CANOLA

Webwerfopdatering / Website date

Januarie /January 2014

Hierdie verslag handel oor ondergenoemde aspekte binne die volgende raamwerk:

1. Canola Council of Canada

2. Aktiwiteite van saadmaatskappe in Kanada

3. Tendencies / Developments in Canola oil quality / speciality oils

4. Australian Oilseeds Federation

5. Activities of Australian Government Grains Research and Development Corporation

6. Aktiwiteite van saadmaatskappye in Australië

7. Universities and Research organizations in Australia

1. Canola Council of Canada (CCC)

1.1 CCC's next industry goal: 52 bu/ac average (2.950 kg ha^{-1})

Canadian canola production surpassed the industry target of 15 million tonnes (target set for 2015) The next goal, announced today, is 26 million tonnes by 2025. This is based primarily on an increase in yield per acre, with very little increase in overall acres of canola. An average Canadian yield of 52 bu./ac. over 22 million acres (2 914 kg ha^{-1} on 8.9 million hectares) will achieve 26 million tonnes of production.

Genetic gain alone could contribute 8 bu./ac. to the current 34 bu./ac. average achieved in 2013.

Agronomy and management practices could contribute another 10 bu./ac. as follows:

—Plant establishment. Yield gains of 3 bu./ac. can be realized by a better understanding of seed mortality and seed placement with the goal of consistently reaching plant stands that lead to top yields.

—Fertility Management. A small magnitude increase in fertility to meet the full nutritional requirements of the crop could contribute 3 bu./ac. to yields by 2025.

—Pest Management. Yield gains of 2 bu./ac. can be realized through improved management of weeds, diseases, and insects.

—Harvest Management. Research shows that we are losing 2 to 5 bu./ac. at harvest. Improved swathing timing and adoption of straight cutting could reduce average losses by 2 bu./ac."

http://www.canolawatch.org/2014/01/09/cccs-next-industry-goal-52-bu-ac-average/

Date: January 2014

1.2 Canola Industry Information

The CCC makes available a very broad spectrum of information on its webpage under the three headings News, Publication and Resources and Crop Production

1.2.1 News Releases

Record Canola Crop Reflects Continued Momentum

The final numbers of canola production for the year at 17.96 million tonnes – the first canola crop to surpass the industry target of 15 million tonnes – a goal the Canola Council was aiming to reach by 2015.

http://www.canolacouncil.org/news/record-canola-crop-reflects-continued-momentum-in-industry/

Date: December 6. 2013

New Canola Meal Website, Canolamazing Website Launched

The Canola Council of Canada today announces the launch of Canolamazing.com, a new website showcasing the facts and first hand accounts of using canola meal for dairy rations. Soybean meal has long dominated the protein market as a mainstay in the dairy market, but recent canola meal research busts this accepted norm. When it comes to rumen undegradable protein, canola meal is 16 percent more efficient than soybean meal at getting protein past the rumen, where it can be absorbed and used to produce milk.

http://www.canolacouncil.org/news/new-canola-meal-website,-canolamazingcom,-launched/

Date: October 1, 2013

Assess Canola Diseases before Harvest

The week or two before swathing or during swathing are the best times to survey the disease situation in your canola fields. Large lesions — the ones that will lead to yield loss — are easiest to spot at this stage and when plants are still standing. To identify diseases present and their severity are keys to management. A close look now gives you the best hope of early detection of clubroot or of a rising blackleg threat, for example.

Growers can use this scouting information to plan rotations, choose varieties, and update fungicide decision-making for next year. In most cases, fungicide is not effective at this stage of the season. In cases where fungicide use is still possible for the target disease, use the tool at www.spraytoswath.ca to check on pre-harvest intervals."

http://www.canolacouncil.org/news/assess-canola-diseases-before-harvest/

Date: A ugust 9, 2013

Moisture Raises Sclerotinia Stem Rot Risk

The farm's location and a field's crop rotation history don't matter so much anymore. Sclerotinia stem rot can strike anywhere. To scout, growers and agronomists could look for tiny mushroom-like apothecia in fields that were seeded to canola last year, and have petals tested for sclerotinia ascospores. But the more

important scouting steps are to look at the yield potential of the crop and check the current moisture situation for each field. A crop with a dense canopy and good yield potential, good soil moisture and lots of morning dew will likely provide a return from a fungicide application — as long as conditions stay moist.

