Evaluating Land Tenure Systems in Louisiana Cotton Production for Grower Profitability

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Beltwide Cotton Conferences, Economics and Marketing Session, New Orleans, LA , January 4-7, 2010

Basic Rental Arrangement Concepts

With the inherent uncertainty and risk associated with agricultural production, producers use a variety of tools and mechanisms such as crop insurance and marketing contracts to manage and reduce their risk exposure. Contract type substantiality affects the tenant/landlord relationship e.g. sharing of revenue, costs, risk, and managerial responsibilities. Since landlord income is dependent upon variable crop yields and market prices with shared contracts, additional financing and managerial compensation is typically negotiated to induce landlords to utilize shared rent contracts. The inherent nature of variability in cost sharing in agriculture is due to the fact that no two arrangements are exactly the same for two producers in one region or state.

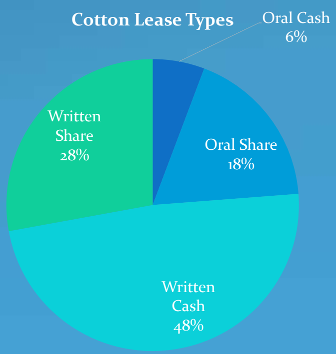
The objective of this study was to examine the affect of alternative land tenure arrangements on net returns and risk to the cotton producer. Preliminary survey results from April 2009 provided data on the amount of cotton acreage and rent mechanism from East Carroll, Morehouse, and Tensas Parishes. A financial simulation model was constructed to examine market returns over common share rental arrangements in Louisiana, near-by futures prices, and forecasted 2009 parish yields while comparing the risk measure of the grower in each arrangement.

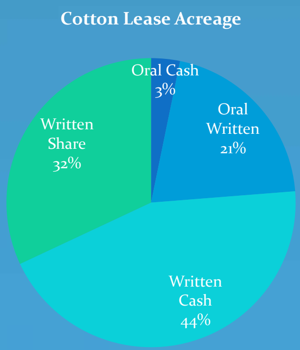
Survey Results for Cotton Leases in 2009

Oral Cotton Leases (June 2009 Survey Results)				
Rent Mechanism	No. of Leases	Multi-Year Leases	Total Acres per Contract Type	Average Acreage per Lease
Cash	7	6	950	136
Share	22	3	6,062	276

Written Cotton Leases (June 2009 Survey Results)				
Rent Mechanism	No. of Leases	Multi-Year Leases	Total Acres per Contract Type	Average Acreage per Lease
Cash	59	45	13,077	222
Share	34	31	9,441	278

Share leases were the most common type of oral crop lease for cotton, while cash leases were more common with written lease agreements. An estimated 75.9% of the oral leases and 86.5% of the cotton average leased under oral agreements were crop share agreements. Cash rental arrangements accounted for 63.4% of written cotton leases and 58.1% of cotton acreage leased under written agreements..

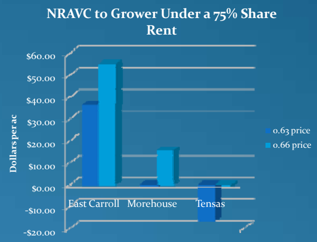




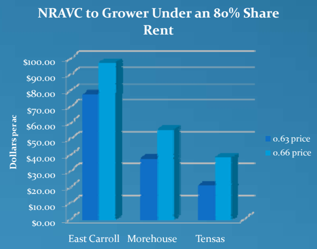
Evaluating Income Risk Under Different Land Rental Rates

Production data was obtained from East Carroll, Morehouse, and Tensas Parishes in Louisiana in order to conduct a financial simulation model that evaluates risk under alternative crop share arrangement under varying marketing prices. Simulating mean lint yield per planted acre (from irrigated fields) at a mean cotton price of $0.60, $0.63, and $0.66 per pound respectively, the cotton grower is made aware that negotiating a higher percentage of the cotton crop (75 upwards to the 80 percent level) can drastically increase net returns above variable costs and hence increase farm profitability. Often times, this bartering tactic can mean the difference in the financially solvency of any farming operation. The following section list the grower's market income (including farm program income), net returns above 2009 variable production expenses, and the probability measure that the grower exhibits a positive return above variable costs over the entire 1,000 model simulations for irrigated cotton per acre and rental percentage level. Selected results are presented in the tables below.

Mean Market Price of $0.66 per lb 75/25 Rental Arrangement Irrigated Cotton			
Parish	GRW Income (per ac)	GRW NRAVC (per ac)	Prob. of Positive Return
East Carroll	$636.41	$54.87	57.4%
Morehouse	$597.17	$15.63	44.8%
Tensas	$580.94	-$0.59	41.9%



Mean Market Price of $0.66 per lb 80/20Rental Arrangement Irrigated Cotton			
Parish	GRW Income (per ac)	GRW NRAVC (per ac)	Prob. of Positive Return
East Carroll	$678.85	$97.30	65.4%
Morehouse	$636.98	$55.44	58.9%
Tensas	$619.68	$38.14	53.5%



Farm-Level Explanation of Income Risk

Average grower net returns above variable production costs can vary greatly over a range of alternative rental arrangements and dependent on several factors including share of crop paid as rent, input costs, cotton market price level and other factors. Just as important is the level of expected net income variability for alternative rental arrangements. Results can vary as projected market prices, expected yields, water sources, and production costs vary. Results at all price levels indicate that movement from a 75 percent share towards an 80 percent share in the cotton crop through negotiation, for the grower, will result in increased returns as well as increases in probability of exhibiting a positive return.

It is important to evaluate several alternative arrangements to see what works best for a given situation. Since no two rental contacts are exactly the same from farm to farm and that each farming operation will have varying amounts of its total assets invested in land improvements and new machinery, each operation shown must examine their own production history, on-farm budgeting, and marketing strategies for their cotton crop. Negotiating flexibility within a crop share agreement can aid in the management flexibility on-farm, given the desire to expand cotton acreage in times of high yields and favorable prices or to diversify the operation to maintain the financial solvency of the business in times of declining returns.

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