Poultry Litter Management for Bird Health and Performance

- A poultry flock kept on well-maintained litter is ***healthier*** and ***more profitable***
- Poor quality litter causes ***pododermatitis***, ***hock burns***, and ***breast blisters***; "***shaky leg syndrome***"in turkeys – reasons for carcass downgrades
- Rise in demand for chicken feet in China – farmers can get a premium for unmarked feet
- Requirement by law to keep litter in well maintained state (Welfare of Livestock Regulations 1994 and Defra Welfare Codes)

Dry litter better bird health

Conditions Associated with Poor Litter

Hock Burns

Pododermatitis

Breast Blisters

Factors affecting litter condition

1. Litter Moisture

- Key to hock burns, pododermatitis and breast blisters
- Affected by drinker design, weather, heating and ventilation, litter material and depth, stocking density, diet and bird health

2. Grease Capped Litter

- Excess fat or poor-quality fat in feed increases fat excretion in faeces
- High fat causes litter to loose its friability
- Examine the diet for fat

3. Litter Nitrogen

- Worst blisters/burns occur when litter N exceeds 5.5%
- Examine the diet for amount and quality of protein

High litter N = loss of breast feathers

How to control litter conditions

Ventilation and house environment

- ***Environmental temperature, ventilation rate & humidity*** controls should be interlinked
- Humidity affected by ***number, age of birds, the relative humidity of air*** drawn into the unit by the ventilation system
- Humidity – ***50 – 70%***
- Ventilation rate – ammonia < ***25 ppm***
- In winter – heating + ventilation may be needed
- Insulation (U value ***≥ 0.4 W/m²***) of roofs and walls necessary to prevent condensation

Feed/Diet

- Any dietary factor that increases water consumption will lead to wetter litter
- ***Sodium chloride, sodium bicarbonate, crude protein (CP) & amino acids(aa)*** must not exceed optimal requirements
- ***CP & aa*** increase N excretion and hence severity of burns

Stocking density

- Max– ***34 kg/m²*** for broilers, no more than ***7 birds /m²*** for layers
- Influences rate of evaporation of moisture

Litter material and depth

- ***Straw*** or ***woodshavings*** but latter more absorptive
- Depth – 5cm woodshavings or 5 -10 cm or chopped straw
- Use of litter amendments – ***acidifiers, alum, biochar, quicklime, hydrate lime***
- Friable litter has bacteria that can breakdown excreta, in a process that generates releases heat and ***keeps the litter warm***

Drinkers

- ***The most important factor*** affecting litter moisture is drinker design and management
- Drinkers must be at correct height for the birds