If conditions turn hot and dry after flowering, sclerotinia infection may not be as severe as it would be if conditions stay humid and moist inside the canopy. Unfortunately, rainfall over the two weeks after flowering is hard to predict, so the decision has to be based on current conditions.

Fungicide application timing for sclerotinia stem rot management is between 20% and 50% bloom. This timing is important. For fungicide to be effective, it has to land on petals before they fall into the canopy. Sclerotinia ascospores cannot infect plants directly. They need dead tissue, such as fallen petals adhering to leaves and stems, to continue their cycle. Decaying petals give ascospores the energy to infect the plant. Once inside the plant, the fungus grows up and down the stem, eventually cutting off moisture and nutrient flow and killing the plant.

Remember that fungicides will reduce the severity of infection but will not eliminate sclerotinia completely, especially if conditions are favorable all through flowering,

http://www.canolacouncil.org/news/moisture-raises-sclerotinia-stem-rot-risk/

Date: July 3, 2013

Make the most of your fertilizer investment

Here are the three basics of canola crop nutrition:

1. Put only phosphate in the seed row.
   Safe and effective seed-paced rates of phosphate are generally around 20 lb./ac. (22.4 kg ha^{-1}) of actual phosphate, but on lighter soils and dry conditions even this rate may cause some reduction in emergence. All other fertilizer should go outside the seed row.

2. Apply some sulphur.
   Sulphur is highly variable across a field. For this reason sulphur is recommended even if a composite soil test says a field is sufficient in sulphur. Have it placed before it is needed by the crop. Applications at seeding are recommended, but although not ideal, rescue applications post-seeding can help if a deficiency is noted. Sulphur should be placed outside the seed row and can go in the banded nitrogen blend or broadcasted.

3. Use a rate of nitrogen that makes economic sense based on yield potential for the soil and region.
   A recent study led by Bob Blackshaw of Agriculture and Agri-Food Canada in Lethbridge, Alberta found that current nitrogen rates may not match the yield potential of today's high yielding hybrids. Half the cases studied showed that canola yield responded positively to the 150% fertilizer rate when compared to the 100% rate. Different sources of nitrogen have each its benefits and farmers should make a choice based on which fits best with their seeding systems. Limit nitrogen in the seed row and make sure it is available when and where the crop needs it.

   (This article was also published in Canola Watch March 5, 2014 – Issue 3)

http://www.canolacouncil.org/news/make the most of your fertilizer investment/

Date: June 13, 2013

Consuming Canola Oil Can Improve Health and Reduce Chronic Disease Risk

A comprehensive review of scientific evidence shows that consuming canola oil instead of other fat sources enhances health and can help consumers comply with expert dietary fat recommendations. Studies conducted over the past 25 years about the health effects of canola oil, analysed in the June 2013 peer-reviewed journal Nutrition Reviews, confirm canola oil reduces the risk of heart disease* and suggest that it may also protect against other chronic diseases.

http://www.canolacouncil.org/media/541258/Consuming%20canola%20oil%20can%20improve%20health%20and%20reduce%20chronic%20disease%20risk.pdf

Date: June 10, 2013

Canola Digest Science Special

Canola Digest Science Special, which highlights the key agronomy messages from 31 recently completed canola research projects. Over the past four years, the canola industry and the Government of Canada combined resources to invest more than $20 million in 31 canola research projects. This combined effort will continue for a further five years with a $ 25 million investment.

