

# Paylean Update

## Prairie Swine Center Producer Meetings

**Peter Provis DVM**  
**Elanco Animal Health**



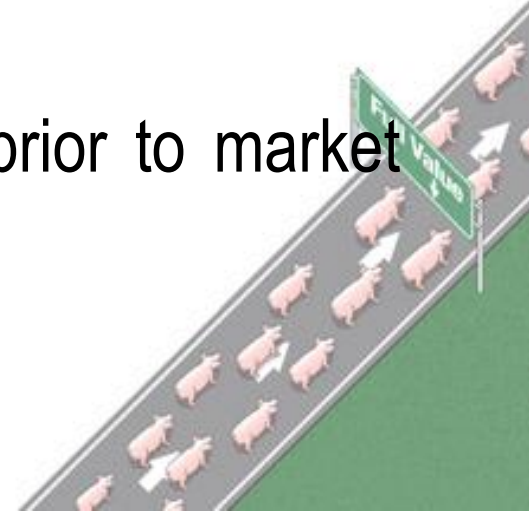
# Discussion Points

- Paylean Dose and Duration
- Paylean Economics
- Paylean and the Renaissance grid



# Introduction

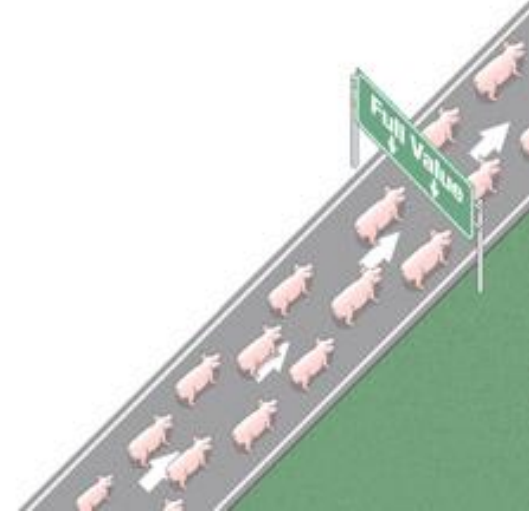
- Paylean fed at 5 to 10 ppm improves average daily gain (ADG) by 10-15%
- Paylean fed at 5 to 10 ppm improves feed:gain (F:G) by 10-15%
- Paylean fed at 10 ppm improves carcass yield and leanness
- Paylean is fed for an average of 28 days prior to market with no withdrawal @ 5 to 10 ppm



# Using Paylean- DOSE

## Choosing A Dose

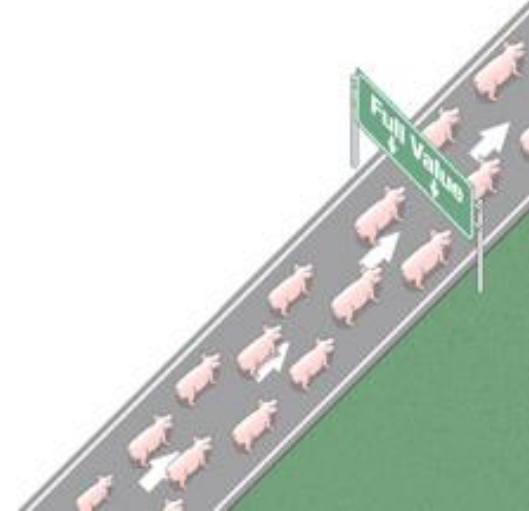
- All producers will benefit from the live performance response to Paylean at 5 ppm for an average of 28 days



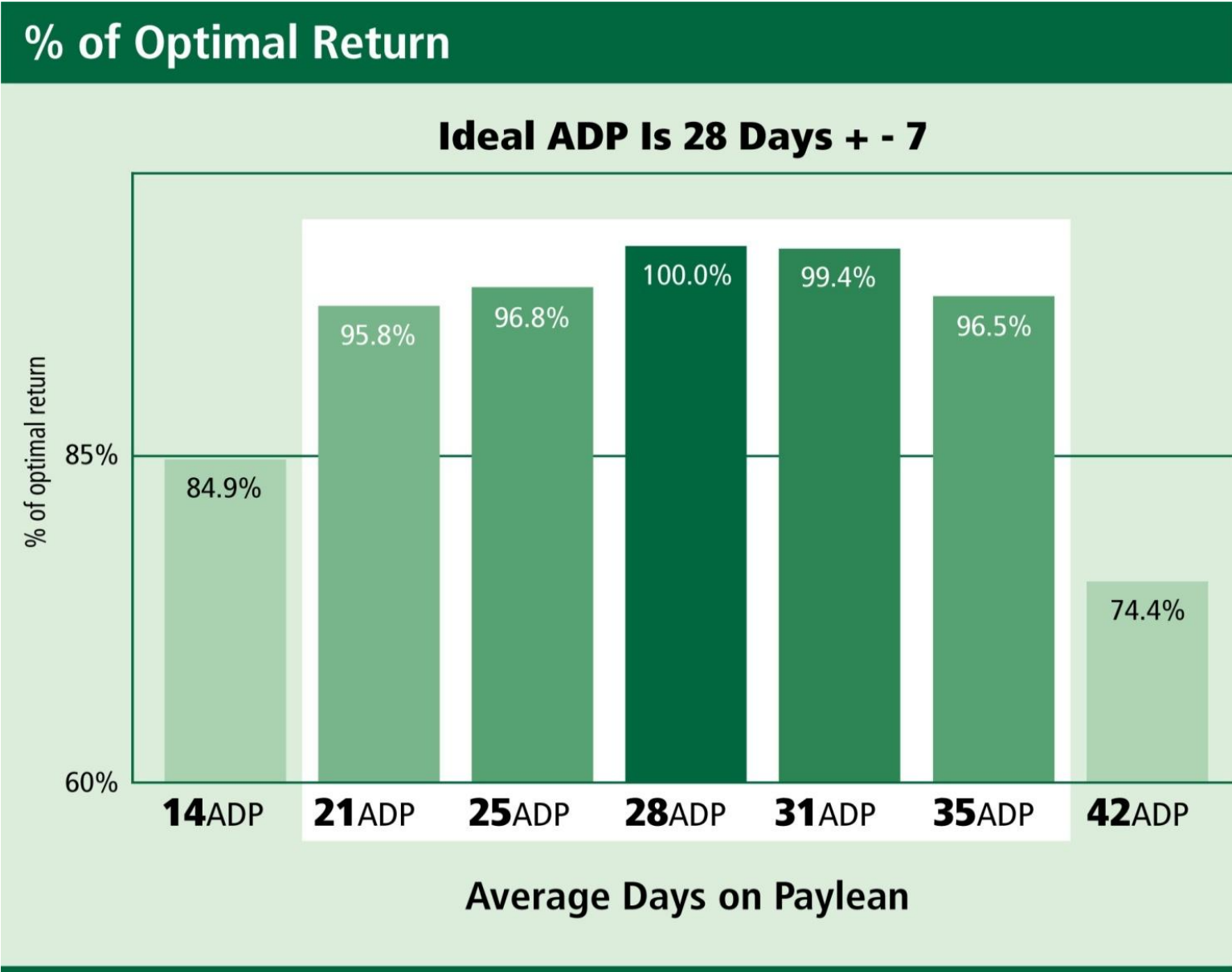
# Using Paylean- DOSE

## Choosing A Dose

- At 10 ppm, benefits include increasing leanness and the quantity of high value meat cuts, in addition to the same live performance benefits of 5 ppm



# Paylean Duration



Schinckel et al. 2003, Purdue University

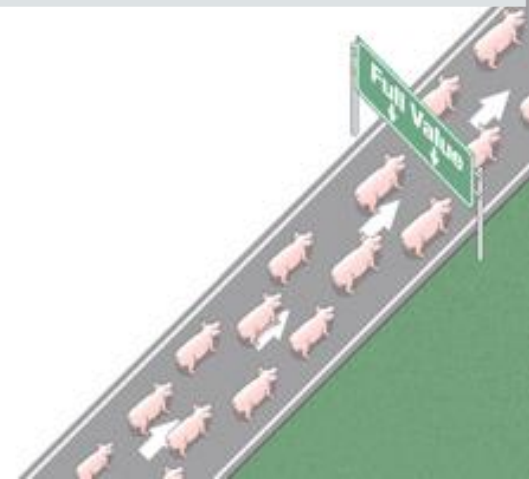
# Using Paylean- Duration

- To achieve an ADP of 28, you may have Paylean in your rations as long as 42 days
- A perfectly acceptable and most profitable duration, according to Purdue research.

