

may show from 14,000 to 20,000 Keds on a single sheep. Thrift is impossible under such a handicap. Heavily infested sheep usually die as their resistance is so reduced that they fall easy prey to other parasites and bacterial diseases. The wool from heavily infested sheep is much lower in value than that from clean sheep, as it is of poorer staple, stained with excrement, broken pupal cases and debris of Keds long dead. All this has to be removed by extra washing and carding, which requires time and money. Hence the sheep owner that neglects to dip his flock has to take a lower price for his wool crop.

Treatment and Control.— Dip the flock in September and again in 24 days. If the work is well done the sheep will be free of Keds and in better shape to stand the winter and the other parasites that may occupy the stomach, intestine or lungs. Keep other sheep away. If you bring in a new ram, dip him twice before turning with the flock. The breeding ability of Keds indicates that double dipping should be practiced, as most of the common dips in use have little or no effect on the pupae. The second dip gets the Keds that have emerged between dippings. If but three young Keds escape, a male and two females, a population of 1200 may develop on one sheep in six months time. Sheep pens should be thoroughly cleaned out after the sheep go out in the spring. Spraying such pens with a strong disinfectant is always good practice and will head off trouble that might come later on.

People working with infested sheep should be invited to stay away from clean flocks until such precautions are taken to eliminate the danger of carrying infection. Trouble can be carried from farm to farm at shearing or any other time by thoughtless people.

Dip solutions made from coal-tar creosote, lysol, cresol, creolin, nicotine-sulphate, and lime-sulphur-arsenic compounds all give excellent results against Keds if properly made up and applied with thoroughness. Commercial dips offered to sheep men by the trade, if of well known and reliable brands are easier to work with than a dip made up on the farm. Such commercial concentrated dip fluids and powders, can usually be obtained through firms handling stockmen's supplies and through organizations formed to serve the sheep industry. For those sheep owners having very small flocks and desiring to prepare a dip solution from materials already on the farm, the following formulae are given.

Soda Emulsion.— To make the stock solution, dissolve one pound of hard soap in two gallons of boiling water, remove from the stove, and while very hot add two gallons of coal oil. Mix well by stirring and pouring, or by forcing through a spray pump. To use, dilute this stock solution by adding eight gallons of warm soft water for each gallon, that is four gallons of stock solution is added to thirty two gallons of warm soft water, making a total of 36 gallons of dip ready to use.

Milk Emulsion.— To make the stock solution, to two gallons of milk add four gallons of coal oil, mix thoroughly in an old churn or by forcing through a spray pump. This makes the stock solution. To use, add the six