

# Evaluating Contract Grazing Alternatives in the Southeast

With its temperate climate, abundant forage, and extensive marketing infrastructure, the southeastern United States is well suited for beef cattle production. Traditionally, most beef operations in the Southeast have been oriented toward cow/calf production, with calves being sold at weaning or shortly after. However, grazing stocker calves has also been an important enterprise for a significant number of producers.

Statistics on the size of the southeastern stocker grazing/backgrounding industry are not readily available. In any case, the stocker industry is not as large as it could be. Each fall, producers ship thousands of southeastern calves to wheat pastures and feedlots in the High Plains. In a recent survey of Mississippi producers, fewer than 10 percent of respondents indicated that they retained or purchased calves for grazing or backgrounding (refer to Extension Publication 2293 *Backgrounding Beef Cattle in Mississippi: Producer Survey Results*).

Table I provides evidence of the extent to which calves born in southeastern states are exported to other regions. In most southern states a relatively small percentage of calves (other than replacement heifers) remain on the farm post-weaning. For example, the number of stocker/feeder steers and heifers on farms in Florida on January 1, 2002, represented just over 5 percent of the previous year's calf crop. Virginia had the highest percentage with 34 percent of the calf crop remaining on their farms.

Stocker grazing/backgrounding represents a relatively simple means of adding value to calves; however, many producers may not find this value-adding opportunity attractive for a number of reasons. Cash flow obligations may force some producers to sell calves at weaning; other producers may lack access to capital required to purchase calves. Producers may also see grazing/backgrounding as too great a financial risk—particularly if they must borrow money to purchase calves or defer loan payments to retain calves. Adverse changes in cattle prices, health problems, poor rates of gain, and forage quality and/or availability problems all contribute to the inherent risks of grazing operations.

**TABLE I.**  
**Cattle and Calf Inventory in Selected Southern States**  
**January 1, 2002**

State	Number of Operations	Beef Cows (1,000)	2001 Calf Crop (1,000)	Calves weighing 500+ lb		500+ lb calves as % of calf crop
				Steers (1,000)	Heifers* (1,000)	
AL	25,000	750	680	60	41	14.9
AR	27,000	927	820	145	65	25.6
FL	16,500	958	940	25	25	5.3
GA	21,000	594	580	40	30	12.1
KY	39,000	1,485	1,080	215	100	29.2
LA	13,200	466	405	24	17	10.1
MS	21,000	576	540	55	27	15.2
NC	22,000	434	450	43	20	14.0
SC	10,000	210	185	13	13	14.1
TN	45,000	1,060	1,050	118	75	18.4
VA	22,000	690	720	175	70	34.0
<b>U.S. Total</b>	<b>814,400</b>	<b>33,099.7</b>	<b>38,280.8</b>	<b>16,799.8</b>	<b>10,057.1</b>	
Percent of U.S. Total Located in the South	32.1%	24.6%	19.5%	5.4%	4.8%	

Source: *Cattle*. USDA-NASS. February 1, 2002

\*Excludes heifers retained as replacements.

# Contract Grazing Arrangements

In a typical contract grazing arrangement, a cattle owner contracts with a caretaker to turn calves out on pasture owned or leased by the caretaker. The caretaker may receive a yardage fee (a flat charge for each day the animal is on the caretaker's pasture), a fee per pound of gain, or some combination of these two fees. When forming these contracts, it is important to specify explicitly which inputs—such as hay or other supplemental feed, minerals, veterinary supplies, labor, etc.—will be provided by the cattle owner and which will be provided by the caretaker, as well as who will bear the cost of death loss. The contract needs to be a written, legal document. Appendix A provides a checklist of essential issues to be addressed in a grazing contract.

In this study, enterprise budgets for grazing stocker calves on winter annual pasture were used to calculate returns over variable costs for a wide variety of cattle prices, average daily gains, and death loss scenarios. Returns over variable costs (RVC) for various contracting arrangements were calculated for both the cattle owner and the caretaker (pasture owner). Since there is little standardization of grazing contract terms, it is difficult to define a single representative grazing contract. For this reason, four different hypothetical contracts were constructed for this study, each differing in payment method (per pound of gain or per day), payment rate, and expenses paid by each party. Contract terms and conditions considered in this analysis are presented in Table 2.

