FORAGE
2017
PLANNING BUDGETS

Mississippi State University
Department of Agricultural Economics
Budget Report 2016-08

November 2016

Foreword

This report is designed to provide necessary planning data to farmers, research and extension staffs, lending agencies, and others in agriculture. Estimated costs for land, management, and general farm overhead are not included in this report.

Acknowledgments

A list of individuals who contributed to the development of the agricultural enterprise budgets follows this acknowledgment. The administrative committee structure and enterprise committees have shown a spirit of cooperation seldom found when so many work together. A team effort has led to many improvements in the budgets over the years.

Special appreciation is expressed to farm supply dealers, equipment dealers, custom operators, and chemical companies who provided prices for crop production inputs.

Acknowledgment is made to the Mississippi State University Extension Service, the Mississippi Agricultural and Forestry Experiment Station, and the United States Agricultural Research Service staffs for the excellent cooperation that made this report possible.

2017 Budget Committees

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2017 Planning Budgets

Budgets for Agricultural Enterprises

This publication provides economic and technical information in the form of enterprise budgets for forage crops produced by Mississippi farmers. A multidisciplinary approach involving researchers and extension personnel was used to determine production practices and input quantities, and to estimate costs for each enterprise (14). The purpose of this section is to present the methods and procedures used to calculate costs for each budget included in this publication.

Enterprise budgets represent a type of information that can be used by a wide variety of individuals in making decisions in the food and fiber industry. They are used:

- by farmers for planning,
- by extension personnel in providing educational programs to farmers,
- by lenders as a basis for credit,
- to provide basic data for research, and
- to inform non-farmers of the costs incurred by farmers in the production of food and fiber crops.

A budget should be prepared with a specific objective in mind. The budgets in this report were prepared to provide general information for several different uses. They provide information concerning general levels of costs which will need to be adjusted for specific situations. Most users should think of these budgets as a first approximation and then make appropriate adjustments using the "Your Farm" column provided on each budget to add, delete, or change costs to reflect their specific situations.

Methods and Procedures

Production Practices

The production practices listed in each budget are the result of a combined effort by researchers and extension personnel to represent those practices that producers could use in a specific production system. Producers might use different practices in their own operations. If different types and quantities of operating inputs are to be used, then the budgeted expenses should be changed to more accurately reflect actual input usage.

Committees made up of appropriate disciplines from the Mississippi Agricultural and Forestry Experiment Station, the Mississippi State University Extension Service, and the U.S. Department of Agriculture review and update the practices in the budgets every year. The updates are based on the individual and collective judgment of the committee members. Quantities of materials listed in each budget are based on generally accepted recommendations.

Machinery

Machinery manufacturers form the basis for machinery prices used in these publications. Prices by size of equipment are determined from the most common sales in each category as reported by machinery dealers. Prices used in the budgets reflect prices paid by farmers in 2016. (Appendix Tables 1 and 2).

A performance rate reflects the time required to perform a given task or operation and is expressed as that part of an hour per acre. Previous studies and expert knowledge of the equipment committee members are used to estimate performance rates for new and larger equipment (1, 4, 5, 6, 7, 9, and 13).

The hours of annual use have been modified based on information collected from the cited studies (3, 4, 6, and 7).

Repairs and maintenance as a percentage of new cost are estimated for the life of the equipment and include oil and lubricants (1, 4, and 6).

Estimates of Direct Costs

Direct costs include estimated costs of repairs and maintenance (R&M) for all machinery and include fuel costs for powered machinery (Appendix Tables 1, 2, and 3). Direct costs are estimated on an hourly basis and are then converted to a per-acre basis using the performance rate for the particular operation. R&M costs for towed equipment and powered equipment are estimated as follows:

$$RPH = \frac{RLC \; x \; RP}{THL}$$

$$RPA = RPH \; x \; PR$$

where:

RPH = R&M cost per hour of use
RLC = Replacement cost of machine
RP = R&M percentage (percent of RLC)
THL = Total hours of machine life
RPA = R&M cost per acre
PR = Performance rate

Direct costs include an estimate of fuel cost based on average fuel consumption per hour of use for the power unit. Other components of direct costs include quantities of materials used in production multiplied by the price per unit of these inputs, custom rates, hourly wage rates, and interest charges on short-term capital (Appendix Tables 4, 5, and 6).

The labor wage rate per hour includes social security, accident and unemployment insurance, and some perquisites (11). Labor costs are estimated for four labor categories: operator labor and hand labor. Operator labor and hand labor represent estimates of labor required to perform the in-field tasks. Operator labor is that labor required to operate all power-driven equipment

Interest on operating capital is determined by using a short-term interest rate obtained from agricultural lenders and making a charge against capital outflows as the production process takes place. Interest is accumulated until the crop is harvested.

Estimates of Fixed Costs

Annual fixed cost estimates for machinery are based on a budgeting technique which computes the annual capital recovery charge (2, p. 143). When a combination of machines or equipment is required to perform a single operation, the total cost per acre for all equipment used in the operation is estimated. The fixed cost of machinery ownership is calculated by first computing the capital recovery factor and then using it to estimate the annual capital recovery charge.

$$CRF = \frac{IIR}{1 - (1 + IIR)^{-TYL}}$$

where:

CRF = Capital recovery factor
IIR = Intermediate-term interest rate
TYL = Total years of life

$$CRCPY = [(RLC - SV) \; x \; CRF] + (SV \; x \; IIR)$$

where:

CRCPY = Capital recovery charge per year
RLC = Replacement cost
SV = Salvage value (at end of useful life)

This value is then converted to its per-hour and per-acre equivalent values:

$$CRCPH = \frac{CRCPY}{HAU}$$

$$CRCPA = CRCPH \; x \; PR$$

where:

CRCPH = Capital recovery charge per hour
HAU = Hours of annual use
CRCPA = Capital recovery charge per acre
PR = Performance rate

Enterprise Budgets

Table 1.A Estimated resource use and costs for field operations, per acre
Alfalfa hay establishment, prepared seed bed
Mississippi, 2017

