


Improving Production Efficiencies to Manage High Feed Costs

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Who are we talking to?

- Pig Owners
 - Barn management decisions
 - Diet content decisions
- Contract Growers
 - Some barn management decisions

How much feed goes thru a feeder per year?

- 2.8 turns/yr
- 230 lb gain/pig (55 in wt; 285 out wt)
- 2.8 f/g
- 33 pigs/pen and 2 pens/feeder


119,000 lbs
59.5 tons

Pig Shoulder Width

- Petherick, 1983

$$\text{Width} = 0.064 \times \text{BW}^{0.33}$$


Wt, kg	Width, mm	X 1.1	Wt, lb	Width, in	X 1.1
20	170	187	44	6.8	7.5
40	220	242	88	8.5	9.3
60	250	275	132	9.7	10.7
80	275	302	176	10.7	11.8
100	290	319	220	11.5	12.7
125	315	346	275	12.4	13.6



6 'hole' feeder – each 'hole' 6"x6"
OK for 35 lb pig but ? for 55 pig

Wt, lb	Width, in	X 1.1
44	6.8	7.5
88	8.5	9.3
132	9.7	10.7
176	10.7	11.8
220	11.5	12.7
275	12.4	13.6

New Feeders aren't perfect



4 'hole' 50" feeder = 12.5"/hole
5 'hole' 60" feeder = 12"/hole
6 'hole' 70" feeder = 11.7"/hole





Feeders

- Recommended Stocking Densities
 - Quality Dry Feeder **10 pigs/space**
 - Wet/dry **>12 pigs/space**
 - Tube **?**

PIC Recommendations -
11 pigs/side/drop
50 mm/pig trough length/pig

- Pellets vs meal - pigs eat faster on pellets

Wet/Dry vs Dry Feeders

- **Advantages**
 - More pigs per feeder space (pigs eat faster and don't in/out to water)
 - Higher feed intake in hot weather
- **Disadvantages**
 - Fatter carcasses
 - Same to slightly poorer feed conversion
 - Salt damage to concrete
 - Can't be used to start weaned pigs


Adjust Feeders



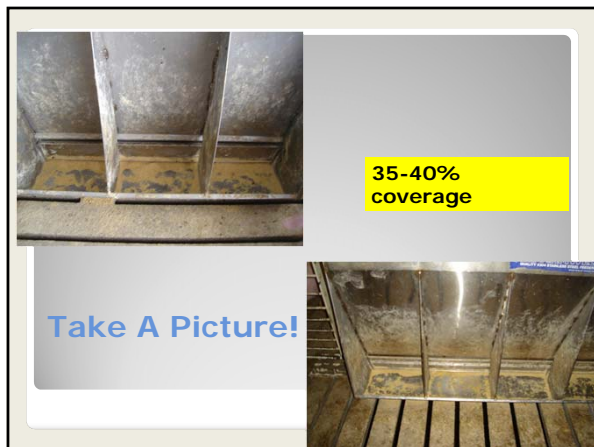
Feeder adjustment conclusions

November, 2008

- On the basis of this data, our recommendation is for feeders to be adjusted to allow feed to cover slightly more than half of the feed pan without feed accumulating in the corners.



K-STATE



Post Your Picture in Your Barr



First Week (Thin Layer) Week 2-3 (50-60%)

Finishing Feeder Adjustments

Week 4-6 (60-70%) Final Adjustment (~25%)

TCS-INBFA AIRSTREAM 2

11.9

12/02/2004

This will slow pigs down



Daily Gain

- Feeders too 'tight'
- Avoid Out-of-Feed events in young pigs
 - Lost gain from OOF in young pigs never made up
- Utilize all pens in the barn
 - All pens have same pig numbers
 - Each 3% change in space = 1% change in gain
- What about summer heat management?

Appropriate sick pen usage?



Appropriate sick pen usage?



Reducing the number of culls

- Good 'chores' vs bad 'chores'
- Sick pen details

Sick Pen Details

- Is your sick pen a 'waiting to die' pen?
- What have you done to make it the best pen in the house?
 - Location (not in a corner)
 - Heat lamp in winter?
 - What about drafts?