**TABLE 2.**  
**Four Alternative Grazing Cattle Agreements**

<b>Payment Provisions</b>	<b>Contract 1</b>	<b>Contract 2</b>	<b>Contract 3</b>	<b>Contract 4</b>
\$/head/month	\$2.00	N/A	N/A	\$14.00
\$/cwt of gain	\$35.00	\$40.00	\$42.50	N/A
Amount of death loss covered by cattle owner	1%	2%	0%	100%
Supplemental feed paid by	Caretaker	Caretaker	Caretaker	Cattle Owner
Minerals paid by	Cattle Owner	Caretaker	Caretaker	Cattle Owner
Medication and implants paid by	Cattle Owner	Cattle Owner	Caretaker	Cattle Owner

## Advantages and Disadvantages

Table 3 shows an example of the budget used in developing RVC estimates. This example illustrates a budget for Contract 1. Budgets for the other contracts would differ only in the payment rate used and in the allocation of expenses between the cattle owner and the caretaker. With this budget, 500 different stocker calf prices, feeder

calf prices, average daily gains, and death loss values were used in the evaluation of each contract. Clearly, other items in the budget are variable (e.g., supplemental feed, veterinary and medical costs); however, due to a lack of objective data to define the level of variability of these items, they are held constant in the budgets.

■ **TABLE 3.**

**Stocker Grazing on Winter Annual Pasture: Variable Cost Budget**

Production Information:							
Number of Acres			100				
Stocking Rate (head/acre)			1.5				
Number of Calves Sold			147				
Death Loss (%)			2.0				
Number of Calves Placed			150				
Grazing Period (days)			175				
In Weight (cwt)			4.50				
Payweight to Payweight (ADG) (lb/head/day)			2.19				
Gain per head			3.83			Yardage (\$/head/month)	
Payment price (\$/cwt gain)			\$35.00			\$2.00	
<b>Item</b>	<b>Unit</b>	<b>Units per Head</b>	<b>Total Quantity</b>	<b>Unit Price</b>	<b>Total Amount</b>	<b>Contract I</b>	
			(units)	(\$/unit)	(\$)	<b>Owner</b>	<b>Caretaker</b>
						(\$)	(\$)
Variable Costs:							
Stocker Calves	cwt	4.50	675	\$78.23	\$52,805	\$52,805	\$0
Procurement	head	1.00	150	\$4.23	\$635	\$635	\$0
Winter Grazing	acre	0.67	100	\$73.88	\$7,388	\$0	\$7,388
Hay	ton	0.25	37	\$55.00	\$2,021	\$0	\$2,021
Receiving Ration	cwt	1.40	206	\$10.00	\$2,058	\$0	\$2,058
Minerals	lb	25.00	3,675	\$0.15	\$551	\$551	\$0
Medication	head	1.00	150	\$10.00	\$1,500	\$1,500	\$0
Implants	implant	1.00	150	\$1.00	\$150	\$150	\$0
Repairs	head	1.00	147	\$0.80	\$118	\$0	\$118
Land Rental	acre	0.67	100	\$20.00	\$2,000	\$21,433	\$2,000
Labor	hours	1.00	147	\$6.00	\$882	\$0	\$882
Death Loss	\$		383	\$0.00	\$0	-\$802	\$802
Interest on Op. Capital	\$		70,019	\$0.08	\$2,521	\$2,386	\$520
Auction/Hauling	head	1.00	147	\$0.00	\$0	\$0	\$0
<b>Total Variable Costs</b>			<b>16,668</b>		<b>\$72,630</b>	<b>\$78,659</b>	<b>\$15,789</b>
Expected Returns:							
Feeder Calves	cwt	8.33	1,225	\$65.48	\$80,205	\$80,205	
Grazing Fee	cwt (gain)	3.83	563.38	\$35.00			\$19,718
Yardage Fee	months	5.8	858	\$2.00			\$1,715
<b>Total Returns</b>					<b>\$80,205</b>	<b>\$80,205</b>	<b>\$21,433</b>
<b>Return Over Variable Costs</b>					<b>\$7,575</b>	<b>\$1,546</b>	<b>\$5,644</b>

Note: In this contract, the caretaker is charged for any death loss over 1 percent. To avoid double-counting (since death loss is reflected as a reduction in revenue for the cattle owner), this amount is treated as a reduction in expenses for the cattle owner. This budget was adapted from an electronic winter grazing budget developed by John McKissick at the University of Georgia.

Table 4 provides a summary of the 500 simulated RVC values for each contract. Note that, not surprisingly, total control and ownership of all resources (i.e., owning stockers that are grazed on owned or rented pasture) results in higher returns than any of the options where functions are split between cattle owners and caretakers. However, this option also includes the most risk. (Standard deviation, presented in the second line of Table 4, is a measure of the variability of returns. The larger the standard deviation, the greater the variability and risk of returns.) Of the four contracting options, Contract 2 results in the highest average returns for the caretaker, while Contract 4 results in the highest average returns for the cattle owner.

