Aqua, Sine

Tom Giessel

By Tom Giessel

The Latin, "*Aqua, sine qua non*" translates to "water, without which [there is] nothing." This phrase should be not only on our lips, but permeate our minds in this time of drought, climate change and a new level of competition for natural resources. Our Catholic faith creates the bond with water from the very beginning of our life. With Baptism, our physical body is sprinkled, splashed or submerged within the great gift of water. The multi-layered symbols associated with this ritual flow deep. Water is spiritual. Water is life-giving and is essential to our physical well-being. Throughout the Old and New Testaments, as well as in the Gospels, we are continually catechized with water. The very foundations of stewardship practiced by family farmers and ranchers draw from these teachings and lessons.

Farmers and ranchers know water. They live it. There can be too much water, but more often, there is too little. Such is the story for much of the High Plains in recent years. Lack of sufficient rainfall and searing heat has been the norm. Residents of this region are not strangers to these extremes, but this time around, it seems different. The temperatures have been persistently high, and the precipitation chronically low. Even the overnight temperatures are above normal. In past drought years, there has generally been intermittent relief from the heat. In those years, it would still "cool off" at night. Nighttime affords people, plants and animals needed time to rest.

In 2012, the wheat harvest across the Plains states set records for early development and subsequent harvesting dates. The winter wheat broke dormancy very early and in many cases, matured as much as three weeks ahead of normal. This was a direct result of a climate extreme. The insect cycles were equally impacted, with the "June bugs" crawling around in late April. The boundaries of many cycles and seasons were expanded.

There is another dynamic change that has occurred with farming practices. With the advent of no-till farming methods, many of the immediate effects of drought and heat can be camouflaged, lulling us into a false sense of security. It is grand that we have residue holding the topsoil in place from erosion by wind, and shade to reduce evaporation and control run-off. However, a 60 mile per hour windshield observation of what is happening just under the thin coat of residue may not provide

Que Non

the best view of reality. Oftentimes the soil is a soft powder with no hint of moisture. The prolonged drought also dramatically reduced the tonnage of forage crops grown. To offset this reduction of livestock feed, many farmers and ranchers resorted to baling vast tonnage of crop residue, removing valuable organic material. Corn stalks, wheat straw and soybean stems are a valuable source of renewable soil nutrients and should remain in the field. The cost of replacing these minerals with commercial fertilizer is very expensive. The soil's ability to absorb rainfall also suffers when this material is harvested in excess. Fallowed land, with little residue, resulted in afternoon soil temperatures as high as 136 degrees in mid-summer. The health of the soil is compromised with the occurrence of these extreme heat events and whole-crop harvesting.

Two Blades of Grass, Where Only One Grew Before

Yet another change in the cycles of farming has been crops that are bred or engineered in an attempt to extract every drop of water that is available. This is much different from days gone by, when the top yield was determined only by genetics. We are approaching the point where the amount of water available to the plant is the only limiting factor to maximum yields. On the High Plains today, most all of the water falling from the sky rarely penetrates more than a few feet into the soil profile before being pulled back through the plant, making grain. This results in a very nominal recharge to the water table, while maximizing bushels or tons of yield from the top side. A good portion of this change in farming cycles took root with the enactment of misguided farm policy in 1996, the so-called "Freedom to Farm" legislation. Previous farm programs were commonly designed upon sound conservation principles and stewardship, balancing the needs of eaters with the wise utilization of resources. Rarely did a harvest leave the land running on empty.

Aqua, Sine Qua Non.

Now, even the water cannot rest.

The widespread drought and searing summer heat across the heartland had a number of people embracing an unsustainable harvest. One obvious element is the exorbitant amount of groundwater being withdrawn to irrigate crops. Irrigated agriculture has been with us for centuries. It has allowed us to provide a vast array of food for millions of people. Many areas of the country are blessed with a geology and climate that allows for this practice. Underneath the High Plains is a vast supply of fossil water deposited over eons. The Ogallala Aquifer lies under parts of seven states. In some regions, there are still large quantities of groundwater in storage. A much larger percentage of the aquifer is being rapidly depleted. In fact, in limited areas, "the well is already dry." The demands upon the aquifer in this age of climate change begs for fair, honest and objective re-assessment. In Kansas, according to the Kansas Geological Survey, this past year the Ogallala water levels dropped an average of 3.56 feet. This follows on the heels of an average depletion of 4.26 feet in 2011. Couple this with dramatic yield reduction due to extreme heat, and the loss is staggering. It requires 4,000 gallons of water to produce a single bushel of corn, and 11,000 gallons to yield a bushel of wheat. This should make us mindful of our responsibility to consume with a conscience. For years, the NCRLC has promoted the saying, "Eating is a moral act." The collateral consumption of water, by how we eat, deepens the meaning of this phrase.

Water as a Commonwealth

Farmers and ranchers have always looked upon water as a gift, understanding that it is to be shared in common. On the High Plains, water is held inside the Earth, protected from heat, wind and evaporation. It is a safe deposit box. Every drop should be cherished. The icon of the windmill fits the territory very well. It is the solitary tower with a spinning wheel, lifting the pump-rod and discharging a surge of liquid life. The delivery is slow and steady, only interrupted by the occasional lack of a breeze: rarely too much or too little. Many have had the distinct pleasure of catching a splash of cool, pure water and drinking with a tin cup, which often hangs from a curl of wire, or watching cattle suck up huge gulps of the life-sustaining drink. A friend of mine refers to groundwater as "sandstone champagne." If you have ever enjoyed this experience, the phrase has deep meaning. We need to step back and gaze upon the gift of water by the cupful, as a precious resource, instead of, merely a commodity measured in acre-feet or gallons pumped per minute.

With the exponential increased demand for water, the question before us is, "How will we discover the path to a common sense of stewardship of this gift of life?" An unpredictable and changing climate, growing population, and global demands move the question forward at warp speed. It is imperative we re-think the casual consumption, as well as the cursory conservation, of water, in every aspect. ***Aqua, sine qua non.***

Tom Giessel is a fourth-generation family farmer from Pawnee County, Kansas. Along with his brother, he raises winter wheat, grain sorghum, corn and alfalfa. Tom and his wife Sheryl receieved the St. Isidore Recognition award from NCRLC in 2006. He is a board member of the Ogallala Commons group and former board member of the Kansas Farmer's Union.