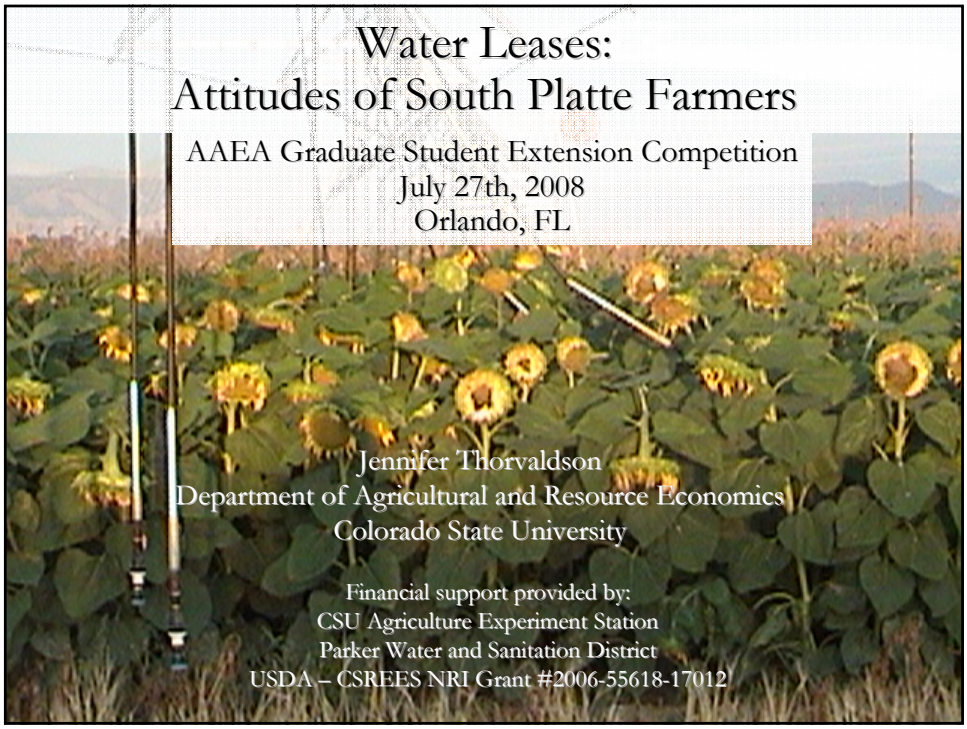

Water Leases: Attitudes of South Platte Farmers

AAEA Graduate Student Extension Competition
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Orlando, FL

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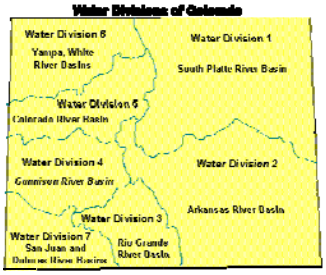
Presentation Outline

- Competing water demands in Colorado
- Negative impact of permanent water transfers as catalyst for finding alternatives
- Producer survey and results

Population Growth, Increasing Water Demand, and Loss of Irrigated Acreage



Basin	Anticipated Population Growth	Additional Water Needs (AF)	Estimated Loss of Irrigated Acres	Economic Impact of Acreage Reduction (million $)
Arkansas	55%	98,000	47,500 (9%)	$20.3
Rio Grande	35%	4,300	80,000 (13%)	$107.5
South Platte	65%	409,700	179,500 (18%)	$110.1

Permanent Water Transfers from Agriculture to M&I Uses

- Individual farmers compensated
- Third parties not typically compensated (indirect and induced economic activity not replaced)
- Portion of economic base removed: Formerly irrigated land typically fallowed and not always developed for other uses (Crowley County, CO)
- "Hot spots" tend to occur: clustered acreage losses result in concentrated economic impacts
- Stakeholders seek alternatives to 'buy and dry'