From the cattle owner's perspective, none of the contracting options examined here compares very favorably with grazing owned cattle on owned (or rented) pasture. For all of the contract terms considered, a slight reduction in risk accompanies a very significant reduction in returns. It is not immediately obvious which

stocker grazing option caretakers would prefer. All of the contracting options have a lower average return than stocker ownership; however, the variability of returns is considerably lower as well—indicating that for the caretaker, contracting is significantly less risky than owning stocker cattle.

Analysis also determined the impact of market price and animal performance on grazing fees. A break-even grazing fee was calculated for both the cattle owner and the caretaker in Contract 1—again for different cattle prices, average daily gains, and death loss scenarios in a winter annual grazing enterprise budget. The difference between the cattle owner's break-even grazing fee and the caretaker's break-even grazing fee represents profits or losses to the entire system. These profits or losses were allocated to the owner and the caretaker according to their individual share of total variable costs. In this manner an "equal-return" grazing fee was estimated (i.e., a grazing fee resulting in an equal rate of return for the cattle owner and the caretaker).

**TABLE 4.**  
**Return Over Variable Costs Estimates for Stocker Ownership and Contracting Options:**  
**150 Stockers Grazed on 100 Acres of Winter Annual Pasture**

	<b>Own Stockers</b>	<b>Contract</b>			
<i>Caretaker</i>		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Mean	\$7,009	\$5,548	\$6,609	\$4,989	\$1,204
Standard Deviation	9,513	3,422	3,878	4,074	100
Minimum	-\$13,716	-\$1,535	-\$1,029	-\$3,375	-\$796
Maximum	\$35,769	\$12,284	\$13,657	\$13,182	\$1,393
<i>Cattle Owner</i>					
Mean	\$7,009	\$1,092	\$1	\$1,620	\$5,590
Standard Deviation	9,513	7,703	7,480	7,538	9,505
Minimum	-\$13,716	-\$14,140	-\$14,087	-\$12,855	-\$14,94
Maximum	\$35,769	\$24,486	\$22,311	\$24,138	\$34,310

Table 5 summarizes a number of equal-return grazing fees calculated for different cattle prices and average daily gains. For example, given a buy/sell margin of -\$10 and an expected average daily gain of 1.7 pounds per day, a grazing fee of \$37.05 would provide the cattle owner and the caretaker with the same rate of return.

Figures in Table 5 provide a benchmark for evaluating grazing fees; however, they should be interpreted with caution. These figures are based on returns calculated using a hypothetical budget.

This budget is representative of cattle owner and caretaker costs, but individual operators could have operating costs that differ significantly from those used in the budget. Also, the buy/sell margin, average daily gain, and death loss are all unknown at the time grazing decisions must be made. Uncertainty regarding these factors obviously will affect grazing fee decisions by both cattle owners and caretakers.

**TABLE 5.**  
**Equal Return Grazing Fees (\$/cwt gain) Under Different Buy/Sell Margins and ADG Assumptions**

Buy/Sell Margin	ADG										
	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5
0	41.69	40.88	40.07	39.26	38.45	37.64	36.83	36.02	35.21	34.40	33.59
-5	40.18	39.37	38.56	37.75	36.94	36.13	35.32	34.51	33.70	32.89	32.08
-10	38.67	37.86	37.05	36.24	35.43	34.62	33.81	33.00	32.19	31.38	30.57
-15	37.16	36.35	35.54	34.73	33.92	33.11	32.30	31.49	30.68	29.87	29.06
-20	35.65	34.84	34.03	33.22	32.41	31.60	30.79	29.98	29.17	28.36	27.55
-25	34.14	33.33	32.52	31.71	30.90	30.09	29.28	28.47	27.66	26.85	26.04

Note: The buy/sell margin is calculated as the spring feeder calf price minus the fall stocker calf price. Death loss is assumed to be 2 percent. Assumptions in Contract 1 are used.



