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Rid your flock of

Sheep Lice

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Rid Your Flock of

SHEEP LICE

Roland W. Portman¹ and Lloyd H. Scrivner²

Lice that infest sheep, whether of the biting or sucking variety, cause irritations which result in restlessness, scratching, rubbing, biting, and wool pulling among the animals. Wool damage and loss of condition follow. The lice may infest sheep's entire bodies. They build up their numbers in the long wool of fall and winter seasons. Lice are extensively distributed in Idaho sheep flocks.

Adult lice deposit their eggs or nits on the wool about an inch from the animal's body. The eggs hatch from 1 to 3 weeks later and become adults in 2 to 3 weeks. As they reach adulthood, they mate, lay eggs, and thus complete the life cycle in a period of 3 to 6 weeks depending on weather conditions. Cold, wet weather tends to slow their development.

Dipping is the most satisfactory method of controlling lice. When satisfactory dipping vats are not available, spraying with a power sprayer is effective. When an animal is thoroughly treated as a result of dipping and spraying, the insecticides will penetrate the fleece to the animal's skin and remain on the fibers to kill lice for many days after treatment. It is generally much easier to wet an animal by dipping than by spraying. To compensate for this difference, the spray solution is usually double the strength used in a dip. A spray is most effective when used to treat a recently shorn animal.

Rotenone or other insecticides having short residual killing characteristics require two treatments to kill young lice hatching from eggs left after the first treatment. Treat the second time 2 weeks after the first treatment. These insecticides do not kill unhatched eggs. The second treatment, if thorough, kills the newly-hatched lice before they mature to lay eggs. This ends the infestation. It is best to use an insecticide with a residual effect lasting for at least 3 weeks.

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stems, glumes, beards or awns, and sometimes the kernels.

The red stage appears in the spring or summer and produces longish, brick-red pustules. The pustules are most conspicuous on the stems; hence the name stem rust. The pustules break through the epidermis of the plants, giving them a torn ragged appearance. The pustules are filled with brick-red spores that look somewhat like iron rust.

The dark red color and the way in which the fungus tears the epidermis of the plant (Fig. 1), enables one to distinguish stem rust from the other wheat rusts.

The red stage, once established on wheat plants, continues to produce red spores which in turn create new infections if conditions for infection are favorable. Conditions unfavorable for the development of the red stage bring on the black stage. In hot dry weather the red stage may gradually become brownish-black, while the wheat plants are still relatively green. The black stage usually begins to appear when the wheat approaches maturity.

The size and shape of the pustules of the black stage are about the same as the pustules in the red stage. The black stage spores cannot re-infect wheat.

Life Cycle of Stem Rust

Stem rust over-winters in the black or telial stage on wheat straw. The spores in the black stage (teliospores) germinate in the spring and produce small colorless spores called sporidia, which are carried by wind to certain species of the barberry plant. The sporidia germinate and penetrate the barberry leaves. Eventually, another type of spore (aeciospores) are produced on barberry. These spores are unable to re-infect barberry but can infect wheat and certain grasses and induce the red stage. The red stage is reproduced throughout the summer until finally, as the wheat approaches maturity, the black stage is formed; thus completing the life cycle

Effects of Stem Rust on Wheat

The damage caused by stem rust will vary from slight to almost a complete crop failure. Losses are due mainly to: (1) reduced food making activity and the appropriation of plant food by the rust fungus and, (2) the increased water loss due to the rupture of the epidermis by the rust pustules. Partial sterility of the heads, poorly filled heads, and shriveled grain that is low in protein and test weight are the end result.

Recommended dips are shown in Table 1. Since these chemicals are absorbed by the animal's body and certain lengths of time are required for the animal to eliminate the residues of these chemicals, **specified lengths of time must elapse before dipped animals can safely be used for human food.** The time-lapse period for each dip is also shown in Table 1 adapted from Agriculture Handbook No. 120, Agricultural Research Service and Federal Extension Service, U.S. Department of Agriculture, 1961.

Table 1. Effective dips for controlling sheep lice.

Compound	Per cent to use in dip	Waiting period before slaughter
DDT	0.25	30 days
Toxaphene	0.25	28 days
Lindane	0.025	30 days
Methoxychlor	0.25	No limitation
Ronnel	0.25	84 days
Co-Ral	0.25	45 days

These insecticides may be purchased as wettable powders or as emulsifiable concentrates.

For best results the toxic strength of the dip or spray solution must be maintained. Carefully measure the insecticide when preparing the solution. **Keep the manufacturer's instructions where you can read them. Follow them closely.**

Some states restrict importation of louse-infested sheep. Your county extension agent, local veterinarian, or a representative of the Idaho Sheep Commission has information concerning treatment required before sheep can be moved legally across state lines.