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Does Marketing at Heavier Weights Pay?

Ken Engele, BSA.

Changes in agricultural policy throughout North America have seen a significant shift in the production and consumption of traditional feed grains. In particular the development of the ethanol industry will create significant challenges for the feeding sectors, especially in years when grain supplies may be limiting. Within the past 12 months pork producers within western Canada have experienced an increase in feed prices of between $10 - $16 per hog marketed.

Historically low feed grain prices through the previous two years have resulted in a higher finished hog weight, simply put, because pork producers generated a higher net income due to the low cost per kg gain. In addition, packers within western Canada have also taken this lead, through grid and loin premium enhancements that encouraged pork producers to increase market hog weight. Rising feed costs and fluctuating market hog prices are generating tight profit margins. Does marketing hogs at heavier weights continue to generate the greatest profit potential?

> "Does marketing hogs at heavier weights continue to generate the greatest profit potential?"

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Marketing... continued from page 1

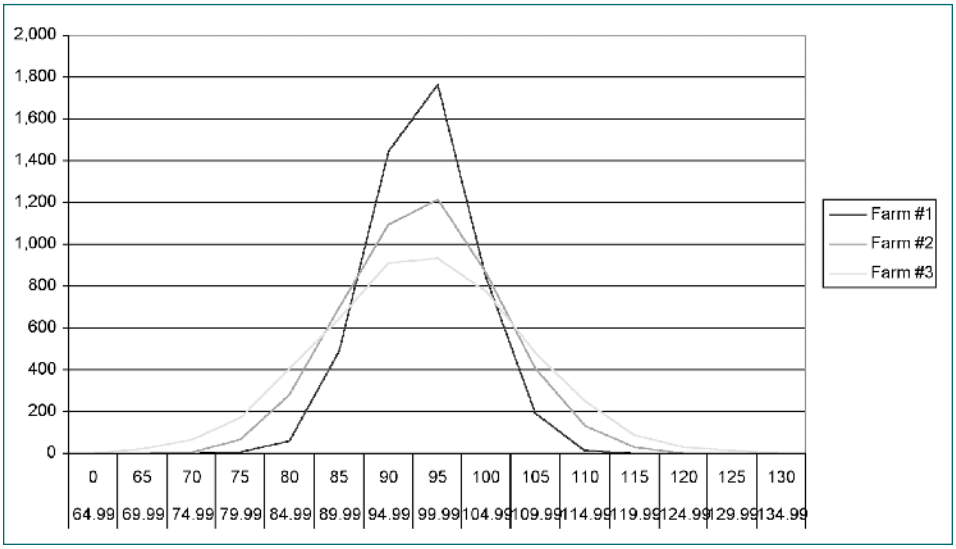

Figure 1. Market hog distribution for three different producers

Not the Same for All Producers

This paper discusses three aspects of marketing management within the barn. 1) Hitting target weight, 2) the amount of variation in weight shipped, and 3) return over feed costs at increasing weights. Your individual market hog distribution will directly impact the marketing strategy that is the best fit for your operation. Figure 1 displays the distribution of three producers represented by three different lines on the graph. All had an average market hog weight of 95.8 to 96.3 kgs, however the standard deviation within each of the three farms varied from Farm #1 – 5%, Farm #2 - 7.5%, and Farm #3 – 10% respectively. What is the impact of having a larger variation (such as farm #3) versus having a narrow distribution (farm #1) on profitability, and how does this influence the optimal market weight for each producer?

In order to equalize the financial results it is assumed that all three producers have the same carcass characteristics for each weight class. In other words, all hogs marketed between 90-94.99 kgs would have a 66.1mm average lean, 110.4 index and $2.46/hog loin premium. This way we can specifically compare the impact of narrow versus wide weight distribution. The average carcass characteristics are displayed in Table 1.

Financial analysis was conducted based on December 2006 prices, in particular a hog pool price of $125/ckg and a finished feed price of $175/mt were used. December would have represented the highest feed prices pork producers would have experienced throughout 2006, while the $125/ckg was slightly below the average pool price for the year. Examining Table 2 we can see that the best return for Farm 1 (standard deviation of 5 kgs) would have been an average weight of 97.1 kgs, while the other two Farms would have maximized returns at an average weight of 96.1 kgs.