Feed monitoring is finally happening

- Feed auger runtime
 - Taught me out-of-feed
 - Dicamusa.com
- BinTrac
- Feedlink from AP

- Tracking of feed to bins part of a HACCP protocol
 - BarnWatch

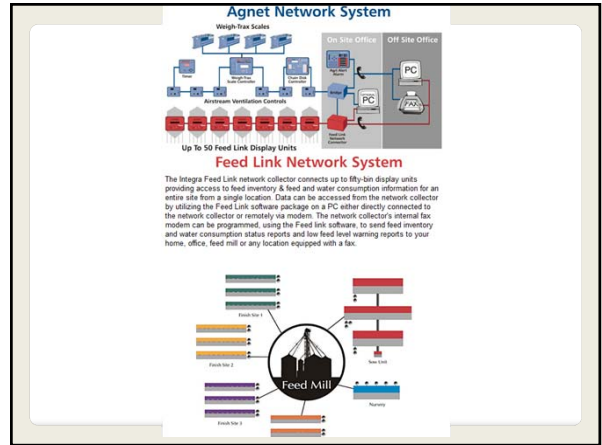
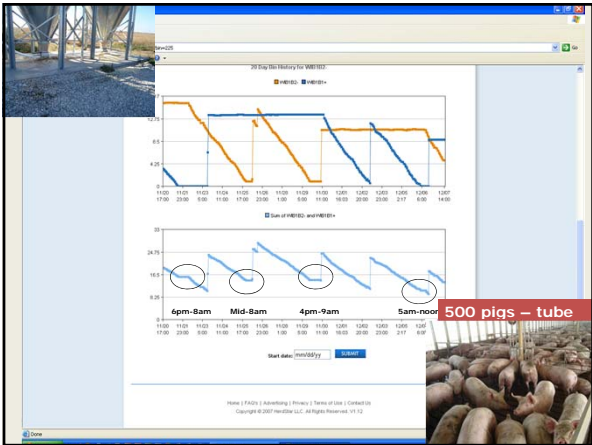


Monitor daily feed levels in bins with this easy to set up and use, collaborative bin tracking solution from NOVUM Corporation.


FIND OUT MORE >>



www.bintrac.com



Name	Weight (lbs)	Cmsmpts Yesterday	Difference	Cmsmpts Avg (days)	Projected Empty
Room 1	5780	3620	+19%	3040	01/25/2011 9:37 PM
Bin #1	5780	3620	+19%	3040 (T)	01/25/2011 9:37 PM
Room 2	9300	3020	+11%	2720	01/27/2011 10:14 AM
Room 3	5100	3680	+8%	3420	01/25/2011 1:11 PM
Room 4	7820	3320	+6%	3120	01/26/2011 12:09 PM
Room 5	10660	3340	+16%	2880	01/27/2011 5:00 PM
Room 6	3120	3420	+11%	3080	01/25/2011 1:05 AM
Room 7	1400	3400	+13%	3000	01/24/2011 12:57 PM
Room 8	1900	3460	+10%	3140	01/24/2011 2:40 PM
Room 9	8320	740	-57%	1740	01/29/2011 6:45 PM



BARNWATCH

Real-time Farm Management

MAIN MENU
With a simple click of the mouse farm personnel can easily record and transmit daily production information to a central location.

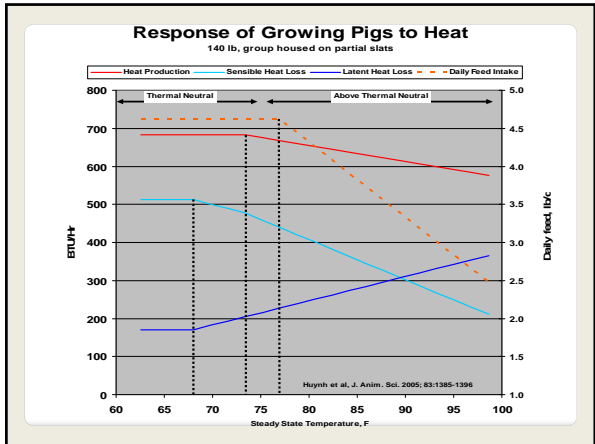
TREATMENTS
Daily treatment records keep management staff in the loop with herd health.