**TOTALS**

## EXAMPLE

| NUMBER OF PIGS | X DAYS ON PAYLEAN | = PAYLEAN DAYS  | <b>ADP</b><br>(Total Paylean days/# pigs) |
|----------------|-------------------|-----------------|---|
| A 250          | B 18              | C 4,500         |   |
| A 250          | B 25              | C 6,250         |   |
| A 250          | B 32              | C 8,000         |   |
| A 250          | B 39              | C 9,750         |   |
| A 0            | B 0               | C 0             |   |
| <b>D 1,000</b> |                   | <b>E 28,500</b> | <b>= F 28.50</b>                          |



# Managing Paylean Duration Continuous Flow Tools

## Paylean Start Weight Calculator

ELANCO

**Paylean.**

Get the Paylean Advantage

### Continuous Flow Management

Enter Target Days On Paylean

A. Target Live Market Weight

B. Historical ADG\*

C. Estimated Paylean ADG\* (B x 1.12 = 12% improvement)

D. 28 day Paylean Total kg Gain (target days x C / 1000)

E. Paylean Start Weight kg (A-D)

\* Average Daily Gain (grams) over the Paylean feeding period





# Managing Paylean Duration

## All-in/All-out Management Tools

ELANCO

Paylean.

Get the Paylean Advantage

### Paylean Start Day Calculator

#### All In All Out Management

|                     | Number<br>Of Pigs | X | Days<br>On<br>Paylean | = | Paylean<br>Days |
|---------------------|-------------------|---|-----------------------|---|-----------------|
| 1 <sup>st</sup> Cut | A 100             | B | 7                     | C | 700             |
| 2 <sup>nd</sup> Cut | A 330             | B | 13                    | C | 4290            |
| 3 <sup>rd</sup> Cut | A 380             | B | 20                    | C | 7600            |
| 4 <sup>th</sup> Cut | A 400             | B | 27                    | C | 10800           |
| 5 <sup>th</sup> Cut | A 400             | B | 34                    | C | 13600           |
| 6 <sup>th</sup> Cut | A 340             | B | 41                    | C | 13940           |
| 7 <sup>th</sup> Cut | A 100             | B | 48                    | C | 4800            |
| 8 <sup>th</sup> Cut | A 0               | B | 0                     | C | 0               |

ADP  
(Total Paylean  
days/# pigs)

TOTALS D 2050 E 55730 = F 27

Adjust Days On Paylean in Column B, to achieve desired ADP in column F



# Paylean Pays

## Paylean Pays For Producers

- F:G alone can pay for implementation of Paylean and nutritional costs

| FEED PRICE/TONNE | F:G RESPONSE* |        |
|------------------|---------------|--------|
|                  | 10%           | 15%    |
| \$200            | \$1.80        | \$2.70 |
| \$230            | \$2.07        | \$3.11 |
| \$270            | \$2.43        | \$3.65 |
| \$290            | \$2.61        | \$3.92 |

Assume 90 Kg intake for last 28 day

\* \$/Pig Saved In Feed



# \*Paylean Saves Feed Costs! - (28 Days ADP)

Save \$0.28/pig in feed

5 ppm

+

Weight Carcass Benefits

+

Barn Turns

Paylean Feed Conversion Advantage

No Paylean

- Av'g 28 days feed kg =  $28 \times 3.0 = 84$
- Feed cost =  $\$250/\text{tonne} \times 84 \text{ kg} = \$21.00$
- Total feed cost =  $\$21.00$

With Paylean at 5 ppm

- Av'g 28 days feed kg =  $28 \times 3.0 \times 88\% = 74 \text{ kg}$
- Feed cost =  $\$250/\text{tonne} \times 74 \text{ kg} = \$18.50$
- Nutrition/Paylean costs =  $\$30/\text{tonne} \times 74 \text{ kg} = \$2.22$
- Total Feed cost =  $\$18.50 + \$2.22 = \$20.72$

Elanco

PAYLEAN FEED SAVINGS BENEFIT =  
 $\$21.00 - \$20.72 = \$0.28$

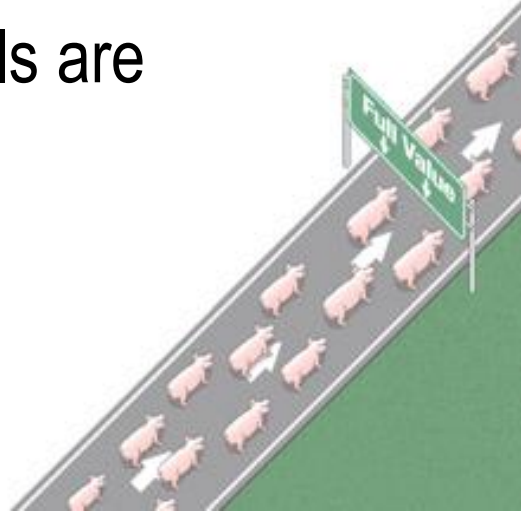


# Using Paylean

## Nutritional Considerations

**All** inclusion rates of Paylean:

- Total dietary lysine should be increased to a final minimum level of 27 grams per head per day to fuel increased protein deposition from Paylean.
- Maintain ratios of other amino acids to lysine
- No change in energy, mineral or vitamin levels are required when feeding Paylean.



# **Effect of Ractopamine in Finishing Swine Diets on Growth Performance, Carcass Measurements and Pork Quality**

**J.F. Patience<sup>1</sup>, P. Shand<sup>2</sup>, Z. Pietrasik<sup>2</sup>, J. Merrill<sup>3</sup>, D.A. Gillis<sup>1</sup>, G. Vessie<sup>3</sup> and A.D. Beaulieu<sup>1</sup>**

**1 Prairie Swine Centre Inc., P.O. Box 21057, 2105 8th Street East, Saskatoon, SK Canada. S7H 5N9.**

**2 Dept. of Applied Microbiology & Food Science, University of Saskatchewan, Saskatoon, SK Canada S7N 5N8**

**3 Elanco Animal Health, Guelph, ON Canada**

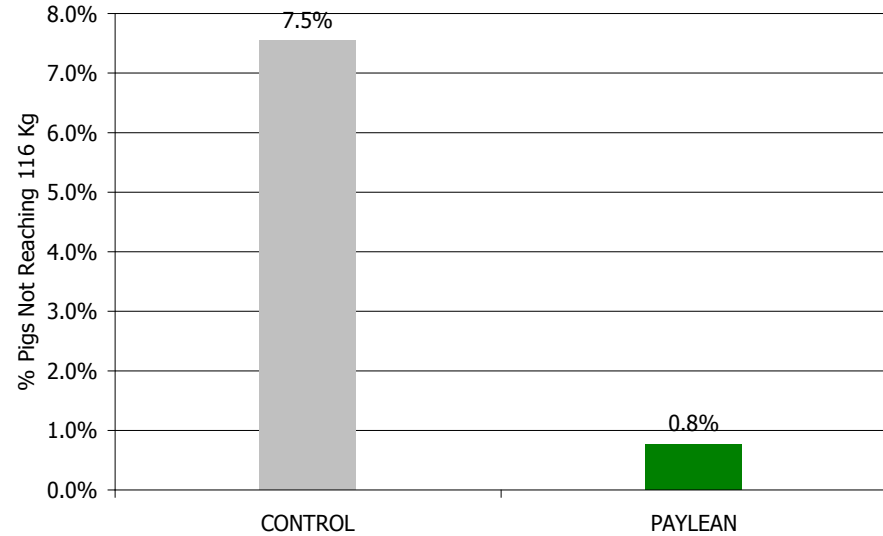
# Reducing Days to Market

Number of tail enders was reduced from 20 to 2 pigs over the barn's normal grow out cycle