One important point to note is the high average market hog weight. Even with high feed grain prices, moderate hog prices and a relatively poor distribution it would still be in the producers best financial interest to market relatively heavy hogs. Heavy hogs are still optimal, in part because of the relatively high index and loin premiums in the 100-104.99 and 105-109.99 weight class. Secondly, even if your average market weight is off by 1 or 2 kgs the financial impact would be at worse is $.30/hog marketed. However once you get beyond this narrow range the adverse financial implications start to add up, and becomes more apparent the wider the standard deviation. For instance, the 98.1 kg average weight would represent a potential loss of $.05/hog, $.38/hog, and $.68/hog for the Farm #1, Farm #2, and Farm #3 respectively. To the producer marketing 15,000 pigs per year this would represent a $717, $5,662, and $10,226 opportunity loss in income for the year. While all three producers will still maximize their revenue potential between 96 – 97 kgs, large differences in the opportunity to make a profit exist when comparing the total revenue generated by each distribution.

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Table 2. Variation in returns per hog for three different weight distributions and different average market hog weights*

Avg Wt.	Farm #1	Farm #2	Farm #3
89.1	-$3.73	-$4.08	-$3.80
90.1	-$2.84	-$3.00	-$2.70
91.1	-$2.06	-$2.07	-$1.87
92.1	-$1.42	-$1.33	-$1.12
93.1	-$0.89	-$0.74	-$0.50
94.1	-$0.49	-$0.29	-$0.20
95.1	-$0.21	-$0.14	-$0.01
96.1	-$0.04	$0.00	$0.00
97.1	$0.00	-$0.04	-$0.28
98.1	-$0.05	-$0.38	-$0.68
99.1	-$0.33	-$0.85	-$1.26
100.1	-$0.75	-$1.60	-$1.94
101.1	-$1.32	-$2.44	-$3.19
102.1	-$2.16	-$3.64	-$4.24
103.1	-$3.13	-$4.99	-$5.99

**weight distribution indicated by the standard deviation within the hogs shipped by each farm for a given period.*

Table 1. Average carcass characteristics for 3 pork producers

Weight Class	3	4	5	6	7	8	9	10	11	12
	70	75	80	85	90	95	100	105	110	115
Weight Range	74.99	79.99	84.99	89.99	94.99	99.99	104.99	109.99	114.99	119.99
Avg Yield (%)	63.1	62.1	61.4	61.0	61.0	60.6	60.1	59.9	59.1	58.9
Avg Lean (mm)	54.7	60.5	61.6	63.6	66.1	67.7	68.5	68.6	69.8	70.7
Avg Fat (mm)	12.8	15.5	17.0	18.2	18.6	19.5	20.8	21.3	23.9	24.2
Avg Index	65.0	97.2	107.2	109.9	110.4	109.9	106.9	99.2	95.5	50.0
Avg Lean Bonus	$0.53	$1.45	$1.94	$2.48	$2.46	$2.43	$2.35	$2.21	$2.42	$2.13

Effect of 5 ppm Ractopamine in Finishing Swine Diets on Growth Performance and Carcass Quality*

A. D. Beaulieu, PhD, J.F. Patience, PhD and P. Leterme, Ph.D.

Canada recently joined 22 other countries to register ractopamine hydrochloride for use under the brand name Paylean™ (Elanco Animal Health, Guelph, ON). Initially, at least, the product is being recommended for use at 5 mg per kg or 5 ppm for the last 28 days prior to marketing. Paylean breaks down quickly in the body, so there is no withdrawal time required.

Previous research has established that ractopamine hydrochloride (RAC) increases protein synthesis at the expense of fat synthesis within muscle tissue. Thus, RAC results in improved rate and efficiency of gain as well as improvements in carcass composition.