BIN INVENTORIES
Confirmation of feed deliveries and bin inventories are now an EASY task...

WEB DATA
Communicating schedules and production information to farm staff has never been easier. BarnWatch can be configured to replicate your companies production web site. This priceless feature now extends your communication from the office, to your facilities.

Watching Production...Maximizing Profits

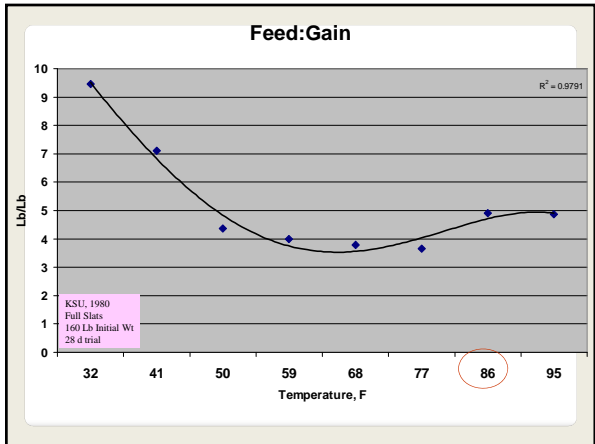
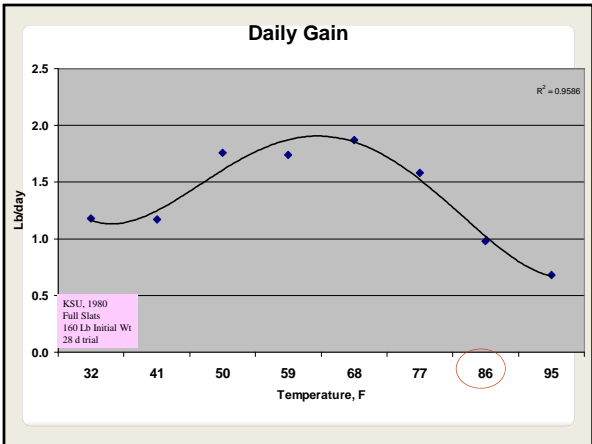
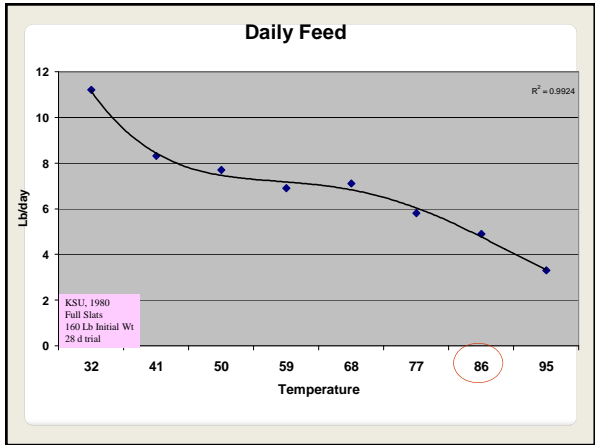
Management for Summer Heat in Finishing Facilities

