practical method for counting the larvae in samples of soil.

Finally, when promising leads on control procedures have been determined and have proved their value in small-scale tests, the entomological phase of the project will undertake to control gnats in one or more towns severely affected by conjunctivitis. In this way it will be possible to study the effect of a reduced population of eye gnats upon the incidence of sore eyes. This is preferable to evaluating the incidence of conjunctivitis in terms of natural populations of eye gnats because it is an experimental method which can be employed in different places and at different times, and begun or discontinued at will.

Though it is surprising that a pest as common as the eye gnat has failed thus far to yield to the efforts made by entomologists to find an effective means of control, there is hope for the future in the fact that there are still many facets of its life history which are unknown. Man's experience with other insects which formerly were considered inevitable should offer encouragement both to those who still endure eye gnats and those who are trying to do something about them.

ANIMAL CONJUNCTIVITIS

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Whenever infectious conjunctivitis is considered in either human or animal medicine, the infective agent predominately present is the *Hemophilus* organism known in human medicine as the Koch-Weeks bacillus. From fowl coryza to pinkeye of humans, and whether the symptoms are primarily systemic as in equine influenza or more localized as in pinkeye of cattle, the gram-negative, small, rod-shaped bacillus is usually present in the early stages as an early secondary invader. Later, other secondary invaders change the picture from acute to chronic keratoconjunctivitis. The work of Reid and Anigstein (1945) and of Farley, Kliewer, Pearson, and Foote (1950) clearly indicates the role the *Hemophilus* organism plays in affecting the economy of the livestock industry. The disease always has been a serious problem in Texas in cattle, sheep, and goats, particularly in white-faced cattle. The white hairs reflect the ultraviolet rays of the sun into the eye, increasing the photophobia always present in pinkeye. The effect is similar to snow blindness in man. Some stockmen are endeavoring to develop cattle with a dark pigmentation around the eye. Even in dairy cattle, pinkeye is more serious in the white animals. Every Texas veterinarian knows that in middle to late summer he can expect many cases of pinkeye, although it can occur at any time of the year. The hot Texas sun, and dust and wind are physical factors influencing its prevalence and severity. The practicing veterinarian will describe the disease symptoms as unilateral or bilateral photophobia, lacrimation, opacity of the cornea, in some cases protrusion of the cornea, vascular congestion, and mucopurulent discharge. The acute stage lasts about 3 days. The spread of the disease is by direct or indirect contact, although some insects are thought to be mechanical carriers.

The veterinarian has a different problem with beef than with dairy cattle. In beef cattle, it may be more desirable to provide shade, food, and water, and not handle the animals – isolation in a fly-proof, shady place being more effective than treatment. Shade is essential if the disease is not to progress into the chronic form, with loss of the eyesight after rupture of the eyeball. Attacks of the disease always are increased greatly in severity where shade is lacking.

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Condition of the animals, food supply, and mineral intake seem to have little or no effect on infectious pinkeye, well-nourished animals having the disease in equal severity to the poorly nourished. The temperature is elevated from 1 to 3 degrees during the acute stage. Secondary invaders include *Escherichia coli, Bacillus pyogenes, Bacillus subtilis, Pasteurella,* and *Staphylococcus.* When one considers the bacteriological picture with the gram-negative *Hemophilus* organism predominating in the early stages and gram-positive types predominating in the later stages, the reasons for the treatments used by Texas veterinarians become evident. In the past, silver nitrate in 1.5 percent solution, argyrol, boric acid, calomel, and both sulfa ointment and powder have been used. At present, streptomycin is being used, particularly in the early stages, and penicillin is used in both acute and chronic stages. The successful use of penicillin requires that it be used frequently in order to get the full benefit of the contact therapy. Foreign protein always is used, either sterile milk or hog cholera serum, with many veterinarians using more hog cholera serum for its foreign protein action than is used in the treatment of hogs.

In poultry there is a *Hemophilus* variety causing an acute fowl coryza that does not seem to be associated with a virus, as in the case of equine influenza. Fowl coryza is a very serious and widespread disease causing a heavy economic loss to the poultry industry.

Equine influenza is called pinkeye or epizootic cellulitis as often as it is called flu. It is an acute, highly contagious, generalized disease affecting equines. It is especially prevalent when large numbers of horses are gathered together, as they were in the World Wars. It is quite similar to influenza in man.

Swine influenza is a disease in which eye symptoms are not marked, and secondary invaders of the eye are seldom described.

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