Much of the earlier research on this product was undertaken at higher levels of inclusion in the feed, so information on the response of pigs to ractopamine at 5 mg/kg (5ppm) is less abundant. Furthermore the Canadian grading sytem differs from that in other countries, such that the conclusions drawn from those studies may not apply in Canada. Also, there have been very few studies that evaluated the impact of Paylean on the eating quality (see issue Vol 13 no 4) of pork. Since the acceptance of pork by the consumer is critical to the industry's success, it is important to understand if Paylean has an impact on eating quality, and if so, what is the magnitude of such effects. Therefore, we concluded that any evaluation of Paylean for the Canadian pig industry must consider the impact on growth perfomance, carcass traits, eating quality and economics.

The experiment consisted of two dietary treatments: a control finishing diet or a similar diet supplemented with 0.025% Paylean® equivalent to 5 mg RAC/kg (Table 1). The control diet was typical of that used by the commercial pig industry for pigs fed from 85 kg to market. Based on previous research on Paylean, the treatment diet was formulated to contain 1.00% total lysine compared to 0.75% in the control, to support the expected increase in lean gain. The minimum ratio of other essential amino acids to lysine was the same in both diets. The level of vitamin and trace mineral premix was increased by 12% and both calcium and total phosphorus were increased by 0.05 percentage points, to ensure that nutrient supply would not impair the pig's ability to respond to RAC.

> Based on our results, it would be possible to turn a room around almost 1 week sooner as a result of using Paylean, an important finding if floor space is limiting on a given farm.

Pigs were marketed when they reached a minimum live weight of 116 kg or after the pigs were on test (received Paylean®) for 6 weeks, whichever occurred first. Pigs not reaching the minimum marketing weight at the end of the 6-week period were considered to be "tail-enders." On d 28 of the experiment, the two pigs within each pen whose bodyweight was closest to that pen's mean at the time were selected for more intensive carcass and meat evaluation.

The experiment was conducted at PSC Elstow Research Farm, a 600-sow single-site commercial farrow-to-finish research facility. Unlike many experiments published in the past, all pigs available in the two farrowing groups assigned to this experiment were used; there was no pre-selection to achieve a uniform group of pigs. This was critical, as we wanted to evaluate the impact of Paylean under commercial conditions,

Ractopamine... cont'd on page 4

Table 1. Ingredient and Nutrient Composition of Experimental diets (% as fed) [1]

Wheat	50.000	48.000
Barley	33.725	31.120
Soybean Meal	12.893	16.623
Limestone	0.807	0.800
Dicalcium Phosphate	0.463	0.681
Salt	0.500	0.500
PSC Mineral Premix	0.400	0.450
PSC Vitamin Premix	0.400	0.450
Lysine HCl	0.075	0.236
dl-Methionine	-	0.053
l-Threonine	-	0.099
Canola oil	0.738	0.738
Paylean[2]	-	0.025
Nutrients[3]		
DE, Kcal/kg	3,300	3,300
Lysine total, %	0.84	1.09
Ca, %	0.58	0.63
P, total %	0.48	0.51
Mg, %	0.16	0.16
Na, %	0.19	0.20
Ractopamine, mg/kg	undetected	4.9

[1] *Diets were pelleted.*

[2] *Provided per kg of mixed feed; ractopamine hydrochloride 5 mg.*

[3] *Except for DE, which was estimated, actual analyzed values of nutrients are reported.*

** Market and meat quality data will be featured in future issues of Centred on Swine.*

Ractopamine... continued from page 3

so all pigs were placed on test. The only exception was animals excluded to keep the number of pigs balanced in all pens. The feeding of the experimental diets commenced when the average initial weight of the pigs was 86 kg.

A total of 531 animals - 259 gilts and 272 barrows - started the experiment. During the experimental period, 1 control barrow died of splenic torsion and one control gilt became lame and was euthanized. One Paylean barrow was removed from the experiment due to endocarditis and arthritis and two Paylean gilts were removed from the experiment due to severe tail-biting. All control pigs were successfully shipped to market; three Paylean gilts died during transport to market and two Paylean barrows were condemned at the plant. Thus, 99.6% of the control pigs starting the test period reached slaughter successfully, while 97.0% of the Paylean pigs reached slaughter successfully. In this size of experiment, it is difficult to conclude that this increase in dead on arrivals (DOA's) and condemns were due to the Paylean or were a random effect.

