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OILSEEDS NEWS

CANOLA HAY REMOVES UP TO TEN TIMES MORE NUTRIENTS THAN GRAIN



Canola hay has proved to be a saviour for producers in most grain-growing areas in New South Wales and Victoria for the second year in a row, providing tens of thousands of dollars in income where the crop has otherwise failed.

But leading canola researcher Rob Norton of the University of Melbourne's Faculty of Land and Food Resources has reminded growers of the heavy load of nutrients removed in the

NUTRIENT COSTS: Growers need to budget for replacing nutrients lost from 2007 hay paddocks next season.

Photo: Felicity Pritchard.

hay and to ensure that this is taken into consideration next year during paddock planning.

Dr Norton said that a typical 2.5 tonne per hectare canola hay crop will remove nearly double the phosphorus, two to three times more nitrogen, up to twenty times more potassium and possibly ten times more sulphur than a 0.5 tonne per hectare crop harvested for grain.

Despite this loss, a trial conducted through the Better Canola program and funded by the Grains Research and Development Corporation and the Australian Oilseeds Federation has demonstrated the major financial boost that canola hay has provided to growers in a drought year which outweighs the cost of additional fertiliser required next year.

The trial, undertaken by the Birchip Cropping Group (BCG) at Longerenong College has measured the quality, yield and cost-effectiveness of canola hay using different canola varieties and cutting times, and will compare them with the harvested product.

And the results to date suggest that a decision to cut the College's 82 hectare canola crop for hay at late flowering would have been at least \$50,000 more profitable than cutting it for grain.

At late flowering, the canola hay yielded 3.9 tonnes per hectare while the grain yield estimate for the crop was only 0.5 tonnes per hectare. Since then, the crop suffered more yield losses through frost,

heat and lack of moisture, and yields of the un-cut parts of the paddock are expected to be closer to 0.2 tonnes per hectare.

Agronomic consultant and Better Canola Victorian committee member, Kate McCormick, spoke at the BCG's recent Wimmera field day.

"The costs of replacing the nutrients removed in the hay next year will be higher than for a grain crop, but not \$50,000 worth," she told the audience.



FIELD DAY: Consultant Kate McCormick at the Better Canola hay trial at the recent BCG Wimmera Field Day
Photo: Felicity Pritchard

Oilseeds Industry Development Officer, Felicity Pritchard, said that the cost of replacing the nutrients removed in a 3.9 tonnes per hectare hay crop over 82 hectares would be \$23,500.

“If the crop had been harvested for grain, this would only be \$2,600,” she said. “But it was still nearly \$30,000 more profitable to cut the crop for hay”.

Incitec Pivot Market Development Agronomist, Rob Christie, warned that growers needed to be particularly aware of replacing potassium and sulphur.

“Potassium is not an issue here (in the Victorian Wimmera). But in areas like the Western District and the Goulburn Valley, potassium has been removed over a period of time,” he said.

“Most people are aware that a lot of nutrients are removed when hay is cut, but farmers should do soil tests and make sure they replace these nutrients, especially sulphur.”

Dr Norton said the removal of the major (macro) nutrients nitrogen, phosphorus, sulphur and potassium in hay and grain is quite variable, depending on soil’s nutrient status.

“These values have been taken from a number of sources, including my own experiments in the Wimmera and Mallee from 1990 to 2003 with wheat and canola,” he said.

He said that less potassium was removed in canola grain when the crop was grown on saline or sodic (dispersive) soils compared with better soils.

“Potassium deficiency is rare in our region (the Wimmera). That does not mean that potassium can be ignored – on light soils there may be responses to the nutrient in wetter years to applied potassium. We need to keep a watching brief on this nutrient on light soils,” he warned.

“If growers are concerned, then apply a bag of muriate of potash pre-sowing and monitor. Be aware that there is potential for salt damage if the fertiliser applied with the seed”.

Dr Norton said that sulphur removal is a particular concern for canola hay.

“On sandy soils, sulphur can get out of phase with nitrogen when applied as gypsum, and so lead to issues particularly for canola. I suggest that if canola hay has been removed, some sulphur supplementation needs to be considered”.

