

## Hold onto Your Soil; It Is the Heart of Our Livelihood

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At the heart of nearly every producer is land. In fact, one could literally claim they each have a heart of soil.

Former U.S. Secretary of Agriculture Henry Wallace noted in 1938: "The earth is the mother of us all -- plants, animals, and men. The phosphorus and calcium of the earth build our skeletons and nervous systems. Everything else our bodies need except air and sun comes from the earth."

Today conservation issues are front and center -- on producers and non-producers minds. The goal is sustainability of land resources. And, it is not a quick-fix solution, just as formation of our soil has taken tens of millions of years.

Recently, the North Dakota State University Dickinson Research Extension Center was notified of a salt-water spill in one of our cattle pastures. This column is not a negative reaction to one of our co-existing industries, the energy industry. For the most part, agriculture and energy are faced with meeting the demands of an increasingly urbanized consumer.

The industrialization of the world has resulted in seeking comfort of the masses and has produced large centers of population. These population centers could be compared to the lush stands of grasses like quack grass, quick to develop a root system for significant sustenance, without the best regard to the neighbors. As a result, the agriculture and energy industries are called upon to support urbanization. Yet, in any society situations develop that involve the environment and challenge rational thinking.

Standing on the hill side, watching salt laden plants yellow with death, is disheartening. Questions come to mind about the scope of the loss, liability, repair and replacement, time needed, etc. (Luckily, cattle were not in the pasture at the time.)

A logic approach to fixing situations like this begins with the slow process of fact recovery: collecting the data necessary to repair the situation to as good or

better than before. The important point for the land user or owner is not to give way to the quick fix but hold on for the long haul, which means a full assessment of the magnitude of the environmental impact.

Assessments like this are not simple, cheap or fast but, they can provide the right answers -- or at least options for repair. In this case, we called on the North Dakota State University Veterinary Diagnostic Laboratory for assistance. The lab collected soil, plant and water samples from the affected area for final determination of damage before we allowed cattle access to the area. The samples were analyzed for hydrocarbons, ions, heavy metals and total dissolved solids.

The test results indicated the presence of refined oil, indicative of a spill, but no crude petroleum. The refined oil spill was cleaned up. No toxic or heavy metals were detected that would have been a concern for cattle. Three water samples and one soil sample had elevated levels of sodium, and three water samples had elevated levels of potassium, greater than values recommended for normal livestock consumption.

Additionally, total dissolved solids were elevated in three samples. The solution was confinement and dilution. We fenced cattle out of the area and we'll be flushing the area with water that will be pumped in and hauled back out. Cooperation from the energy industry and land user was good. But as in any accident, healing and repair takes time, but will always be aided by good data and facts, not pacification.

Producers/land owners: hold on to your heart (soil), because once it's gone -- well you know the answer. May you find all your ear tags.

Your comments are always welcome at [www.BeefTalk.com](http://www.BeefTalk.com). For more information, contact the North Dakota Beef Cattle Improvement Association, 1133 State Avenue, Dickinson, ND 58601 or go to [www.CHAPS2000.com](http://www.CHAPS2000.com) on the Internet. In correspondence about this column, refer to BT0110.

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# Laboratory Results of a Salt Water Spill

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Hydrocarbons - Crude Petroleum	Negative
Toxic and Heavy Metals	Negative
Excess Ions (sodium or potassium)	Positive
Excess Total Dissolved Salts	Positive