



IRRIGATED CROPPING FORUM

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## OILSEEDS NEWS

### CANOLA HAY REMOVES UP TO TEN TIMES MORE NUTRIENTS THAN GRAIN



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

Photo: Felicity Pritchard.

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

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

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