OPERATION/ OPERATING INPUT	SIZE/ UNIT	POWER UNIT SIZE	PERF RATE	TIMES OVER	MTH	POWER UNIT COST DIRECT	POWER UNIT COST FIXED	EQUIPMENT COST DIRECT	EQUIPMENT COST FIXED	ALLOC LABOR HOURS	ALLOC LABOR COST	OPERATING/DURABLE INPUT AMOUNT	OPERATING/DURABLE INPUT PRICE	OPERATING/DURABLE INPUT COST	TOTAL COST
						dollars					dollars			dollars	
Soil Test 6.00	acre			0.33	Aug							0.3300	6.00	1.98	1.98
Lime (Spread)	ton			1.00	Aug							0.5000	46.00	23.00	23.00
Chisel Plow Rigid	15'	2WD 75	0.123	1.00	Aug	0.94	0.80	0.51	0.88	0.12	1.62				4.75
Disk Harrow	14'	2WD 75	0.140	2.00	Aug	2.14	1.82	1.90	4.02	0.28	3.69				13.57
Spray (Broadcast)	27'	2WD 75	0.062	1.00	Aug	0.48	0.41	0.16	0.19	0.09	1.10				2.34
Buctril	pt											1.5000	2.62	3.93	3.93
Clethodim	oz											8.0000	0.74	5.92	5.92
Surfactant	pt											0.3000	3.69	1.11	1.11
Custom Spread(Truck)	appl			1.00	Sep							1.0000	7.00	7.00	7.00
Phosphate (46% P2O5)	cwt											1.0000	21.88	21.88	21.88
Potash (60% K2O)	cwt											3.0000	16.97	50.91	50.91
Boron 15G	lb											3.0000	0.80	2.40	2.40
Disk Harrow	14'	2WD 75	0.140	1.00	Sep	1.07	0.91	0.95	2.01	0.14	1.84				6.78
Section Harrow	13'	2WD 75	0.119	1.00	Sep	0.91	0.77	0.21	0.31	0.11	1.57				3.77
Grain Drill	12'	2WD 75	0.157	1.00	Sep	1.20	1.02	1.42	2.72	0.31	3.48				9.84
Alfalfa Seed	lb											20.0000	5.83	116.60	116.60
Cultipacker	12'	2WD 75	0.124	1.00	Sep	0.95	0.80	0.19	0.26	0.12	1.64				3.84
TOTALS						7.69	6.53	5.34	10.39	1.19	14.94			234.73	279.62
INTEREST ON OPERATING CAPITAL															7.48
UNALLOCATED LABOR															0.00
TOTAL SPECIFIED COST															287.10

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations.

Table 1.B Estimated costs per acre
Alfalfa hay establishment, prepared seed bed
Mississippi, 2017

ITEM	UNIT	PRICE	QUANTITY	AMOUNT	YOUR FARM
		dollars		dollars	
DIRECT EXPENSES					
FERTILIZER					
Phosphate (46% P2O5)	cwt	21.88	1.0000	21.88	_____
Potash (60% K2O)	cwt	16.97	3.0000	50.91	_____
Boron 15G	lb	0.80	3.0000	2.40	_____
HERBICIDE					
Buctril	pt	2.62	1.5000	3.93	_____
Clethodim	oz	0.74	8.0000	5.92	_____
SEED/PLANTS					
Alfalfa Seed	lb	5.83	20.0000	116.60	_____
ADJUVANTS					
Surfactant	pt	3.69	0.3000	1.11	_____
CUSTOM FERT					
Custom Spread(Truck)	appl	7.00	1.0000	7.00	_____
SERVICE FEE					
Soil Test 6.00	acre	6.00	0.3300	1.98	_____
CUSTOM LIME					
Lime (Spread)	ton	46.00	0.5000	23.00	_____
OPERATOR LABOR					
Tractors	hour	13.14	1.0078	13.24	_____
HAND LABOR					
Implements	hour	9.06	0.1884	1.70	_____
DIESEL FUEL					
Tractors	gal	1.70	3.8908	6.61	_____
REPAIR & MAINTENANCE					
Implements	acre	5.34	1.0000	5.34	_____
Tractors	acre	1.08	1.0000	1.08	_____
INTEREST ON OP. CAP.	acre	7.48	1.0000	7.48	_____

TOTAL DIRECT EXPENSES				270.18	_____
FIXED EXPENSES					
Implements	acre	10.39	1.0000	10.39	_____
Tractors	acre	6.53	1.0000	6.53	_____

TOTAL FIXED EXPENSES				16.92	_____

TOTAL SPECIFIED EXPENSES				287.10	_____

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations.

Table 2.A Estimated resource use and costs for field operations, per acre
Alfalfa hay maintenance
Mississippi, 2017

