Australian canola/colza quality 2008

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Acknowledgments

The Australian Oilseeds Federation would like to thank Graincorp Operations Limited, ABB Limited and the Grainpool Pty Ltd. for providing the canola samples from the 2008 harvest. Thank you also to GRDC and the service providers for providing samples from the 2008 National Variety Trials (NVT). The assistance from all those involved in the analysis of these samples and compilation of the book is greatly appreciated.

Introduction

Sample Analysis

Canola samples representing the 2008 harvest were received from the bulk handlers in New South Wales, South Australia, Victoria and Western Australia. These samples are representative of the seed collected at each of their receival points and have been taken to cumulatively represent the Australian harvest. The Department of Primary Industries Australian Oils Research Laboratory has no control over the collection of the samples and all data given is based on the analysis of the samples provided.

Each sample was analysed for oil, protein and glucosinolate concentrations; fatty acid profiles and volumetric grain weights according to the standard AOF methods outlined in the methods section at the back of this book. The Department of Primary Industries Australian Oils Research Laboratory in Wagga Wagga performed all analyses on the samples. Oil and glucosinolate concentrations are reported at 6% moisture in whole seed and protein is reported in oil-free meal at 10% moisture.

The data for NVT samples shown here were from samples analysed by the Australian Oils Research Laboratory in Wagga Wagga.

Weather Production Review

The Season

The pattern of the previous six years was repeated in 2008 with most Western Australian canola growing districts benefiting from generally favourable conditions resulting in above average yields whilst all the south eastern Australian districts experienced another difficult season.

Western Australia: Above average rainfall in April in all districts except Esperance produced an excellent start to the season. This enabled the majority of the crop to be sown on time and, combined with a good price outlook, encouraged growers to increase their canola plantings.

Early crop growth was above average and although several districts experienced a dry, cold period during mid winter, timely rain throughout the late winter-spring period resulted in excellent crop growth setting the base for above average yield prospects across the state. Apart from a heavy frost in some southern districts in late September, favourable rainfall and temperature conditions prevailed throughout flowering and pod-fill further enhancing crop prospects. Late falls of

rain in late October and November caused significant delays to harvest in the central and southern districts but these did not result in any grain quality issues. Across the whole state there were very few incidences of insect pests or diseases throughout the growing season which added to the yield potential.

Due to the generally favourable conditions experienced throughout the growing season, harvest yields in all districts were above the long term average. The final production estimates for Western Australia for the 2008 season were around 1.138 million tonnes from a harvested area of 620,000 ha. By comparison production for the 2007 season was around 665,000 tonnes from a harvested area of 390,000 ha. The generally favourable growing conditions, especially the mild temperatures experienced during seed development, also resulted in seed oil contents being well above the long term average.

South Australia: Early to mid autumn rainfall in all districts was very variable but adequate rain fell in early May to enable the majority of the crop to be sown within the recommended sowing window. Although most districts experienced dry conditions during June, there was sufficient soil moisture available to maintain crop growth and crop prospects were at least average. Cold temperatures during July and August slowed crop development but this was tempered by average rainfall being recorded.

Well below average rainfall was received across the whole of the state in September and October. This had a severe impact on crops in nearly all districts particularly those on the Eyre Peninsula where yields were significantly reduced. A heavy frost in November also had an impact on yield potentials in some districts but damage was not as severe as was initially feared as many crops were close to being windrowed. Final estimated production for South Australia for the 2008 season was around 227,000 tonnes of seed from a harvested area of 165,000 ha. By comparison production in 2007 was estimated at 155,000 tonnes from a harvested area of 155,000 ha.

Victoria: The start to the growing season in Victoria was very similar to South Australia with very little sub soil moisture following a dry autumn. Although some rain fell in May the main break did not occur until early June resulting in good seedling emergence and subsequent early crop growth. Despite only average rainfall being recorded throughout the winter period, crops in most districts progressed satisfactorily and exhibited good yield potential going into spring.

Unfortunately conditions continued to deteriorate throughout spring with crops in all districts, particularly the Mallee and Western Districts, experiencing moisture stress, high temperatures and widespread frosts during the critical stage of pod fill. This resulted in many crops failing with the yield potential on those that were harvested being reduced by 30% to 90%. Late rain during harvest in the later ripening Western Districts further reduced the yield of many crops in this area. The

adverse dry conditions also affected the seed oil contents of virtually all seed delivered in Victoria.

Final estimated production for Victoria for 2008 was around 251,000 tonnes from a harvested area of 185,000 ha out of the 220,000 ha estimated to have been sown. In the 2007 season production was estimated at 200,000 tonne of seed from the 150,000 ha harvested although 270,000 ha were estimated to have been sown.