The Paylean pigs were on test an average of 26.5 days, which was very close to the average of 28 days anticipated at the start of the experiment. Control pigs were on test for 30.1 days, which was 4 days longer than the treatment pigs ($P < 0.01$). Not surprisingly, there were many fewer tail-end pigs on Paylean than on the control diet; no Paylean barrows and only 2 Paylean gilts were tail-enders, but there were 2 control barrows and 18 control gilts that were tail-enders (Table 2).

Table 2. Experimental animal statistics and the response to the inclusion of 5 ppm ractopamine in a finishing diet1.

	Control	5 ppm Ractopamine
No. pigs started	267	264
No. pigs shipped	265	261
Days on test	30.1	26.5
Tail-enders	20	2
No. pigs condemned	0	2
No. pigs DOA	0	3
Initial wt. of individual pigs, kg		
Minimum	59.3	58.1
Maximumx	109.2	108.1
Initial pen average wt., kg	86.1	86.0
Final wt., kg	118.4	118.1
Overall ADG**, kg/d	1.08	1.22
Overall ADFI, kg/d	3.37	3.36
Overall FCE** (gain:feed)	0.32	0.36
Total feed usage, kg	13,446	11,673
Kg feed/pig started	100.7.0	89.2

1ADG, ADFI and FCE are the only variables reported which were analyzed statistically.

**Treatment effect ($P < 0.001$)

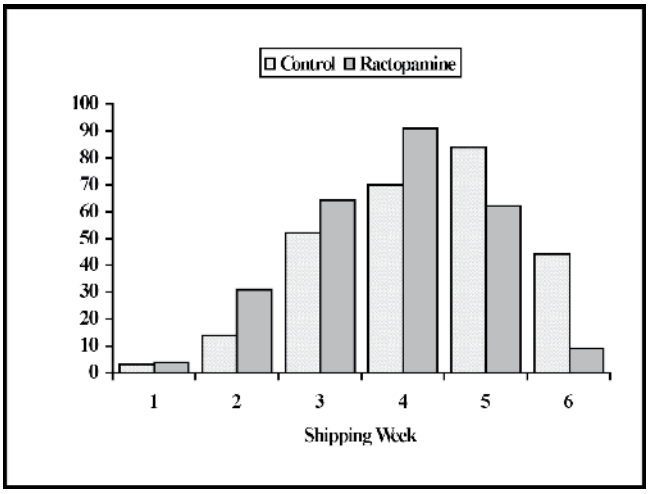

Figure 1. Effect of 5 ppm ractopamine per kg on the number of pigs shipped by week

Average daily gain was 13% higher in the Paylean pigs as compared to the controls ($P < 0.001$); both genders responded in a similar manner. Interestingly, there was no effect of treatment on feed intake ($P > 0.10$), so feed conversion improved by 13% ($P < 0.01$) in the Paylean pigs. Because the Paylean pigs grew more efficiently, they used 11.5 kg less feed per pig started than the control pigs.

It is well known that the response to Paylean tends to decline as pigs remain on the product. In the current study, the response to 5 ppm ractopamine was consistent during the first four weeks of the feeding period; indeed, whether the pigs were growing more rapidly (>1.3 kg/d) or more slowly (< 1.3 kg/d), there was a 13% or 7%, respectively, increase in ADG during the first week on the product. Similarly, during the second week on the product, the response to RAC was observed in both the faster growing, and the slower growing, pigs. However, for pigs not yet marketed following four weeks on test, the response to RAC was smaller during weeks 5 and 6 than observed in weeks 1 through 4. However, it should be noted that by the end of week 4, 73% of the Paylean-fed pigs had already gone to market, as compared to only 52% of the control pigs.

The final decision on the use of RAC will depend on relative economics. Based on the results of this experiment, the use of RAC during the finishing period will have significant economic effects, although the economic impact will be heavily dependent on individual farm circumstances. For example, as shown in Figure 1, the use of RAC would essentially permit the closeout of a room or barn one week earlier. Assuming pigs are available to re-fill that room one week earlier, the increase in net income per pig place in a barn would be substantial. On a very conservative basis, it would increase gross income per pig place by almost $5 per year in a $1.40/kg market.