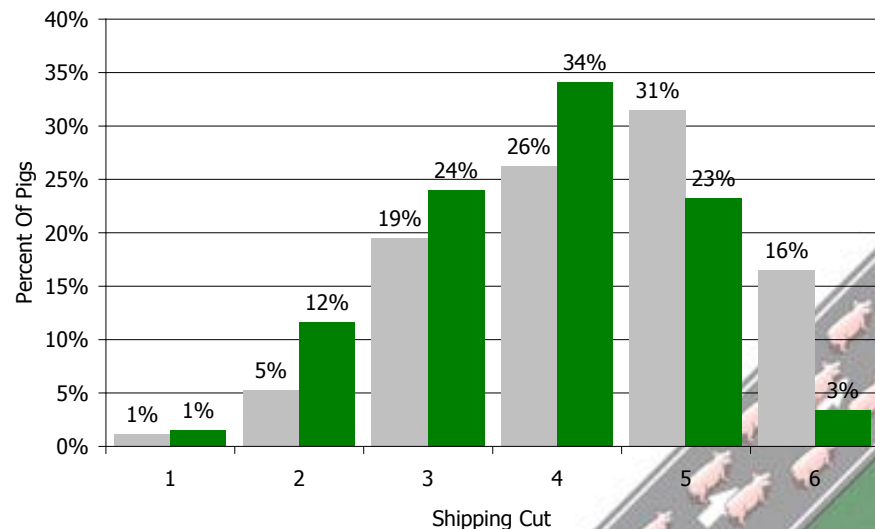
Pigs fed Paylean achieved market weight 4 days sooner than pigs not fed Paylean



% Tail Enders



% Of Pigs Shipped per Cut



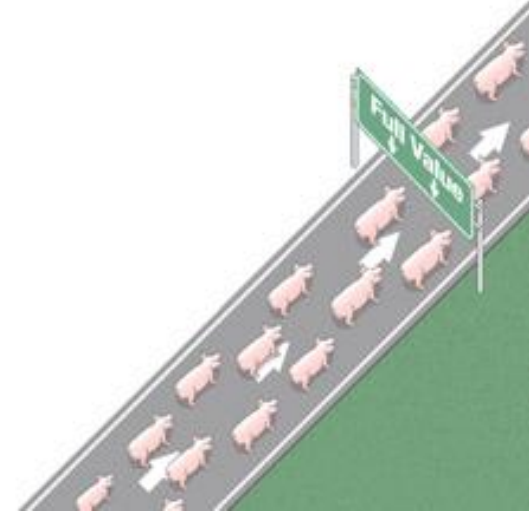
# Effects of Paylean<sup>®</sup> Dose



# Four Trial Summary

Objective:

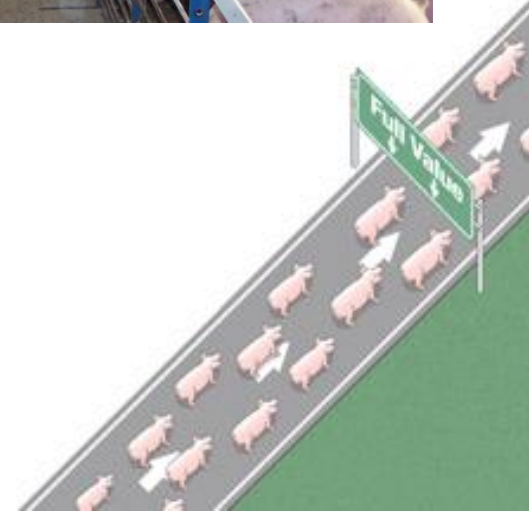
- To conduct a four trial summary to determine the effects of feeding different Paylean doses (0 vs. 5.0 vs. 7.5 ppm) on growth performance traits in market weight hogs



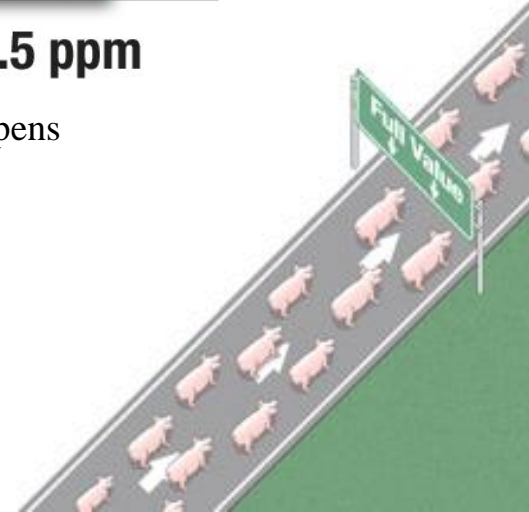
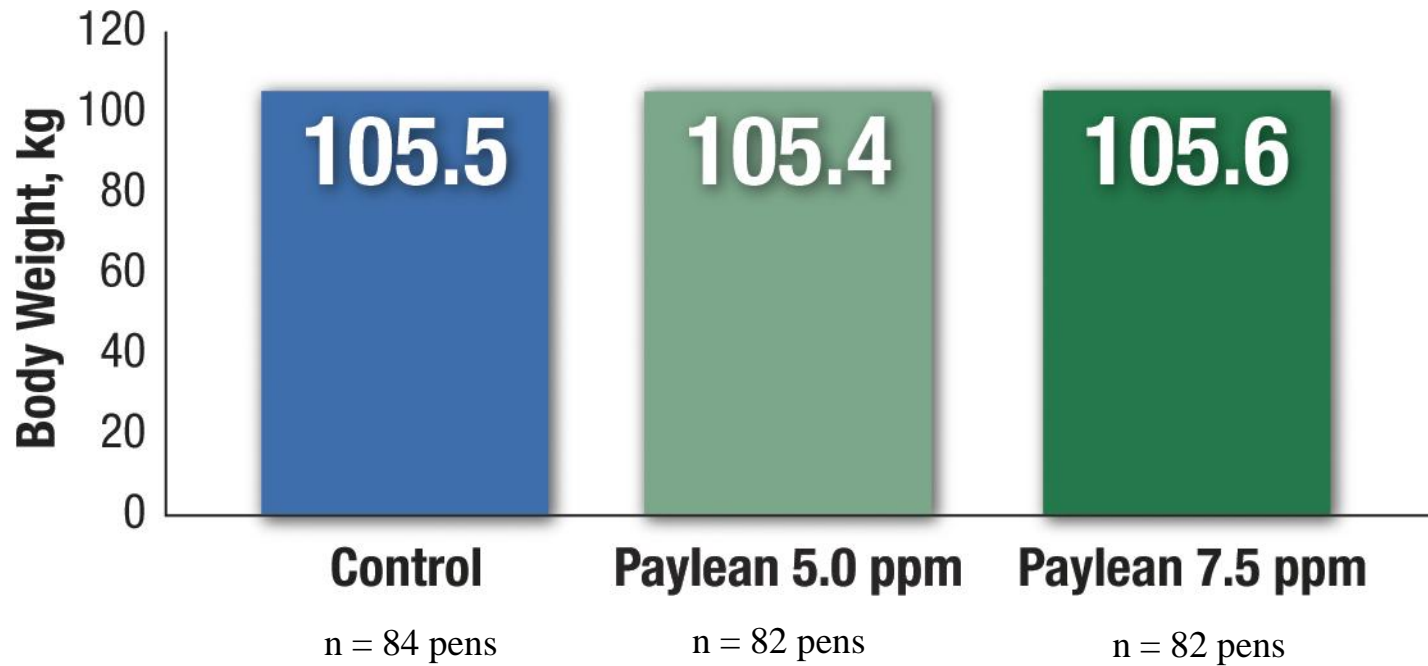