The content of the reports on the 31 projects can be obtained at:

http://www.canolacouncil.org/media/546908/science2013/index.html#/2/

or

http://www.canolawatch.org/2013/11/06/two-canola-digests-this-month/

Date: November 6, 2013

1.2.2 Publications and Resources

Images (photo gallery of a wide variety of industry photos eg.Insect pests, Equipment, Fields etc.)
Videos (Crop Production Webinars, Crop Production Videos, Market Videos, Oil& Meal Videos.)
Print resources (Booklets, Pamplets, Handouts, Charts, Factsheets
Canola Digest (50/60 pages, four issues per annum to 40 000 readers
Canola Watch (also available via webpaged by the OAC/PRF offices).
Crop production information (Canola Performance Trials, Growers Manual -14 chapters)
Culinary/Nutritional News
CanolaInfo (Information source about canola oil for consumers)
Canola Ink (Short articles and news on usage of canola oil)
Canola Encyclopedia

http://www.canolacouncil.org/canola-encyclopedia/

Date: 2011

1.2.3 Crop Production

- Canola Encyclopedia (same as above)
- Growers Manuel (same as above)
- Canola Watch (same as above)
- Publication and Events: the complete collection of Agronomic publications can be opened as

http://www.canolacouncil.org/publication-resources/print-resources/crop-production-resources/

Date: 2011

List of topics in Canola watch

Sclerotinia Stem Rot Management
Top 10 tips to reduce combine losses
How to measure combine losses
Reasons Why You Should Wait to Swath
Why Are There Blanks Instead Of Pods ?
Why The Missing Pods?
Top 10 Things To Consider When Scouting For Insects
Scouting Now For Disease

http://www.canolawatch.org/

Date: 2013

2. Aktiwiteite van Saadmaatskappye in Kanada

2.1 Bayer CropScience

2.1.1 Canola

Canola hybrids today offer potential yields not thought possible a decade ago. According to CropLife Canada, canola yields on average are more than 20 percent higher than in 2000, thanks largely to improved genetic technology.

http://www.cropscience.bayer.ca/Croppage/Oilseeds/Canola.aspx

Last updated: September 18, 2013

2.1.2 New fungicides for 2014

Bayer CropScience launched Serenade CPB (which) leans on microbes to control disease. Lipopeptides, which are molecules produced by bacteria, punch thousands of holes in the cell membranes. This destroys the fungus. Serenade will control Sclerotinia stem rot in canola . One thousand litres of Serenade covers 625 acres.

http://news.agropages.com/News/NewsDetail---11349.htm

Date: January 14, 2014

2.1.3 Bayer CropScience Canada launched four new InVigor canola hybrids

The year 2014 marks the official launch of the first ever InVigor hybrid with built-in Sclerotinia tolerance.

InVigor L160S combines valuable sclerotinia tolerance with all the benefits of the LibertyLink system plus the yield potential of an InVigor.

The launch of a new “game-changing”, pod shatter reduction hybrid, L140P, will help growers maximize yield while mitigating losses associated with pod shatter. This new hybrid allows grower to consider late swathing or straight cutting.

http://news.agropages.com/News/NewsDetail---9836.htm

Date: June 24 2013

2.1.4 The Consequences of Biotechnology:

The four largest firms currently involved in canola seed sales in Canada are: Bayer Crop Science, Dow Agrosciences, Monsanto, and Pioneer Hi-Bred. Together they control 85% of all seed sales. Bayer has more than 55% of all seed revenues due to the success of their Liberty Link system. The 10.48% shown for Monsanto underestimates their success of their Roundup Ready glyphosate technology, which is used by all of their competitors except Bayer—and even Bayer will likely start to use it with recent cross-licensing agreements.

http://www.agbioforum.org/v15n3/v15n3a03-brewin.htm

Date: 2013

2.1.5 Bayer CropScience and DuPont announce canola trait licensing agreement

Bayer has licensed its proprietary herbicide tolerance technology, LibertyLink, to DuPont business Pioneer Hi-Bred for use in canola (Brassica napus) hybrids. Pioneer will provide Bayer access to certain proprietary juncea (Brassica juncea) genetics.