Alternatively, if the room cannot be re-filled one week earlier, the the benefit is that number of tail-end pigs could be reduced substantially; depending on the market price and grading grid employed on a particular farm, reducing the proportion of tail-end pigs from 7.5% to 0.75% would increase gross income by about $2.17 per pig sold. RAC decreased backfat thickness by 1 mm and increased loin thickness by 2.5 mm. The impact of these changes in carcass index was surprising, providing much less economic benefit than one might expect. For example, within gilts, where backfat was unchanged and loin increased by 2.4 mm, carcass index actually declined by 0.3 based on the grading grid these hogs were marketed on. In barrows, backfat was reduced by 1.8 mm and loin thickness increased by 2.6 mm; carcass index increased by 1.6. Based on the results of this experiment, the modest increase in carcass index would increase gross income per pig by only $0.80 in a $1.40/kg market.

However, in some circumstances, producers may be operating under a grading system that does not penalize heavier carcasses, so the increase in growth rate can be converted directly into heavier pigs sold, rather than pigs of the same weight sold sooner. In this scenario, assuming pigs receive the product for an average of 26 days and increase their rate of gain by 13%, as seen in this experiment, the mean carcass weight will increase by 2.9 kg. Adjusting for additional feed required to support the

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Table 3. The effect of 5 ppm ractopamine on average weekly growth rate according to the week of shipping

Week Shipped	Trt	n = [1]	% Increase[2]	Week on Test					
				1	2	3	4	5	6
1	C T	3 4	+17	1.43 1.68					
2	C T	14 31	+13	1.31 1.41	1.33 1.56				
3	C T	52 64	+15	1.22 1.34	1.14 1.43	1.13 1.25			
4	C T	70 91	+11	1.19 1.30	1.11 1.30	1.03 1.15	1.10 1.15		
5	C T	84 62	+2	1.17 1.08	1.05 1.32	1.07 1.08	0.99 0.99	1.12 1.03	
6	C T	44 9	+7	1.00 1.15	0.95 1.12	0.91 0.93	0.86 0.81	0.99 0.91	0.89 1.07
Overall	C T			267 261	264 257	250 226	198 162	128 71	44 9
% Increase[3]				+9	+21	+7	0	-8	+20

[1] Number of pigs shipped within that week. For example in the second group of animals shipped, 14 pigs were shipped from the control group, they gain 1.33 kg/d the week before shipping, and 1.31 kg/d the first week on test.

[2] Response to Paylean, expressed as a percent increase (+) or decrease (-) over the full period on test, according to the number of weeks the pigs were on Paylean prior to reaching market weight.

[3] Response to Paylean, expressed as a percent increase (+) or decrease (-) according to the week of the test.

additional gain, the return over marginal feed cost would be $3.94 per pig sold. Ultimately, the exact value of Paylean will vary from farm to farm and depend on market prices, applicable grading grid, loin bonuses, etc. Nonetheless, the data reported herein can be used to assist individual farms in determining the financial impact of using Paylean on their farm.

Bottom Line

The addition of ractopamine at the rate of 5 mg/kg to the diet of finishing pigs for an average of the last 26 days before marketing increased growth rate and feed conversion by about 13% each and reduced the number of tail-end pigs from 7.5% to 0.75%. The increase in growth rate can be earned through the marketing of heavier pigs, or the more rapid turn-around of available finishing capacity.

The use of RAC may increase DOAs, so producers using this product must apply greater care in the handling of pigs during loading, transport and unloading at the packing plant.

The economic benefit accruing from the use of RAC will depend on the circumstances of individual farms; however, we estimate a "typical" return, after paying for the product, would be in the range of $2 to $3 per pig sold. The actual benefit earned by an individual farm will depend on such factors as market prices, grading grids and current carcass quality. These benefits will be erased if losses during transit are not controlled.

Marketing... continued from page 2

Table 3 displays the total and difference in revenue over feed cost for selected average market weights for three different distributions. It is quite evident that the narrower the standard distribution at marketing the greater the revenue potential for individual producers. Assuming a producer markets 15,000 pigs per year, achieving a standard deviation of 5 instead of 7.5 or 10 would represent an increase in revenue of $35,297 and $ 91,678 per year respectively or $2.35 and $6.11 per hog. The impact of a poor standard deviation at marketing is far greater than not precisely locating your best average market weight. For example, at 96.1 kgs the opportunity loss of the standard deviation of 7.5 would be $2.35 per hog (table 3), a comparable loss associated with a sub-optimal marketing distribution would require the ideal average market weight to be off by 5 to 6 kgs (101.1 kgs, $2.44/hog) in order to have a similar opportunity loss.

