

Youth Forum Papers

A Right to Know

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*Editor's Note:*

This paper was the first place winner in the High School Youth Forum presentations at the 1992 SRM Annual Meeting in Spokane, Washington.

In *The Salt Lake Tribune*, on Wednesday, March 20, 1968, about 20 pages back, there was a small article which read:

Some kind of poison is suspected in the unexplained deaths of over 4,500 sheep that have occurred over the past five days on the Hatch Ranch in Skull Valley. The peculiar poisoning has been confined to only sheep so far, all other animals seem to be unaffected. Utah's Senator Bennett, in a letter to Secretary of Agriculture Orville Freeman and Secretary of Army Stanley Resor, pointed out that the widespread poisoning deaths were occurring only 25 miles from Dugway Proving Grounds, where Nerve Gas tests had been taking place. Dugway officials claim that tests are "definitely not responsible."

In the weeks following this article, it was determined that the cause of death over 6,400 sheep was in fact due to Nerve Gas testing at Dugway Proving Grounds. The gas had been caught by a snow storm and because sheep are the only animals that eat snow willingly, they had been the only ones affected. The Army still insisted that tests were not responsible, but they did compensate the owners of the sheep for their losses.

This incident soon made headlines all over the nation, and people began to realize that chemical weapons were not only a risk to humans—they could also have severe effects on animals and the environment.

Chemical weapons were outlawed in 1969, and the United States found itself with 42,000 tons of chemical weapons that they could not use, most of which are still around today. The U.S. alone has enough chemical weapons to administer 1,000 lethal doses to every person in the world. Tooele Army Depot's South Area, located in western Utah, is the home of 60% of the free world's chemical weapon stockpile. The chemical weapons are at present being stored in "igloos" until they can be destroyed in the incineration plant, also located at South Area. The three chemicals being stored are GB and VX, which are lethal nerve agents, and Mustard Gas, which is a blistering agent. These weapons are now between 22 and 43 years old, and there are signs that the containers they are stored in are deteriorating. The gas corrodes the rockets' aluminum casing. Since the early 1960's, workers have discovered over 1,200 leaking rockets at the eight U.S. storage sights.

My home in Cedar Valley, Utah, is located less than 15 miles from South Area. We have over 12,000 acres of cropland, and own around 200 head of cattle. In addition to this we also winter up to 500 head of cattle each year for other cattle operations.

Rush Valley, where South Area is located, is known for its large livestock operations where the animals graze the rangeland. If there was a major leak, it would kill a majority of the livestock there today, just as it killed the sheep in 1968. The gas could also be carried by the winds that sweep the valley. The prevailing winds put my home and farm in direct line with South Area.

All three of the chemicals stored at Tooele Army Depot's South Area can have serious effects on both the environment and the animals that they come in contact with.

GB has been known to wilt leaves on plants, and animals can be hurt eating exposed plants. Because GB is a nerve gas, it is a deadly poison to anything with a nervous system. Over time, the chemical will biodegrade, but there is still a threat of danger. Methylphosphonic acid, a by-product of GB, has been found to be toxic to eight different species of flowering plants and algae.

VX, also a nerve agent, has totally different effects. VX affects the reproductive systems of animals and if inhaled can cause mutations and deformations in the fetus. It is also known to slightly influence the germination rates of plant seeds, and is toxic to mature plants. The by-products of VX can, if consumed, inhibit the natural growth of choline, a major B-Vitamin, in the body. When hydrolysis of VX occurs in a neutral or slightly alkaline solution, it forms a complex series of by-products, some of them being very toxic. Even though hydrolysis leads to decomposition, decomposition does not lead to complete loss of activity. Traces of VX have been found 102 centimeters deep in the soil, as late as ten years after application.

Mustard gas is the only blistering agent being stored at South Area. It has the capability to cause mutations in bacteria, molds, insects, and animals. Mice and rats exposed to the gas for prolonged periods of time have developed tumors and cancer. If the mustard gas, in the liquid or vapor form, comes in contact with plant tissue, it can cause damage. The gas can alter the fertility of wheat, corn, and barley that have been grown from contaminated seed. Contaminated soil has been known to create

concentrations of up to nearly fifty times the required toxic concentration.

To ensure the safety of this environment, Tooele Army Depot does take every precaution possible. At South Area, many detectors are used, including the ACAMS or Automatic Continuous Air Monitoring System. The alarm sounds on the ACAMS when a chemical level in the air reaches 1×10^{-4} cubic millimeters per millionth. To put this into perspective, it is similar to lining up pennies for 17 miles and trying to find 2 of them.

Also, all employees are trained in the handling of chemical weapons. If any leak at all is detected, the workers in their DPE's or Demilitarization Protective Ensemble, dismantle the weapon in a sealed room. The DPE's are incinerated after use to prevent the spread of the gases.

With everything being done so carefully, and so many precautions being taken, you wouldn't think the Army was doing anything wrong—but they've forgotten to do one major thing.

The Army isn't informing the people of what could happen. Of the people I talked to, none of them knew of the effects these chemicals have on the environment. The government believes that sometimes it is unnecessary to tell the public because it may frighten them when there is really no need to. But, if the Government doesn't give the public the facts, the public listens to the fanatics, which in turn, usually creates more fear and causes more problems.

The majority of the people in the valleys surrounding South Area are farmers and ranchers. These people need to talk with Depot officials. They need to cooperate. The Army needs to tell them the facts—all of the facts. And in

return, the people need to listen and understand that although the threat is there, the Army is doing everything possible to make it safe. Whatever they do, they shouldn't keep the public in the dark. The bottom line is—we have the right to know.

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What Do Young People Know about Range?

Julie B. Lachowski and Mark G. Francis



Editor's Note:

This paper was the second place winner in the High School Youth Forum presentations at the 1992 SRM Annual Meeting in Spokane, Washington.

Range is an important part of our ecosystem especially in the western United States. Young people need to learn about rangelands and about their importance, so as future leaders they can make proper decisions.

This paper summarizes the results of a survey that I conducted in two high schools in Salt Lake City, Utah.

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The purpose was to determine how much young people know about range, how they feel about its management, and their interest in range related issues. The survey results are followed by my interpretations and recommendations to the Society for Range Management.

My main finding is that young people are very interested in learning about range. The Society for Range Management should take advantage of this and expand its environmental education.

Survey Results

The survey is composed of three parts, a total of 33 multiple choice and true-false questions. The three parts were: