Top 10 Considerations That Go Into Leasing Ag Water

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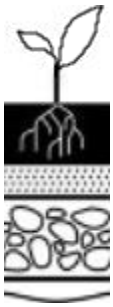
What is agricultural water leasing? An ag water lease provides water for other uses (municipal, industrial, etc.) while enabling the ag water right holder to maintain ownership of the water right. The lease arrangement is voluntary and temporary, and the water right holder is compensated for the water leased. The concept of ag water leasing is also referred to as an 'alternative ag transfer mechanism' (ATM).

The Colorado Water Plan, released in November, 2015, estimates that by 2050, municipal and industrial (M&I) water providers in Colorado will need an additional 560,000 acre-feet of water annually to meet their collective customer demands. To help close the projected demand-supply gap, the water plan puts forth a goal of 50,000 acre-feet per year to be leased by ag to the municipal / industrial (M&I) sectors. The idea is to allow ag water right holders to 'free up' water for leasing through fallowing or deficit irrigation. The water that would have been used by a crop is instead leased, and the water itself becomes the 'cash crop' that the ag producer 'sells' for a season or part of a season.

In 2016, the Colorado Cattlemen's Association surveyed ag water right holders throughout the state to better understand their perceptions and attitudes toward ag water leasing. The results indicated most ag water right holders are interested or at least open to leasing, if the terms are favorable. Also, more than 80 percent of respondents cited "income diversification" as the greatest potential advantage of leasing water.

The few ag water leases that are currently ongoing in Colorado suggest two things: 1) participating ag water right holders like them, and 2) they are complex and expensive to establish. Growing interest in ag water leasing – both from ag producers seeking greater income certainty and from other water interests looking to meet increasing demand – will increase the opportunities for leasing, at least in those areas of the state where strong population growth is projected. There are several aspects of leasing that ag water right holders must evaluate in the consideration of a lease:

1. **Soil:** How will fallowing or deficit irrigation affect the soil? The structure and biochemistry of soil is influenced by irrigation. Irrigated fields with senior water rights have often been under irrigation for a century or more. If a field is fallowed for a season and the water leased, will the field readily accept irrigation water the following season when it is returned to production? Inadequate data is available regarding how fallowing affects different types of soils. Comments from a few Colorado farmers that have fallowed fields, either voluntarily or because of a water shortage, suggest a variety of results have been observed.



   A small study conducted in 2013 by the University of Arizona in the Palo Verde Valley found that short-term fallowing increased soil organic matter content and microbial diversity, suggesting that soil microorganisms benefitted from a period of rest. The research area straddles the Colorado River near Blythe, California. The study also found that marketable crop yield and total plant biomass

were higher in crops harvested from the post-fallow fields than from the continuously farmed fields. An increase in soil salt content was also observed in the fallowed fields, however the researchers pointed out that over-application of irrigation water in the following season could flush the salts below the root zone. The soil types within the study area are mainly loams, which contain sand, silt and clay. The response of short-term fallowing on predominantly sandy or clayey soils may yield different results.

2. **Forage crops:** Unlike annually planted crops, irrigated pastures and hay meadows cannot be fully re-established in one year. Landowners considering a temporary leasing arrangement must consider how their forage stand will be affected by limited or no irrigation for a season. Deficit irrigation trials being conducted on alfalfa at Colorado State University's Orchard Mesa Research Station indicate that deficit irrigation significantly reduces yields but uses water more efficiently by avoiding irrigation in the hottest part of the season. It may be more profitable to take an early cutting and lease water during the summer, and then irrigate in the fall when water is available and demand is low versus using all the water to maximize yield.

3. **Other water right holders:** A lease-fallow arrangement must ensure there is no injury to other water right holders. Return flows must be replaced in time, location and amount. A hydrologic study is usually needed to quantify return flows and identify where potential injury may occur to other water right holders. A mitigation plan can then be developed to augment flow deficiencies. Water rights holders most likely to be injured are also frequently neighbors. Thus, it makes sense to perform a robust return flow and lag time analysis for both legal and practical reasons.

4. **Livestock needs:** When considering a temporary water lease, a livestock producer must determine whether his or her remaining irrigated pasture or cropland acreage will be adequate to supply livestock feed requirements for the year. Leasing water and fallowing land usually only makes sense if additional hay, pasture or feed does not have to be secured. Purchasing feed on the open market is less desirable than growing it unless there is a cost advantage.

5. **Water right security:** An agricultural water right is based on the beneficial consumptive use of crops and/or forage that have historically been grown, rather than the amount diverted. The consumptive use amount is the documented annual crop evapotranspiration (ET) that can be shown to have been met by the water right, for a representative period of years (*Colorado Water Institute, 2016*). Ag water right owners must consider whether leasing water rather than growing a crop will count against their historic consumptive use calculation. State laws, such as Senate Bill 19 (13-019) protect an ag water right from diminishment if the water right is participating in a lease that is approved by either a federal or state agency, water conservation district, or municipality. Private lease agreements may not offer the same protection from potential water right diminishment.

