed Processors Association (JOPA) and the Japan Oil and Fat Importers & Exporters Association (JOFIEA), as representatives of the Australian Oilseed Federation (AOF), to highlight the benefits of Australian canola. Japan is the second biggest importer of Australian canola after China, receiving around 350,000 tonnes of canola each year. There have been concerns from Japanese traders that Australian canola has deficiencies in terms of oil and protein content, admixture or impurities in canola seed and erucic acid in the oil. The delegation included Dr Mailer as the quality expert, and Mr Geoff Masters from AusBulk, Australia, as the storage and shipping expert.

## Benefits

---

Australia produces around two million tonnes of canola annually. Only 200,000 tonnes are used on the domestic market and the remainder is exported. For many years, Japan has been the major importer of Australian canola only recently being surpassed by China. Japan imports two million tonnes annually, the bulk of this coming from Canada. The opportunity exists to increase Australia's market share into Japan through quality advantages of Australian canola over Canada.

Competitive quality factors between Canada and Australia, the main sources for Japan's canola, is many and includes:

Higher oil content, higher protein content, low erucic acid content, low admixture or impurities, consistency in quality, consistency of supply, low chlorophyll,

Several factors were identified in relation to Canadian and Australian canola. An understanding of these factors is important in improving the quality and quantity of the export.

- There is considerable variability in Australian canola quality.
- Australian canola has improved against Canadian canola in recent years, with almost equivalent oil contents. The crop is superior to Canada in terms of lower chlorophyll, lower admixture, lower moisture, lower free fatty acids. Problems with low protein were identified. The problem of seed pod contamination blocking transfer lines was also highlighted.
- The lack of Federal Government contact with Japan was an issue. Canada has been influential in developing the canola industry in Japan with promotion of health benefits to the Japanese consumers. Regular meetings are arranged through the Canadian Embassy via the Japanese Embassy to discuss trade and quality issues. Australia has no such arrangement.
- Canada, through the Federal Government's Canadian Grain Commission, supplies data on the current canola crop via the internet, soon after the crop is harvested. The only access to Australian quality data for the Japanese has been through trading companies. Generally these sources do not have good information about crop yields or quality.

Additionally, Australia has been concerned about possible negative effects of genetically modified canola crops contaminating Australian canola. Discussions with JOPA indicated that Japan is already buying traditional canola cultivars blended with genetically modified canola. Mr Komura, Managing Director of JOPA, stated that there is no problem with Japan accepting GMOs. No previous communication with Japan has identified that GMOs were acceptable to Japan.

The contact with Japanese oil processors has been beneficial, both in identifying concerns of Japanese importers and also in providing an opportunity to promote the high quality of Australian canola to the Japanese industry.

## Body of the Report

---

Dr Mailer and Mr Masters travelled to Tokyo, Japan to meet with the Japanese Oilseed Processors Association (JOPA) and the Japan Oil and Fat Importers & Exporters Association (JOFIEA) to highlight the benefits of Australian canola. Japan is Australia's second biggest importer of Australian canola after China, receiving around 350,000 tonnes of canola each year. There have been concerns from Japanese traders that Australian canola has deficiencies in terms of oil and protein content, admixture or impurities in canola seed and erucic acid in the oil. The delegation included Dr Mailer as the quality expert and Mr Geoff Masters from AusBulk, Australia, as the storage and shipping expert.

The initial meeting was held at Yushi-Kogyo Kaikan and was attended by six members of JOFIEA, 12 members of JOPA and a representative from the Japan Oil Inspector's Corporation (Attachment 2). A commercial interpreter translated all presentations.

The agenda (Attachment 1) included a presentation by Mr Kazuo Ogome, Chairman of International Affairs Committee of JOPA, on Japan's canola imports and the trade situation between Australia and Japan. Mr Ogome welcomed the Australian delegation to the meeting in Japan and discussed the ongoing commitment to trade with Australian canola. He discussed variability in Australian canola quality and described the Canadian process of shipping all canola from a central port at Vancouver where the seed is blended and quality is consistent. He also described methods of screening at shipment, which may overcome some of Australia's problems with pods and dust left in the canola seed. Mr Ogome offered his sympathy for the drought, which had been reported to have significant negative effects on the Australian canola crop.

Dr Mailer was asked to respond to the presentation by Mr Ogome. He discussed the role of the AOF as the peak body representing all facets of the Australian Oilseed industry. This meeting was an initiative of the AOF to continue close communication with the Japanese industry. He discussed the previous AOF initiative to bring members of JOPA to Australia to visit processors and shipping terminals and explained that this was a technical group, to complete the picture, and talk about quality factors of Australian canola.

