PIGLET - MANAGEMENT SOLUTIONS

Adapted from Kirkden et. Al. 2013

ATLAS NUTRITION

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- ❑ STILLBIRTH & LOW VITALITY
- ❑ HYPOTHERMIA
- ❑ STARVATION
- ❑ PIGLET DISEASE
- ❑ CRUSHING
- ❑ SAVAGING
- ❑ SUPERVISION OF FARROWING

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STILLBIRTH & LOW VITALITY

- Perinatal asphyxia is the proximate cause in most cases of stillbirth.
- Asphyxia results on increase risk of postnatal mortality.
- Dystocia is associated with asphyxia and risk factor for stillbirth which is reported to be greatest in high parity sows probably due to their fatness or poor uterine muscle tone.

MANAGEMENT STRATEGIES

1. Reducing the duration of farrowing

a. minimize stress during farrowing

a. culling old sows

a. ensure sows are not excessively fat at farrowing

a. attending farrowings & providing assistance to sows experiencing dystocia

a. focus on high parity sows & sows expected to have high litters

2. Providing assistance to weak piglets immediately after birth

a. helping weak piglets to establish breathing

a. assisting weak piglets to reach the udder or feeding them artificially

a. keeping weak piglets warm

STILLBIRTH & LOW VITALITY

MANAGEMENT STRATEGIES – **Reducing the duration of farrowing**

a. minimize stress during farrowing

- Reasons Behind
  - stress during farrowing causes production of opioids which inhibit oxytocin and can prolong farrowing.
  - loud & sudden noises
  - disruptive activities such as processing the piglets of neighboring sows
  - routine management practices such as feeding & cleaning
  - nearby construction work reported an increased abortions & stillbirths due to sudden & very loud noises.
- Ways to manage
  - providing bedding material to permit nesting behavior before farrowing may reduce stress and can have a positive effect on farrowing duration & stillbirth.
  - transferring the sow to farrowing pens early to give her time to habituate before farrowing should reduce stress.

HYPOTHERMIA

- the ambient temperature of the farrowing house is normally below the critical temperature of the newborn piglets.
- piglets use their energy reserves to maintain body temperature, thus colostrum is essential to avoid hypothermia or starvation.
- low birth weight are most at risk due to low energy reserves & poor ability to compete at the udder.

MANAGEMENT STRATEGIES

1. Heat Provision

- In Natural Conditions
  - the sow builds a nest and neither the sow nor the piglets normally leave the nest during the first day after farrowing.
  - gradual increase in the amount of time the sow spends away from the nest during the next 4 days, but the body heat of piglets is by then sufficient to keep the nest warm even in cold winter.
  - in production there is not normally a nest or bedding.

HYPOTHERMIA

MANAGEMENT STRATEGIES

1. Heat Provision

- ❑ Sow
  - ➢ critical temperature of the sow is in the region of 22 to 25oC and at temperatures above this feed intake & milk production are decreased.
  - ➢ do not experience heat stress when kept on a floor heated to 33.5oC at day 1 to 3 postpartum.
  - ➢ are should be taken not to place heat lamps too close adjacent to the udder.
- ❑ Piglet
  - ➢ heat lamp, heat mat, or an enclosed box with insulation or heating or both.
  - ➢ piglets prefer to lie close to the sow during 1 to 2 days after birth & spend a little time in the creep area.
  - ➢ piglets have developed a clear preference for a light environment over a dark environment at 1 week of age.

HYPOTHERMIA

MANAGEMENT STRATEGIES

2. Reduction of Heat Loss

- *air temperature, floor type, & presence of bedding, air movement, & insulation of the farrowing house are important factors affecting the rate of heat loss.*
- deep straw (10-15cm) is an effective way to reduce both hypothermia and crushing in loosed-housed sows.
- the area behind the sow, adjacent to the udder, and in the creep area should be covered with a solid material during farrowing in a perforated flooring to prevent drafts from below.

3. Piglet Care

- *farrowing should be supervised & assistance provided to small & weak piglets, such as oxygen inhalation, drying or placing under a heat source, and providing colostrum or milk replacer.*
- oxygen inhalation reduces the decline in rectal temperature that occurs after birth.
- placing piglets under a heat lamp immediately after birth has been found to decrease mortality by almost 50% or more.
- drying increased rectal temperature at 1 hr but stimulates peripheral blood circulation increasing heat loss.
- place piglet in a warm location first before assisting them to suckle colostrum.

STARVATION

- occurs either because the sow fails to produce enough colostrum or because piglets fail to consume enough.
- colostrum does not increase with litter size, in larger litters colostrum availability to each piglet is significantly less.

MANAGEMENT STRATEGIES

1. Fostering

- smaller & weaker piglets should be prioritized, transfer larger & stronger piglets.
- performed as early as possible (not more than 3 days of age).
- ensure piglets obtain colostrum from the dam before fostering or from the foster sow afterward.
- rules such as fostering when litter size exceeds 12 or functional teats available.

2. Piglet Care

- split or shift suckling allows smaller piglets to obtain a good intake of colostrum, may increase ability to compete at the udder.
- Administering colostrum, milk substitute or glucose to weak piglets or to litters of sows with hypogalactiae.

STARVATION

MANAGEMENT STRATEGIES

3. Selective Teeth Resection

- needle teeth of the smallest piglet are left intact to make them more competitive.
- this has been shown to increase body weight gain and survival of small piglets.

