



## PAN - All Pulse Bulletin #12 – September 9<sup>th</sup>, 2009

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### Field pea straw as an alternate feedstuff

Mark Olson, Provincial Pulse Industry Development Specialist



The drought of this past growing season in many parts of the prairies has livestock producers scrambling for feed. The amount of field pea straw baled to date is unprecedented. However, many producers purchasing field pea straw for feed do not know what the nutritive value is. This is a problem for two reasons; first, it is difficult to determine what the price of the straw should be, and second, it is difficult to formulate a satisfactory ration for livestock.

“Western Canadian research into the nutritive attributes of field pea straw is limited,” says Mark Olson, Provincial Pulse Industry Development Specialist with Alberta Agriculture and Rural Development, Stony Plain. “Results from a three-year study on over 450 field pea straw samples from various locations in south central Alberta show large variability in nutritive value between years and locations.”

Recent articles and reports suggesting field pea straw is 7.5 per cent protein are misleading. This number (7.5 %) is based on an average or mean values that may or may not be representative of the straw you plan to feed. Variability in field pea straw may be a reflection of soil fertility, past and present, moisture and environmental or growing conditions.

#### Mean Values of Selected Constituents of Field Pea Straw (1995-97)

Year	Protein %	ADF% <sup>1</sup>	NDF% <sup>2</sup>	Calcium	Phosphorus
1995	12.5	50.5	63.7	1.53	0.16
1996	4.72	53.1	67.2	1.68	0.04
1997	6.83	47.6	59.9	1.76	0.076
<b>All years</b>	<b>7.56</b>	<b>50.1</b>	<b>63.2</b>	<b>1.68</b>	<b>0.087</b>

(Olson 2001)

APGC Zone 2

ADF%<sup>1</sup> - Acid Detergent Fiber - measure of digestibility

NDF%<sup>2</sup> - Neutral Detergent Fiber -measure of digestibility

In general, field pea straw quality appears to be better than cereal straw. Field pea straw can be significantly higher in protein, but high fibre levels limit digestibility and expected feed intake.

“Field pea straw is primarily useful for beef cow rations where high quality roughage is not as important as other classes of cattle,” adds Olson. “Field pea straw, when fed with higher quality roughage, grain or a combination of both, can produce a very cost effective ration. Generally, higher protein levels makes pea straw a better match with grain than with cereal straw.” Palatability studies with field pea straw have not been conducted. Palatability refers to how well an animal will consume the feed. Antidotal evidence provided by beef producers, suggest a large range in field pea straw palatability, from cattle devouring the field pea straw to complete rejection. Additionally, some livestock producers have indicated that field pea straw sprayed with pre-harvest treatment may have lower palatability. To date there is no scientific evidence to support or refute these observations.

Processing the straw, such as grinding or chopping it with mix mills, or hay busters, and mixing the straw with other feeds may help with palatability. Farmers who are thinking of using field pea straw as an alternate feed should test the straw before purchasing and feeding.

Some testing facilities options are:

**Central Testing Laboratory**

- drop off at 20/20 Seed Labs in Nisku or by mail/bus/courier
- call 1-877-955-7861
- website: [www.ctl.mb.ca](http://www.ctl.mb.ca)

**Parkland Laboratory**

- drop off in Red Deer (after hours drop-off box) or by mail/bus/courier
- call (403) 342-0404
- no website

**Midwest Laboratories**

- drop off in Calgary or by mail/bus/courier
- call 403-250-3317 or 1-877- 245- 8378
- website: [www.midwestlabscanada.com](http://www.midwestlabscanada.com)

**Sandberg Laboratories**

- drop off in Lethbridge or by mail/bus/courier
- call 403-328-1133
- no website

Cost of Field Pea Straw Removed As a Nutrient - 2009

Pea straw removed (lbs/acre)	N lbs/acre	N= \$0.42	P lbs/acre	P= \$0.33	K lbs/acre	K= \$0.57	S lbs/acre	S= \$0.31	Total/acre
1000	12.0	\$ 5.02	0.4	\$0.057	17	\$ 6.27	1.30	\$ 0.403	\$11.75
1500	18.0	\$ 7.53	0.6	\$0.0855	25	\$ 9.40	1.95	\$ 0.604	\$17.62
2000	24.0	\$10.04	0.8	\$0.114	33	\$12.54	2.60	\$ 0.806	\$23.50
2500	30.0	\$12.55	1.0	\$0.1425	42	\$15.67	3.30	\$ 1.00	\$29.37

n = 469

Olson 2009

Based on a 3 year study (1995-1997) on 469 field pea straw samples from various locations in south central Alberta.

Calculated using average nutrient levels of field pea straw of CP = 7.56%, P = 0.087%, K = 1.38% and S = 0.133%

Nitrogen (N), Phosphorous (P), Potassium (K) and Sulphur (S) are actual in lbs/acre while nutrients are expressed in \$/acre.

## **Canadian Grain Commission Grading Services**

According to the Canadian Grain Commission (CGC), “Your most valuable two pounds of grain is the sample that is used to determine the grade and protein level for the rest of your grain.” In the event of a dispute or as a proactive measure to ensure you know what you are marketing, the CGC 's Service Centres offer analysis of your grain samples, with unbiased test results issued on a Canadian Grain Commission certificate.

Each Canadian Grain Commission certificate will show:

- Grade (including main degrading reason, if relevant)
- Dockage
- Moisture (if sample is received in a moisture-proof container)
- Protein testing is available on request.

### Submitting your grain samples

- Each grain sample must weigh at least 750 grams.
- Fill out a “*Producer request for inspection services*” form or include a written request stating the services you want, your full mailing address and phone number, and sample identification, such as bin number.
- Pay by cash, cheque (payable to Receiver General of Canada), VISA or MasterCard. If mailing in your sample and paying by credit card, please include your card number, expiry date and name appearing on the card.
- Mail your samples to the nearest Service Centre or drop them off in person.
- Submitted sample bags are available at Service Centres. The contact in Alberta is:

Western Region  
Suite #14, 6130-4th Street SE  
Calgary AB T2H 2B6  
Telephone: (403) 292-4210 or 292-4211  
Fax: (403) 292-5075  
Hours of operation:  
Monday to Friday - 8:00 am to 4:00 pm  
Bill Adduono, Operations Supervisor  
Email: [bill.adduono@grainscanada.gc.ca](mailto:bill.adduono@grainscanada.gc.ca)

Information on taking a representative sample is available at  
<http://www.grainscanada.gc.ca/guides-guides/rs-er/trs-per-eng.htm>

### Cost per sample

- Wheat/corn \$15.10
- Canola/rapeseed/mustard seed/safflower/sunflower \$24.40
- Other grains and screenings - \$21.70 (including pulses)
- Canary seed \$36.50
- Protein testing \$9.00

Plus GST

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## **Pea samples needed from growers**

The University of Manitoba, together with the Alberta Pulse Growers and Saskatchewan Pulse Growers, is conducting a study relating to stem and bulb nematode in peas in Western Canada. However success of this project requires your help.

The study requires your assistance to provide pea samples so researchers better understand linkages between the peas and the nematode and understand management practices that

influence nematode presence. Participation by as many pea growers as possible to provide pea harvest samples for analysis is very critical as the frequency of occurrence of this nematode pest is very low.

If you have one or many fields of peas, then APG has sample envelopes available to provide samples, with the shipping costs prepaid. Please contact Tammy Jones at the APG office for envelopes by e-mail at [tjones@pulse.ab.ca](mailto:tjones@pulse.ab.ca) or by phone at 780-986-9398.

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#### **APG Zone AGMs:**

Mark your calendar for the upcoming Zone Annual General Meetings! You could win admission to Farm Tech by attending your Zone AGM.

#### **Zone 1 December 7, 2009**

Time: 9:30 am Registration  
Luigi's in Taber  
Contact: Elizabeth Tokariuk  
403-345-6550  
email: [conservation@platinum.ca](mailto:conservation@platinum.ca)

#### **Zone 2 November 16, 2009**

Time: 9:00 am - 4:00pm  
Three Hills Community Hall  
In Cooperation with Alberta Barley  
Producers Commission and Alberta  
Canola Producers Commission  
Contact: Gerry Good 403-337-2212

#### **Zone 3 November 18, 2009**

Time: 11:30-4 Includes Lunch  
Westlock Legion Hall  
Contact: Cliff Cyre 780-349-4775

#### **Zone 4 December 4, 2009**

Time: 9:30 am Registration  
Sexsmith Civic Centre  
In Cooperation with Alberta Canola  
Producers Commission  
Contact: Linda Schmidt 780-836-2107

#### **Zone 5 November 17, 2009**

Time: 9:00 am-4:30 pm  
In Cooperation with the Alberta  
Canola Producers Commission  
Contact: Wayne Wascherol  
780-853-9467

#### **Alberta Pulse Growers Commission Annual General Meeting**

1:00 pm, January 28, 2010  
Mayfield Hotel Inn, Edmonton  
Contact APG office for details  
780-986-9398  
1-877-550-9398

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#### **Previous PAN Bulletins**

View Previous PAN Bulletins at:

<http://www.pulse.ab.ca/ForProducers/Publications/PulseAgronomyNetwork/tabid/125/Default.aspx>

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