Mr Komura, Managing Director of JOPA, discussed the vegetable oil market in Japan. He showed graphs relating to the development of canola in Japan and the rapid increase in consumption of canola oil. He pointed out however that the population was slowing down and continued increases in consumption were unlikely. Other factors were also likely to see canola imports remain at static levels in the future.

M. Hamashima, Director for Technics, JOPA, made a presentation regarding the quality of Australian canola compared to Canadian canola. Analytical methods used by JOPA for canola testing are provided in Attachment 3 and details of Australian canola quality during 2000 are given in attachment 4. He highlighted several factors which indicate that Australian canola has improved considerably over recent years and is equivalent to Canadian canola and in many characteristics, better. In particular M. Hamashima discussed:

- Moisture at 6-6.5% is consistently less than Canada at 8-8.5%.
- Oil content on an AS-IS basis is equal to or higher than Canadian canola.
- Oil calculated to 8.5% is less than Canadian canola by 1-2%.
- Free fatty acids are generally well below Canadian shipments. However, in 1999, Australian acidity averaged 1.4%.
- Nitrogen (protein) levels on an AS-IS basis were similar to Canada (3.3-3.4%) however 1999 produced low nitrogen in Australian canola (3.2%).
- Nitrogen, when calculated to 8.5% moisture was consistently less than Canada.
- Dockage from Australia was always better than Canada at 1-1.5% versus 1.6-2.1%. The comment was made however that Australian admixture consists of light pods which block delivery lines.
- Green seeds in Canada ranged from 1.0-1.6% whereas Australia had far superior quality with only 0.3-0.5% green seed.
- Chlorophyll was therefore much better in Australian oil at only 6 ppm whereas Canadian oil had 15-25 ppm.
- Mr Hamashima stated that buyers were concerned that phosphate and potassium concentrations were lower in Australian canola meal which is apparently used as fertilizer.
- The major problem was obviously variability in the Australian crop and averages for nitrogen from Albany, for instance, ranged from 3.25-3.35%. Oil content from Portland ranged from 42-44.5%.

Mr Hamashima described his ideal type for canola as follows:

- Moisture < 7%
- Oil at 8.5% moisture > 42.5%
- Crude protein at 8.5% moisture. N > 3.3%; protein > 20.6%

He pointed out that Australia was very close to these requirements but quality variability was the main problem.

Dr Mailer and Mr Masters then spoke to the group about Australian canola quality, new developments in canola cultivars, storage and handling and analytical methodologies. Utilising a coloured brochure which had been translated into Japanese, they described the AOF Trading Standards manual and consistency in methodology between laboratories. The various test methods for oil and protein were discussed including the recent application of NIR instruments at receipt sites to check farmer's seed.

A second brochure, Canola Variety Guide 2000, was provided to the delegates which showed new cultivars grown for specific regions to improve the quality at all sites and to reduce the variability of the crop within and between seasons. The ability to select cultivars for high yield or high oil content led to a discussion on bonification. It was pointed out to the delegates that growers could be encouraged to grow cultivars with higher oil if they were compensated by higher payments for loss in yield.

Methods for measuring chlorophyll and glucosinolates were also discussed.

Australian canola has the lowest level of glucosinolates of any in the world and chlorophyll is generally not a problem.

Mr Masters described methods of measuring impurities using 0.99 mm sieves, aspirators and hand picking. He also discussed canola storage in Australia with sealed facilities, aeration and refrigeration. He pointed out that contact insecticides are not used and phosphine fumigant is utilised.

The AOF Proficiency program was described which ensures that laboratories are all getting the right results. Japanese laboratories were invited to take part in the proficiency program.

Finally, Dr Mailer described ongoing research projects on canola including selection for higher oil and protein, reducing fibre and glucosinolates, investigating yellow seeded canola for lighter coloured meal and also selection for higher oleic acid.

*The delegates were then given an opportunity to ask questions of the Australian representatives and further discussion.*

A tour of Nissan Oil Mills, Ltd at Yokohama was arranged by JOPA on Tuesday 14<sup>th</sup> November. Nissan is Japan's largest oilseed processor handling 1 million tonnes of canola per year. The Australian flag was flying at Nissan Oil Mills on the day of the visit.

## Recommendations

---

The meeting with Japanese oil processors provided the opportunity to highlight benefits of Australian canola to them whilst providing Australia with information regarding their concerns. Information from this visit provided figures which show Australian canola has quality generally exceeding that of Canadian canola, a factor not previously acknowledged. The issue of GMOs, which apparently is not a problem for Japan, was also unknown to us. Ongoing contact is clearly beneficial.