OPERATION/ OPERATING INPUT	SIZE/ UNIT	POWER UNIT SIZE	PERF RATE	TIMES OVER	MTH	POWER UNIT COST DIRECT	POWER UNIT COST FIXED	EQUIPMENT COST DIRECT	EQUIPMENT COST FIXED	ALLOC LABOR HOURS	ALLOC LABOR COST	OPERATING/DURABLE INPUT AMOUNT	OPERATING/DURABLE INPUT PRICE	OPERATING/DURABLE INPUT COST	TOTAL COST
						dollars					dollars			dollars	
Soil Test 6.00	acre			0.33	Nov							0.3300	6.00	1.98	1.98
Lime (Spread)	ton			1.00	Nov							0.5000	46.00	23.00	23.00
Spray (Broadcast)	27'	2WD 75	0.062	1.00	Nov	0.48	0.41	0.16	0.19	0.09	1.10				2.34
Metribuzin 75	lb											1.0000	14.41	14.41	14.41
Custom Spread(Truck)	appl			1.00	Mar							1.0000	7.00	7.00	7.00
Phosphate (46% P2O5)	cwt											2.0000	21.88	43.76	43.76
Potash (60% K2O)	cwt											1.5000	16.97	25.46	25.46
Boron 15G	lb											3.0000	0.80	2.40	2.40
Spray (Broadcast)	27'	2WD 75	0.062	1.00	Mar	0.48	0.41	0.16	0.19	0.09	1.10				2.34
Pursuit	oz											6.0000	3.97	23.82	23.82
Surfactant	pt											0.3000	3.69	1.11	1.11
Spray (Broadcast)	27'	2WD 75	0.062	1.00	Mar	0.48	0.41	0.16	0.19	0.09	1.10				2.34
Mustang Max	oz											4.0000	1.44	5.76	5.76
Hay Cut-Cond	9'	2WD 75	0.229	1.00	May	1.75	1.48	3.57	3.97	0.22	3.01				13.78
Hay Tedder	17'	2WD 75	0.101	1.00	May	0.77	0.65	0.44	0.62	0.10	1.33				3.81
Hay Rake-Double	17'	2WD 75	0.101	2.00	May	1.55	1.31	0.58	0.80	0.20	2.66				6.90
Hay Baler	Conv	2WD 75	0.229	1.00	May	1.75	1.48	2.80	3.89	0.22	3.01				12.93
Twine	bun											0.0800	39.00	3.12	3.12
Hay Trailer	20'	2WD 75	0.090	1.00	May	0.69	0.58	0.10	0.17	0.09	1.18				2.72
Hay Haul (Conv)	ton											1.5000	25.00	37.50	37.50
Spray (Broadcast)	27'	2WD 75	0.062	1.00	May	0.50	0.57	0.16	0.19	0.09	1.10				2.52
Gramoxone SL 2.0	oz											12.0000	0.27	3.24	3.24
Surfactant	pt											0.3000	3.69	1.11	1.11
Spray (Broadcast)	27'	2WD 75	0.062	1.00	Jun	0.50	0.57	0.16	0.19	0.09	1.10				2.52
Mustang Max	oz											4.0000	1.44	5.76	5.76
Hay Cut-Cond	9'	2WD 75	0.229	1.00	Jun	1.75	1.48	3.57	3.97	0.22	3.01				13.78
Hay Tedder	17'	2WD 75	0.101	1.00	Jun	0.77	0.65	0.44	0.62	0.10	1.33				3.81
Hay Rake-Double	17'	2WD 75	0.101	2.00	Jun	1.55	1.31	0.58	0.80	0.20	2.66				6.90
Hay Baler	Conv	2WD 75	0.229	1.00	Jun	1.75	1.48	2.80	3.89	0.22	3.01				12.93
Twine	bun											0.0800	39.00	3.12	3.12
Hay Trailer	20'	2WD 75	0.090	1.00	Jun	0.69	0.58	0.10	0.17	0.09	1.18				2.72
Hay Haul (Conv)	ton											1.5000	25.00	37.50	37.50
Spray (Broadcast)	27'	2WD 75	0.062	1.00	Jun	0.50	0.57	0.16	0.19	0.09	1.10				2.52
Gramoxone SL 2.0	oz											12.0000	0.27	3.24	3.24
Surfactant	pt											0.3000	3.69	1.11	1.11
Spray (Broadcast)	27'	2WD 75	0.062	1.00	Jun	0.48	0.41	0.16	0.19	0.09	1.10				2.34
Poast	pt											1.0000	13.41	13.41	13.41
Crop Oil Conc.(Pet.)	pt											2.0000	2.47	4.94	4.94
Custom Spread(Truck)	appl			1.00	Jul							1.0000	7.00	7.00	7.00
Potash (60% K2O)	cwt											1.5000	16.97	25.46	25.46
Spray (Broadcast)	27'	2WD 75	0.062	1.00	Aug	0.50	0.57	0.16	0.19	0.09	1.10				2.52
Mustang Max	oz											4.0000	1.44	5.76	5.76
Hay Cut-Cond	9'	2WD 75	0.229	1.00	Aug	1.75	1.48	3.57	3.97	0.22	3.01				13.78
Hay Tedder	17'	2WD 75	0.101	1.00	Aug	0.77	0.65	0.44	0.62	0.10	1.33				3.81
Hay Rake-Double	17'	2WD 75	0.101	2.00	Aug	1.55	1.31	0.58	0.80	0.20	2.66				6.90
Hay Baler	Conv	2WD 75	0.229	1.00	Aug	1.75	1.48	2.80	3.89	0.22	3.01				12.93
Twine	bun											0.0500	39.00	1.95	1.95
Hay Trailer	20'	2WD 75	0.090	1.00	Aug	0.69	0.58	0.10	0.17	0.09	1.18				2.72
Hay Haul (Conv)	ton											1.0000	25.00	25.00	25.00
Spray (Broadcast)	27'	2WD 75	0.062	1.00	Aug	0.50	0.57	0.16	0.19	0.09	1.10				2.52
Gramoxone SL 2.0	oz											12.0000	0.27	3.24	3.24
Surfactant	pt											0.3000	3.69	1.11	1.11
Spray (Broadcast)	27'	2WD 75	0.062	1.00	Sep	0.50	0.57	0.16	0.19	0.09	1.10				2.52
Mustang Max	oz											4.0000	1.44	5.76	5.76
Hay Cut-Cond	9'	2WD 75	0.229	1.00	Sep	1.75	1.48	3.57	3.97	0.22	3.01				13.78
Hay Tedder	17'	2WD 75	0.101	1.00	Sep	0.77	0.65	0.44	0.62	0.10	1.33				3.81
Hay Rake-Double	17'	2WD 75	0.101	2.00	Sep	1.55	1.31	0.58	0.80	0.20	2.66				6.90
Hay Baler	Conv	2WD 75	0.229	1.00	Sep	1.75	1.48	2.80	3.89	0.22	3.01				12.93
Twine	bun											0.0500	39.00	1.95	1.95
Hay Trailer	20'	2WD 75	0.090	1.00	Sep	0.69	0.58	0.10	0.17	0.09	1.18				2.72
Hay Haul (Conv)	ton											1.0000	25.00	25.00	25.00
Spray (Broadcast)	27'	2WD 75	0.062	1.00	Sep	0.50	0.57	0.16	0.19	0.09	1.10				2.52
Gramoxone SL 2.0	oz											12.0000	0.27	3.24	3.24
Surfactant	pt											0.3000	3.69	1.11	1.11
TOTALS						31.46	27.63	31.72	39.89	4.44	56.86			369.33	556.89
INTEREST ON OPERATING CAPITAL															4.07
UNALLOCATED LABOR															0.00
TOTAL SPECIFIED COST															560.96

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations.

Table 2.B Estimated costs per acre
Alfalfa hay maintenance
Mississippi, 2017

ITEM	UNIT	PRICE	QUANTITY	AMOUNT	YOUR FARM
		dollars		dollars	
DIRECT EXPENSES					
FERTILIZER					
Phosphate (46% P2O5)	cwt	21.88	2.0000	43.76	_____
Potash (60% K2O)	cwt	16.97	3.0000	50.91	_____
Boron 15G	lb	0.80	3.0000	2.40	_____
HERBICIDE					
Metribuzin 75	lb	14.41	1.0000	14.41	_____
Pursuit	oz	3.97	6.0000	23.82	_____
Gramoxone SL 2.0	oz	0.27	48.0000	12.96	_____
Poast	pt	13.41	1.0000	13.41	_____
INSECTICIDE					
Mustang Max	oz	1.44	16.0000	23.04	_____
HAUL					
Hay Haul (Conv)	ton	25.00	5.0000	125.00	_____
OTHER					
Twine	bun	39.00	0.2600	10.14	_____
ADJUVANTS					
Surfactant	pt	3.69	1.5000	5.54	_____
Crop Oil Conc.(Pet.)	pt	2.47	2.0000	4.94	_____
CUSTOM FERT					
Custom Spread(Truck)	appl	7.00	2.0000	14.00	_____
SERVICE FEE					
Soil Test 6.00	acre	6.00	0.3300	1.98	_____
CUSTOM LIME					
Lime (Spread)	ton	46.00	0.5000	23.00	_____
OPERATOR LABOR					
Tractors	hour	13.14	4.0960	53.78	_____
HAND LABOR					
Implements	hour	9.06	0.3447	3.08	_____
DIESEL FUEL					
Tractors	gal	1.70	15.8123	26.83	_____
REPAIR & MAINTENANCE					
Implements	acre	31.72	1.0000	31.72	_____
Tractors	acre	4.63	1.0000	4.63	_____
INTEREST ON OP. CAP.	acre	4.07	1.0000	4.07	_____

TOTAL DIRECT EXPENSES				493.44	_____
FIXED EXPENSES					
Implements	acre	39.89	1.0000	39.89	_____
Tractors	acre	27.63	1.0000	27.63	_____

TOTAL FIXED EXPENSES				67.52	_____

TOTAL SPECIFIED EXPENSES				560.96	_____

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations.