# Growth Performance Traits

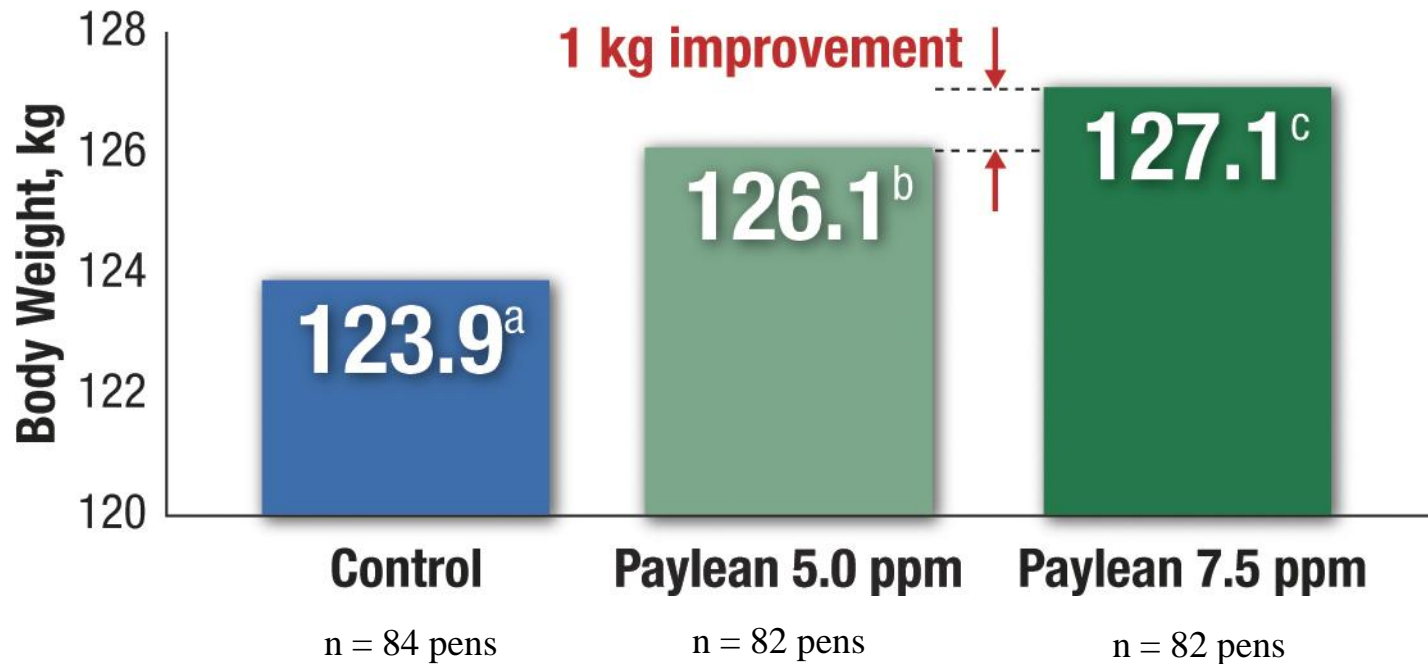
- Body weight
- Total weight gain
- ADG
- ADFI
- FE



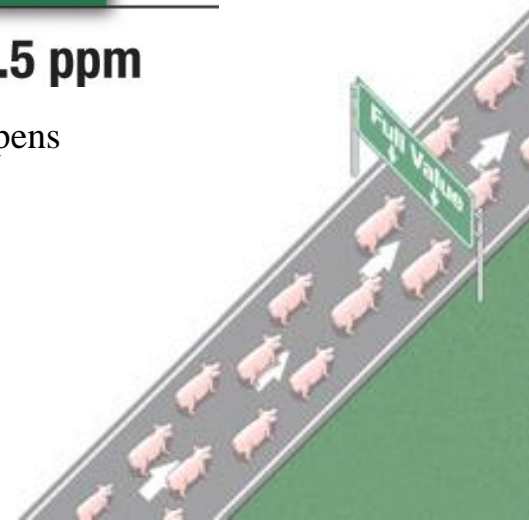
# Initial Body Weight



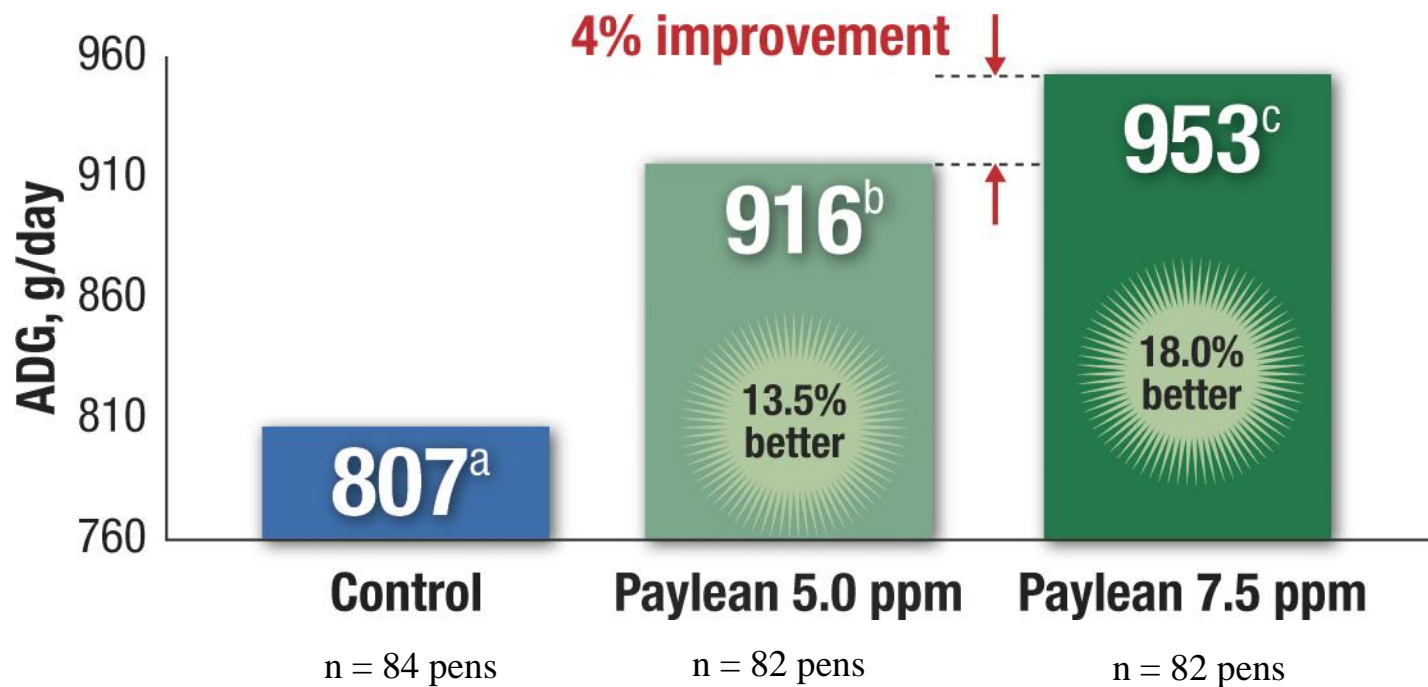
# Final Body Weight



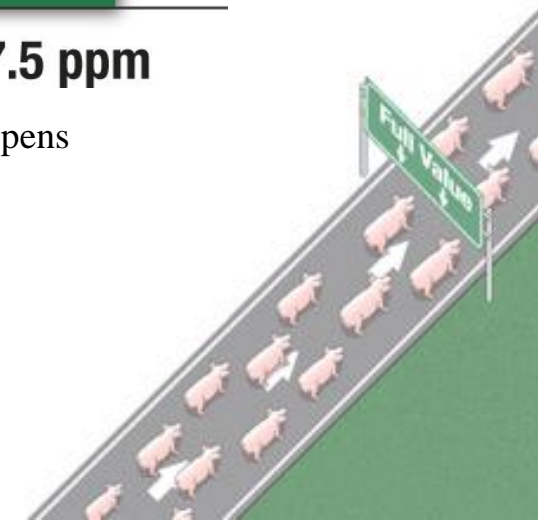
<sup>a,b,c</sup> Means with differing superscripts differ significantly (P<0.05)



