



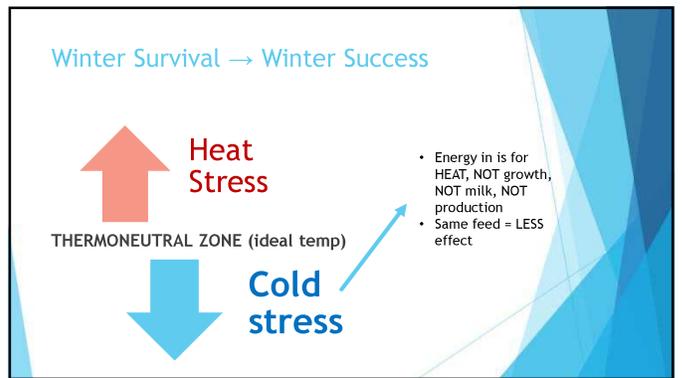
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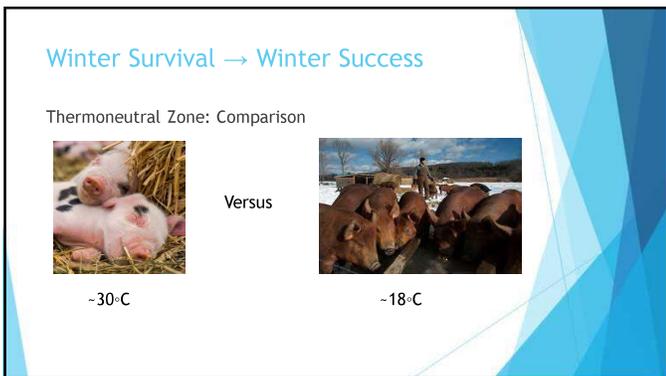
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Winter Survival → Winter Success

Fun Fact: Pigs have no functional sweat glands.

Thermoregulation is sorted out by behaviour and respiration.



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Winter Survival → Winter Success

-  Need more food
-  Risk of water freezing
-  Wind & wet make cold BAD
-  Increased injury
-  Ammonia gas in barns/shelters
-  Vulnerable pigs - illness

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Winter Survival → Winter Success

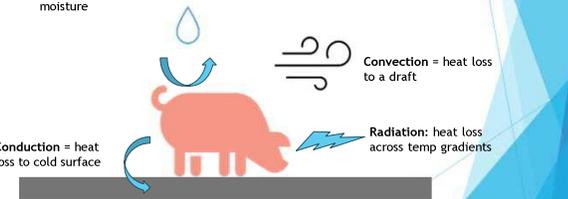
THE 4 WAYS PIGS LOSE HEAT:

Evaporation: heat loss via moisture

Convection = heat loss to a draft

Conduction = heat loss to cold surface

Radiation: heat loss across temp gradients



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Winter Housing

Bedding:

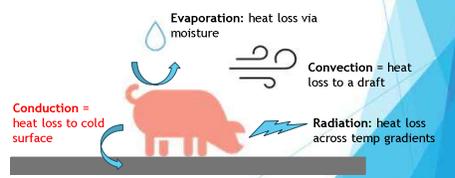
- ▶ Deep bedding = INSULATION
- ▶ Reduces conductive heat loss

Evaporation: heat loss via moisture

Convection = heat loss to a draft

Conduction = heat loss to cold surface

Radiation: heat loss across temp gradients



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Winter Housing

What kind?

- Straw > shavings
- (less depth, better insulation)

How much?

- Bigger pigs compact more
- Bigger pigs = more bedding

How often?

- Depth > frequency
- Deep bedding is better than daily bedding
- Wet bedding = BAD. Remove it!



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Winter Housing

Shelter:

- ▶ 1. Stop wind
- ▶ 2. Insulate
- ▶ 3. Airflow without drafts
- ▶ 4. No moisture



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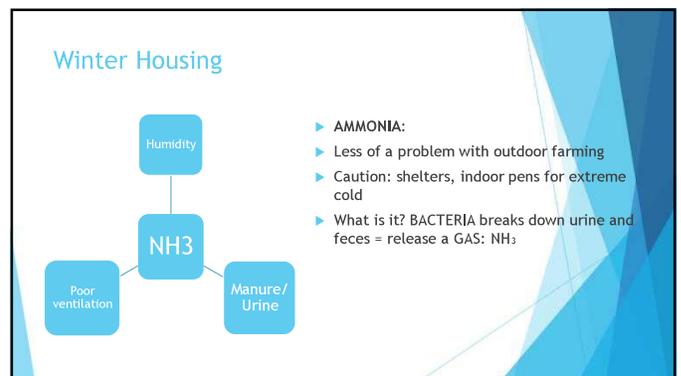
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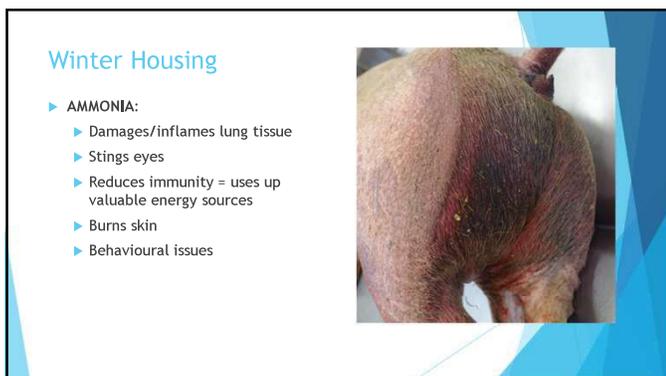
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Winter Housing