As a result of the agreement, growers will have a broader choice of LibertyLink canola hybrids and the option to use the successful Bayer herbicide, Liberty, in their weed management program.

http://ontariofarmer.com/sitepages/?aid=3640&cn=TO+SUBSCRIBE+TO+ONTARIO+FARMER&

Date: April 18, 2013

2.1.6 Canola seed size impacts plant population

Each year we plant between 550,000 to 750,000 seeds per acre based on the recommended rate of 4 to 5 lbs acre. We do this knowing that 40% to 50% of the seeds won't emerge. In a seed size comparison trial,3 g/tkw seed size and 5.5 g/tkw seed size were screened from the same seed lot. Results show poor emergence on the 3 g/tkw compared to the 5.5 g/tkw seed size.

So the question is, if canola emergence is impacted by seed size, and seed size is highly variable inside of each bag, how do we know how many viable seeds we're buying inside each bag of canola?

http://beyondagronomy.com/newsletter-archive/december-3-2013

Date: December 3 2013

2.2 DuPont

2.2.1 DuPont Vertisan is the new, next generation SDHI fungicide (Group 7 fungicide) that provides powerful disease control in canola, sunflowers, pulse crops and potatoes. Vertisan® is registered for use on these crops and diseases:

Canola: sclerotinia stem rot
Sunflowers: sclerotinia head rot
Pulse crops: achochyta blight, botrytis
Potatoes: rhizoctonia, early blight

http://www.phoenixtestdomain2.net/en/products-and-services/crop-protection/oilseed-crop-protection/products/vertisan.html

Date: 2013

2.2.2 Top performing hybrids that are redefining canola performance

New 3154 S contains the Pioneer Protector Sclerotinia for built-in sclerotinia protection
• Pioneer Protector® Sclerotinia resistance trait built-in
• Strong performance package
• Medium maturity
• Rated Resistant (R) to Blackleg
• Rated Resistant (R) to Fusarium Wilt. "

http://www.dseriescanola.ca/cms/en/HybridDetails/HybridDetails.aspx?menuid=53

Date: 2012

2.3 DowAgroScience

2.3.1 Global Demand for Omega-9 Oil Continues to Grow

Heart-healthy Omega-9 Oil, made from high-yielding Nexera canola is the new standard in today's food industry. Consumer demand for the heart-healthy Omega-9 Oils produced from Nexera canola is at an all-time high. Omega-9 Oils feature zero trans fat and a long shelf life, and their nutritional advantages have already resulted in the removal of over one billion pounds of 'bad fat' from the North American diet.

Food brands, such as Frito-Lay, A&W, Quaker, KFC and more, have already made the switch to Omega-9 Oils. In fact, many restaurants and food manufacturers are now boldly sending their own message to farmers: grow more Nexera canola.

http://www.healthierprofits.ca/omega-9-oils/

Date: 2013

2.4 Monsanto

2.4.1 Monsanto Canada introduces new TruFlex™ Roundup Ready® canola to western Canadian farmers

Monsanto Canada today introduced the future of high-yielding canola, unveiling the benefits of its new TruFlex™ Roundup Ready® canola to western Canadian farmers in Saskatoon.

TruFlex™ Roundup Ready® canola is Monsanto's new canola trait – the first novel biotech trait in canola to be introduced to western Canadian farmers since 1996. The Canadian Food Inspection Agency (CFIA) and Health Canada granted full food, feed and environmental safety approval to the new trait in June 2012 and Monsanto anticipates a commercial preview to farmers in 2014.

TruFlex™ Roundup Ready® canola will serve as the base platform on which all future Monsanto pipeline traits in canola will be stacked.

TruFlex™ Roundup Ready® canola will also enable farmers to apply Roundup WeatherMAX in-crop at a rate of 1.33 litres/acre for a single application or 0.67 litres/acre for two applications. This is well over double the rate of application with the existing Genuity Roundup Ready canola system – all with improved crop

safety. And with the added benefit of a wider window of application that extends past the six leaf stage all the way to the first flower (or approximately 10 to 14 days longer than current commercial technologies), farmers will have more flexibility to manage their in-crop applications.

http://www.monsanto.ca/newsviews/Pages/NR-2013-01-09.aspx

Date: 1/9/2013

2.5 BASF

2.5.1 If you don't rotate canola, rotate your herbicide: BASF

BASF says switching to Clearfield will help control volunteers resistant to Roundup Ready and Liberty Link canola. Clearfield accounts for an estimated five percent of canola acres, with Roundup Ready and Liberty Link varieties making up the remaining 95 percent.