4. Sow Health

- *MMA / PDS has multiple causes including stress before parturition, poor floor hygiene, constipation associated with low water intake or low fiber, and high ambient temperature*.
- spraying the sows & their pens with cool water when ambient temperature is high.
- encouraging sows to stand & eat after farrowing.
- can be reduced with prostaglandin
- incorporating fiber into the diet during late gestation
- administration of antibiotics or oxytocin

STARVATION

MANAGEMENT STRATEGIES

5. Physical Environment

- 27 oC and above results in reduced feed intake & milk yield.
- water drip coolers that drips water onto the sow or the floor
- snout coolers which blow a draft of cool air onto the head & shoulders of the sow for convecting cooling.
- floor coolers consisting of cold water pipes embedded in part of the floor to provide conductive cooling.
- fan noise (85dB) interferes with communication between the sow & piglets resulting in disruption of the phases of suckling, increased fighting, reduced colostrum & milk intake up to 2 days old.

PIGLET DISEASE

- Disease includes infectious & noninfectious conditions, congenital abnormalities, & injuries.

MANAGEMENT STRATEGIES

1. Specific Diseases

- Enteritis
  - vaccination of the sow against specific bacteria & viruses.
  - All-in all-out management with cleaning & disinfection of pens between batches.
  - frequent removal of feces & not cross-contaminating between pens.
  - warm & draft free environment
  - maximal colostrum intake
- Systemic Infections
  - hygienic procedures during teeth clipping, tail docking, & course of injection.
  - dipping navels in antiseptic solution a birth & use of nonabrasive floors to reduce leg injuries.

PIGLET DISEASE

MANAGEMENT STRATEGIES

1. Specific Diseases

- ❑ Splayleg
  - ➢ loosely taping legs together to prevent them from spreading upon standing.
  - ➢ genetic selection because it has a high heritability.
- ❑ Anemia
  - ➢ identify piglets with excessive blood loss usually as a result of umbilical bleeding.
  - ➢ anemic piglets should not be tail docked or ear notched until 10 to 14 days of age.
  - ➢ Should receive iron orally rather than by injection.
- ❑ Leg & Foot Injuries
  - ➢ commonly caused by abrasion or by holes in perforated floors
  - ➢ deep straw, machine smoothing concrete floors, plastic-coated woven wire flooring during the first week of life.
  - ➢ applying adhesive bandages to carpal joint injury

PIGLET DISEASE

MANAGEMENT STRATEGIES

2. General strategies

- Passive Immunity
  - Vaccination of gestating sows can be effective way to protect young piglets against bacteria such as *E. coli* & *Clostridium*.
  - ensuring piglets ingest adequate quantity of colostrum.
- Hygiene
  - batch farrowing (all-in all-out).
  - sows may also be washed & treated for parasites before entering the farrowing house.
  - keeping pen floor clean & dry
  - good drainage & frequent removal of feces & dirty bedding

CRUSHING

- Occurs when the sow changes posture, particularly when lying down from standing or rolling over.

1. Loose Pen Design

- use of non-sip floors & sloping walls
- farrowing rails attached to the walls
- anti-rolling bars
- anti-crushing bars

2. Management Strategies

- provision of straw or bedding materials
- simulated udder placed in the creep area with warmth, soft texture, & sow odor but is impractical.
- supervision of farrowing by a stockperson

SAVAGING

- Aggressive behavior directed at piglets by the sow, which may result in injury or death.

- Associated with novel & stressful events such as change of environment, fear of contact with humans, pain occurring during parturition, fear of newborn piglets, & discomfort when suckling of sows with MMA/PDS

MANAGEMENT STRATEGIES

- culling sows that savage is advisable as it tends to persist across parities

- training stockpersons to use positive handling techniques that decrease sow fearfulness.

- piglets removed & confined in the creep area until the end of farrowing or until sow becomes quiet.

- administration of sedative or anesthetic

SUPERVISION OF FARROWING

- Dystocia is most commonly caused by conditions that obstruct the passage of the fetus in the birth canal.
- Gilts have narrower pelvis; presence of 2 piglets in the birth canal; full fecal material; full bladder; fat deposits in obese sows; swelling caused by palpation, uterine inertia.

MANAGEMENT STRATEGIES

1. Assisting the Sow during Farrowing

- Intervention should be considered if the interval between piglets exceed 30 to 60 min
- If the sow has not yet expelled any piglets but appears distressed, depressed, or weak.

2. Manual Intervention

- manual examination of the birth canal
- fetus maybe repositioned or pulled out
- encourage sows to urinate & defecate
- oxytocin may be administered if birth canal is not obstructed to stimulate uterine contraction.
- use lubrication & ensure high standard hygiene is practiced

SUPERVISION OF FARROWING

MANAGEMENT STRATEGIES

3. Oxytocin Administration during Farrowing

- Indicated when the birth canal is open & unobstructed & the fetus is well positioned but the sow is unable to expel it due to poor uterine tone.
- Some farms routinely administer oxytocin in an attempt to decrease farrowing duration & thereby reduce stillbirths.
- oxytocin increases frequency intensity, duration of uterine contractions, causing acute decelerations in fetal heart rate, consistent with asphyxia.
- neonates show increased frequency of meconium staining, ruptured umbilical cords, decreased viability.
- when dosage is reduced by one-half (0.083 IU/kg) an improvement is sometimes apparent.
- oxytocin after birth of the first piglet was problematic for fat sows but not in sows with normal BCS.
- Beta blockers such as carazolol decreases duration of farrowing & reduce stillbirth, and MMA in gilts.