Dr Norton said that a 2.5 tonne per hectare hay crop would remove as much nitrogen – 65 units - as a 2.5 tonne per hectare grain crop of canola.

“I am less concerned with nitrogen and phosphorus. Most growers would have budgeted for this amount of nutrient removal anyway, having expected a higher yielding grain crop,” he said.

Nutrients present in canola (kg per tonne of produce) for grain, straw or hay. Values for potassium vary from paddock to paddock.

Crop	Nitrogen	Phosphorus	Sulphur	Potassium
Grain	30	5	5	10
Straw	4	3	1	3
Hay (end of flowering)	30	3	8	25

Media enquiries or further information: Rob Norton 0427 861 084, or Rob Christie, 0428590522, or Felicity Pritchard 0427 600 228.

RESEARCH SUPPORTS BACK-TO-BACK IRRIGATED CROPPING

While the ideal sowing time for soybeans in southern New South Wales is mid November, recent research has shown that they can be sown as late as Christmas with only a slight yield penalty – creating more opportunities for irrigators to grow winter and summer crops in succession.

Irrigators can harvest a winter crop and sow soybeans shortly after. The new research means that if the winter crop harvest is delayed, there is still time to sow a soybean crop until late December.

Luke Gaynor, soybean researcher, with the New South Wales Department of Primary Industries has conducted the research through James Cook University as part of his Master’s degree.

He said that the new, shorter-season human consumption soybean varieties like Djakal and Snowy are faster growing and higher yielding than older varieties like Curringa and Bowyer. And they are usually harvested in April, allowing for another winter crop to be sown after the soybeans, making better use of any residual moisture or nitrogen following the soybean crop.

“Djakal and Snowy’s yields are more robust than the older longer season types,” said Mr Gaynor.

Although sowing later is possible, Mr Gaynor said that sowing of the new varieties should not be delayed any longer than absolutely necessary.

“Maximum yields are still only achieved by sowing early in the sowing window in mid November until mid December”.

Mr Gaynor said that poor yields of longer season varieties can be attributed to the cool overnight temperatures that they experience during early autumn.

“Early maturing varieties like Djakal and Snowy have normally finished by late March early April, effectively avoiding the cooler over night temperatures,” he said.



SOY ON BARLEY:
Coleambally farmer Paul Bellato (left) – check – and NSW DPI’s Luke Gaynor in a barley paddock last August which will soon be sown to soybeans.

Photo:
Felicity Pritchard.

Oilseed Industry Development Officer, Felicity Pritchard, said that a number of growers in the Riverina were taking advantage of the short growing season and excellent water use efficiency of the new soybean varieties by alternating winter crops with soybeans.

She said growers had successfully produced up to seven grain crops in three and a half years.



BACK TO BACK CROPS: New soybean varieties for southern Australia can be alternated with cereal crops. Pictured is Felicity Pritchard.

Photo: Dale Grey, Vic

Coleambally farmer Paul Bellato has done just this, and now considers the task “easy”.

“Soybeans are ideal. They’re the only summer crop where you can go double cropping year in year out,” he said.

Mr Bellato said his rotations are flexible to adapt to seasonal conditions, but a typical double cropping rotation starts with bed preparation and winter fallow which is sown to maize in October. The following autumn, the paddock is sown to wheat or barley, followed by soybeans and then another winter cereal. The cereal-soybean rotation can continue for up to two more years.

“Soybeans are the most flexible of the lot. To sow maize, you have to have everything spot-on. Soybeans are the total opposite. You just direct drill and spray.”

In some years the seeder has immediately followed the soybean harvester to sow a winter cereal.

He said that although the yields of soybeans and cereals are slightly lower than when following fallow, the income from two crops more than compensates for this.

Much more efficient water use across the farm is another major benefit. The Bellato's soybean crops receive their final watering just before maturity when the crop starts to turn yellow, to ensure high yields and large seed size. The following cereal crops can use the near-full profile of residual water from the soybean crop, and this year, his winter crops following soybeans have not required irrigation for establishment.

“We're making the most of the winter rain. We don't take water for granted,” he stated.

