

with head and neck extended and often rested their cervical and mandibular regions on the ground. The affected animals often lingered for weeks exhibiting symptoms of bronchopneumonia. In the more advanced cases oral breathing was common, the tongue protruded, the mouth contained a frothy exudate, and the animals showed evidence of a grave inspiratory and expiratory dyspnea. Fatal cases exhibited a tenacious bilateral nasal discharge and succumbed with pronounced symptoms of pulmonary edema and pneumonia.

The mortality rate frequently amounted to 60 to 70 percent of the annual calf crop. Animals which survived the infection were often undesirable individuals, undersized, unthrifty and unprofitable for beef or dairy purposes.

### POSTMORTEM LESIONS

Postmortem examinations of those animals which succumbed during the acute stage of the condition showed lesions of a violent gastroenteritis, pulmonary congestion, and inflammation of the internal organs. The liver was enlarged, friable and yellow. Postmortem examinations of calves made during various stages of the chronic form showed a progressive bilateral hepatization of the lung tissue. The solidifying process of the lungs began in the lower apical lobes and gradually extended to involve the cardiac and diaphragmatic lobes. Fatal cases showed solidification of the entire lung tissue with the exception of a very small portion of the dorsal border of the diaphragmatic lobes. The intralobular connective tissue of the lungs was thickened and yellowish in appearance, and areas of necrosis appeared throughout the affected lung substance. Extensive adhesive pleurisy with a fibrinous exudate in the pleural cavity occurred often. The non-solidified portions of the lungs were inflamed and edematous, and the trachea and bronchi were filled with a frothy exudate.

### BACTERIOLOGICAL FINDINGS

The large losses of calves in infected herds drew attention to this problem. Consequently, studies were undertaken regarding the nature and transmission of the disease as it occurred under local conditions. Various species of bacteria were found associated with the diseased tissues. *Escherichia coli* was isolated from the intestinal tract and from the blood-flecked droppings of acute cases. *Pasteurella bovisepitica* was the predominating bacterial species encountered upon microscopic and cultural ex-