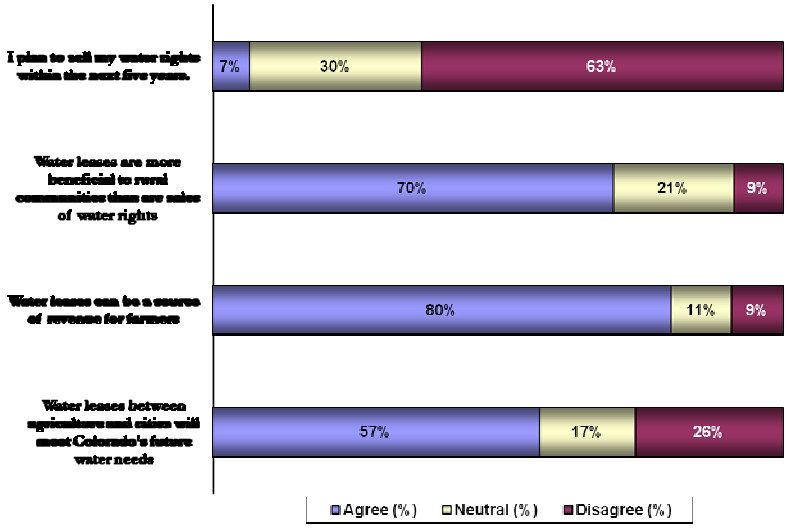
Survey Objective: Will Leases Avoid 'Buy and Dry'?

- Farmer as water manager
  1. Input to irrigated crops
  2. Lease to cities (a high-value crop)
     - Rotational fallowing program
     - Limited irrigation farming
       - Innovative crop mixes
       - Timing irrigation to coincide with critical growth stages
- Survey of Potential Water Leases and Irrigation Practices in the South Platte River Basin
  1. Who is Willing to Lease?
  2. At What Price?
  3. How Much Water?

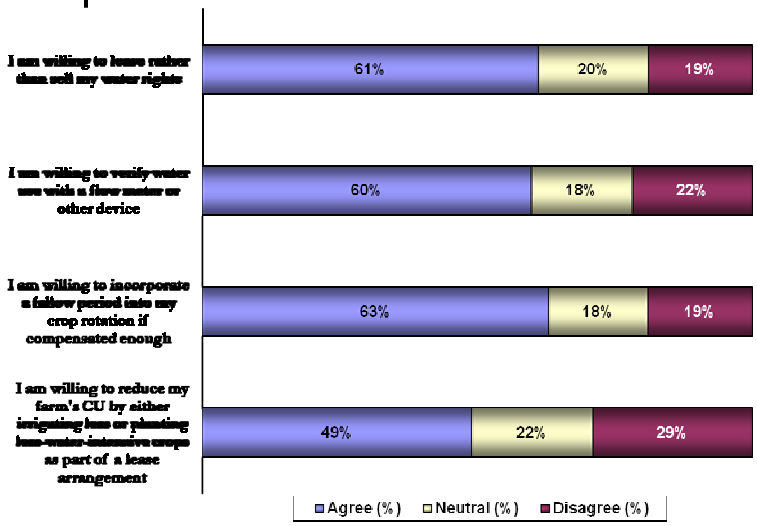
Survey Design and Methods

- Sample Frame
  - National Agricultural Statistics Service
  - Farmers with ≥ 50 irrigated acres
  - 1,731 successful mailings
  - Usable response rate: 19%
  - No significant differences between demographics of respondents and non-respondents (sample deemed representative)
- Likert scale: SD, D, N, A, SA