Soybeans are a low water user compared with other summer crops, and the combined gross margin both on a per hectare basis and a per megalitre basis is better than a single summer crop of rice or maize.

Another benefit of system is the fact that soybeans are a legume, and require no nitrogen fertiliser, a major cost for other summer crops.

He said that soybeans are lower risk as they have low up-front costs, compared with maize.

“Maize costs a fortune to sow. With soybeans, it only costs the seed, and if you've got the water, you can go on with them.”

“It doesn't take a lot of expensive preparation to double crop. We just burn or bale the cereal stubble, pre-water, knockdown spray and sow. If the soybeans are sown following fallow we also band single super and shape the beds earlier in the year,” he said.

Mr Bellato said the only limitation to double cropping is the risk of a wet harvest for both the winter and summer crops. This can delay harvest and planting of the next crop.

“I think it's easy now. If the weather's on your side, there's nothing hard about it,” he said.

For further information, contact Luke Gaynor, 0428 260 156.

Media enquiries: Luke Gaynor, 0428 260 156 or Felicity Pritchard 0427 600 228.



AUSTRALIAN GROWERS MISSING OUT ON \$157 MILLION ANNUALLY



GM HAS BENEFITS: A newly released report shows the economic and environmental benefits of GM canola to Australia. Photo: Felicity Pritchard.

canola area, there will be substantial economic and environmental benefits.

In the report, Dr Robert Norton and Professor Rick Roush from the Faculty of Land and Food Resources provide a summary of more than 20 recent reports on the impact of GM canola in Australia.

“Those reports show that the great bulk of GM canola is sold at similar prices to conventional canola in most major canola markets throughout the world” said Dr Norton.

“Australia is not realising any price premium for producing non-GM canola and is missing out on significant agronomic and environmental benefits from growing non-GM canola varieties under Australian conditions”.

The grains industry could produce an additional \$157 million worth of canola and wheat each year if genetically modified (GM) canola is commercialised in Australia.

A report released today by The University of Melbourne shows that if GM canola is adopted on over half the current

Professor Roush said that Australia has now watched Canada grow commercial GM herbicide tolerant (HT) canola for more than 10 years.

“The use of GM HT canola has provided substantial benefits to growers and the environment in Canada where canola production has increased by 40 per cent and average yields have increased by 27 per cent since 1996. Over the same period, Australian yields have declined by 10 per cent.”

The report also updates the potential benefits to Australia using an adoption scenario published in 2003. With the changes in the grains industry since 2003, the report proposes that there are significant economic and environmental advantages from the new technology.

The key findings were:

- an extra 225,000 hectares of canola could be grown using conservation farming practices;
- 640 tonnes less triazine herbicide would be used each year;
- average Australian canola yields would increase from 1.17 tonnes per hectare to 1.28 tonnes per hectare, with an increase in canola production estimated at 295,000 tonnes annually; and
- wheat production would increase by 64,000 tonnes on the additional canola area.

“Over 100 million hectares of GM crops are produced in 22 countries each year. In 2003, the Australian Federal Regulator approved the use of two types of GM canola but growers have been denied the environmental and economic benefits of the new varieties,” said Professor Roush.

Source; University of Melbourne.

Media enquiries of further information: Dr Rob Norton, 0427 861 084.

SOUTHERN FARMING SYSTEMS FIELD DAY

The Hamilton branch of Southern Farming Systems and the Victorian Department of Primary Industries is holding a field day to inspect the cereal and canola National Variety Trials (NVT) at Strathkellar on Thursday 15 November.



Registrations and complimentary morning tea will take place from 9:30 am, and paddock walks will commence at 10:00 am sharp, finishing at 12:00 noon.

The site is at “North Skene”, 399 Forts Road, Strathkellar, signposted off Hensley Park Road. The Hamilton region CFA map reference is 432 C27A.

FIELD DAY: The SFS Hamilton Branch field day will be held next week. The recent Inverleigh Branch Field day (above) attracted a crowd of 160.

Photo: Felicity Pritchard.

For further information, contact Jacqueline Wilson on (03) 5572 3531.