A circular diagram with four yellow circles containing the words: Dry, Warm, Wind Barriers, and Bedding. In the center is a photograph of a pig in a stall. Above the circle is a blue cloud with three snowflakes.

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Winter Feeding

Cold pigs are high maintenance! Literally.

Core principles:

- ▶ Energy ↑, protein mostly stays the same
- ▶ Energy
 - ▶ Goes toward maintaining body weight & heat
- ▶ Protein
 - ▶ For muscle growth, lactation, fetal development
- ▶ *We want more cheap calories, not expensive protein to breakdown for heat!*

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Winter Feeding

Practical tips:

- ▶ Increase feed by 10-30% depending on temperature
- ▶ Use energy-dense grains as the base (barley, corn, wheat)
- ▶ Increase frequency of feeding
- ▶ Continue mineral/vitamins
- ▶ Water access!!

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Winter Feeding

WHAT you feed matters!

2lbs extra Corn = 2 lbs extra Oats

A grid of six grain illustrations: Oats, Wheat, Barley, Rye, Rice, and Corn. Each illustration has a green checkmark on it.

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Winter Feeding

HOW you feed matters!

Whole grains/cracked LESS energy than ground/rolled

Four trays of corn: whole corn, cracked corn, rolled corn, and ground corn. To the right are illustrations of Oats, Wheat, Barley, Rye, Rice, and Corn.

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Winter Feeding

Winter Feeding Red Flags

- ▶ Poor hair coat
- ▶ Low conception rates
- ▶ Weight loss
- ▶ Slower finishing times

Two red flags on a black pole.

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Winter Feeding

Feeding by Life Stage: Piglets

- ▶ FEED THE SOW!!!
- ▶ Piglets are extremely cold sensitive
- ▶ DRAFT FREE creep areas
- ▶ Supplemental heat
- ▶ Chilled piglets are dead piglets



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Winter Feeding



Feeding by Life Stage: Weaners

- ▶ High protein pig starter
- ▶ Feed 10-30% more
- ▶ **Example: Normal 25lb weaner eating ~1.5lbs of feed normally (feed him extra 0.2 to 0.5lbs of feed per day)**
- ▶ COLD sensitive! VULNERABLE age.
- ▶ Risk of piling
- ▶ Immune compromised

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Winter Feeding

Feeding by Life Stage: Growers & Finishers

- ▶ Increased maintenance energy needs
- ▶ Maintaining ADG in winter
- ▶ Finishing pigs in cold weather:
 - ▶ Energy for fat & marbling
 - ▶ Avoid over-lean pork
- ▶ **DON'T LET WINTER WRECK ALL OF YOUR HARD WORK!**



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Winter Feeding

Feeding by Life Stage: Sows (Gestation)

- ▶ Goals:
 - ▶ 1. Body maintenance
 - ▶ 2. Fetal growth
 - ▶ 3. Lactation Reserves
- ▶ Feed for Body Condition Score




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Winter Feeding

Feeding by Life Stage: Sows (Gestation)

- ▶ **Early gestation (0 to 70 days)**
 - ▶ Example BCS 3 = 4-5lbs per day
 - ▶ Add 1-2 lbs/day if thin
 - ▶ Reduce 0.5 - 1 lbs/day if fat
- ▶ **Mid gestation (70 to 90 days)**
 - ▶ Lowest nutrition demand
- ▶ **Late gestation (Last 30)**
 - ▶ Add 1-1.5 lbs per day for BCS 3
- ▶ **Winter may require additional 1lb per day for maintenance**



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Winter Feeding

- ▶ **Late gestation (Last 30)**
 - ▶ Add 1-1.5 lbs per day for BCS 3
- ▶ **BUMP FEEDING GOALS:**
 - ▶ ↑ birth weight
 - ▶ ↓ stillbirths
 - ▶ Improve colostrum yield
 - ▶ Maintain sow body weight
- ▶ **Who Benefits?**
 - ▶ Thin sows
 - ▶ Large litters
 - ▶ High milk output



****Caution on overfeeding!****

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Winter Feeding

Feeding by Life Stage: Sows (Gestation)

PRACTICAL TIPS:

1. BCS pregnant sows!! Make skinny and fat pens
2. Do not let sows go thin into winter. Expensive and difficult to fix. \$\$\$

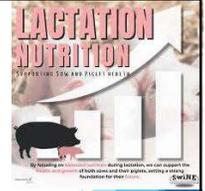
“Feed the sow, not the calendar!”

