Canola forage – Making and Feeding to Livestock

By Dale Grey (Cobram, DPI) and Frank Mickan (Ellinbank, DPI)

The table below is a summary of sample results conducted by FeedTest® in Victoria on canola hay and silage samples submitted during 2002 - 2005.

	Digestibility DDM%		Crude Protein CP%		Energy ME MJ/kg		Fibre Neutral Digestive Fibre %	
	Mean	Range	Mean	Range	Mean	Range	Mean	Range
Silage (21 samples)	60.5	44.3-71.4	17.4	6.6 - 25.5	8.8	6.1 – 10.4	46.9	33.3 – 58.2
Hay (79 samples)	59.2	41.7-82.1	13.9	5.5 - 22.9	8.4	3.6-12.1	49.0	26.9 – 68.6

The table below is a summary of sample results conducted by FeedTest® in Victoria on canola hay and silage samples submitted this season up to 13/11/2006.

	Digestibility DDM%		Crude Protein CP%		Energy ME MJ/kg		Fibre Neutral Digestive Fibre %	
	Mean	Range	Mean	Range	Mean	Range	Mean	Range
Silage (34 samples)	69.1	46.7-81.7	18.1	10.3-26	10.5	7.4-12.4	38.0	25.6-52.2
Hay (207 samples)	69.8	52.5-84.8	16.8	8.6-27.2	10.4	7.4-13	37.9	25.4-53.1

For the 2006 season the Dry Matter content of silage has averaged 46.9% (range 24.8-75.7) and for hay 84.8% (range 61.3-93.5).

The 2006 data shows that for the samples so far they are on average higher in digestibility, protein and energy and lower in fibre compared to the historic record.

As with the NSW data, it illustrates that canola has the potential to make good quality fodder which is high in protein and similar to good hay in energy value. The ranges, however, also indicate the variability between different crops and those that measure at the lower end of the energy range (ie 6.1 ME for silage or 3.6 ME for hay) will not on their own sustain dry stock. As there can be animal health issues with canola fodders, it is recommended not to feed as a sole ration or to very hungry stock.

Cutting time will be the determinant on energy. Later cutting time may lead to higher oil content and an increase in energy. High oil levels can reduce intake by stock, however, crops harvested due to frost have few mature seeds so oil content would most likely be low from these areas.

Points to consider for silage

If baling:

Dry Matter: Wilt and bale at about 40% dry matter (60% moisture) for round baled silage and, possibly up to about 55% DM for large square baled silage due to it extra compaction.. Note that hay moisture meters are not very good at determining silage Dry Matter. Baling at drier than 45% Dry Matter may lead to poor packing, excessive air trapping and dry stalk ends. Dry stalk ends cause problems as they can pierce the silage wraps.

As canola is likely to be high in protein, if baled too wet, it may result in a poor foul smelling and low palatability silage.

Harvest operations: Preferably mow with a roller mower conditioner to smash the stems as much as possible. If possible, use a chopper baler to aid packing.

Canola silage has potentially low water-soluble carbohydrate so this means that inoculation with lactic acid forming bacteria would be beneficial for proper ensiling. This is normally sprayed on at the pick up to ensure a thorough mixing of inoculant with the forage. If spraying on the windrow in front of the baler (not desirable, but better than nothing), don't be too far ahead of the baler as the bugs will die.

Storage: Wrap with netwrap rather than twine to hold the stems in, to avoid holing the plastic wrap. Use at least 4 layers over ALL of the bale.
Be careful when dropping bales onto the ground, especially if in the paddock with stalky stubble. Ideally, cart to the storage site and then wrap

Points to consider for hay

Harvest operations: Preferably mow with a roller mower conditioner to smash the stems as much as possible (even more important for hay than silage).

Where the hay has not been aggressively conditioned, the stalks can cause a number of problems. It can be difficult to get the stems dry enough and this can lead to mouldy hay. If the material has to be left for a long period to dry the stems, a lot of the leaf material (which is better quality than the stalk and impacts on palatability) may be lost when raking. The dry stalk ends also have been known to cause punctures to the rumen.

The feed value is in the top 30cm of flower, small pods and the leaves and so excessive raking and even the baling process may lose this.

Anecdotally, it may be that round bales are easier to make than large squares given the nature of the dry canola material.