6. **Customers:** Ag producers must consider whether leasing water will impair their ability to supply their customers with the expected quality and volume of product. Many agricultural producers have customers beyond the local grain elevator. Corn grown for silage is usually marketed to nearby feedlots and dairies if it is not being grown for on-farm use. Likewise, alfalfa is also often grown for agricultural customers and equine enthusiasts that return year after year. Direct marketing of

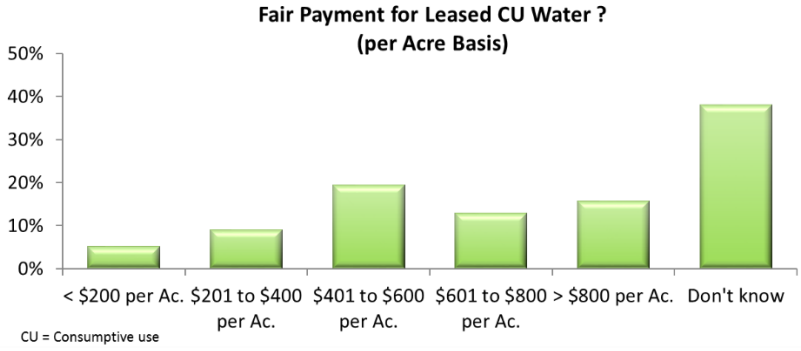
products, whether to other producers or to the public helps agricultural producers capture a larger share of their crop's value. The USDA Economic Research Service reported in 2016 that farmers who market goods directly to consumers have higher rates of business survival over time. Ag water right holders interested in leasing must ensure they can still meet customer needs while fallowing or deficit irrigating land.

7. **Suppliers:** On the other side of the spectrum are suppliers who provide vital goods and services that enable agricultural producers to operate efficiently. Agriculture requires an entire ecosystem of suppliers to ensure essential work gets done. However, minimal inputs are needed for fallowed land, other than perhaps cover crop seed and pesticides for weed and insect control. If a significant percentage of a farming community engages in water leasing, ag suppliers could be economically impaired. Long-term, this could result in fewer ag suppliers and corresponding gaps in the availability of services and products, which could ultimately increase ag production costs for farmers. The impact on suppliers may need to be considered if large-scale ag water leasing is planned.

8. **Aesthetics:** Producers involved in agro-tourism and recreation must consider the aesthetics of non-irrigated fields or pasture in the eyes of guests or event-goers. Any venue that brings in visitors will result in social media postings, including photos and video. Brown vegetation is not as visually appealing as lush green plants. On the other hand, posting information about the ag water lease on social media sites and placing a sign in front of a fallowed field explaining that the field is brown because the water is being leased for residential, environmental, recreational or other uses may help increase awareness among guests and neighbors about the growing demand – supply gap. It could also show that agriculture is helping as much as possible to close the gap, and in turn change some negative attitudes about agricultural water use.

9. **Management:** Arranging and managing an ag water lease is currently a costly and complex venture. Expenses, which include legal, engineering, administrative, operational design, record-keeping and reporting, present barriers to entry for most individual producers. Moreover, leases – especially with the municipal and industrial sectors - will typically require robust reservoir storage rights, something which few producers have. Consolidated organizations like ditch and reservoir companies are the best-positioned entities to execute leases on behalf of participating ag producers. Costs can be spread among shareholders, and the large quantity of water and diversity of water rights represented by a large group of water right holders presents a more attractive partner for municipalities and industries to do business with. Ag water right holders who are interested in leasing and who are not members of ditch companies may benefit from joining with other like-minded irrigators to create a formal corporate entity that could better engage in leasing. Leasing water for recreational and in-stream flow support purposes will likely represent the best opportunity that individual irrigators have to participate in leasing.

10. **Money:** The bottom line for the ag producer is that leasing ag water lease must offer greater benefit than not leasing when all factors are considered. Our ag water survey respondents indicated acceptable lease prices ranging from less than $200 per acre to more than $800 per acre (see table). Producers participating in the Lower Arkansas Valley Conservancy District's Catlin Canal Lease-Fallow pilot project were paid an average of $1,030 per fallowed acre in 2015, the first year of operation. The leased water was delivered to the towns of Fountain, Security and Fowler through an exchange in Pueblo Reservoir. The lease-fallow pilot project is anticipated to run at least until 2024. Other lease rates seen around the state have typically been lower than the Catlin Canal project.



Ag water leasing represents an opportunity for ag water right holders to diversify revenue from their water rights and keep their land in agricultural production now and in the future. Through leasing, the agricultural sector is demonstrating its willingness to help meet the growing water needs of the municipal and industrial sectors. At the same time, it helps to sustain and support the preservation of irrigated farmland and the larger agricultural community in Colorado.

The Colorado Cattlemen's Association created the Ag Water Network in 2015 with the goal of helping to preserve irrigated agricultural land in Colorado. Phil Brink, CEP, is the consulting coordinator of the Colorado Cattlemen's Association's Ag Water NetWORK, a grant-funded initiative designed to help keep agricultural water connected with agricultural land by facilitating ag water leasing. Contact Phil at 720-887-9944 or phil@brinkinc.biz, if you have questions about ag water leasing, or to discuss your interests.

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