Table 3.A Estimated resource use and costs for field operations, per acre
Bahiagrass establishment, prepared seedbed
Mississippi, 2017

OPERATION/ OPERATING INPUT	SIZE/ UNIT	POWER UNIT SIZE	PERF RATE	TIMES OVER	MTH	POWER UNIT COST DIRECT	POWER UNIT COST FIXED	EQUIPMENT COST DIRECT	EQUIPMENT COST FIXED	ALLOC LABOR HOURS	ALLOC LABOR COST	OPERATING/DURABLE INPUT AMOUNT	OPERATING/DURABLE INPUT PRICE	OPERATING/DURABLE INPUT COST	TOTAL COST
						dollars					dollars			dollars	
Chisel Plow Rigid	15'	2WD 75	0.123	1.00	Mar	0.94	0.80	0.51	0.88	0.12	1.62				4.75
Soil Test 6.00	acre			0.33	Apr							0.3300	6.00	1.98	1.98
Lime (Spread)	ton			0.33	Apr							0.3300	46.00	15.18	15.18
Disk Harrow	14'	2WD 75	0.140	1.00	Apr	1.07	0.91	0.95	2.01	0.14	1.84				6.78
Spray (Broadcast)	27'	2WD 75	0.062	1.00	Apr	0.48	0.41	0.16	0.19	0.09	1.10				2.34
Glyphosate 3lbs a.e.	pt											2.0000	2.29	4.58	4.58
Surfactant	pt											1.0000	3.69	3.69	3.69
Custom Spread(Truck)	appl			1.00	Apr							1.0000	7.00	7.00	7.00
Phosphate (46% P2O5)	cwt											1.5000	21.88	32.82	32.82
Potash (60% K2O)	cwt											1.0000	16.97	16.97	16.97
Disk Harrow	14'	2WD 75	0.140	1.00	Apr	1.07	0.91	0.95	2.01	0.14	1.84				6.78
Section Harrow	13'	2WD 75	0.119	1.00	Apr	0.91	0.77	0.21	0.31	0.11	1.57				3.77
Cyclone Spin	750 lb	2WD 75	0.200	1.00	Apr	1.53	1.29	0.24	0.91	0.30	3.54				7.51
Bahiagrass Seed	lb											20.0000	3.92	78.40	78.40
Cultipacker	12'	2WD 75	0.124	1.00	Apr	0.95	0.80	0.19	0.26	0.12	1.64				3.84
Custom Spread(Truck)	appl			1.00	Jun							1.0000	7.00	7.00	7.00
Fert 33-0-0-12S	cwt											2.2500	17.50	39.38	39.38
Rotary Mower	12'	2WD 75	0.098	1.00	Jun	0.75	0.64	0.92	0.65	0.09	1.29				4.25
TOTALS						7.70	6.53	4.13	7.22	1.13	14.44			207.00	247.02
INTEREST ON OPERATING CAPITAL															6.09
UNALLOCATED LABOR															0.00
TOTAL SPECIFIED COST															253.11

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations.

Table 3.B Estimated costs per acre
Bahiagrass establishment, prepared seedbed
Mississippi, 2017

ITEM	UNIT	PRICE	QUANTITY	AMOUNT	YOUR FARM
		dollars		dollars	
DIRECT EXPENSES					
FERTILIZER					
Phosphate (46% P2O5)	cwt	21.88	1.5000	32.82	_____
Potash (60% K2O)	cwt	16.97	1.0000	16.97	_____
Fert 33-0-0-12S	cwt	17.50	2.2500	39.38	_____
HERBICIDE					
Glyphosate 3lbs a.e.	pt	2.29	2.0000	4.58	_____
SEED/PLANTS					
Bahiagrass Seed	lb	3.92	20.0000	78.40	_____
ADJUVANTS					
Surfactant	pt	3.69	1.0000	3.69	_____
CUSTOM FERT					
Custom Spread(Truck)	appl	7.00	2.0000	14.00	_____
SERVICE FEE					
Soil Test 6.00	acre	6.00	0.3300	1.98	_____
CUSTOM LIME					
Lime (Spread)	ton	46.00	0.3300	15.18	_____
OPERATOR LABOR					
Tractors	hour	13.14	1.0086	13.25	_____
HAND LABOR					
Implements	hour	9.06	0.1313	1.19	_____
DIESEL FUEL					
Tractors	gal	1.70	3.8937	6.61	_____
REPAIR & MAINTENANCE					
Implements	acre	4.13	1.0000	4.13	_____
Tractors	acre	1.09	1.0000	1.09	_____
INTEREST ON OP. CAP.	acre	6.09	1.0000	6.09	_____

TOTAL DIRECT EXPENSES				239.36	_____
FIXED EXPENSES					
Implements	acre	7.22	1.0000	7.22	_____
Tractors	acre	6.53	1.0000	6.53	_____

TOTAL FIXED EXPENSES				13.75	_____

TOTAL SPECIFIED EXPENSES				253.11	_____

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations.

Table 4.A Estimated resource use and costs for field operations, per acre
Bahiagrass establishment, no-till
Mississippi, 2017

OPERATION/ OPERATING INPUT	SIZE/ UNIT	POWER UNIT SIZE	PERF RATE	TIMES OVER	MTH	POWER UNIT COST DIRECT	POWER UNIT COST FIXED	EQUIPMENT COST DIRECT	EQUIPMENT COST FIXED	ALLOC LABOR HOURS	ALLOC LABOR COST	OPERATING/DURABLE INPUT AMOUNT	OPERATING/DURABLE INPUT PRICE	OPERATING/DURABLE INPUT COST	TOTAL COST
						dollars					dollars			dollars	
Chisel Plow Rigid	15'	2WD 75	0.123	1.00	Mar	0.94	0.80	0.51	0.88	0.12	1.62				4.75
Soil Test 6.00	acre			0.33	Apr							0.3300	6.00	1.98	1.98
Lime (Spread)	ton			0.33	Apr							0.3300	46.00	15.18	15.18
Spray (Broadcast)	27'	MFWD 75	0.062	1.00	Apr	0.48	0.42	0.16	0.19	0.09	1.10				2.35
Glyphosate 3lbs a.e.	pt											2.0000	2.29	4.58	4.58
Surfactant	pt											1.0000	3.69	3.69	3.69
Custom Spread(Truck)	appl			1.00	Apr							1.0000	7.00	7.00	7.00
Phosphate (46% P2O5)	cwt											1.5000	21.88	32.82	32.82
Potash (60% K2O)	cwt											1.0000	16.97	16.97	16.97
NT Grain Drill	12'	2WD 75	0.196	1.00	Apr	1.59	1.78	3.07	5.88	0.39	4.36				16.68
Bahiagrass Seed	lb											20.0000	3.92	78.40	78.40
Custom Spread(Truck)	appl			1.00	Jun							1.0000	7.00	7.00	7.00
Fert 33-0-0-12S	cwt											2.2500	17.50	39.38	39.38
Rotary Mower	12'	2WD 75	0.098	1.00	Jun	0.75	0.64	0.92	0.65	0.09	1.29				4.25
TOTALS						3.76	3.64	4.66	7.60	0.70	8.37			207.00	235.03
INTEREST ON OPERATING CAPITAL															5.82
UNALLOCATED LABOR															0.00
TOTAL SPECIFIED COST															240.85

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations.

