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## OILSEEDS NEWS - MEDIA RELEASES

### ‘HYBRID’ SEED WARNING



**VIGOUR: Ewen Peel would never retain hybrid seed for sowing.**  
Photo: Felicity Pritchard.

Growers who intend to sow canola seed retained from last year’s hybrid crops are at risk of disappointment, according to Oilseeds Industry Development officer, Felicity Pritchard.

Ms Pritchard said that she is hearing an increasing number of reports of canola growers, particularly in South Australia and Victoria, intending to use seed from last season’s hybrids, with the potential to wipe one-third off the crop’s yield.

“Seed harvested from hybrid crops is not the same as the hybrid seed originally bought and some traits may not be fully present in the next generation,” said Ms Pritchard.

A trial conducted on the Eyre Peninsula in 2008 showed a 31% yield loss from sowing retained seed from a hybrid canola crop.

The man who bred the world’s first hybrid canola, Nuseed breeder Greg Buzza, said the reason for growing hybrids is the increased yield which comes from hybrid vigour.

“Even if growers don’t see it, there will be a reduction in hybrid vigour and lower yield, when growing a crop from the next generation of seed,” said Mr Buzza.

Commercial hybrids are the progeny of two parent lines and are called F1 hybrids. The grain this produces is the F2, or second generation cross. While the F1 hybrids are uniform, the next generation ‘segregates’ and can be quite ragged, he said.

“The degree of how ragged it looks depends on how different the parents are,” he said.

“The F2 plants can segregate for other traits which can cause some problems for the farmer. For example, there may be more variability for flowering time particularly if the two (original) parent plants have different flowering times.”

Mr Buzza said a cross between an early maturing parent and a late maturing parent may produce an F1 hybrid with mid maturity. But if the seed is retained from the crop and sown the next year, some plants will be late, some early and some mid.

Other examples are height and blackleg resistance, where F2 hybrids would segregate and could lead to crops with a mix of short, tall and intermediate plants and plants with very poor blackleg resistance.

Mr Buzza also raised the fact that at least one-quarter of flowers of F2 plants will be ‘male sterile’ (have no pollen).

“That may or may not be an issue depending the level of cross pollination of other plants. These plants may set seed poorly, for example if it rains while they are flowering and there aren’t many insects about to aid pollination.”

Pioneer Hi-Bred canola breeder, Rob Wilson warned that herbicide tolerance in F2 plants can be also be affected.

“In the Clearfield canola hybrids, there’s no guarantee that all the herbicide tolerance will be present in the F2 generation,” he said.



**ROB WILSON: Some herbicide tolerance can be lost in second generation hybrid seed.**

Photo: Felicity Pritchard.

Mr Wilson said that the herbicide tolerance gene for the Roundup Ready canola hybrid usually comes from only one parent, so can break down quickly in the F2 generation. However, growers are required to not retain seed from Roundup Ready canola crops.

Landmark agronomist Ashley Perkins of Bannockburn in Victoria’s Western District said half of canola seed sales from his store this year were hybrids.

Ewen Peel is putting in over 300 hectares of exclusively Clearfield hybrid canola this year at his Western District farm near Inverleigh and believes the benefit of hybrids is in their vigour. He said he would never retain seed from hybrid crops.

“We’re growing them for their hybrid vigour rather than their chemical tolerance. I have grown all types except Roundup Ready. Good early establishment is the key to canola growing. I’m really impressed with the early vigour of the hybrids as early vigour of canola is so important,” he said.

Ms Pritchard said a number of demonstrations and trials will be held in Victoria, South Australia and southern New South Wales this year through the Better Oilseeds project of the Grains Research and Development Corporation and the Australian Oilseeds Federation. They aim to see the effects of retained hybrid seed on yield and a number of agronomic traits in canola.

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