New South Wales: All canola growing areas experienced a reasonable late April break but apart from some scattered falls in May, good follow-up rain was not received until mid June. Early growth in many crops was both patchy and variable and generally related to the level of weed control on summer fallows. Rainfall throughout winter was variable across all districts with the Central and North Western districts receiving the better falls. Cold, frosty conditions across NSW in August slowed crop development and assisted in conserving some of the limited available soil moisture for spring crop growth.

Although September saw below average rainfall in most districts, a continuation of cool temperatures enabled crops to make sufficient growth to respond to the good falls of rain that fell in most districts in early October. A return of hot, dry conditions in late October resulted in a severe outbreak of aphids on moisture stressed crops in the Central West and Southern districts. A significant proportion of affected crops required control measures to be undertaken.

Moderate falls of rain in most districts in early November combined with mild temperatures enabled many crops to finish slightly better than initially estimated. However, the moisture stress conditions experienced for much of the seed fill period had an adverse impact on seed oil contents with some loads testing below 30% oil content and being rejected at delivery.

Final estimated production for New South Wales for 2008 was around 262,000 tonnes from a harvested area of 195,000 ha out of the 225,000 ha estimated to have been sown. This was a massive improvement on the 2007 season in which final production was estimated at 44,000 tonnes from a harvested area of 58,000 ha out of the 240,000 ha sown.

As a consequence of the seasonal conditions, the reported incidence of diseases was very low in all states. Likewise with insect pests there were few problems experienced except in New South Wales where a major outbreak of aphids occurred on moisture stressed crops in the spring with a large percentage of affected crops requiring control measures.

Despite the difficult season experienced in most of south eastern Australia the final production was much better than pre-harvest expectations. However, seed oil contents were low resulting in many growers experiencing significant oil discounts at delivery. In contrast, Western Australia again experienced a very good season which accounted for 60% of the total Australian production. Unfortunately the high costs involved in growing a successful crop combined with a run of difficult seasons have again made growers in Victoria and New South Wales wary of committing to a large scale return to planting canola in 2009.

