



# PORK BRIEFS

## THE LATEST INFORMATION ON SWINE NUTRITION



### As the temperature rises, so should the Lacta Fat!

By: Ken Palen

Wow, what a hot start to the summer! As the temperature rises we should be looking at ways to boost the energy in your swine diets. Properly balanced high lean diets can help keep the hogs growing and sows producing by condensing the energy in every mouthful of feed.



### Nursery-Finisher

Feeding fat improves feed efficiency based on research done at the University of Illinois by Dr. Pettigrew. Table I below shows that adding any type of fat was better than adding no fat to the ration. Table II shows feeding 6% added fat was better than 3% added fat.

Table I – Any Fat Source Results

G/F Pigs	FC
No Fat	3.03
Added Fat	2.77
% Improvement	8.6%

Table II – 6% Added Fat Better than 3% Added Fat

G/F Pigs	FC
3% Fat	2.86
6% Fat	2.63
% Improvement	8.0%

cont.>>

Inside this Issue:  
**As the temperature rises, so should the Lacta Fat!**

By: Ken Palen



*A ready-to-use drying powder for use in all stages of pork production. Easy to use and handle.*

*Use drySTART® in all stages of pork production from farrowing and nursery barns right through to finishing.*



*drySTART® helps to absorb moisture. Use drySTART® as part of your livestock facility management program to help maintain a dry environment between bedding and/or washing.*

*Reducing odours helps maintain a positive environment for the livestock and the people working with the livestock.*

Volume 11, Issue 4  
July 2018

Dr. Pettigrew also found that feeding different types of fat resulted in different performance. Feeding Choice White Grease (pig fat) showed a 7.6 % improvement in gain and a 4.8 % improvement in feed efficiency over feeding Soybean Oil (vegetable fat) indicating that all fat sources are not equal in performance.

The protein (amino acid) level of the diet must be balanced to the energy level of the diet to get the maximum benefit of feeding fat. Adding 5 kg of soya meal with every 10 kg added fat will be a good starting point for balancing the diet until your nutritionist can check everything over.

### Sows

If sow feed intake decreases, milk intake can decrease resulting in lower weaning weights. Adding fat increases the energy density of the diet and also improves palatability of the rations by adding some gravy to the corn and soya meal.

Increasing the energy in sow diets may also result in other potential benefits:

- Increase the energy density of the sow's colostrum by increasing the milk's fat content if fed to sows a week or so before farrowing.
- Reduce body weight loss in the farrowing pen.
- Decrease the interval between weaning and rebreeding, helping to increase litters/sow/year.

In a North Carolina study, researchers looked at the response to two different sources of dietary fat, each of different quality attributes, and what response they had at different levels fed during high ambient temperatures and how different sources have an effect on lactating sow performance and their litters. Fat sources were an Animal Vegetable AV blend and Choice White Grease CWG, (pig fat) shown in Table III fat analysis below. These fats were fed at 2% (20 kg,) 4% (40 kg), and 6% (60 kg) per tonne. Diets also contained 8% (80 kg) DDGS (Dried Distiller Grains with Solubles), 6% (60kg) Wheat Middlings (wheat midds and wheat shorts are similar in the USA), along with corn and soya meal as the other grains and protein sources.

Table III

FAT ANALYSIS	AV Blend	CWG
Free Fatty Acids (FFA)	14.5 %	3.7%
Iodine Value	89	62
Peroxide Value mEq/kg	4.2	9.8
Anisidine Value	23	5

In the trial, sows were balanced by parity with 192 sows of Parity 1 and 199 sows of Parity 3 to 5 (PIC Camborough L42). The trial was conducted between June to September 2010. Daily temperatures averaged  $27\pm 3$  and humidity  $61\pm 10\%$  inside the buildings during the studies.

The key findings of the study were as follows

1. Feed and energy intake increased with added fat.
2. Pellet quality of feed was reduced with more added fat causing more fines and more feed refusal and more wastage.
3. Sows fed CWG lost less weight during lactation than sows fed AV blend or control diet (no added fat) resulting in a better feed efficiency.
4. Litter growth rate was not affected by added fat.

- The addition of CWG and AV blend both improved conception and farrowing rates and subsequent litter size compared to control diet (see Tables IV and V below)
- The researchers concluded that the AV blend was more susceptible to oxidation (quality reduced) resulting in a reduced feed efficiency compared to CWG.

Table IV. Conception rate and farrowing rate are improved with added fat over control no fat.

