Hog Finishing Practices that Impact Your Profit Margin

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Government of Alberta

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Freedom To Create. Spirit To Achieve.

Packers want heavier carcasses …

- Dilutes their costs, … ***what happens to yours?***
- You will need more finishing space
- You will **feed** hogs for longer
- Barn turnover rate ↓
- So… **more costs !!**
- ***Will the extra kg of pork pay back $$?***

Stocking Density

Space allocation = k * BW^0.67

Hogs per pen

k	BW, kg	BW, lb	m2/hog	ft2/hog	1 x 2.5 m 3.3 x 8.2 ft	2.5 x 6 m 8.2 x 19.7 ft	4 x 9 m 13 x 29.5 ft
0.035	**30**	66	0.34	3.7	7	**44**	105
0.035	**40**	88	0.41	4.5	6	**36**	87
0.035	**50**	110	0.48	5.2	5	**31**	75
0.035	**60**	132	0.54	5.9	5	**28**	66
0.035	**70**	154	0.60	6.5	4	**25**	60
0.035	**80**	176	0.66	7.1	4	**23**	55
0.035	**90**	198	0.71	7.7	4	**21**	50
0.035	**100**	220	0.77	8.2	3	**20**	47
0.035	**110**	242	0.82	8.8	3	**18**	44
0.035	**120**	264	0.87	9.3	3	**17**	42
0.035	**130**	287	0.91	9.8	3	**16**	39

Crowding

Crowding

1. **Feed intake** ↓0.75% for every 3% below 'k'

   RESTRICTED floor space + limited feeder space = **additive** effects

2. **Weight gain** ↓1% for every 3% below 'k'
3. Feed conversion –unchanged
   - Feeding fibrous diets??
4. Loin depth -unchanged
5. **Backfat ↓**
   - Reflects feed restriction
6. **Gilts** worse than barrows

Extra Days in the Barn

Carcass, kg	78% dressed	Weight gain, kg	EXTRA DAYS IN THE BARN				
	Live, kg		Assuming kg gain / day				
95	121.8		0.80	0.85	0.90	0.95	1.0
100	128.2	6.5	**8.0**	**7.5**	**7.1**	**6.7**	**6.4**

crowding

- Gilts grow slower, stay longer than barrows
- $ Cost/pig place/barn turn increases
- ↓turn around = wash + disinfect vs. repairs

Feed Cost to Achieve 6.5kg Heavier Live Market Weights

	Kg feed/kg gained					
$/1000 kg feed	3.0	3.2	3.4	3.6	3.8	4.0
200	$3.84	$4.10	$4.35	$4.61	$4.86	$5.12
225	$4.32	$4.61	$4.90	$5.18	$5.47	$5.76
250	$4.80	$5.12	$5.44	$5.76	$6.08	$6.40
275	$5.28	$5.63	$5.98	$6.34	$6.69	$7.04
300	$5.76	$6.14	$6.53	$6.91	$7.30	$7.68

- **Adjust feeders as pigs are removed from pens**

Packers Want Barrows

Yield Class Number	Estimated Lean Yield Percentage	0 - 67.9 kg	68 - 72.9 kg	73 - 77.9 kg	78 - 82.9 kg	83 - 87.9 kg	88 - 92.9 kg	93 - 97.9 kg	98 - 102.9 kg	103 - 107.9 kg	108 - 111.9 kg	112 - 116.9 kg	117 - 999 kg
1	64.3 - 100	10	10	50	75	95	95	100	100	100	100	100	50
2	63 - 64.29	10	10	50	75	95	103	109	109	107	105	100	50
3	61.8 - 62.99	10	10	50	75	95	108	113	113	111	107	100	50
4	60.7 - 61.79	10	10	50	75	95	110	116	116	113	109	100	50
5	59.6 - 60.69	10	10	50	75	95	110	116	116	113	109	100	50
6	58.6 - 59.59	10	10	50	75	95	109	114	114	111	108	95	50
7	57.7 - 58.59	10	10	50	75	95	103	109	109	107	105	90	50
8	56.9 - 57.69	10	10	50	60	85	95	104	104	95	90	80	50

Backfat depth accounts for **over 90% of the variation** in the lean yield percentage calculation. https://www.westernhogexchange.com/gradinggrids

Focus on Backfat

	Scenario 1		Scenario 2		Scenario 3	
Live, kg	121.8	128.2	121.8	128.2	121.8	128.2
Carcass, kg	95	100	95	100	95	100
Dress, %	0.78	0.78	0.78	0.78	0.78	0.78
Lean, mm	**60**	**60**	**62**	**62**	**62**	**62**
Fat, mm	**22**	**20**	**20**	**18**	**18**	**16**
Yield, %	59.0	59.9	60.0	60.9	60.9	61.8
Class	**6**	**5**	**5**	**4**	**4**	**3**
Index	114	116	116	116	116	113
100 index $/kg	1.5	1.5	1.5	1.5	1.5	1.5
$/hog	$162.45	$174.00	$165.30	$174.	$165.30	$169.50
Difference	**$11.55**		**$8.70**		**$4.20**	

vs. $1/day/hog worth of feed, housing x 7 days

Pay back ??