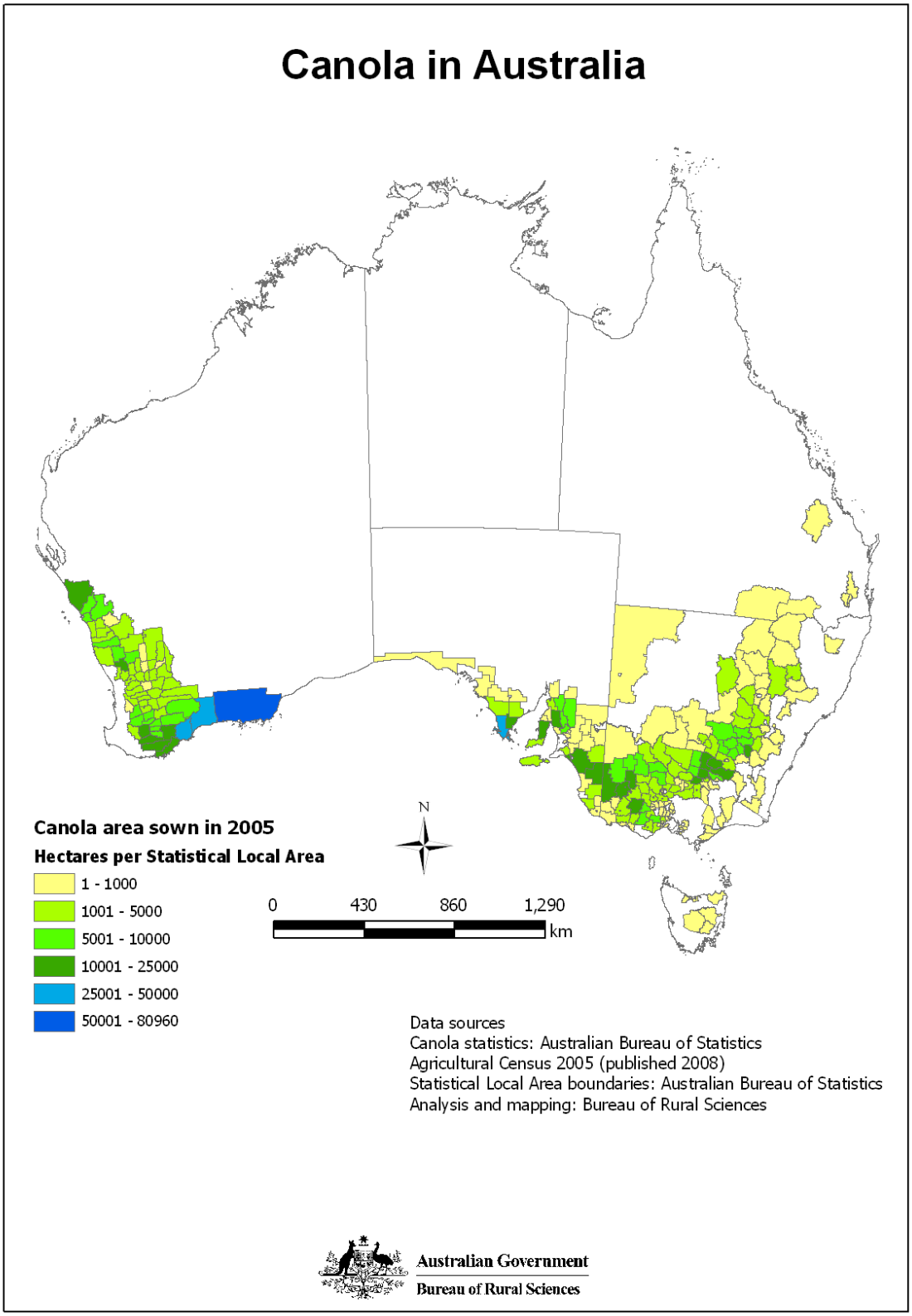

Figure 1: Areas of canola production in Australia
Published with approval of Bureau of Rural Sciences

Yield

The 2008 canola harvest was nearly double the 2007 harvest. In 2008 there was 1,165,000 hectares harvested, this was over 400,000 hectares more than the 758,000 hectares harvested in 2007. A higher yield on top of the increased area harvested resulted in 1,878,000 tonnes harvested in 2008 compared to the 1,069,000 tonnes harvested in 2007. The yield varied from a state average of 1.3 t/ha in New South Wales to 1.8 t/ha in Western Australia. The national yield of 1.6 t/ha was 0.2 t/ha higher than the 2007 average.

Australian Quality Parameter Summary

The division, state and Australian mean values for all analysis are calculated on the basis of the tonnage that each site represents. Tonnages for each site were not received from Western Australia only the state total. Therefore, the state mean (calculated from the individual sites) wasn't adjusted for tonnage but the Australian mean was. However, as tonnages are confidential information, no individual site tonnages can be reported.

Oil Content

The average oil content for the 2008 harvest was 41.8 %. This was a decrease of 2.2% from the 2007 harvest and the lowest since 2004. Oil content ranged from a low of 33.8% at Oaklands in New South Wales (received through the Marong Region, Victoria) to a high of 45.9 % at Millicent in South Australia.

Protein Content

The average protein content for the 2008 harvest was 41.0 % in oil free meal. This was an increase of 1.0 % from the 2007 and the highest since 2004. Protein content ranged from 38.3 % at Site # 1090589274 in the Albany Port Zone of Western Australia to 48.4 % at Boree Creek in New South Wales.

Figure 5: Average Australian protein content 1998 – 2008

Glucosinolate Concentration

The average glucosinolate content for the 2008 harvest was 10 μmoles/g. This was an increase of 2 μmoles/g from the 2007 harvest and the highest since 2004. Glucosinolate content ranged from 5 μmoles/g at Bowmans in South Australia to 19 μmoles/g at Oaklands in New South Wales.

Fatty Acid Composition

Oleic Acid

The average oleic acid (C18:1) concentration in the oil produced from the 2008 harvest was 60.0 %. This was 0.3 % higher than 2007. The concentration ranged from 57.3 % at Oaklands in New South Wales to 65.1 % at Raywood in Victoria.

Linoleic Acid

The average linoleic acid (C18:2) concentration in oil produced from the 2008 harvest was 20.3 % this was 0.1 % lower than 2007. The concentration ranged from 16.5 % at Raywood in Victoria to 24.9 % at Boree Creek in New South Wales.

Linolenic Acid

There was a decrease of 0.3 % in the linolenic acid (C18:3) concentration to 10.7 %. This was the lowest since 2004. Linolenic acid concentrations ranged from 7.2 % at Boree Creek in New South Wales to 12.3 % at Millicent in South Australia.

Saturated Fatty Acid

The average saturated fatty acid concentration was 7.6 %. This was a 0.2 % increase from the 2007 harvest and the highest since 1995. Saturated fatty acid concentration ranged from 7.0 % at Millicent in South Australia to 8.6 % at Junee Sub terminal in New South Wales.