Table 4.B Estimated costs per acre
Bahiagrass establishment, no-till
Mississippi, 2017

ITEM	UNIT	PRICE	QUANTITY	AMOUNT	YOUR FARM
		dollars		dollars	
DIRECT EXPENSES					
FERTILIZER					
Phosphate (46% P2O5)	cwt	21.88	1.5000	32.82	_____
Potash (60% K2O)	cwt	16.97	1.0000	16.97	_____
Fert 33-0-0-12S	cwt	17.50	2.2500	39.38	_____
HERBICIDE					
Glyphosate 3lbs a.e.	pt	2.29	2.0000	4.58	_____
SEED/PLANTS					
Bahiagrass Seed	lb	3.92	20.0000	78.40	_____
ADJUVANTS					
Surfactant	pt	3.69	1.0000	3.69	_____
CUSTOM FERT					
Custom Spread(Truck)	appl	7.00	2.0000	14.00	_____
SERVICE FEE					
Soil Test 6.00	acre	6.00	0.3300	1.98	_____
CUSTOM LIME					
Lime (Spread)	ton	46.00	0.3300	15.18	_____
OPERATOR LABOR					
Tractors	hour	13.14	0.4805	6.31	_____
HAND LABOR					
Implements	hour	9.06	0.2277	2.06	_____
DIESEL FUEL					
Tractors	gal	1.70	1.8551	3.15	_____
REPAIR & MAINTENANCE					
Implements	acre	4.66	1.0000	4.66	_____
Tractors	acre	0.61	1.0000	0.61	_____
INTEREST ON OP. CAP.	acre	5.82	1.0000	5.82	_____

TOTAL DIRECT EXPENSES				229.61	_____
FIXED EXPENSES					
Implements	acre	7.60	1.0000	7.60	_____
Tractors	acre	3.64	1.0000	3.64	_____

TOTAL FIXED EXPENSES				11.24	_____

TOTAL SPECIFIED EXPENSES				240.85	_____

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations.

Table 5.A Estimated resource use and costs for field operations, per acre
Common bermuda establishment, prepared seedbed
Mississippi, 2017

OPERATION/ OPERATING INPUT	SIZE/ UNIT	POWER UNIT SIZE	PERF RATE	TIMES OVER	MTH	POWER UNIT COST DIRECT	POWER UNIT COST FIXED	EQUIPMENT COST DIRECT	EQUIPMENT COST FIXED	ALLOC LABOR HOURS	ALLOC LABOR COST	OPERATING/DURABLE INPUT AMOUNT	OPERATING/DURABLE INPUT PRICE	OPERATING/DURABLE INPUT COST	TOTAL COST
						dollars					dollars			dollars	
Chisel Plow Rigid	15'	2WD 75	0.123	1.00	Mar	0.94	0.80	0.51	0.88	0.12	1.62				4.75
Soil Test 6.00	acre			0.33	Apr							0.3300	6.00	1.98	1.98
Lime (Spread)	ton			0.33	Apr							0.3300	46.00	15.18	15.18
Disk Harrow	14'	2WD 75	0.140	1.00	Apr	1.07	0.91	0.95	2.01	0.14	1.84				6.78
Spray (Broadcast)	27'	MFWD 75	0.062	1.00	Apr	0.48	0.42	0.16	0.19	0.09	1.10				2.35
Glyphosate 3lbs a.e.	pt											2.0000	2.29	4.58	4.58
Surfactant	pt											1.0000	3.69	3.69	3.69
Custom Spread(Truck)	appl			1.00	Apr							1.0000	7.00	7.00	7.00
Phosphate (46% P2O5)	cwt											1.5000	21.88	32.82	32.82
Potash (60% K2O)	cwt											1.0000	16.97	16.97	16.97
Disk Harrow	14'	2WD 75	0.140	1.00	Apr	1.07	0.91	0.95	2.01	0.14	1.84				6.78
Section Harrow	13'	2WD 75	0.119	1.00	Apr	0.91	0.77	0.21	0.31	0.11	1.57				3.77
Cyclone Spin	750 lb	2WD 75	0.200	1.00	Apr	1.53	1.29	0.24	0.91	0.30	3.54				7.51
Common Bermuda Seed	lb											10.0000	4.02	40.20	40.20
Cultipacker	12'	2WD 75	0.124	1.00	Apr	0.95	0.80	0.19	0.26	0.12	1.64				3.84
Custom Spread(Truck)	appl			1.00	Jun							1.0000	7.00	7.00	7.00
Fert 33-0-0-12S	cwt											2.2500	17.50	39.38	39.38
Rotary Mower	12'	2WD 75	0.098	1.00	Jun	0.75	0.64	0.92	0.65	0.09	1.29				4.25
TOTALS						7.70	6.54	4.13	7.22	1.13	14.44			168.80	208.83
INTEREST ON OPERATING CAPITAL															5.03
UNALLOCATED LABOR															0.00
TOTAL SPECIFIED COST															213.86

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations.

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Table 5.B Estimated costs per acre
Common bermuda establishment, prepared seedbed
Mississippi, 2017

ITEM	UNIT	PRICE	QUANTITY	AMOUNT	YOUR FARM
		dollars		dollars	
DIRECT EXPENSES					
FERTILIZER					
Phosphate (46% P2O5)	cwt	21.88	1.5000	32.82	_____
Potash (60% K2O)	cwt	16.97	1.0000	16.97	_____
Fert 33-0-0-12S	cwt	17.50	2.2500	39.38	_____
HERBICIDE					
Glyphosate 3lbs a.e.	pt	2.29	2.0000	4.58	_____
SEED/PLANTS					
Common Bermuda Seed	lb	4.02	10.0000	40.20	_____
ADJUVANTS					
Surfactant	pt	3.69	1.0000	3.69	_____
CUSTOM FERT					
Custom Spread(Truck)	appl	7.00	2.0000	14.00	_____
SERVICE FEE					
Soil Test 6.00	acre	6.00	0.3300	1.98	_____
CUSTOM LIME					
Lime (Spread)	ton	46.00	0.3300	15.18	_____
OPERATOR LABOR					
Tractors	hour	13.14	1.0086	13.25	_____
HAND LABOR					
Implements	hour	9.06	0.1313	1.19	_____
DIESEL FUEL					
Tractors	gal	1.70	3.8937	6.61	_____
REPAIR & MAINTENANCE					
Implements	acre	4.13	1.0000	4.13	_____
Tractors	acre	1.09	1.0000	1.09	_____
INTEREST ON OP. CAP.	acre	5.03	1.0000	5.03	_____

TOTAL DIRECT EXPENSES				200.10	_____
FIXED EXPENSES					
Implements	acre	7.22	1.0000	7.22	_____
Tractors	acre	6.54	1.0000	6.54	_____

TOTAL FIXED EXPENSES				13.76	_____

TOTAL SPECIFIED EXPENSES				213.86	_____

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations.