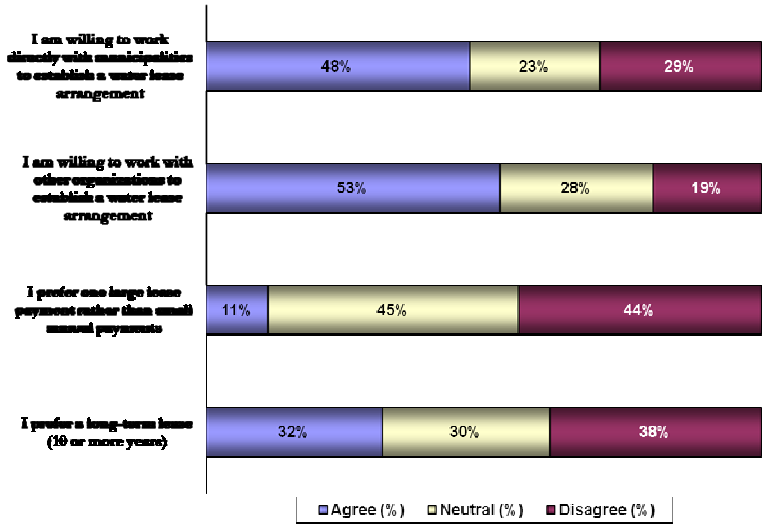
Attitudes Toward Leases in General



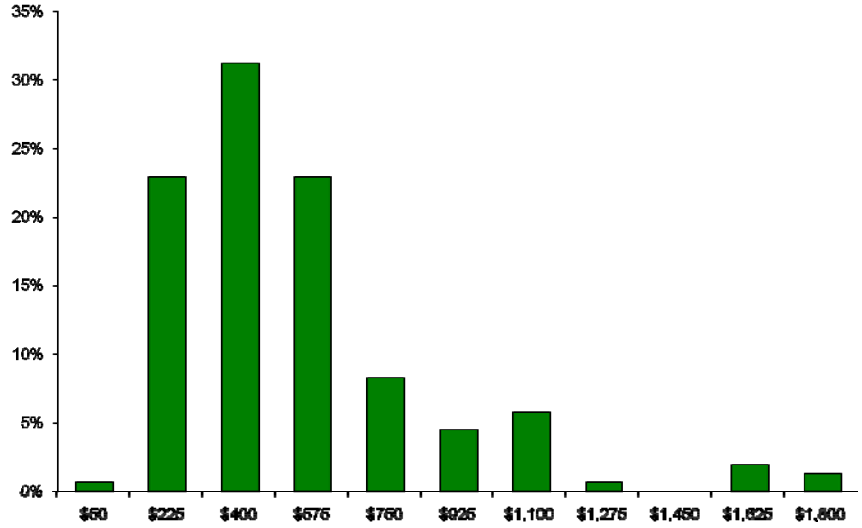
Willingness to Participate in a Lease



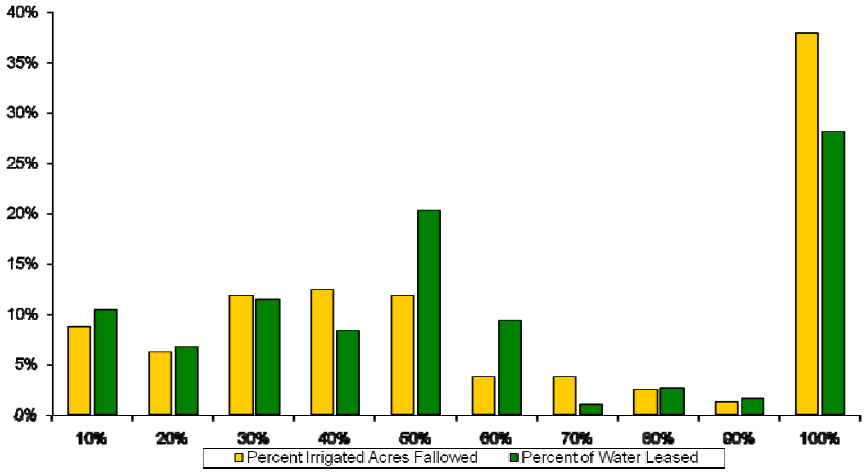
Preferences in a Lease Agreement



Minimum Price per Acre Required to Fallow all Acres for 1 Year



How Much Water Would be Available for Lease?



Approximately 33,000 total acres with 50,000 to 60,000 AF

Characteristics of Farmers Who are Willing to Lease

Binary logit based on agreement with statement:
"I am willing to participate in a water lease if paid enough."

Variables with Significant Negative Effect	**Variables with Significant Positive Effect**
Proximity to Urban Center	Concern for Rural Communities
% Groundwater	Farming Experience
	Willingness to Work with Municipalities
	Willingness to Work with Other Organizations

Conclusions, Limitations, and Opportunities

- A functional lease market is possible
  - Farmers are willing to sign leases
  - Reasonable prices and sufficient amounts of water
- Lingering questions:
  - What are municipalities willing to pay?
  - Do transactions costs overwhelm the lease prices?
  - Who will negotiate lease agreements?

Questions?
Comments?

Thank you!