Winter Ventilation for Broilers

1. Purpose of winter ventilation

- Ventilation for some minimum amount of time is required no matter what the outside weather is to:
  - maintain good air quality
  - remove excess moisture

- Minimum ventilation is recommended during cool/winter weather.
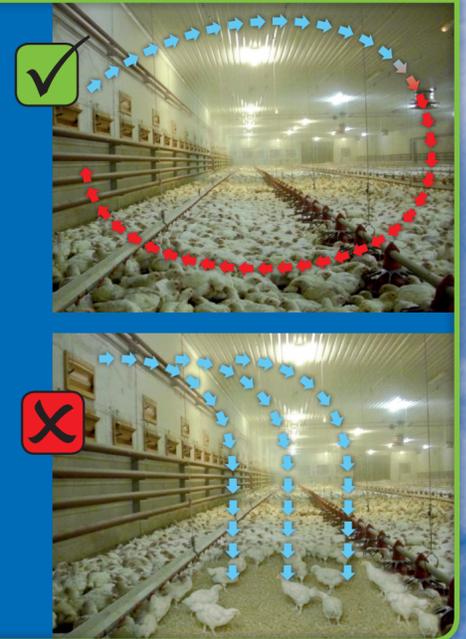

2. Minimum ventilation rates

- Recommended minimum ventilation rates for winter ventilation are:

Minimum ventilation rates (20,000 bird house)

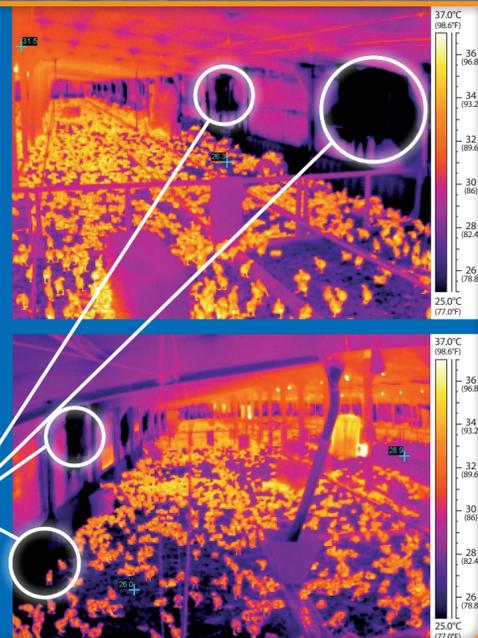| Bird age (days)	Cubic meters/hour/bird (Cubic feet/minute/bird)	Total cubic meters/hour (Total cubic feet/minute)
1–7	0.16 (0.10)	3,200 (2,000)
8–14	0.42 (0.25)	8,400 (5,000)
15–21	0.59 (0.35)	11,800 (7,000)
22–28	0.84 (0.50)	16,800 (10,000)
29–35	0.93 (0.55)	18,600 (13,000)
36–42	1.18 (0.70)	23,600 (14,000)
43–49	1.35 (0.80)	27,000 (16,000)
50–56	1.52 (0.90)	30,400 (18,000)

3. Achieve good airflow and volume

- If incoming air flow speed and volume is too low:
  - cold air will drop directly on to the birds/litter
  - litter will become wet and birds may get chilled

4. Ensure house is tightly sealed

- Ventilation only works effectively if the house is adequately sealed.

- This ensures the speed at which air enters the house is controlled.

- Avoid air leaks.

Air leaks.

5. Uniform air inlet openings

- Open air inlets must be evenly distributed through the house and be opened equally.

- At lower ventilation rates close some inlets to force the same volume of air through fewer inlets.

- This will create uniform:
  - volume of air flow
  - speed of air flow
  - direction of air flow
  - distribution of air flow

6. Monitor and evaluate regularly

- Monitor house pressure & air speed:
  - pressure should be 30-40 Pa (0.12-0.16 inches of water column) depending on house width
  - air speed around 4 m/s (800 ft/min) measured at air inlet

- Use smoke tests to confirm if air flow direction and inlet settings are correct.

- If monitored levels deviate from expectations then take corrective action.

- Monitor bird behavior and litter quality.

- Complete regular evaluation of:
  - air quality
  - relative humidity
  - signs of condensation
  - dust levels

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