Texas Dairy Matters

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PANHANDLE WATER USE: DAIRY AND OTHER COMMODITIES

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The primary source of water for the Texas High Plains is the Ogallala Aquifer, which has been the center of controversy for many years. The basically non-renewable aquifer has garnered the attention of policy makers who are imposing or considering restrictions on the amount of water pumped in an effort to extend the usable life of the aquifer.

A recent study by Texas A&M AgriLife Extension, West Texas A&M, and Texas Tech University has evaluated the impacts of confined livestock operations, irrigated crops, and ethanol plants on the aquifer in the Texas High Plains. The study area, referred to as the Texas High Plains, includes the state water planning Regions A and O. These regions encompass a 42 county area that lies over the Ogallala Aquifer, which is the primary water source for this region.

Approximately 88% of the states' fed beef, 95% of the swine and 48% of the dairy cattle are located in this region. The National Agricultural Statistical Service (NASS), U.S. Agricultural Census, and Texas Regional Water Plans comprised the majority of the data utilized in this report.

In the 2011 plans for the Texas High Plains, it was estimated that 6,111,751 acre-feet of water was pumped for municipal, industrial, steam-electric power generation, mining, irrigation, and total livestock in 2010 (Table 1). Agricultural industries in total used an estimated 5,793,933 acre-feet with irrigated crop production accounting for 93.25% of the total water use. Direct water use for all types of livestock operations consumed 1.48% of the water. Of the 1.48% livestock water usage, confined livestock operations accounted for 1.13%.

There are both direct and indirect water demands for livestock operations and ethanol plants. Direct water use is the water required for drinking, dust control, washing and other daily needs; while indirect water use is the water required to produce feedstock and forage for each operation. Total water use accounts for feedstock and forage grown within a region, as well as the feedstock imported from outside the region; while regional water use is only from

feedstock and forage grown within the Texas High Plains region (Table 2). It is important to note that dairies typically recycle a portion of the water used on the dairy, as refuse and other waste is typically used for irrigation, which was not accounted for in this study.

Table 2. Regional water use from livestock operations and ethanol plants in the Texas High Plains

	Regional Water Use (acre-feet)
Fed cattle	~ 1,000,000
Ethanol	140,000
Swine	120,000
Dairy	~ 215,000

Source: Water Use by Confined Livestock Operations and Ethanol Plants in the Texas High Plains – Final Report; Amosson et al., 2010.

In conclusion, results from this study suggest that the impact on water use in the Texas High Plains from future expansion of confined livestock production and/or ethanol production in the region will be minimal.