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Factors Affecting the Incidence of Lice Infestation

Produced for the CRC for Premium Quality Wool undergraduate program by;
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Environmental factors

- **Temperature**

- *B. ovis* is very sensitive to changes in temperature
- Optimum is 37°C
- <37 °C no egg production, >39°C egg production reduced, 45 °C for 18 hr causes death irrespective of humidity

- **Moisture**

- Lice are susceptible to drowning on a wet skin - up to 90% of adults can drown during a thunderstorm
- Eggs fail to hatch at a relative humidity of 90%

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Host factors

- **Shearing**

- Removes most eggs, 30-50 of the adults and exposes remainder to high skin temperatures
- Summer skin temperatures in shorn sheep are often in the range 45-55°C

- **Wool cover**

- Affects lice survival by effects on skin temperature
- Less cover allows greater penetration of solar radiation and greater variation in skin temperatures
- The longer the staple the better for lice

Due to temperature and shearing effects there is a marked seasonal variation in numbers. Few lice are found after shearing, numbers remain low over summer, then increase from autumn through winter until the next shearing. Increases in numbers can be interrupted by soaking thunderstorms.



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