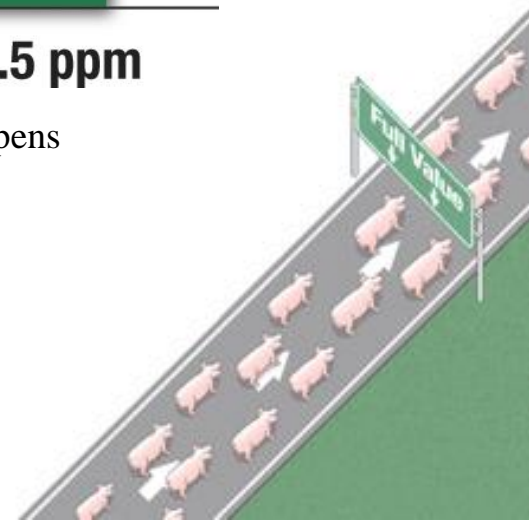
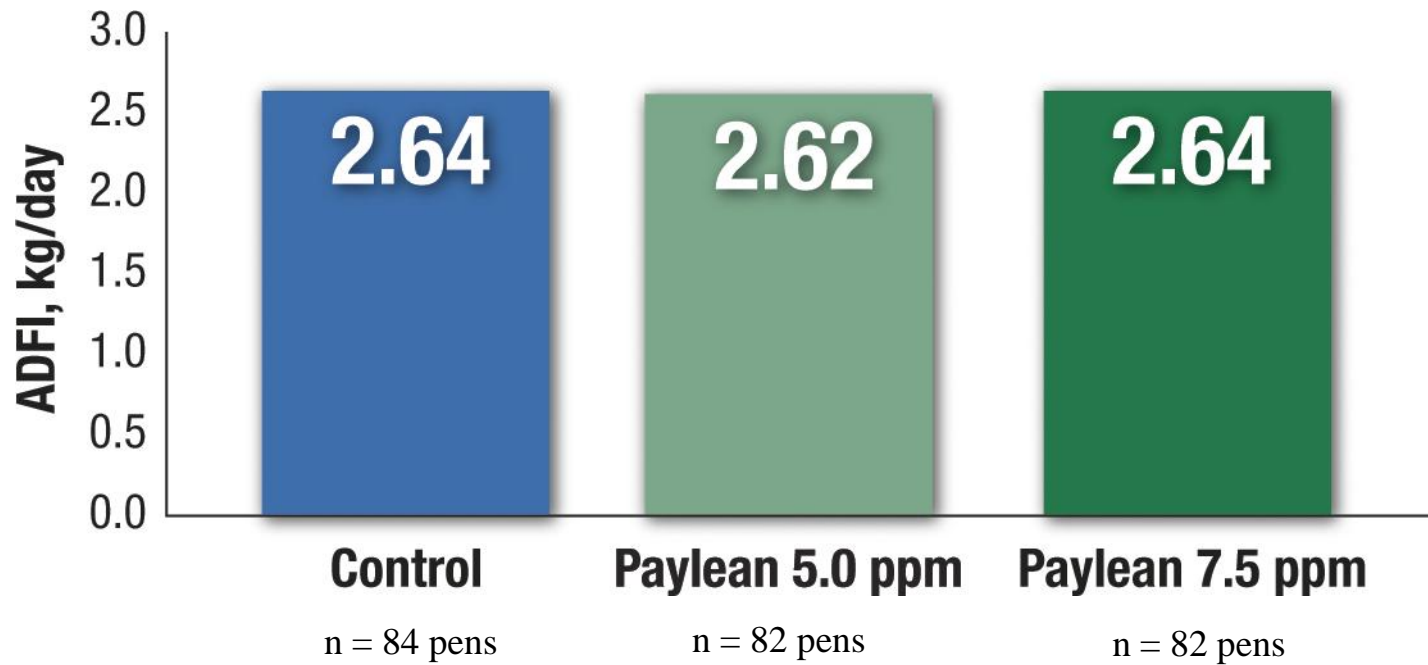
# Overall ADG



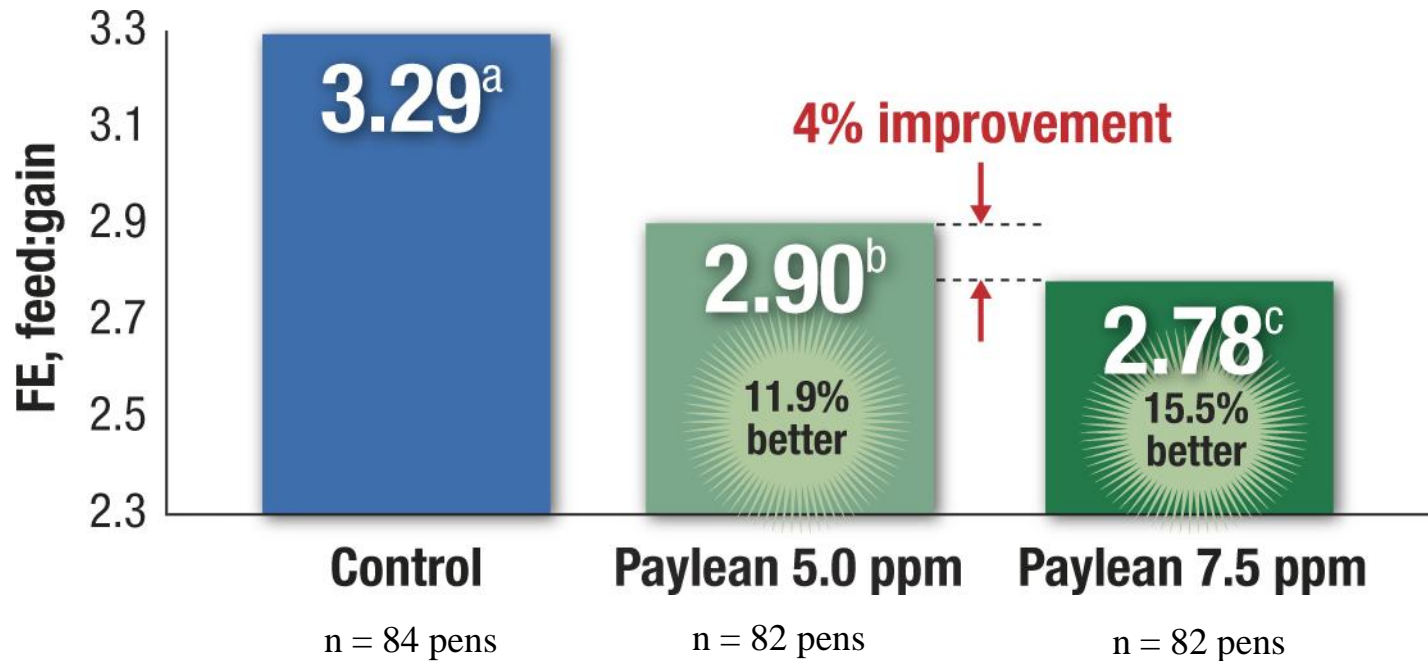
<sup>a,b,c</sup> Means with differing superscripts differ significantly (P<0.05)



