

Case 2 - Beef herd with mass deaths of adult cattle as well as stillbirths

In this case, a beef cattle farmer had a herd of 96 cattle (Angus Limousine cross) that was divided among three pastures. The farm is located in an area of intensive gas drilling, with two active shallow vertical gas wells on the farmer's property and approximately 190 active gas wells within five miles of the property; of these, approximately 11 are shale gas wells and approximately 26 are deep vertical gas wells. In one pasture, 60 cows (a mixed herd, mostly 5- to 10-year-old bred cows) had access to a creek as a source of water. In a second pasture, 20 cows (bred yearlings) obtained water from hillside runoff, and in a third pasture, 14 feeder calves (8 to 14 months old) and two bulls had access to a pond. Over a three-month period, 21 head from the creek-side pasture died (17 adult bred cows and 4 calves). All the cattle were healthy before this episode. Despite symptomatic treatment, deaths occurred 1 to 3 days after the cows went down and were unable to rise. Basic diagnostics were done, but no cause of death was determined. On rendering, 16 of the 17 adults were found to have dead fetuses, nearly doubling this farmer's losses. Of the 39 cows on the creek-side pasture that survived, 16 failed to breed and several cows produced stillborn calves with white and blue eyes. The health of the cattle on the other two pastures was unaffected; on the second pasture, only one cow failed to breed. Historically, the health of the herd was good, the farmer reporting average losses of 1-2 cows a year in his herd of nearly 100 cattle. This is an interesting case because it has a natural control group. That is, the cattle that were kept along the creek suffered severe problems while the cattle in pastures at a higher elevation and away from the creek experienced no morbidity or mortality. As discussed below, the contamination of the creek may have been caused by illegal dumping of wastewater. Fortunately, these cows were not taken to slaughter, as they died on the farm. **However, they still may have entered our food chain as well as that of our pets: rendering plants produce feed for many non-ruminants including chickens, pigs, cats, dogs and horses, so it is possible that chickens, raised for egg production or meat, and pigs were fed the flesh from these cattle.**