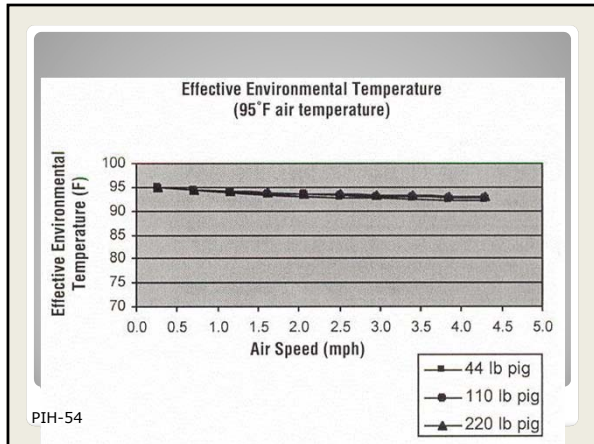
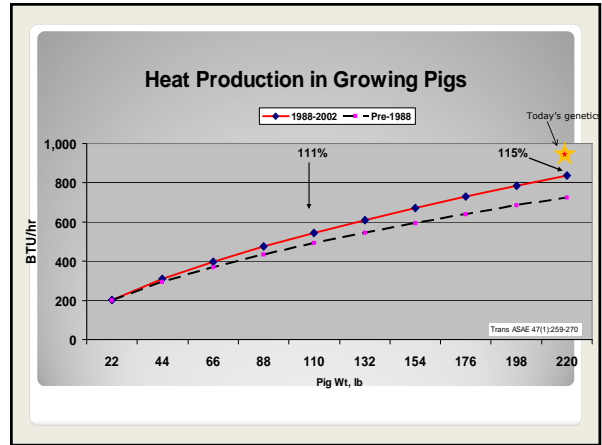
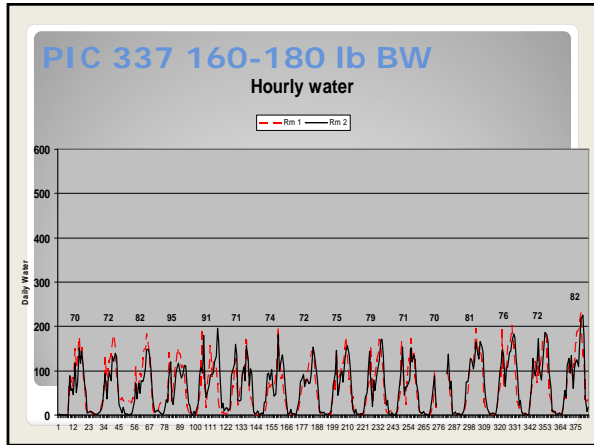
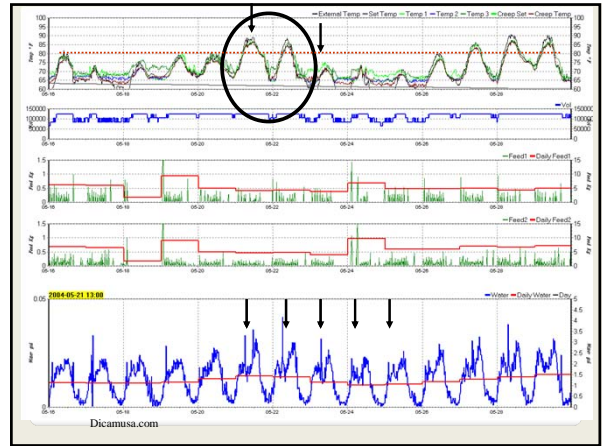
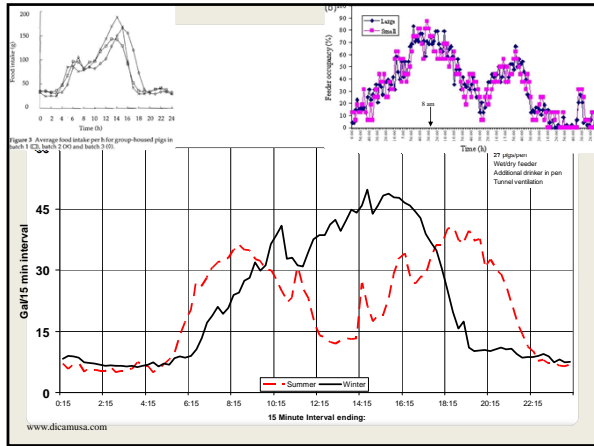