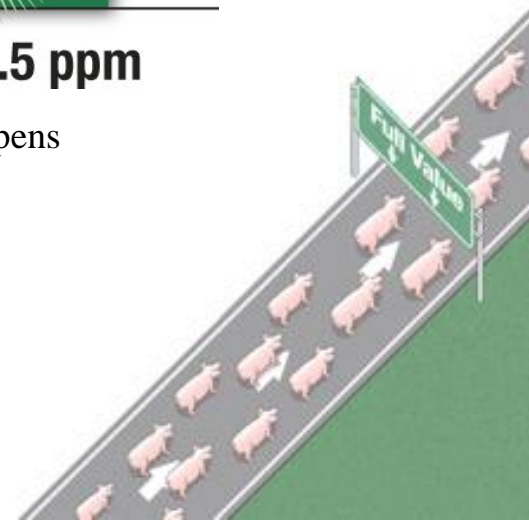
# Overall ADFI



# Overall FE

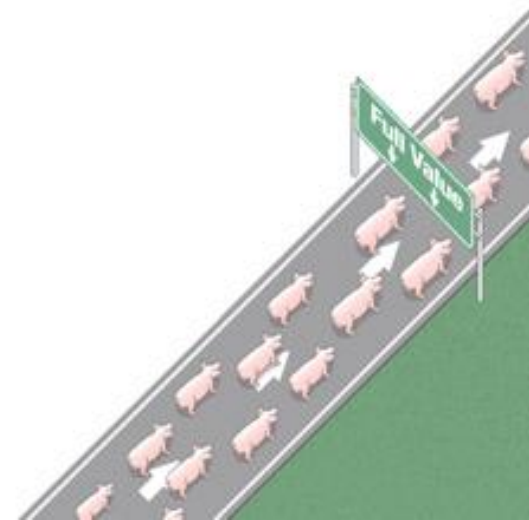


<sup>a,b,c</sup> Means with differing superscripts differ significantly (P<0.05)



# Summary

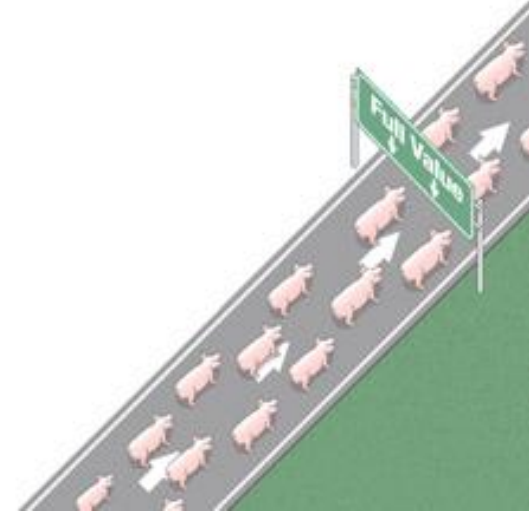
- Results from the four trial Paylean dose summary suggest that increasing Paylean dose from 5.0 to 7.5 ppm results in the following:
- Live Performance:
  - No change in ADFI
  - 4% improvement in FE
  - 4% increase in ADG
  - 1 kg live weight





# heavier = fatter

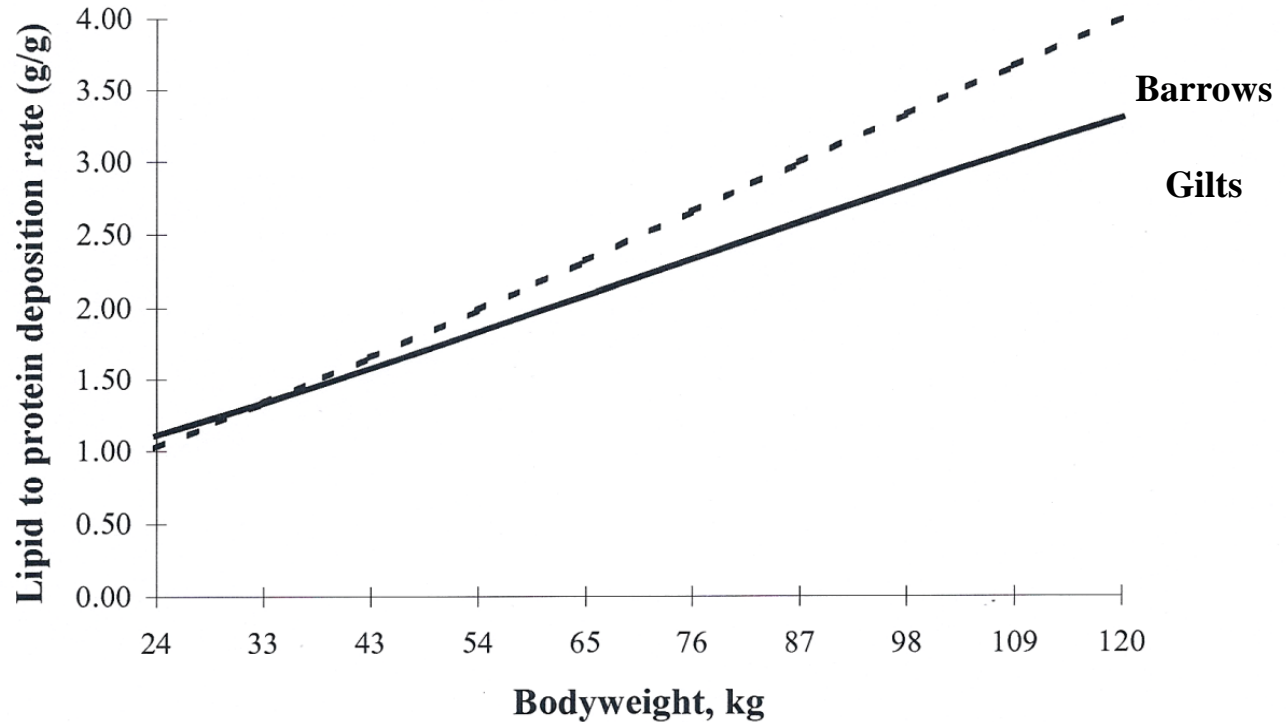
- Naturally, as pigs get heavier, they increase their amount of back fat, and become less lean
- The rate at which this occurs depends on sex and genotype





# Fundamentals of Growth

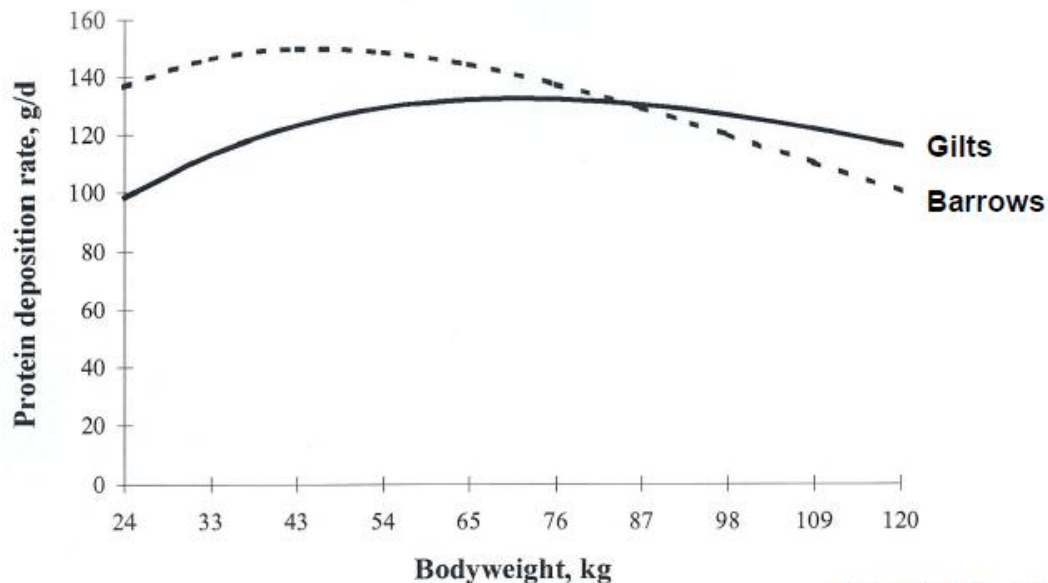
Carcass composition changes as body weight increases. Carcass fat deposition increases with body weight



