

6000 Sheep Stricken near CBW Center

Skull Valley, Utah. Some 6000 sheep grazing near the Dugway Proving Ground, the Army's chief site for field testing of chemical and biological weapons, have been killed or injured by an ailment that attacks the central nervous system. The sheep first showed signs of illness on 14 March. They generally acted dazed, walked in an uncoordinated manner with their heads tilted off to the side, urinated frequently, and, when frightened or pushed, often sank to the ground and lay there, kicking the air, unable to get up. Most of those that had not died by early this week were being killed to end their suffering. At this writing, there is no conclusive proof that Dugway is the source of the ailment, but Utah Governor Calvin L. Rampton, after reviewing the circumstances, said he believes the sheep were felled by a toxic airborne substance that originated at Dugway.

The sheep deaths went virtually unnoticed until 17 March, when the principal rancher involved and his veterinarian concluded they were up against something they couldn't handle and called for help from local universities. The deaths are now being investigated by Utah-based specialists from Dugway, the University of Utah, Utah State University at Logan, the U.S. Department of Agriculture, and various other state and federal agencies. Late last week, as the incident gained wider attention, various other scientists came rushing to this arid valley about 60 miles southwest of Salt Lake City to assist in the investigation. The Army's Edgewood (Maryland) Arsenal, the Public Health Service's Communicable Disease Center in Atlanta, the Agriculture Department's National Animal Disease Laboratory in Ames, Iowa, and a military contractor have sent in experts. The investigation has been placed more or less under the command of Brig. Gen. William Stone, Jr., from the Office of Research and Laboratories of the U.S. Army Materiel Command, but civilian scientists seem to be following their own leads. Colonel Jesse Stay, deputy director of defense information in the Office of the Assistant Secretary of Defense for Public Affairs, has been sent in to handle publicity problems. At this point, virtually no one has a complete picture of all the scientific tests that have been run and are being run.

Circumstantial evidence points to Dugway as the source of whatever killed the sheep. The Army has acknowledged conducting tests of persistent and non-persistent nerve agents at Dugway on the afternoon of 13 March, the day before shepherds first noticed the sheep were ill; nerve agents attack the central nervous system; and the five herds known to be affected were so located that a west-to-east wind would have passed over all of them. The Army said one of its tests involved dispensing about 320 gallons of a persistent-type nerve agent from two spray tanks aboard a high-speed aircraft about 27 miles from the nearest affected sheep. Another test was a routine weekly demonstration firing of 155-millimeter shells containing nonpersistent nerve gas. The shells landed over 15 miles from the nearest affected sheep herd. That afternoon, about 27 miles from the nearest affected herd, approximately 160 gallons of a persistent agent were disposed of in a burning pit.

Despite the suspicion pointed at Dugway, the case has many puzzling aspects. Army scientists say the symptoms shown by the afflicted sheep do not resemble symptoms associated with the nerve gases they were testing. The symptoms shown by the sheep are contraction of the pupils, foaming at the mouth and nose, muscular vibration and muscular convulsions, and rapid, short breathing. The scientists also assert that, at the time Dugway was testing the nerve agents, the wind was blowing toward the north-northeast rather than east or east-northeast in the direction of the sheep, although the following day some west-to-east squalls apparently did blow first over Dugway and then over the sheep. Moreover, horses, dogs, cattle, and men who were either with the sheep or close to them were not affected. One theory—so far completely unsubstantiated—is that a toxic substance may have been carried on snow, a source of water for sheep but apparently not for the other animals or men.

By late last week the investigators had fairly well concluded that the deaths were not caused by a biological agent, by infectious disease, or by a poisonous plant, and the search focused on efforts to find evidence of a toxic chemical, particularly one of the organic phosphate compounds, which are the key components of nerve gases. A variety of tests was under way. Dugway scientists were subjecting healthy sheep to various doses of the nerve agents they tested on 13 March to see if the healthy sheep developed symptoms like those of their stricken brethren. Initial results were negative. Civilian and military scientists were also analyzing samples of snow, soil, water, and vegetation for traces of toxic substances. And they were examining blood samples from the stricken sheep to see if levels of the enzyme cholinesterase were depressed. A low level of cholinesterase would indicate that the sheep had been subjected to an organic phosphate compound, though not necessarily to a nerve agent, since organic phosphates are found in pesticides and other substances as well. At least one civilian lab is convinced it has detected "marked retardation" of cholinesterase in a number of stricken sheep. And on 25 March the Army acknowledged that scientists at Dugway and elsewhere have detected "some depression" of cholinesterase levels in both live and dead sheep and in some nearby cattle as well, but the Army stressed there was as yet no evidence identifying the actual chemical compound that poisoned the sheep. Another civilian scientist thinks he saw some improvement in two sheep he injected with atropine, an antidote to the organic phosphates, but a third sheep treated with atropine showed no improvement and the results were considered inconclusive.

Utah sheep ranchers suspect the Army will try to "cover up" if it discovers that nerve agents did indeed kill the sheep, but Army officials insist they are eager to have outside scientists participate in the investigation and help solve the mystery. The Army says it has granted clearance and access to all relevant information to at least two Utah state officials. Civilian scientists have been allowed to work closely with their counterparts at Dugway on the investigation.—PHILIP M. BOFFEY