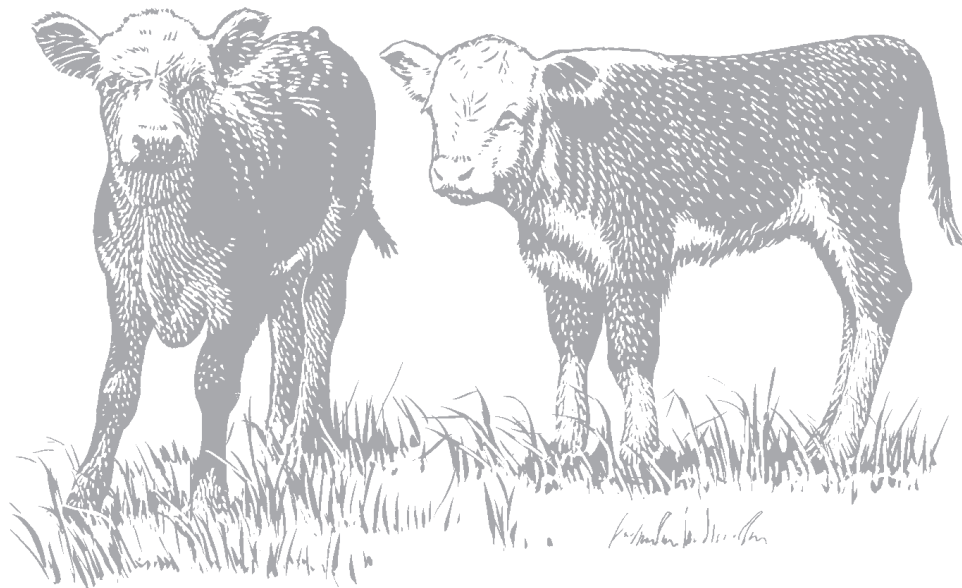
## Recommendations

Contract grazing of stocker calves may represent an important opportunity for many southeastern cattle producers. Contract grazing could allow pasture owners to receive income from their land and labor resources while limiting the amount of capital they risk. This could be a particularly attractive option for producers with limited access to capital, those facing cash flow problems, or those whose financial position leaves them vulnerable to the level of financial risk associated with purchasing stocker calves. Contracting also could allow cattle owners to increase their investment in cattle in spite of land and/or management constraints.

One difficulty of evaluating contract grazing options is that there is very little standardization of contract terms and conditions. A virtually unlimited number of arrangements is possible, including different combinations of who pays for inputs, who bears death loss, and how compensation is provided. This highlights the importance of having a written contract specifying all the details of the contract grazing arrangement.

In this study, four hypothetical contract grazing arrangements were compared to stocker ownership. From the perspectives of both cattle owners and caretakers, stocker ownership offered a higher level of returns than any of the contracts. For caretakers, contracting offered a significant reduction in the variability of returns. In fact, caretakers who are at least somewhat averse to risks would prefer contracting (with certain terms) instead of cattle ownership. Conversely, for cattle owners, reductions in risk were minimal. Even extremely risk-averse cattle owners would not prefer any of the contracting options considered here to grazing cattle on owned (or leased) pasture.

It is important to remember that many other important factors can influence contracting decisions for both cattle owners and pasture owners. For example, pasture owners may lack the capital to purchase cattle on their own. Likewise, a cattle owner may have so many cattle to turn out, he cannot directly manage them all effectively. In these cases, contracting may have a great deal of appeal even if expected returns are lower than returns from owning cattle.



# Appendix A: Grazing Contract Checklist

The following checklist outlines the major items and issues to address in a written grazing contract:

1. Identify parties involved in the contract
  - Define who is the cattle owner and who is the caretaker
2. Identify where cattle will be kept
  - Describe pasture locations
  - Legal description of property may be included as an attachment to the contract
3. Dead cattle
  - Establish means by which the caretaker verifies the death of an animal
  - Identify who will incur the death loss and how the charge for death loss will be calculated
4. Cattle short
  - Describe what will be done in the case of cattle not accounted for by death loss or sales
5. Terms of payment
  - Define payment rate/terms
  - Describe calculation of pay weight (in and out)
  - Describe procedures for calculating total gain
6. Terms of delivery
  - Detail any provisions with respect to number of cattle, sex of cattle, size, health, or overall condition of cattle as well as date (or range of dates) for delivery of cattle from owner to caretaker
7. Care and maintenance
  - Determine who will pay for salt, minerals, vaccines, medicines, etc.
8. Feed
  - Identify what may or may not be fed to cattle and who will pay for it
9. Right of inspection
  - Define the right of the cattle owner to inspect cattle in order to assess performance or to conduct a head count
  - Establish conditions for the termination of the agreement in the event that cattle fail to perform, or if the pasture fails due to drought, disease, or any other cause
10. Taxes
  - Identify who is responsible for taxes on cattle as well as for taxes and/or rents on pasture
11. Cattle movement
  - Identify terms and conditions under which the caretaker may move cattle to another pasture
12. Default of owner or caretaker
  - Establish what actions either party is entitled to take in the event of the default of the other party
13. Term
  - Define the duration of the contractual agreement
14. Chronics
  - Describe what will be done with chronics and who will make the determination that an animal is chronic
15. Records
  - Define any specific records that must be maintained
  - Indicate who has access to those records
16. Inspection/rejection of cattle
  - Establish terms and conditions under which the caretaker may reject cattle delivered by the owner
17. Venue and attorney fees
  - Establish a venue for the settlement of any legal disputes arising from the agreement
  - Determine how attorney fees will be paid





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