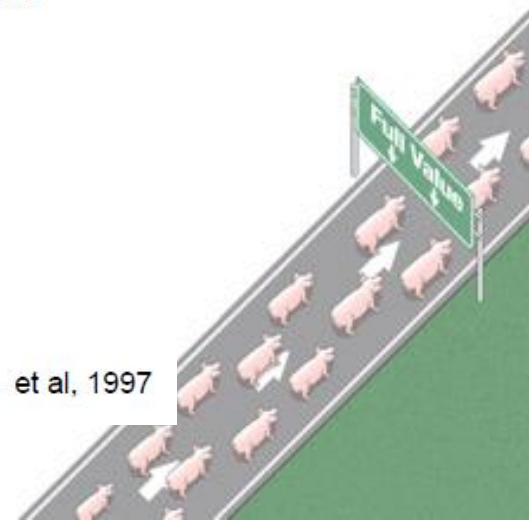
# Fundamentals of Growth

Carcass composition changes as body weight increases. Carcass protein deposition decreases with body weight

The rate of protein deposition is dependent upon gender



Lorschy, M.L. et al, 1997



# Why is fat so important?

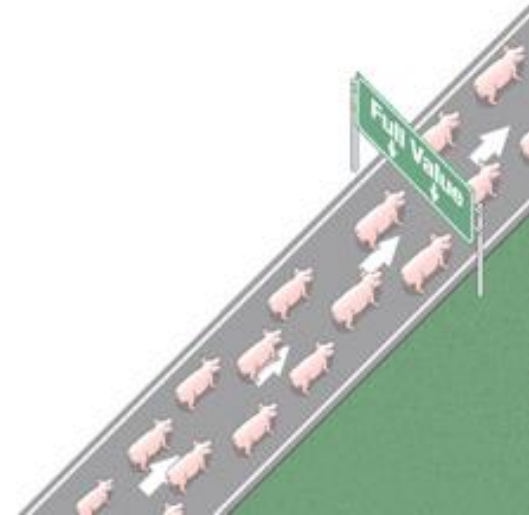
- Lean %  $\uparrow$  a lot with a little  $\downarrow$  in fat  
(e.g going from 18 to 16 mm = 0.8% in lean)
- Lean %  $\uparrow$  little with a big  $\uparrow$  in loin depth  
(e.g going from 60 to 62 mm = 0.1% in lean)
- Backfat is by far the main driver of carcass lean yield

**Elanco**<sup>TM</sup>

$$YLD = 68.1863 - 0.7833F + 0.0689M + (0.0080F * F) - (0.0002M * M) + (0.0006F * M)$$

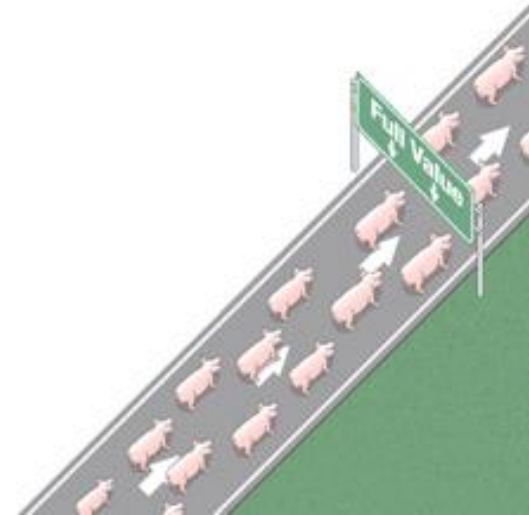
# Impact of changing BF on Yield Class

| Backfat | Loin | Lean yield | Yield class |
|---------|------|------------|-------------|
| 18      | 60   | 60.74      | 4           |
| 17      | 60   | 61.2       | 4           |
| 16      | 60   | 61.7       | 4           |



# Impact of changing Loin on Yield Class

| Backfat | Loin | Lean yield | Yield class |
|---------|------|------------|-------------|
| 18      | 60   | 60.74      | 4           |
| 18      | 61   | 60.79      | 4           |
| 18      | 62   | 60.85      | 4           |



# Maple Leaf Renaissance Grid

- What is different?
  1. Heavier carcasses
  2. Favours leaner carcasses
  3. Favours larger loins

Manitoba Sig4 Renaissance Grid effective Aug 1, 2010 [Core: 96 kg]

| Yield Range | Weight (kgs) | 0.00  | 65.00 | 75.00 | 83.50 | 88.50 | 93.50 | 98.50  | 103.50 | 108.50 | 113.50 | 118.50 |
|-------------|--------------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|
|             | Yield        | 64.99 | 74.99 | 83.49 | 88.49 | 93.49 | 98.49 | 103.49 | 108.49 | 113.49 | 118.49 | 999.00 |
| -           | 64.5 - 99.9  | 25    | 65    | 95    | 108   | 108   | 108   | 108    | 108    | 102    | 95     | 50     |
| 1.5         | 63.0 - 64.4  | 25    | 65    | 99    | 110   | 113   | 113   | 113    | 111    | 104    | 100    | 50     |
| 1.5         | 61.5 - 62.9  | 25    | 65    | 97    | 109   | 112   | 112   | 112    | 110    | 103    | 100    | 50     |
| 1.5         | 60.0 - 61.4  | 25    | 65    | 95    | 108   | 111   | 111   | 111    | 109    | 102    | 95     | 50     |
| 1.5         | 58.5 - 59.9  | 25    | 65    | 92    | 107   | 110   | 110   | 110    | 108    | 100    | 90     | 50     |
| 1.5         | 57.0 - 58.4  | 25    | 65    | 90    | 100   | 105   | 105   | 105    | 100    | 90     | 85     | 50     |
| -           | 0.0 - 56.9   | 25    | 65    | 65    | 65    | 65    | 65    | 65     | 65     | 65     | 65     | 50     |

| Loin Requirement | 0.00  | 35.00 | 40.00 | 45.00 | 50.00 | 55.00 | 60.00 | 65.00 | 70.00 | 75.01 |
|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Requirement      | 34.99 | 39.99 | 44.99 | 49.99 | 54.99 | 59.99 | 64.99 | 69.99 | 75.00 | 99.99 |
| Premium          | -6.50 | -3.50 | -1.50 | -0.50 | 1.00  | 1.75  | 3.00  | 4.00  | 2.50  | 0.75  |

\*minimum 13mm backfat required to receive positive premiums



# Maple Leaf Renaissance Grid

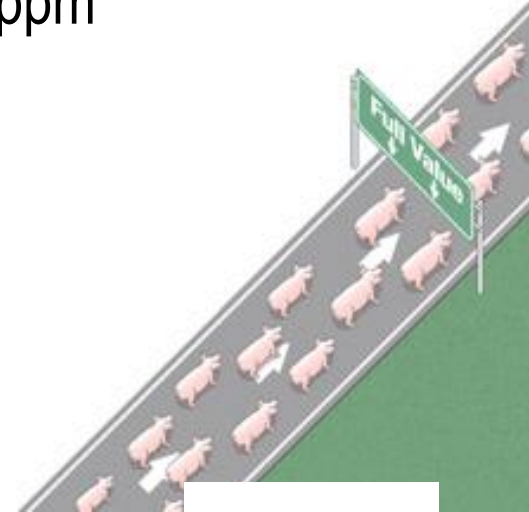
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| 1.5         | 61.6 - 62.9  | 25    | 65    | 97    | 109   | 112   | 112   | 112    | 110    | 103    | 100    | 50     |
| 1.5         | 60.0 - 61.4  | 25    | 65    | 95    | 108   | 111   | 111   | 111    | 109    | 102    | 95     | 50     |
| 1.5         | 58.5 - 59.9  | 25    | 65    | 92    | 107   | 110   | 110   | 110    | 108    | 100    | 90     | 50     |
| 1.5         | 57.0 - 58.4  | 25    | 65    | 90    | 100   | 105   | 105   | 105    | 100    | 90     | 85     | 50     |
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Minimum 13mm backfat required to receive positive premiums