Mounting problems with volunteer canola are providing a jolt to a herbicide tolerant canola system that was on life support.

A BASF online poll of 401 western Canadian wheat and canola growers shows that only one in three are following the recommended once every four years rotation for the crop. The results indicate that 44 percent of farmers are growing canola on a field once every three years, 25 percent every two years and one percent every year. The poll found that 41 percent of growers don't switch herbicide tolerant systems and for those that do, there was no consensus on the frequency of when to swap systems.

http://www.producer.com/2013/10/if-you-dont-rotate-canola-rotate-your-herbicide-basf/

Date: October 10, 2013

2.6 Viterra

2.6.1 The next wave of canola research

Western Canadian researchers hope to give new canola cultivars a shot in the peduncle by introducing genes from other plants.

"Dr. Habibur Rahman, a canola researcher with the University of Alberta, is working on several projects to improve future canola cultivars.

Viterra is contributing $1.6 million to the research in cash and in kind. The Natural Sciences and Engineering Research Council is throwing in another $1.5 million. The University of Alberta and Viterra will share ownership of new cultivars emerging from this program."

http://www.agcanada.com/wp-content/uploads/2013/10/GNN131007.pdf

Date: October 7, 2013

2.6.2 Viterra launches new canola variety with improved yield, hardiness

"Years of research by the Viterra Research and Development team in Saskatoon, SK has resulted in the launch of its first Brassica juncea canola hybrid, XCEED®VT X121 CL. The product was built using the J-Tech Hybrid System, a patent pending platform created by Viterra scientists. Western Canadian canola farmers in the traditionally drier brown and dark brown soil regions can now look forward to a canola quality Brassica juncea hybrid with the Clearfield® tolerance trait.

While a number of Brassica napus canola hybrids exist, there have only been open pollinated varieties of Brassica juncea available until now.

Harnessing the power of hybrid vigor, the new variety offers improved yield and overall plant hardiness. Through extensive research trials in 2012, it was demonstrated that VT X121 CL has a yield potential equal to Brassica napus Clearfield® hybrids grown in the same soil zone.

VT X121 CL offers a 20 percent yield increase over previous Brassica juncea open-pollinated canola varieties. "

http://www.agwest.sk.ca/blog/2013/04/viterra-launches-new-canola-variety-with-improved-yield-

hardiness/

Date: 4/11/2013

2.7 Canterra Seeds

2.7.1 Agrisoma chooses Canterra for seed production

"CANTERRA SEEDS was named by Agrisoma Biosciences as the company's exclusive seed production contracting partner for Resonance, its line of Brassica carinata. Resonance is an energy feedstock crop commercialized by Agrisoma, a dedicated industrial oilseed uniquely suited for the biojet fuel market.

http://calichebahada.com/2013/01/11/agrisoma-choses-canterra-for-seed-production/

Date: January 9, 2013

2.8 General

2.8.1 Figthing Flea Beetles with Hairy Canola

Researchers with Agriculture and Agri-Food Canada in Saskatoon were studying flea beetle behaviour on different plants when they noticed that flea beetles didn't like plants with hair. Instead of feeding, the pests jumped off the plants, leaving them undamaged. Dr. Margaret Gruber and her colleagues isolated genes responsible for hair growth from canola and a plant called Arabidopsis, which is related to canola. By inserting these genes into canola, they created a hairy canola plant that seems to repel flea beetles.

http://www.agcanada.com/wp-content/uploads/2013/10/GNN131007.pdf

Date: October 7, 2013

2.8.2 The phosphate inoculant - JumpStart®

JumpStart is a phosphate inoculant that grows along the root making more phosphate available to the plant, to deliver healthier crops and higher net returns.