Table 6.A Estimated resource use and costs for field operations, per acre
Common bermuda establishment, no-till
Mississippi, 2017

OPERATION/ OPERATING INPUT	SIZE/ UNIT	POWER UNIT SIZE	PERF RATE	TIMES OVER	MTH	POWER UNIT COST DIRECT	POWER UNIT COST FIXED	EQUIPMENT COST DIRECT	EQUIPMENT COST FIXED	ALLOC LABOR HOURS	ALLOC LABOR COST	OPERATING/DURABLE INPUT AMOUNT	OPERATING/DURABLE INPUT PRICE	OPERATING/DURABLE INPUT COST	TOTAL COST
						dollars					dollars			dollars	
Chisel Plow Rigid	15'	2WD 75	0.123	1.00	Mar	0.94	0.80	0.51	0.88	0.12	1.62				4.75
Soil Test 6.00	acre			0.33	Apr							0.3300	6.00	1.98	1.98
Lime (Spread)	ton			0.33	Apr							0.3300	46.00	15.18	15.18
Spray (Broadcast)	27'	2WD 75	0.062	1.00	Apr	0.50	0.57	0.16	0.19	0.09	1.10				2.52
Glyphosate 3lbs a.e.	pt											2.0000	2.29	4.58	4.58
Surfactant	pt											1.0000	3.69	3.69	3.69
Custom Spread(Truck)	appl			1.00	Apr							1.0000	7.00	7.00	7.00
Phosphate (46% P2O5)	cwt											1.5000	21.88	32.82	32.82
Potash (60% K2O)	cwt											1.0000	16.97	16.97	16.97
NT Grain Drill	12'	2WD 75	0.196	1.00	Apr	1.59	1.78	3.07	5.88	0.39	4.36				16.68
Common Bermuda Seed	lb											10.0000	4.02	40.20	40.20
Custom Spread(Truck)	appl			1.00	Jun							1.0000	7.00	7.00	7.00
Fert 33-0-0-12S	cwt											2.2500	17.50	39.38	39.38
Rotary Mower	12'	2WD 75	0.098	1.00	Jun	0.75	0.64	0.92	0.65	0.09	1.29				4.25
TOTALS						3.78	3.79	4.66	7.60	0.70	8.37			168.80	197.00
INTEREST ON OPERATING CAPITAL															4.76
UNALLOCATED LABOR															0.00
TOTAL SPECIFIED COST															201.76

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations.

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Table 6.B Estimated costs per acre
Common bermuda establishment, no-till
Mississippi, 2017

ITEM	UNIT	PRICE	QUANTITY	AMOUNT	YOUR FARM
		dollars		dollars	
DIRECT EXPENSES					
FERTILIZER					
Phosphate (46% P2O5)	cwt	21.88	1.5000	32.82	_____
Potash (60% K2O)	cwt	16.97	1.0000	16.97	_____
Fert 33-0-0-12S	cwt	17.50	2.2500	39.38	_____
HERBICIDE					
Glyphosate 3lbs a.e.	pt	2.29	2.0000	4.58	_____
SEED/PLANTS					
Common Bermuda Seed	lb	4.02	10.0000	40.20	_____
ADJUVANTS					
Surfactant	pt	3.69	1.0000	3.69	_____
CUSTOM FERT					
Custom Spread(Truck)	appl	7.00	2.0000	14.00	_____
SERVICE FEE					
Soil Test 6.00	acre	6.00	0.3300	1.98	_____
CUSTOM LIME					
Lime (Spread)	ton	46.00	0.3300	15.18	_____
OPERATOR LABOR					
Tractors	hour	13.14	0.4805	6.31	_____
HAND LABOR					
Implements	hour	9.06	0.2277	2.06	_____
DIESEL FUEL					
Tractors	gal	1.70	1.8551	3.15	_____
REPAIR & MAINTENANCE					
Implements	acre	4.66	1.0000	4.66	_____
Tractors	acre	0.63	1.0000	0.63	_____
INTEREST ON OP. CAP.	acre	4.76	1.0000	4.76	_____

TOTAL DIRECT EXPENSES				190.37	_____
FIXED EXPENSES					
Implements	acre	7.60	1.0000	7.60	_____
Tractors	acre	3.79	1.0000	3.79	_____

TOTAL FIXED EXPENSES				11.39	_____

TOTAL SPECIFIED EXPENSES				201.76	_____

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations.

Table 7.A Estimated resource use and costs for field operations, per acre
Permanent summer pasture maintenance (i.e. bahia,
bermuda, mixed grasses), Mississippi, 2017

OPERATION/ OPERATING INPUT	SIZE/ UNIT	POWER UNIT SIZE	PERF RATE	TIMES OVER	MTH	POWER UNIT COST DIRECT	POWER UNIT COST FIXED	EQUIPMENT COST DIRECT	EQUIPMENT COST FIXED	ALLOC LABOR HOURS	ALLOC LABOR COST	OPERATING/DURABLE INPUT AMOUNT	OPERATING/DURABLE INPUT PRICE	OPERATING/DURABLE INPUT COST	TOTAL COST
						dollars					dollars			dollars	
Soil Test 6.00	acre			0.33	Apr							0.3300	6.00	1.98	1.98
Custom Spread(Truck)	appl			1.00	Apr							1.0000	7.00	7.00	7.00
Fert 33-0-0-12S	cwt											1.5000	17.50	26.25	26.25
Phosphate (46% P2O5)	cwt											1.0000	21.88	21.88	21.88
Potash (60% K2O)	cwt											1.0000	16.97	16.97	16.97
Spray (Broadcast)	27'	2WD 75	0.062	1.00	Apr	0.48	0.41	0.16	0.19	0.09	1.10				2.34
GrazonNext	pt											2.0000	6.85	13.70	13.70
Custom Spread(Truck)	appl			1.00	Jun							1.0000	7.00	7.00	7.00
Fert 33-0-0-12S	cwt											1.5000	17.50	26.25	26.25
Rotary Mower	12'	2WD 75	0.098	1.00	Aug	0.75	0.64	0.92	0.65	0.09	1.29				4.25
Lime (Spread)	ton			1.00	Aug							0.3300	46.00	15.18	15.18
Prorated Est Cost	acre				Aug							1.0000			23.54
TOTALS						1.23	1.05	1.08	0.84	0.19	2.39			136.21	166.34
INTEREST ON OPERATING CAPITAL															3.91
UNALLOCATED LABOR															0.00
TOTAL SPECIFIED COST															170.25

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations.