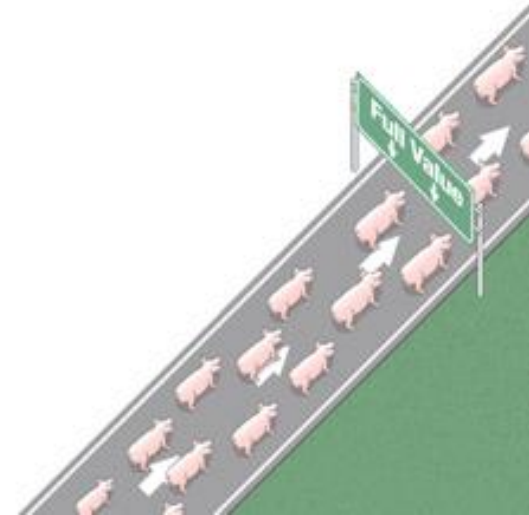
- Paylean
  - Heavier carcasses
  - Leaner carcasses (10 ppm claim)
  - Loins (Prairie Swine Centre Study)
  - Porc Tool illustrates a \$0.76 advantage of Paylean on Sig 3 (\$2.05 net) vs. Renaissance grid (\$2.81 net) at 5 ppm



# Best of the Maple Leaf Grid = 113

| Maple Leaf Grid | Lean Yield Percentage | Carcass Weight |
|-----------------|-----------------------|----------------|
| Sig 3           | 61.8-64.3             | 86.5 – 101.49  |
| Sig 4           | 63-64.4               | 88.5 – 103.49  |

- Hog processors are looking for more lean at heavier weights
- The bottom end weights move up as well





# Heavier = Fatter = Less Lean

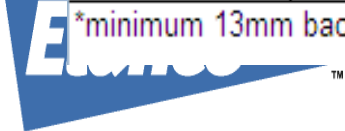
## M4RENA

Manitoba Sig4 Renaissance Revised Transitional Grid (effective Sep 19, 2010)

| Weight (kgs) | 0.01  | 65.00 | 75.00 | 83.50      | 88.50      | 93.50      | 98.50      | 103.50     | 108.50 | 113.50 | 118.50 |
|--------------|-------|-------|-------|------------|------------|------------|------------|------------|--------|--------|--------|
| Yield        | 64.99 | 74.99 | 83.49 | 88.49      | 93.49      | 98.49      | 103.49     | 108.49     | 113.49 | 118.49 | 999.00 |
| 64.5 - 99.9  | 25    | 65    | 95    | 108        | 108        | 108        | 108        | 108        | 102    | 95     | 50     |
| 63.0 - 64.4  | 25    | 65    | 99    | <b>110</b> | <b>113</b> | <b>113</b> | <b>113</b> | <b>111</b> | 104    | 100    | 50     |
| 61.5 - 62.9  | 25    | 65    | 97    | 109        | <b>112</b> | <b>112</b> | <b>112</b> | <b>110</b> | 103    | 100    | 50     |
| 60.0 - 61.4  | 25    | 65    | 95    | 108        | <b>111</b> | <b>111</b> | <b>111</b> | 109        | 102    | 95     | 50     |
| 58.5 - 59.9  | 25    | 65    | 92    | 107        | <b>110</b> | <b>110</b> | <b>110</b> | 108        | 100    | 90     | 50     |
| 57.0 - 58.4  | 25    | 65    | 90    | 100        | 105        | 105        | 105        | 100        | 90     | 85     | 50     |
| 55.5 - 56.9  | 25    | 65    | 85    | 85         | 85         | 85         | 85         | 85         | 85     | 85     | 50     |
| 0.0 - 55.4   | 25    | 65    | 65    | 65         | 65         | 65         | 65         | 65         | 65     | 65     | 50     |

| Loin Requirement | 0.00  | 35.00 | 40.00 | 45.00 | 50.00 | 55.00 | 60.00 | 65.00 | 70.00 | 75.01 |
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\*minimum 13mm backfat required to receive positive premiums



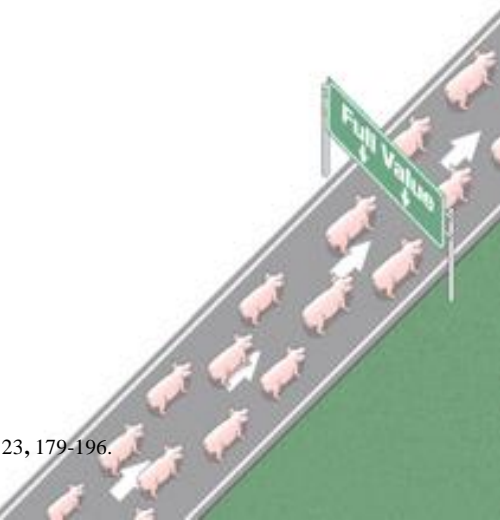
# Paylean and backfat

- Studies demonstrate that Paylean at 5 ppm reduces backfat by 2 to 4%. A 2% change in a pig with 16 mm of backfat means only a 0.32 mm differential.
- Paylean is an important production tool on many farms to help produce pigs at the right weight for the slaughter grid



Apple, J.K., et al. 2007. *Review: Meta-Analysis of the Ractopamine Response in Finishing Swine*. The Professional Animal Scientist, 23, 179-196.

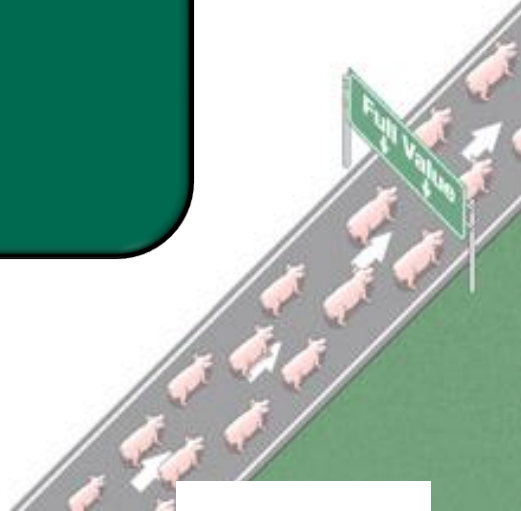
Paradis, M.A. & Armstrong, T.A. 2006. Ractopamine experience: impact on backfat measurements. White paper 1-11.



# Maple Leaf Renaissance Grid

- Should I move from 5 to 7.5 ppm with Renaissance
  - 1kg more pig with no penalty, for .25 ppm more Paylean
  - 1kg more pig = .8 kg more carcass @ \$1.45 and 110 index = \$1.28 more revenue
  - Net feed savings over Paylean cost 5 vs 7.5 ppm = \$0

NET Advantage **\$1.28** additional over 5 ppm



# Elanco Recommendation

Virtually all producers can benefit from Paylean in Canada

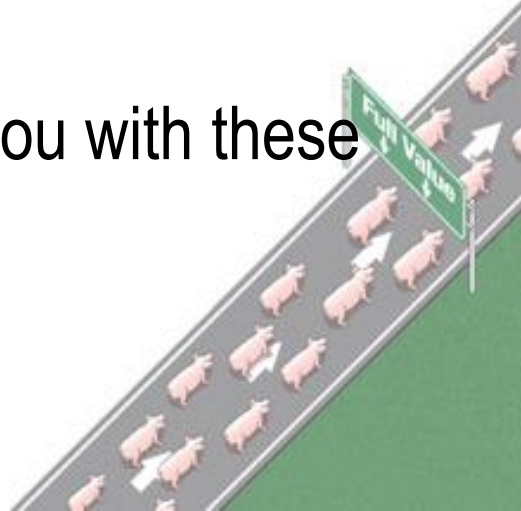
## Step 1.

- Establish your baseline experience at 5 ppm Paylean and confirm the >\$2.00 net return from Paylean

## Step 2.

- Once you are comfortable and established a baseline with 5 ppm, explore the opportunity to capture more with a 7.5 ppm program

Use your nutrition supplier and/or Scott to help you with these steps



# Conclusions

“You can't meet the challenges of today with yesterday's tools and expect to be in business tomorrow.” Anon

Thank you for your attention.

