

VARIATION IN HOST SUSCEPTIBILITY TO SHEEP BITING LICE, *BOVICOLA OVIS* (SCHRANK).

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Variations observed in numbers of lice on sheep under circumstances of natural infestation could be due to differences in the size or timing of the initial challenge or to differential effects of external factors and do not necessarily indicate differences in host susceptibility. There appears to have been no previous study of variation in host susceptibility to mallophagan lice in which animals have been subject to equal louse challenge.

This paper describes results of a series of studies with American and Australian breeds of sheep in which the animals have been subject to a standardised challenge. These studies indicate that there are substantial and repeatable differences between breeds of sheep, between bloodlines within breed and amongst individual sheep within bloodlines in susceptibility to surface feeding lice. Some sheep were apparently resistant to infestation and did not become infested despite repeated artificial challenges and penning together with other infested sheep. Louse numbers on individual sheep varied through the year, appeared to be related to health and nutrition of the host, and may have been influenced by pregnancy and lactation. An association with susceptibility to gastrointestinal helminth parasites was also noted, although whether this association is due to a correlation in underlying resistance mechanisms or to an interaction of the effects of the parasites is unclear.