Group housed growing pigs

Partial slats – 140 lb

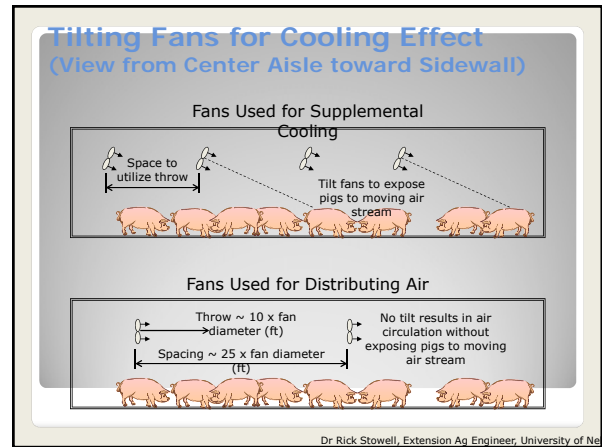
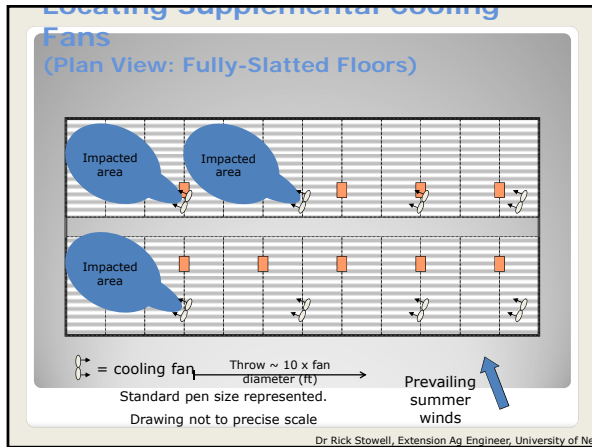
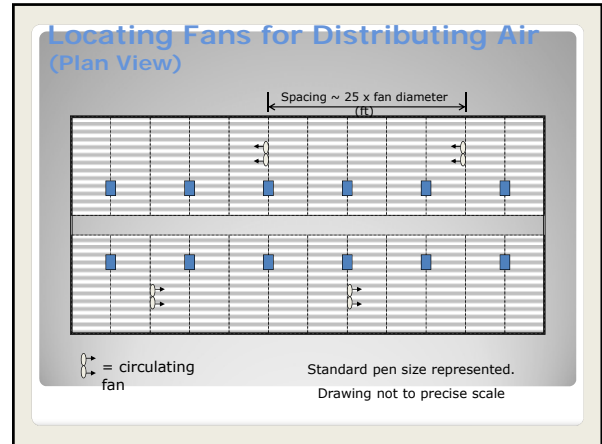
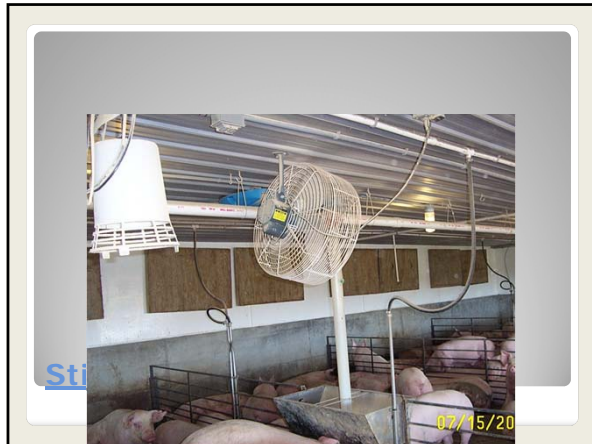
- **95 F** – skin temp up
- **80 F** – rectal temp up
- **78 F** – ADF declines
- **73 F** – Respiration increases and heat production declines





Types of Heat

- **Sensible Heat** – dry bulb temperature
 - Measured with thermometer
- **Latent Heat** (evaporation)
 - Heat involved in holding water vapor in air
 - ~1050 BTU/lb water



When to turn on stirring fans?

- **Cooling: 3-5°F lower** than drip cooling or sprinkling (75-78°F)(+15 controller set point)
 - Goal is to first use draft to cool the pigs, then add water for evaporative cooling.
- **Poor air distribution:** some fans can always be on, but they must be re-oriented (along ceiling) for colder weather.

As Temperature Increases

- Increasing amount of heat production must be transferred by latent heat
- Evaporation of water is key to latent heat transfer

Sprinklers for Grow-Fin

- Start sprinkling at **80-85 °F** & wet all pigs – goal:
 - 2 min max ON-time
 - 60% pen coverage
- Once pigs are wet:
 - STOP** sprinkling
 - allow water to evaporate
- If continually wetting:
 - relative humidity will rise
 - evaporation will decrease
 - hoof integrity issues
 - respiratory?