Australia needs to have continuous contact with the Japanese oilseed industry to discuss issues of crop quality and availability. Australia should develop a similar system to that of the Canadian Grain Commission, which provides the Japanese with ongoing crop statistics, including yields, oil content, etc.

Grain handlers need to investigate problems of seed pod contamination in canola and attempt to remove such contamination by blowing or vacuum, at the point of shipping. This is a major criticism of Australian canola.

The opportunity to blend canola to improve quality consistency needs to be investigated.

Promotion of the benefits of Australian canola oil over alternative suppliers has the potential to increase demand. Japan use only 350,000 tonnes of Australian canola out of a total import of over 2 million tonnes. Due to the longer ripening period into the hot summer, Australian canola has very few problems with chlorophyll contamination, which results in green oil from Canadian seed. Australia also has benefits with lower free fatty acids, as the seed is not stored for long periods. New cultivars will have other attributes, which justify ongoing promotion of the crop.

## Attachment 1 Japan Australia Joint Meeting on Canola

Date: Monday 13<sup>th</sup> November, 14:00-17:00

Place: Meeting Room on 9<sup>th</sup> Floor. Yushi-Kogyo Kaikan

Attendance: Refer attached paper

### **Program**

14:00 Introduction

14:10 Opening remarks : Mr. Kazuo Ohgomc. Chairman, International Affairs Committee of JOPA.

14:20 Remarks replying to Mr. Ohgome : Representative from AOF

14:30 Presentation from JOPA "The Outline of Vegetable Oil Market in Japan" Y Komura, Managing Director. JOPA

"Quality of Australian Canola Compared with the Canadian" M Hamashima, Director for Technics. JOPA

145:00 Presentation from AOF

15:15 Question & Answer

15:45 Coffee Break

16:00 Re-open

16:00 Discussion

17:10 Welcome reception at " Restaurant Usukebu" on the first basement.

### **Research Tour at Isogo Plant of Nisshin Oils Mills Co. Ltd.**

Date : Tuesday 14<sup>th</sup> November

13:00 Assemble at Hotel Lobby Escorts : Mr. Morio Hamashiina, Director. JOPA.

14:30 Arrival at Isogo Plant,

14:30 Research & Discussion

## Attachment 2: A O F & Japan Joint Meeting

---

### **Australia Oilseed Federation Nov. 13, 2000, Tokyo**

<b>Name.</b>	<b>Company</b>
Dr. Rodney Mailer	NSW Agriculture
Geoff Masters	Ausbulk Ltd.

### **Japan Attendance The Japan Oil & Fat Importers & Exporters Association**

<b>Name</b>	<b>Company</b>
Mitsugu Kuno	Itochu Corporation
K.Atstiyuk1 minami	Sumitomo Corporation
Takashi Ishigami	Marubeni Corporation
Naoto Muto	Mitsul & Co., Ltd.
Tsutomu Takanose	Mitsubishi Corporation
Shoj Yamaguchi	The Japan Oil & Fat Importers & Exporters Association
Ka2uo hosoi	Japan Oil Stuff Inspectors' Corporation

### **Japan Oilseed Processors Association.**

<b>Name</b>	<b>Company</b>
Kazuo Ogome Yoshifumi Ichisugi	The Nisshin Oil Mills, Ltd.
Osamu Kagayama	Ajinomoto Co., Inc.
Shunichiro Iwahashi	Honen Corporation.
Naoya Tawke	Showa Sangyo Co., Ltd.
Hirosuke Takanishi	Yoshiliara Oil Mill, Ltd.
Koji Arai	Nikko Oil Mills Co., Ltd.
Toshihide Kazama	Rinoru Oil Mills Co., Ltd.
Konosuke Takenaka	Riken Nosan Kako Co., Ltd.
Kazuo Kitagawa	Boso Oil and Far Co., Ltd.
Yoshinori Kohmura	Japan Oilseed Processors Association
Morio Hamashima	

## Attachment 3 Analytical Methods using JOPA for Unloaded Rape Seed

### 1. Moisture

JOCS official method 1.4.1-1996.

Drying in oven at 130°C for 3hrs.

### 2. Oil content

JOCS official method 1.5-1996

Ethyl-ether extraction for 6hrs by Soxlet extractor.

### 3. Acid Value

JOCS official method 1.6-1996.

Titration with 1/10 mole/L-KOH aq. solution for extracted oil solved in neutralized solvent.

### 4. Nitrogen

JOCS official method 1.7.1-1996.

Kjeldahl method using automatic analyzer.

Protein content is calculated from 6.25 times of nitrogen content.

### 5. Chlorophyll

JOCS official method 1.14-1996. Optical absorption difference between 665 nm and (625+705) nm