Table 7.B Estimated costs per acre
Permanent summer pasture maintenance (i.e. bahia, bermuda, mixed grasses),Mississippi, 2017

ITEM	UNIT	PRICE	QUANTITY	AMOUNT	YOUR FARM
		dollars		dollars	
DIRECT EXPENSES					
FERTILIZER					
Fert 33-0-0-12S	cwt	17.50	3.0000	52.50	_____
Phosphate (46% P2O5)	cwt	21.88	1.0000	21.88	_____
Potash (60% K2O)	cwt	16.97	1.0000	16.97	_____
HERBICIDE					
GrazonNext	pt	6.85	2.0000	13.70	_____
CUSTOM FERT					
Custom Spread(Truck)	appl	7.00	2.0000	14.00	_____
SERVICE FEE					
Soil Test 6.00	acre	6.00	0.3300	1.98	_____
CUSTOM LIME					
Lime (Spread)	ton	46.00	0.3300	15.18	_____
OPERATOR LABOR					
Tractors	hour	13.14	0.1608	2.11	_____
HAND LABOR					
Implements	hour	9.06	0.0313	0.28	_____
DIESEL FUEL					
Tractors	gal	1.70	0.6210	1.05	_____
REPAIR & MAINTENANCE					
Implements	acre	1.08	1.0000	1.08	_____
Tractors	acre	0.18	1.0000	0.18	_____
INTEREST ON OP. CAP.	acre	3.91	1.0000	3.91	_____

TOTAL DIRECT EXPENSES				144.82	_____
FIXED EXPENSES					
Implements	acre	0.84	1.0000	0.84	_____
Tractors	acre	1.05	1.0000	1.05	_____
Prorated Est Cost	acre	23.54	1.0000	23.54	_____

TOTAL FIXED EXPENSES				25.43	_____

TOTAL SPECIFIED EXPENSES				170.25	_____

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations

Table 8.A Estimated resource use and costs for field operations, per acre
Permanent summer grass-white clover pasture maintenance
North Mississippi, 2017

OPERATION/ OPERATING INPUT	SIZE/ UNIT	POWER UNIT SIZE	PERF RATE	TIMES OVER	MTH	POWER UNIT COST DIRECT	POWER UNIT COST FIXED	EQUIPMENT COST DIRECT	EQUIPMENT COST FIXED	ALLOC LABOR HOURS	ALLOC LABOR COST	OPERATING/DURABLE INPUT AMOUNT	OPERATING/DURABLE INPUT PRICE	OPERATING/DURABLE INPUT COST	TOTAL COST
						dollars					dollars			dollars	
Rotary Mower	12'	2WD 75	0.098	1.00	Jun	0.75	0.64	0.92	0.65	0.09	1.29				4.25
Soil Test 6.00	acre			0.33	Jun							0.3300	6.00	1.98	1.98
Lime (Spread)	ton			0.33	Jun							0.3300	46.00	15.18	15.18
Rotary Mower	12'	2WD 75	0.098	1.00	Sep	0.75	0.64	0.92	0.65	0.09	1.29				4.25
Tailgate Seeder		2WD 50	0.200	1.00	Sep	1.01	0.79	0.28	0.31	0.20	2.63				5.02
White Clover Seed	lb											3.0000	6.12	18.36	18.36
Custom Spread(Truck)	appl			1.00	Oct							1.0000	7.00	7.00	7.00
Fert 33-0-0-12S	cwt											1.0000	17.50	17.50	17.50
Phosphate (46% P2O5)	cwt											1.0000	21.88	21.88	21.88
Potash (60% K2O)	cwt											1.0000	16.97	16.97	16.97
Prorated Est Cost	acre				Jan							1.0000			23.54
TOTALS						2.51	2.07	2.12	1.61	0.39	5.21			98.87	135.93
INTEREST ON OPERATING CAPITAL															2.14
UNALLOCATED LABOR															0.00
TOTAL SPECIFIED COST															138.07

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations.

Table 8.B Estimated costs per acre
Permanent summer grass-white clover pasture maintenance
North Mississippi, 2017

ITEM	UNIT	PRICE	QUANTITY	AMOUNT	YOUR FARM
		dollars		dollars	
DIRECT EXPENSES					
FERTILIZER					
Fert 33-0-0-12S	cwt	17.50	1.0000	17.50	_____
Phosphate (46% P2O5)	cwt	21.88	1.0000	21.88	_____
Potash (60% K2O)	cwt	16.97	1.0000	16.97	_____
SEED/PLANTS					
White Clover Seed	lb	6.12	3.0000	18.36	_____
CUSTOM FERT					
Custom Spread(Truck)	appl	7.00	1.0000	7.00	_____
SERVICE FEE					
Soil Test 6.00	acre	6.00	0.3300	1.98	_____
CUSTOM LIME					
Lime (Spread)	ton	46.00	0.3300	15.18	_____
OPERATOR LABOR					
Tractors	hour	13.14	0.3964	5.21	_____
DIESEL FUEL					
Tractors	gal	1.70	1.2729	2.16	_____
REPAIR & MAINTENANCE					
Implements	acre	2.12	1.0000	2.12	_____
Tractors	acre	0.35	1.0000	0.35	_____
INTEREST ON OP. CAP.	acre	2.14	1.0000	2.14	_____

TOTAL DIRECT EXPENSES				110.85	_____
FIXED EXPENSES					
Implements	acre	1.61	1.0000	1.61	_____
Tractors	acre	2.07	1.0000	2.07	_____
Prorated Est Cost	acre	23.54	1.0000	23.54	_____

TOTAL FIXED EXPENSES				27.22	_____

TOTAL SPECIFIED EXPENSES				138.07	_____

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations.