Controller settings

- Tunnel**
 - +20-22 F ON
- Curtain**
 - +18F ON
- Max 2 min ON – start with 15-20 OFF



Timers on sprinklers allow for drying


Sprinkler vs Fogger

80 F set point

	Control (no cooling)	Fogger (small droplets, always on)	Sprinkler (1 on, 29 off)
ADG, lb (I)	1.15	1.28	1.54
ADG, lb (II)	1.44	1.56	1.74

(I) – 140 lb on test wt, 56 d trial
(II) – 150 lb on test wt, 42 d trial
K State, 1983

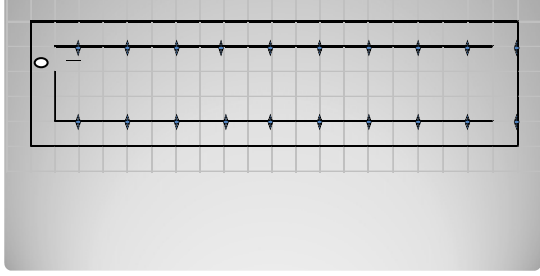
Sprinklers

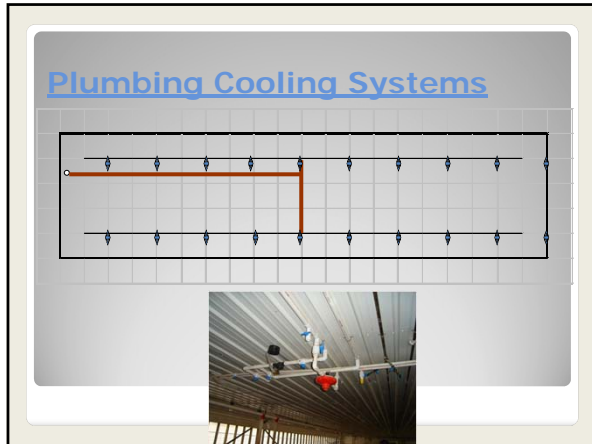


Curtain Barns
Cone nozzle

Tunnel Barns
Flat Fan nozzle
Parallel to Air Flow

Plumbing Cooling Systems



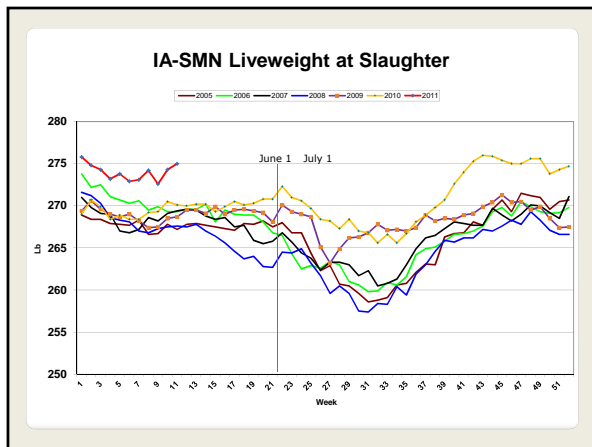


What about using Koolcells in tunnel finishing?

- 240 lb pigs – week before first sale
- Pad velocity – 400 fpm – means pad area is 2x current tunnel curtain area
- Aerotech 6" pad

<u>Outside Conditions</u>				<u>Pad Exit</u>	<u>Total Estimated CFM/Pig</u>	
<u>Dry Bulb</u>	<u>Wet Bulb</u>	<u>Dew Point</u>	<u>% RH</u>		<u>Temp F</u>	<u>85F Room</u>
85	70	63	48	74	73	50
85	75	71	62	78	117	67
90	70	61	38	76	90	58
90	75	69	50	79	137	73
95	70	57	28	77	102	62
95	75	67	40	81	200	102

What are you doing to sell more weight this summer?



- 55 lb pigs placed next week sell Aug 1
- May 24 is 8 wks from today
 - Pigs sold then weigh 125 lb already
 - On March 25, June hogs closed @ \$103.70
 - Every extra pound is worth \$0.78

"Even if you're on the right track, you'll get run over if you just sit there."

-- Oliver Wendell Holmes Sr. (1809-1894)

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