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Arthropod pests and rodents cause swine Producers millions of dollars annually do to:
- Performance loss (reduced weight gain)
- Reduced reproductive capacity
- Less feed efficiency
- Veterinary costs
- Direct physical harm from arthropod attack
- Structure damage
- Feed damage
- Costs of control

External Parasites

Hog Lice
Hog Mange
These two Pests account for 70%+ of expenses from swine pests

Hog Lice Biology:
- Continuous obligatory parasites
- 30 day life cycle
- Adult lice can live up to 5 weeks
- 6 to 12 generations per year

Importance:
- Feeding can result in irritation/discomfort
- Blood loss
- Animals scratch vigorously (hair loss/skin abrasions
- Heavy infestations can result in:
  - reduced performance
  - hide loss
  - discounted carcasses
- More prone to disease

The hog louse is the largest bloodsucking louse infesting domestic animals
Sarcoptic hog mange mites burrow through the epidermal skin layers, making extensive tunnels where adult female mites lay their eggs.

Hog Mange Mite Biology

- Continuous obligatory parasites
- Eggs laid in burrows under skin
- 10 to 20 day lifecycle
- Initial lesions more common where hair is sparse, often on the head area and in ears
- Infestations can quickly spread to other areas of body

Importance

- Burrowing activity and feeding causes:
  - Dermatitis
  - Pruritis
  - Hair loss
  - Crusty lesions
- Skin becomes tender, cracked, and sore
- Extensive hair loss can occur
- Severe infestations can cause:
  - Weight loss
  - Reduced feed efficiency
  - Reproductive losses

Surveillance/Diagnosis

Hog lice:
Visual observation for lice and eggs over entire animal (e.g., behind ears, folds of skin around neck and tender areas of skin at axillaries and belly area)

Hog mange mites:
Use a bone curette to scrape under lesion. Transfer lesion material onto a drop of mineral oil on a slide and examine under a microscope for mites and/or eggs.

Hog Lice & Mange Mite Control

Use good management practices and biosecurity

Suggested treatment program:
1. Treat all animals in herd (injectables/sprays)
2. If sprays applied – 2nd treatment within 7-14 days
3. Treat sows routinely prior to farrowing
4. Treat piglets at weaning
5. Treat boars every 3 months
6. Isolate new animal and treat before introducing to herd

Choose a product based on management and which pest(s) need to be controlled.

Important Species

FLIES

- Stable fly
- Moth flies
- Horse flies
- Mosquitoes
- Biting midges
Fly Control

Sanitation/Cultural:
- waste management practices to minimize fly breeding
- keep liquid surfaces of pits
- eliminate vegetation around waste lagoons
- minimize standing water
- keep weeds and high grass cut down

Biological control:
- parasitic wasps
- Beauveria fungus

Chemical control:
- space sprays
- residual sprays
- animal sprays
- fly baits
- larvicides
- oral larvicides

Parasitic wasp on fly pupa

Rodent Control Technology For Confined Livestock Operations

Offers:
- Ideal harborage
- Food sources
- Water sources

Harsh Environment:
- Dust/dirt
- Moist
- High animal activity

Economic Significance

Consume & Contaminate Feed
**Life Cycle**
- Females can be lactating and be pregnant with a new litter
- Females in heat every 4-5 days
- Litters per year -
  - rats: 3-7 with 6-12 pups per litter
  - mice: 8 with 5-6 pups per litter
- After birthing, females are capable of being in heat in 24-48 hours
- Rats sexually mature at 3 months, mice at 3 weeks

**Feeding Habits**
- Rats drink free water daily
- Mice eat 3 grams a night
- Rats eat 25 grams a night
- Mice feed sporadically
- Mice are curious, rats are shy

**Physical Capabilities**
- Excellent jumpers
- Can fall without injury
- Fit through small openings
- Sense of balance
- Good swimmers

**Effective Control Measures**
- Sanitation
- Rodent Proof Structures
- Population Reduction
Sanitation

Rodent Proof Structures?

Population Reduction

Trapping

Snap traps - single catch
Multiple Catch Live Traps:

Glueboards:

Rodenticides

Anticoagulants:
- 1st generation -
  * Warfarin (D-Con)
  * Chlorophacinone
  * Diphacinone
  * Pival

- 2nd generation -
  * Brodifacoum (Havoc, Talon)
  * Bromadiolone (Contrac, Maki)

Non-anticoagulants:
- Bromethalin (Vengence)

Considerations:
- Bait formulations
- Bait stations
- Bait placement

Bait Formulations

Bait Placement