The Bottom Line

Marketing hogs at heavier weights continues to financially benefit producers even with today's high feed grain prices. However the extent to which that benefit is realized is very dependant on the distribution of pigs being marketed. Far more profit can be realized by focusing on improving the standard deviation at marketing first, then focusing on targeting your ideal marketing weight.

Table 3. Total and difference in revenue over feed cost for selected average market weights for three different distributions

Average Market Weight	Farm #1	Farm #2	Farm #3
Total Revenue over Feed Cost			
93.1	$1,066,238	$1,032,597	$979,881
96.1	$1,079,005	$1,043,708	$987,327
99.1	$1,074,601	$1,030,973	$968,499
Difference in Revenue over Feed Cost			
Average Market Weight	Farm #1	Farm #2	Farm #3
93.1	$0	-$33,641	-$86,357
96.1	$0	-$35,297	-$91,678
99.1	$0	-$43,628	-$106,102
Difference in Revenue over Feed Cost per Hog			
Average Market Weight	Farm #1	Farm #2	Farm #3
93.1	$0.00	-$2.24	-$5.76
96.1	$0.00	-$2.35	-$6.11
99.1	$0.00	-$2.91	-$7.07

Does the energy value of peas depend on their composition?

Leterme P., Beaulieu A.D., Patience J.F.

Recent changes in farm policy have created a new demand for feed grains that will compete directly with traditional feed grain users. A new high base demand for grains creates a more uncertain price outlook as weather related issues will a have a more far reaching impact on feed grain prices. One huge advantage western Canadian producers have is the use of alternative feed grains. One ingredient in particular that producers have utilized in the past is feed peas. Previous research at Prairie Swine Centre and elsewhere has demonstrated a high variation in crude protein and starch contents among peas collected from western Canadian farms. Producers may be concerned by the high variation of composition observed among the pea samples. However, it is unclear whether this variation affects the energy value of the peas.

Results and discussion

A total of 50 pea samples were collected in Saskatchewan, Alberta and Manitoba in 2005. Their analysis confirms the high rate of variation in composition, especially in crude protein and in starch content (Table 1). This is in agreement with the observations of the Canadian Grain Commission (20 to 26% for crude protein, Nang & Daun, 2004). However, a detailed analysis of the results shows that the majority of the samples had a protein content ranging from 23 to 24% of dry matter (Figure 1).

In 1998, Zijlstra et al. determined the digestible energy (DE) of 11 pea samples collected in Western Canada and obtained DE values ranging from 3100 to 3740 kcal/kg. This represents a 20% variation, which is lower than the variation observed for crude protein and starch, for example. Unlike what is observed in cereals, no relationship could be established between the neutral detergent fibre (NDF) content and the energy value.

Different hypotheses can be suggested to explain why the relationship between fibre and energy is different in peas than in grains. First, the NDF content of peas does not reflect their actual dietary fibre content. Peas contain, on average, 10-12 % NDF whereas the real dietary fibre content ranges from 19 to 25% of the dry matter (Table 1). The difference is due to the fact that the NDF method with detergents is not appropriate for pulse grains and to the presence of soluble fibre, namely pectin and oligosaccharides. No information is available on the effect of these undetected components. Second, more than 90% of the pea fibres are fermented in the digestive tract of the pig and we do not know how this affects the digestive processes. Finally, fibre fermentation provides energy to the pig, in the form of volatile fatty acids, but to an extent that still needs to be determined.

Researchers at Prairie Swine Centre are currently working on the estimation of the net energy value of pea samples differing in composition. They aim to use a series of equations developed by Dr. Jean Noblet in France the world leader of net energy research. Noblet's equations of prediction are based on the composition and digestibility of the diet. Previously we have used equations based only on composition (see example):

NE = 2790 + 4.12 x EE + 0.81 x Starch – 6.65 x Ash – 4.72 x ADF where EE (ether extract) is the fat content and ADF the acid detergent fibre (ligno-cellulose) content (Noblet et al, 1994).