Item	No Fat	AV Blend			CWG		
		2% fat	4% fat	6% fat	2% fat	4% fat	6% fat
<b>Sows, n</b>							
Parity 1	28	27	26	26	27	28	27
Parity 3+	29	28	29	28	28	27	29
<b>Bred &lt; 8 d, <sup>2,3</sup>%</b>							
Parity 1	67.9 <sup>a</sup>	70.4 <sup>ab</sup>	80.8 <sup>b</sup>	80.8 <sup>b</sup>	70.4 <sup>a</sup>	71.4 <sup>a</sup>	81.5 <sup>b</sup>
Parity 3+	58.6 <sup>a</sup>	89.3 <sup>b</sup>	72.4 <sup>ab</sup>	67.9 <sup>a</sup>	75.0 <sup>b</sup>	62.9 <sup>ab</sup>	72.4 <sup>ab</sup>
<b>Conception rate, <sup>2,4</sup>%</b>							
Parity 1	85.7	92.6	88.5	92.3	88.9	92.9	92.9
Parity 3+	72.4 <sup>a</sup>	100.0 <sup>c</sup>	79.3 <sup>a</sup>	82.1 <sup>a</sup>	85.7 <sup>b</sup>	74.1 <sup>a</sup>	82.8 <sup>ab</sup>
<b>Farrowing rate <sup>2,3,5</sup>%</b>							
Parity 1	75.0 <sup>a</sup>	74.1 <sup>a</sup>	73.1 <sup>a</sup>	88.5 <sup>b</sup>	81.5 <sup>ab</sup>	85.7 <sup>b</sup>	88.9 <sup>b</sup>
Parity 3+	62.0 <sup>a</sup>	89.3 <sup>b</sup>	72.4 <sup>a</sup>	75.0 <sup>a</sup>	78.6 <sup>b</sup>	62.9 <sup>a</sup>	75.9 <sup>ab</sup>
<b>Culling rate <sup>2,3,4</sup>%</b>							
Parity 1	17.9 <sup>ab</sup>	18.5 <sup>ab</sup>	26.9 <sup>b</sup>	11.5 <sup>a</sup>	18.5 <sup>a</sup>	10.7 <sup>a</sup>	11.1 <sup>a</sup>
Parity 3+	37.9 <sup>a</sup>	3.6 <sup>c</sup>	24.1 <sup>b</sup>	25.0 <sup>ab</sup>	17.9 <sup>b</sup>	33.3 <sup>a</sup>	20.7 <sup>b</sup>

a-c Within a row and fat level within a source, means without a common superscript differ ( $P < 0.05$ ).

- Fat sources used were animal-vegetable (AV) blend and choice white grease (CWG). Parity 3+ indicates parity 3 to 5.
- Supplemental AV blend x parity interaction ( $P < 0.05$ ).
- Linear supplemental CWG effect ( $P < 0.05$ ).
- Supplemental CWG x parity interaction ( $P < 0.05$ ).
- Linear supplemental AV blend effect ( $P < 0.05$ ).

Table V. Subsequent litter size is increased with added fat over control no fat.

Item	No Fat	AV Blend			CWG			SEM
		2% fat	4% fat	6% fat	2% fat	4% fat	6%fat	
Litters, n	39	45	40	44	44	41	46	
No. of total pigs born <sup>3</sup>	12.98	13.14	13.96	14.06	12.32	13.72	14.03	0.50
No. of pigs born alive <sup>3,4</sup>	11.76	11.90	12.97	13.05	11.20	12.41	12.99	0.45
No. of pigs stillborn	1.25	1.24	0.99	1.01	1.14	1.31	1.04	0.22
No. of mummified pigs	0.13	0.17	0.19	0.12	0.14	0.15	0.18	0.08

- Fat sources used were animal-vegetable AV blend and choice white grease (CWG).
- Supplemental fat x parity interaction was not significant for any of the variables ( $P > 0.05$ ).
- Linear effect of supplemental CWG ( $P < 0.05$ ).
- Linear effect for supplemental AV blend ( $P < 0.05$ ).

Historically in Ontario, prices are hot when the weather is hot so by increasing the energy in your diets hopefully you can keep your sows and pigs producing and growing to their maximum potential while the prices and weather are hot. Enjoy your summer! Thank you.



### **BENEFITS OF FEEDING LACTA-FAT®**

Lacta-Fat® liquid fat has been shown to help provide many nutritional benefits to animals, along with many handling and economic benefits to the producer, here are just a few:

- **Increased energy density of sow colostrum and milk**
- **Greater sow milk yield**
- **Less weaning shock**
- **Improved feed conversion**
- **Improved rate of gain**
- **Consistent high quality formulation**
- **Helps produce excellent meat quality**
- **Improved feed texture and freshness**
- **Reduces dust levels in the barn**

**For more information talk to your Kenpal Sales Rep!**

**Ph: 1-800-265-2904 or 519-228-6444**

**[kpalen@kenpal.on.ca](mailto:kpalen@kenpal.on.ca)**

**[www.kenpal.on.ca](http://www.kenpal.on.ca)**

*Published By:*



**WE APPRECIATE YOUR BUSINESS**

69819 London Road, RR #1, Centralia, Ontario, Canada, N0M 1K0  
Tel: (519) 228-6444 or 1-800-265-2904 • Fax (519) 228-6560 • Email [kpalen@kenpal.on.ca](mailto:kpalen@kenpal.on.ca) • [www.kenpal.on.ca](http://www.kenpal.on.ca)