Key benefits of JumpStart

- Root development
- Stress tolerance
- Seed quality
- Earlier, more uniform maturity
- Better fertilizer efficiency
- Higher yield

Lower phosphate fertilizer requirements:

• Savings on handling, transportation, storage, and time requirements
• Lower environmental impacts

http://www.bioag.novozymes.com/en/products/canada/wcanada/JumpStart/Pages/default.aspx

Date: 2014

2.8.3 Healthier Crops and Higher Yields

Novozymes BioAg develops biological products that are based on microorganisms or plants that work naturally to supply nutrients, control pests, and improve crop health and productivity.

The two BioAg product categories in Canada include:

• Biofertility products which increase the supply of nutrients to crops. This product category includes Jumpstart®, TagTeam®, Optimize®, Cell-Tech® and Nitragin Gold®. Product availability will vary within Eastern and Western Canada.

• Biocontrol products which control insects, disease, and weed pests. This product category includes the bioinsecticide Met52 which is available across Canada.

http://www.bioag.novozymes.com/en/products/canada/Pages/default.aspx

Date: 2014

2.8.4 Novozymes and Monsanto team up to provide sustainable bioagricultural solutions

The companies establish The BioAg Alliance to discover, develop and sell microbial solutions that enable farmers worldwide to increase crop yields with less input.

http://www.novozymes.com/en/investor/news-and-announcements/Pages/Novozymes-and-Monsanto-team-up-to-provide-sustainable-bioagricultural-sol

Date: December 10, 2013

3. Tendencies/ Developments in Canola Oil Quality/Speciality Oils

3.1 Monounsaturated fats reduce metabolic syndrome risk

Canola oil and high-oleic canola oils can lower abdominal fat when used in place of other selected oil blends, according to a team of American and Canadian researchers. The researchers also found that consuming certain vegetable oils may be a simple way of reducing the risk of metabolic syndrome, which affects about one in three U.S. adults and one in five Canadian adults.

"It is evident that further studies are needed to determine the mechanisms that account for belly fat loss on a diet high in monounsaturated fatty acids," said Kris-Etherton. "Our study indicates that simple dietary changes, such as using vegetable oils high in monounsaturated fatty acids, may reduce the risk of metabolic syndrome and therefore heart disease, stroke and type 2 diabetes."

http://news.psu.edu/story/271014/2013/03/29/research/monounsaturated-fats-reduce-metabolic-

syndrome-risk

Date: March 29, 2013

4. Australian Oilseeds Federation (AOF)

4.1 Oilseed Industry

Op die AOF se webblad kan wye inligting oor die Australiese oliesadebedryf verkry word deur in te gaan op die webblad en te klik op die verlangde afdeling op die onderwerp-balk.

http://www.australianoilseeds.com/

Date: Ongoing

4.2 News

Canola crop fares better than expected

The forecast for the final 2012/2013 Australian canola crop made in November came to 4,226 million tons.

http://www.australianoilseeds.com/about_aof/news

Date: 2013

4.3 Canola Association of Australia

Members include growers, crushers, end users and those involved in research, agronomy and marketing. The aim is to promote the canola industry at all levels and to increase production of canola and expand the use of canola oil and meal. The Association publishes a newsletter four times a year.

http://www.australianoilseeds.com/commodity_groups/canola_association_of_australia

Date: Ongoing

4.4 Quality of Australian Canola

Each year the AOF, in conjunction with the NSW DPI, publishes 'The Quality of Australian Canola', which provides a detailed breakdown of key canola quality attributes from the most recent harvest.

Measures of oil, protein, glucosinolate levels and fatty acid breakdown are recorded by primary receival site and/or port zone, and weighted to give a state and national average. Measures of oil, protein and glucosinolate levels by variety from the prior year National variety Trials (NVT) are also provided.

http://www.australianoilseeds.com/oilseeds_industry/quality_of_australian_canola

Date: 2013

5. Activities of Australian Government Grains Research and Developmrnt Corporation (GRDC).

5.1 National Variety Trials: A GRDC Initiative

New Varieties

In this section of NVT Online you can find basic information on recently released varieties tested in the National Variety Trials program. Links to downloadable fact sheets or the commercialising company's website have also been provided where available.

5.2 New research to add value to Australian canola

New research at Charles Sturt University (CSU), funded by the Grains Research and Development Corporation (GRDC), has shown that proteins in canola meal have potential as an ingredient in food.