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Winter Feeding

Feeding by Life Stage: Sows (Lactation)

- ▶ Highest energy demand in LIFE
- ▶ Gradual increase of intake from farrowing to week 3
- ▶ Ad libitum feeding
- ▶ Can eat >15lbs per day
- ▶ Lactation diets DO need more protein
- ▶ But in winter still NEED more energy
- ▶ **TIP: Feed 20-30% more of sow lactation ration per day in winter**



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Winter Feeding

Feeding by Life Stage: Boars (Often Forgotten)

- ▶ Increase feed for maintenance
- ▶ Thin boars have reduced fertility
- ▶ Scrotal freezing can impact fertility!
- ▶ Cold doesn't kill sperm, but cold impacts boars... the fertility effects can be seen a month later



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Winter Feeding



What about kitchen waste?
NEVER FEED MEAT!!!!

Veggies/fruit = low energy. But Nice treat
Wheats/grains/cereals = higher energy

Bottom line. These are treats. Do not rely on this to supplement winter feeding.

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Winter Feeding

Water

- ▶ 24/7 access
- ▶ Insulation for pipes
- ▶ Water heaters



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Winter Health and Illness

Why Winter Is High-Risk for Disease

- ▶ Cold stress increases metabolic energy needs
- ▶ Reduced daylight and outdoor access
- ▶ Damp bedding and poor ventilation increase pathogen survival
- ▶ Pigs pile together → faster disease spread
- ▶ Underfeeding (especially energy & minerals) suppresses immunity

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Winter Health and Illness

- ▶ Who are the vulnerable pigs?
 - ▶ Young piglets and weaned pigs, sickly pigs (poor doers), OLD pigs
- ▶ Considerations for wintering senior pig
 - ▶ Mobility is important - Arthritis?
 - ▶ Dental disease - How is consumption?
 - ▶ Chronic weight loss - larger problems?

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Winter Health and Illness

Winter Disease Prevention:

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Winter Health and Illness

A note about piling:

- ▶ Pigs should huddle up
- ▶ Excessive piling can mean pigs are too cold
- ▶ **Pigs (especially young) hanging out alone in the cold = WARNING!!!**



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Winter Health and Illness

Hypothermic pigs:

- ▶ **Very prone to hypoglycemia**
- ▶ **Young, cold, non-responsive pig = SUGAR water on gums & active warming!**
- ▶ Can save lives



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Winter Health and Illness

Emergency Kit:

- ▶ Snow removal supplies
- ▶ Proper outerware
- ▶ Flashlight/headlamps
- ▶ Thermometer
- ▶ Supplemental heat
- ▶ Bottle/milk replacer
- ▶ Ropes/Tarps
- ▶ Quarantine space
- ▶ Electrolytes (Gatorade)
- ▶ Charcoal/Kao pectin
- ▶ Drying powder
- ▶ Extra bedding
- ▶ Extra feed
- ▶ Antibiotics
- ▶ Anti-inflammatory
- ▶ Needles/syringes
- ▶ Gloves
- ▶ Farrowing supplies (sleeves, lubricant)
- ▶ Euthanasia plan



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Winter Health and Illness

I have a sick pig, what do I do?

- ▶ 1. Identify sick pig
- ▶ 2. Isolate sick pig
- ▶ 3. Examine pig: temp, gum colour, skin changes, breathing, vomiting/diarrhea/coughing/sneezing assessment
- ▶ 4. Supplemental heat
- ▶ 5. Supplemental feed/water access
- ▶ 6. Start treatment (per protocol)



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Winter Health and Illness

I have a multiple sick pigs, what do I do?

- ▶ Get a vet out if possible
- ▶ Multiple sick pigs can go from bad to very bad, very quickly
- ▶ Message me!



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Economics of Winter

Winter Feed is Expensive

- ▶ That's OK
- ▶ 10-30% feed cost increases
- ▶ More for weaners, lactating sows
- ▶ Deep bedding can drop added feed needs



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Economics of Winter

Farrowing in Winter	Farrowing in Summer
Increased lactation feed cost	Cheaper lactation feed cost
Harder on piglets	Harder on sows
Summer finishing	Winter finishing
Summer BBQ pork sales	Niche holiday pork sales




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Economics of Winter

- ▶ Farrowing in Winter Example:
- ▶ Finishing in Summer Example:

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Economics of Winter

- ▶ Farrowing in Summer Example:
- ▶ Finishing in Winter Example:

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Winter - Summary



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Winter - Summary

- ▶ 1. Provide dry, warm, shelter
- ▶ 2. DEEP bedding - saves on feed cost
- ▶ 3. Increase winter feed - balanced ration
- ▶ 4. Preventative health care
- ▶ 5. Winter costs more money - that sucks, but it's normal



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Thank You!

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