This equation was used here to estimate the

Does the energy value of peas ... cont'd on page 7

Table 1. Average composition of 50 pea samples collected in Western Canada in 2006 (g/kg DM)

	Mean	Standard-deviation	Minimum	Maximum
Dry matter	12.0	1.0	9.6	13.6
Crude protein (N x 6.25)	232	14	199	281
Starch	488	25	386	511
Fat	12.5	3.2	7.9	20.4
Total dietary fibre	227	15	188	249
Ash	28.2	2.1	24.5	33.7
Calcium	0.6	0.3	0.2	1.2
Phosphorus	3.7	0.5	2.8	4.8

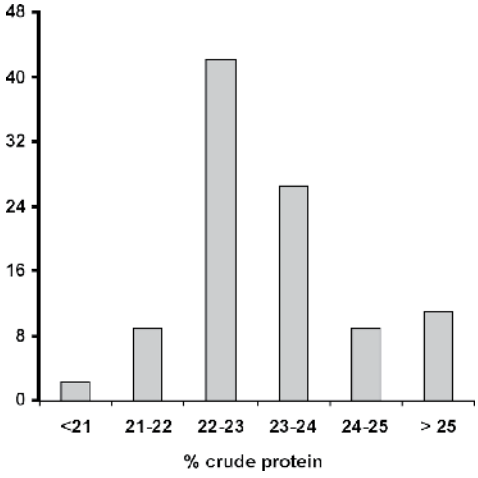

Figure 1. Variation in protein content among pea samples collected in Western Canada

Training Employees in Hydrogen Sulphide Awareness

Shannon LaRoche

Have you recently trained your employees in Hydrogen Sulphide Awareness? Are you needing to recertify any employees? Either way, do you wonder if the training is really worth it? Does it cause confusion and dissention amongst the ranks when employees return to work after attending a workshop? As a result of new or renewed awareness to the risks and dangers of possible H^2S exposure I am sure there are some rumblings the next day when employees come in to work. Is that good or bad? Do you encourage and foster a work environment where SOP's are questioned, shared, explained and discussed? Is there consideration given to review and improve present practices and work processes? Is there a need to implement new SOP's where we lack in any area of health or safety?

Callin To You is a company I formed over four years ago. As owner of the company, I continue to deliver the Hydrogen Sulphide Awareness workshop on contract through Prairie Swine Centre Inc. With the company formed, I started to instruct the workshop, a direct result of losing our son, Collin to a H_2S related fatality while working for a liquid manure transportation company. The accident occurred in the fall of 1998. I chose to change the spelling of our son's name when I formed my company in an attempt to "call out to you" with important information. The vision and mission statement for my company were taken from the word Callin. Not only does the name of my company honor our son but it also forms the basis for the value and commitment, I believe I bring to the industry. Callin, when broken down means : continual awareness to life lines in (safety management). My business card, below the business name, shows these words: " Building Together" Continual Awareness To Life Lines in Safety Management. I believe that each one of us can play a part in implementing change. Often we continue to do the things we do because it is just easier not to change and we become complacent and weary in our work attitudes as we continue on with the same mundane processes we have always used. Knock-downs and fatalities are not occurring so we tend to feel safe and adopt an attitude that " nothing can happen to me". Everyone needs to take responsibility for safety in the work place so let us work together to achieve just that.

I extend a welcome to everyone in the industry to register and to come and join me anytime, anyplace and listen to what is shared, taught and discussed at the workshop. I feel I have a responsibility to share what I know in the hope that no one will need to deal with a fatality or a H_2S related injury in the work place.

Since the fall of 2002, I have delivered 115 workshops and have trained 1325 people in Hydrogen Sulphide Awareness. I have traveled to every corner of our province and everywhere in between delivering the workshop to barn employees and liquid manure handlers. I have also trained in Treherne and Boissivain, MB and in Red Deer, Wainwright, Strathmore and Stettler, AB.