Topping Out Pigs

- **Model** => changing pig space allotment on ROE
  - Reduce breeding herd size was the least preferred
  - Reduce pig flow by selling weaners was not good
  - Pricing grid had **a huge impact** on marketing light pigs

Scenarios assuming 2600 sows	As pigs reach 262 lbs mkt wt	Market 1 pig at 'k'	Market 2 pig at 'k'	Market 4 pig at 'k'	Sell weaners to reduce 'k'	Reduce sow inventory to meet 'k'	Construct finishing space to meet 'k'
Return on equity	15%	12%	11%	7%	9%	1%	13%
Profit margin	7%	5.5%	5%	3.5%	4.3%	0.6%	7%
Finishing barns/y	17	17	17	17	17	17	20

Buhr, University of Minnesota

Fibrous Feedstuffs on Dressing %

Live weight constant:

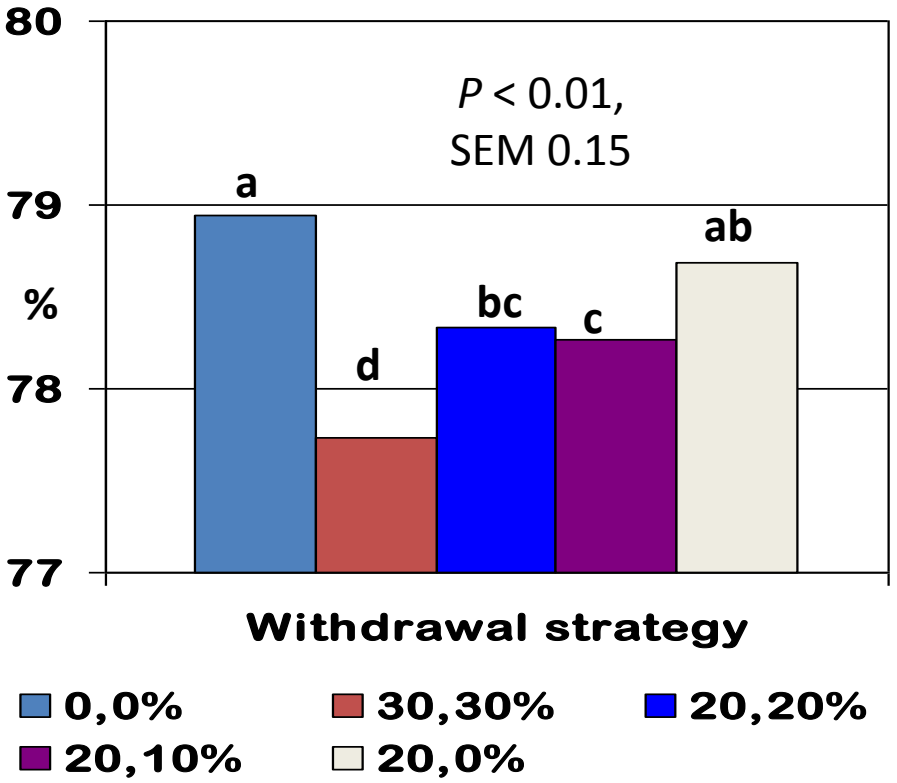
Live pig, kg	Dressing	Carcass, kg	$ 1.70 /kg pork	110 index
125	79%	98.75	$ 167.88	difference
125	78.5%	98.13	$ 166.81	$ -1.06
125	77%	96.25	$ 163.63	$ -3.19

Carcass weight constant:

Live pig, kg	Dressing	Carcass, kg	Extra days in barn	$ 0.25 /kg feed	4 kg/feed/day
125	79%	98.75			difference
126	78.5%	98.75	1.5		-$ 1.50
128	77%	98.75	4		-$ 4.00

- Pig space occupied for longer not accounted for

DDGS Withdrawal on Dressing %



- Reduce or withdraw fibrous feedstuffs from finisher diet

Feed Withdrawal

- Fasting + lairage 16 – 18h
- Lairage at abattoir
- Reduce contamination
- Hunger-related drinking

Cost $ of undigested feed in gut at slaughter					
	$/tonne of finisher				
	200	**225**	**250**	**275**	**300**
2 kg	0.40	0.45	0.50	0.55	0.60
4 kg	0.80	0.90	1.00	1.10	1.20
6 kg	1.20	1.35	1.50	1.65	1.80
8 kg	1.60	1.80	2.00	2.20	2.40
10 kg	2.00	2.25	2.50	2.75	3.00

Fasting on farm, short lairage vs. No fasting on farm, long lairage

- ***You are in control*** !
- Keep hogs from same pen together in loadout and truck compartment
- Mixing and fighting minimized until hogs get to the abattoir

- Hogs have a long haul …
- You have no way of fasting hogs on farm at the loadout or designated finishing pens without feeders
- Death and injury increase with extended lairage
- **You have NO control** when hogs will be slaughtered. Could be more than 24h. Carcass traits must likely will be affected