A PhD graduate from the School of Agricultural and Wine Sciences at CSU in Wagga Wagga, Dr Siong Tan, investigated the possibility of using proteins from canola meal in Australia as ingredients in food for humans.

In his PhD, Dr Tan extracted proteins from the canola meal using an alternative method known as Osborne protein extraction instead of the traditional alkaline extraction method. It can be concluded that, in comparison to the proteins obtained by the commonly used direct alkaline extraction method, the Osborne canola protein extracts, particularly the salt solution- soluble fraction, had wider applications and greater potential as a food ingredient.

http://news.csu.edu.au/director/latestnews.cfmitemID=92B5E350AD0600A1CE2E63AA3C4F56A

Date: November 28, 2013

5.3 Canola establishment: effect of variety choice seeding depth and phosphorus rate

• Planting canola deeper than 2.5 cm reduced overall establishment in 2012; however grain yield was generally affected to a smaller degree.

• Where planting into moisture below the optimum seeding depth (>2.5 cm), use large seed (minimum 5 g per 1000 seeds), avoid high rates of fertiliser in direct contact with the seed and avoid high stubble loads.

• Hybrids generally have larger seed than open pollinated varieties. Relatively large seed will generally have better establishment than relatively small seed.

• Seeding rates should be based on target plant population and seed size rather than applying a blanket sowing rate (in kg/ha), particularly given the large differences in seed size between varieties.

• In 2012 trials, hybrids generally displayed yield and farming system benefits over open pollinated varieties.

https://www.grdc.com.au/Research-and-Development/GRDC-Update-Papers/2013/02/Canola-establishment-effect-of-variety-choice-seeding-creatives.livejasmin.com/

Date: February 26, 2013

5.5 Fertilisers play key role in reducing crop pests

While "preventative medicine" is well-known in human health, it's becoming a buzz word in crop production as researchers discover how the risks of damage by pests and diseases may increase if crops don't get enough nutrients to protect themselves. Lead author Associate Professor Christian Nansen, from UWA's Institute of Agriculture and School of Animal Biology, said the study revealed a well-known pest - spider mites - had a strong and persistent preference for crop leaves with low levels of potassium.

Potassium fertilisation leads to increased leaf thickness, stronger epidermal cells and decreases leaf nutrient concentrations of sugars and amino acids so potassium can lower the suitability of crops as hosts for pests and can slow the development and spread of pests.

Canola needs more potassium than wheat - especially after post-flowering which is when key canola pests become a problem - and many WA soils are deficient in potassium. So we are keen to investigate how 'smart fertiliser applications' (applied at the right dose at the right time during crop development) can be used as part of an integrated pest management strategy.

The study also showed a strong link between "spectral reflectance" of crop canopy (based on use of advanced imaging technology to characterise the spectral reflectance of crop leaves) and the attractiveness of these crop leaves to spider mites.

http://phys.org/news/2013-07-fertilisers-key-role-crop-pests.html

Date: July 16, 2013

6. Activities of Seed Companies in Australia.

6.1 Bayer CropScience

6.1.1 Bayer outlines breeding vision

Victorian farmers have heralded today's official sod-turning ceremony marking the commencement of construction on the Bayer CropScience Wheat and Oilseeds Breeding Centre at Longerenong College near Horsham as "extraordinarily important'' for Australian agriculture.

Bayer has invested $14 million in a new breeding centre at Longerenong College, where it will breed wheat and canola, as part of a international push by the company into the breeding space. On the canola front, Bayer was working with material to find varieties with better pod shattering tolerance.

http://www.farmweekly.com.au/news/agriculture/cropping/general-news/bayer-outlines-breeding-

vision/2670528.aspx

Date: September 9, 2013.

6.1.2 Harvestability of new canola stacks up

Most canola grown in Australia is windrowed, but an increasing number of growers have moved towards direct heading (with) reduced harvest costs and improved management as two reasons behind the shift.

There's no doubt, advances in harvest machinery and improved varieties with faster maturation and less shatter prone pods are allowing direct heading to become a feasible option. The new Bayer canola variety IH50RR is the first Bayer Roundup Ready® (RR) hybrid canola seed released in Australia. It is less prone to shattering and therefore direct heading to become a feasible option.