I am also involved with committees on Research projects involving H_2S. I am a member of the Saskatchewan Alliance for Safety and Health in Agriculture and I speak at Farm Safety Seminars throughout the province. I believe that it is my responsibility to work together with others in improving health and safety in agriculture. Together we can be a part of creating an acceptable safety culture within agriculture industries.

The following information is shared at the Hydrogen Sulphide Awareness workshop:

- Properties of H_2S
- Exposure limits and Occupational Health and Safety standards
- Effects exposure can have on humans and animals
- Demonstration and use of H_2S monitoring equipment and Self-Contained Breathing Apparatus.
- Critical Manure Management
- Discussion of SOP'S already in place and a hands on approach to writing a procedure during case study exercises.
- Response techniques and strategies
- The importance of implementing an Emergency Response Plan and setting up Emergency Response Teams.

Keeping us all safe by "building together" continual awareness to life-lines in safety.

I look forward to continued and new business relationships and the opportunity to deliver the workshop to our industry.

Sincerely
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Does the energy value of peas ... cont'd from page 6

NE value of the 50 pea samples and the results range from 2,460 to 2,680 kcal NE/kg. The range of variation (8%) is thus much lower than the variation observed for protein or starch contents and less than half the variation reported using DE on the samples gathered from crop year 1997.

According to his equation, ash is the main factor that affects NE, whereas starch plays a limited role and protein has no effect at all. Peas are quite low in ash but the content is very variable. Wang and Daun (2004) observed higher variation than in the present study (1.3 to 3.4%) and ascribe the variation to potassium, which represents 40% of the total mineral content. The fat content is also an important component of energy but, as for ash, the levels in peas are very limited. The last component is ADF or ligno-cellulose but the latter is the most stable component of peas (from 6.5 to 8.6%; Wang & Daun, 2004).

The Bottom Line

In summary, it is likely that the variation in energy value of peas will be lower than the variation in protein and starch contents might suggest. This is because starch doesn't affect energy digestion very much and that the components that could affect energy supply are either present in low amounts in peas (ash, fat) or are more consistent across pea samples than originally thought (ADF).

Personal Profile

Laura Eastwood

Joining the Prairie Swine Centre team in September 2006 as a new graduate student after being offered a position under the supervision of Dr. Pascal Leterme, I will be working towards obtaining a Masters Degree looking at alternative feed ingredients in swine nutrition.

Originally from England, I moved to the small city of Burlington, Ontario at an early age. At the age of nine I got my first taste of 'farm life' when I began horseback riding. I loved spending as much time in the barn as possible and eventually bought my own horse. During high-school I began a co-op placement in a local animal hospital and ended up working there for about 6 years. My love for working with animals grew every day and I decided to attend the University of Guelph where I took a BSc. majoring in Animal Biology. During my 4 years at Guelph I was given the chance to work with other farm animals including cows and pigs. My love of working in the barns and with livestock grew stronger still. I convocated from the University of Guelph in June of 2006.

Several years ago I was given the opportunity to travel to Guatemala to help build a vocational school designed for those children coming through a sponsorship program. I got a taste of working in developing counties and it has become a goal of mine to eventually travel back to the developing world. Combining this with my love for animals I decided to pursue a Masters Degree in swine nutrition so I will one day be able to help improve livestock nutrition in developing countries and thus improve the livelihoods of those people living there. When I was offered a position at the Prairie Swine Centre under the supervision of Dr. Leterme I jumped on the chance to get that one step closer to my overall goals. I moved to Saskatchewan at the end of August 2006 and began my program in September. My research project will study the potential of flaxseed meal as a feed ingredient in swine nutrition.

Coming Events

Western Canadian Livestock Expo
April 25-26, 2007
Saskatoon, Saskatchewan

Swine Breeding Management Workshop
April 26-27, 2007
Edmonton, Alberta

Western Canadian Farm Progress Show
June 20-23, 2007
Regina, Saskatchewan

Hydrogen Sulphide Awareness Workshop

TRAINING

IMPORTANT INFORMATION AND EDUCATION FOR ANYONE WHO WORKS WITH OR TRANSPORTS LIQUID MANURE

THE 4-HOUR WORKSHOP INCLUDES INSTRUCTION IN:

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- Effects that H_2S may have on humans
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