Know Your Packer's Hog Receiving Policy

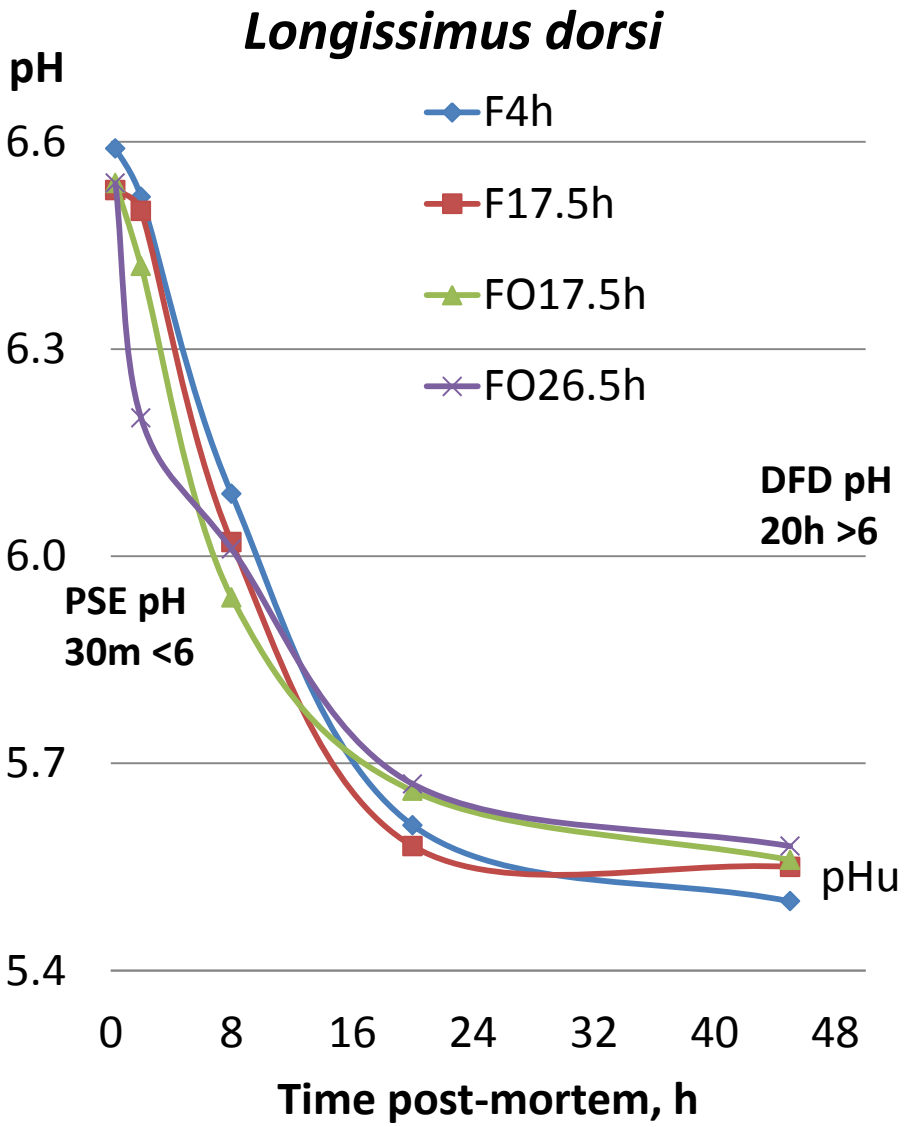
- *"Producers are well aware and informed that if hogs are delivered before 10:30 AM, these can be guaranteed to be slaughtered the same day. This is not a new policy. It has existed for years".*

- *"Depending on the circumstances, and based on deliveries time and required lairage (min. 3h), some hogs delivered after 10:30 AM could get slaughtered the same day,* ***but there are no guarantees****".*

Ron Landry, WHE

Fasting on Pork Quality

Think exports !



- Glycogen => lactate => acidification
- PSE rapid pH fall at high temperature
- DFD high pHu, glycogen exhausted
- **Prolonged fasting of pigs …**

✓**reduced drip loss (♂ lower than ♀)**

✓**darker colour (♂ lighter than ♀)**

✓**improved tenderness (♂ juiciness than ♀)**

- Liver glycogen depleted by 18h
- Fighting accelerates glycogen depletion
- Carcass wt reduced >24h

Sterten et al. 2010. Meat Science 84:93-100
Sterten et al. 2009. Meat Science 83:351-357

10 strategies to follow…

- **Short-term:**
  1. Top 1st pull of pigs at lighter wt column within core
  2. Implement proper fasting prior to slaughter
  3. Withdraw fibrous feedstuffs from finisher diet
  4. Adjust feeders as pigs are removed from pens
  5. Know your packer's hog receiving policy; review contract
- **Mid-term:**
  6. Compare scenarios: extra feed cost (Paylean™?) vs. extra revenue => ***it should be profitable!!***
  7. Light grid choices? Ship to local, small abattoir
- **Long-tem:**
  8. Build on-farm lariage pens with drinkers
  9. Build more on-site finishing pens
  10. Minimize 'crowding days' to 1st pull to slaughter to maximize daily feed intake and weight gain