The other thing that was found with direct heading is that you tend to get higher oil content. "What we found with the swathing was that you always get those plants that have not reached the same maturity, so you'll get a lot of shrivelled seed, whereas when we direct head, we get better seed size."

http://www.bayercropscience.com.au/cs/mediagallery/default.asp?articleid=671

Date: February 14, 2013

6.1.3 Prosaro® 420 SC Foliar Fungicide tTargeted disease prevention and control.

Prosaro is a protective and curative fungicide that can give you high-level control of rust diseases, especially stripe rust in wheat, and hard to control foliar diseases such as barley net blotch (both net form & spot form) and leaf scald in barley. Prosaro is also the first foliar fungicide registered in Australia for the management of blackleg and sclerotinia in canola. Its application timing is flexible, so you can target Prosaro applications to effectively manage specific diseases at the most appropriate development stage.

Active Ingredient(s): prothioconazole 210 g/L
tebuconazole 210 g/L

http://www.bayercropscience.com.au/cs/products/productdetails.asp?id=540

Date: 2013

6.2 Nuseed

6.2.1 Sustainable DHA omega-3 canola closer to reality

The Office of the Gene Technology Regulator (OGTR) today gave Nuseed a licence to conduct field trials of a genetically modified (GM) canola, currently under development, which contains healthy long-chain omega-3 oils.

Researchers in Australia is progressing well to develop a genetically modified canola that will produce long-chain omega-3 oil at levels equal to that of wild fish. Genes from microalgae are used in canola to deliver DHA rich oil.

"We estimate that one hectare of the DHA canola will deliver the equivalent amount of DHA oil that can be extracted from 10,000 fish."

“ We aim to have seed available for commercial production by around 2018 provided key development milestones are achieved and the required regulatory protocols are met."

The project’s partners are Nuseed (a wholly owned subsidiary of Nufarm Limited), the Commonwealth Scientific and Industrial Research Organisation (CSIRO) and the Grains Research and Development Corporation (GRDC).

http://www.nufarm.com/assets/26570/1/Omega-3collaborationupdatereleaseJan2014

Date: January 30, 2014

6.3 Monsanto

6.3.1 Monsanto joins forces with industry to confront $200 million herbicide resistance problem

Weedsmart, an industry-wide initiative unveiled at the Global Herbicide Resistance Challenge is the first education and extension program of its kind. It will arm farmers with the latest tools and resources to combat resistance and ensure the future value of herbicides to farmers.

Monsanto provided initial funds along with GRDC to kick-start this initiative and has been working with its partners over the past year to develop a campaign that would go along way in helping farmers curb herbicide resistance.

http://www.monsanto.com/global/au/newsviews/Pages/confronting-herbicide-resistance-

problem.aspx

Date: February 25 2013

6.4. DowAgroscience

6.4.1 Transform™ Insecticide (sulfoxaflor) for control of aphids in canola

Sulfoxaflor (trade name Transform™ Insecticide 240 SC) is a new insecticide which is effective against a wide range of sap-feeding insects and is being developed for control of aphids in canola in Australia as well as a range of other pests in broadacre and horticultural crops.

Data presented shows that Transform, at rates between 100 -200 mL/ha, is effective on the aphid species which commonly attack canola. Transform is expected to be approved for use in mid 2013 and, once registered, will become a valuable tool for control of aphids in canola.

http://www.regional.org.au/au/asa/2012/pests/8476_annetts.htm

Date: Expect registration in mid 2013.

6.5 Canola Breeders Western Australia

6.5.1 Canola Breeders dual herbicide tolerant hybrid canola

Canola Breeders pioneered the development of the HT Duo ranch canola hybrids tolerant to both glyphpsate (Roundup Ready) and triazine herbicides. Limited commercial release will be in 2014

PDF document. To access: Google Canola Breeders of Australia – click on Canola Breeders dual herbicide tolerant hybrid canola.

Date: Spring 2013

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jdp/13/2/14