Table 9.A Estimated resource use and costs for field operations, per acre
Mixed grass hay maintenance
Mississippi, 2017

OPERATION/ OPERATING INPUT	SIZE/ UNIT	POWER UNIT SIZE	PERF RATE	TIMES OVER	MTH	POWER UNIT COST DIRECT	POWER UNIT COST FIXED	EQUIPMENT COST DIRECT	EQUIPMENT COST FIXED	ALLOC LABOR HOURS	ALLOC LABOR COST	OPERATING/DURABLE INPUT AMOUNT	OPERATING/DURABLE INPUT PRICE	OPERATING/DURABLE INPUT COST	TOTAL COST
						dollars					dollars			dollars	
Spray (Broadcast)	27'	2WD 75	0.062	1.00	Mar	0.48	0.41	0.16	0.19	0.09	1.10				2.34
GrazonNext	pt											2.0000	6.85	13.70	13.70
Custom Spread(Truck)	appl			1.00	Apr							1.0000	7.00	7.00	7.00
Fert 33-0-0-12S	cwt											1.2500	17.50	21.88	21.88
Phosphate (46% P2O5)	cwt											1.0000	21.88	21.88	21.88
Potash (60% K2O)	cwt											1.5000	16.97	25.46	25.46
Hay Disc Mower	8'	2WD 75	0.257	1.00	Jun	1.97	1.67	1.79	1.99	0.25	3.39				10.81
Hay Rake	8.5'	2WD 50	0.202	2.00	Jun	2.03	1.59	1.19	1.66	0.40	5.31				11.78
Hay Baler	Lg Round	2WD 75	0.211	1.00	Jun	1.62	1.37	4.95	6.12	0.21	2.78				16.84
Twine	bun											0.0400	39.00	1.56	1.56
Hay Carrier	1B Lift	2WD 75	0.300	1.00	Jun	2.29	1.94	0.02	0.06	0.30	3.94				8.25
Custom Spread(Truck)	appl			1.00	Jun							1.0000	7.00	7.00	7.00
Fert 33-0-0-12S	cwt											1.5000	17.50	26.25	26.25
Hay Disc Mower	8'	2WD 75	0.257	1.00	Jul	1.97	1.67	1.79	1.99	0.25	3.39				10.81
Hay Rake	8.5'	2WD 50	0.202	2.00	Jul	2.03	1.59	1.19	1.66	0.40	5.31				11.78
Hay Baler	Lg Round	2WD 75	0.211	1.00	Jul	1.62	1.37	4.95	6.12	0.21	2.78				16.84
Twine	bun											0.0400	39.00	1.56	1.56
Hay Carrier	1B Lift	2WD 75	0.300	1.00	Jul	2.29	1.94	0.02	0.06	0.30	3.94				8.25
Custom Spread(Truck)	appl			1.00	Jul							1.0000	7.00	7.00	7.00
Fert 33-0-0-12S	cwt											1.7500	17.50	30.63	30.63
Hay Disc Mower	8'	2WD 75	0.257	1.00	Oct	1.97	1.67	1.79	1.99	0.25	3.39				10.81
Hay Rake	8.5'	2WD 50	0.202	2.00	Oct	2.03	1.59	1.19	1.66	0.40	5.31				11.78
Hay Baler	Lg Round	2WD 75	0.211	1.00	Oct	1.62	1.37	4.95	6.12	0.21	2.78				16.84
Twine	bun											0.0200	39.00	0.78	0.78
Hay Carrier	1B Lift	2WD 75	0.300	1.00	Oct	2.29	1.94	0.02	0.06	0.30	3.94				8.25
Soil Testing .60	acre			1.00	Oct							1.0000	0.60	0.60	0.60
Lime (Spread)	ton			1.00	Oct							0.3300	46.00	15.18	15.18
Prorated Est Cost	acre				Oct							1.0000			23.54
TOTALS						24.21	20.12	24.01	29.68	3.61	47.36			180.48	349.40
INTEREST ON OPERATING CAPITAL															5.21
UNALLOCATED LABOR															0.00
TOTAL SPECIFIED COST															354.61

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations.

Table 9.B Estimated costs per acre
Mixed grass hay maintenance
Mississippi, 2017

ITEM	UNIT	PRICE	QUANTITY	AMOUNT	YOUR FARM
		dollars		dollars	
DIRECT EXPENSES					
FERTILIZER					
Fert 33-0-0-12S	cwt	17.50	4.5000	78.75	_____
Phosphate (46% P2O5)	cwt	21.88	1.0000	21.88	_____
Potash (60% K2O)	cwt	16.97	1.5000	25.46	_____
HERBICIDE					
GrazonNext	pt	6.85	2.0000	13.70	_____
OTHER					
Twine	bun	39.00	0.1000	3.90	_____
CUSTOM FERT					
Custom Spread(Truck)	appl	7.00	3.0000	21.00	_____
SERVICE FEE					
Soil Testing .60	acre	0.60	1.0000	0.60	_____
CUSTOM LIME					
Lime (Spread)	ton	46.00	0.3300	15.18	_____
OPERATOR LABOR					
Tractors	hour	13.14	3.5839	47.08	_____
HAND LABOR					
Implements	hour	9.06	0.0313	0.28	_____
DIESEL FUEL					
Tractors	gal	1.70	12.2744	20.87	_____
REPAIR & MAINTENANCE					
Implements	acre	24.01	1.0000	24.01	_____
Tractors	acre	3.34	1.0000	3.34	_____
INTEREST ON OP. CAP.	acre	5.21	1.0000	5.21	_____

TOTAL DIRECT EXPENSES				281.27	_____
FIXED EXPENSES					
Implements	acre	29.68	1.0000	29.68	_____
Tractors	acre	20.12	1.0000	20.12	_____
Prorated Est Cost	acre	23.54	1.0000	23.54	_____

TOTAL FIXED EXPENSES				73.34	_____

TOTAL SPECIFIED EXPENSES				354.61	_____

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations.

Table 10.A Estimated resource use and costs for field operations, per acre
Hybrid bermuda establishment, 1 cutting of hay
Mississippi, 2017

OPERATION/ OPERATING INPUT	SIZE/ UNIT	POWER UNIT SIZE	PERF RATE	TIMES OVER	MTH	POWER UNIT COST DIRECT	POWER UNIT COST FIXED	EQUIPMENT COST DIRECT	EQUIPMENT COST FIXED	ALLOC LABOR HOURS	ALLOC LABOR COST	OPERATING/DURABLE INPUT AMOUNT	OPERATING/DURABLE INPUT PRICE	OPERATING/DURABLE INPUT COST	TOTAL COST
						dollars					dollars			dollars	
Chisel Plow Rigid	15'	2WD 75	0.123	1.00	Mar	0.94	0.80	0.51	0.88	0.12	1.62				4.75
Soil Test 6.00	acre			0.33	Apr							0.3300	6.00	1.98	1.98
Lime (Spread)	ton			0.33	Apr							0.3300	46.00	15.18	15.18
Disk Harrow	14'	2WD 75	0.140	2.00	Apr	2.14	1.82	1.90	4.02	0.28	3.69				13.57
Custom Spread(Truck)	appl			1.00	Apr							1.0000	7.00	7.00	7.00
Fert 33-0-0-12S	cwt											0.9000	17.50	15.75	15.75
Phosphate (46% P2O5)	cwt											1.5000	21.88	32.82	32.82
Potash (60% K2O)	cwt											1.0000	16.97	16.97	16.97
Custom Sprig	acre			1.00	May							1.0000	100.00	100.00	100.00
Cultipacker	12'	2WD 75	0.124	1.00	May	0.95	0.80	0.19	0.26	0.12	1.64				3.84
Spray (Broadcast)	27'	2WD 75	0.062	1.00	May	0.48	0.41	0.16	0.19	0.09	1.10				2.34
Diuron 4L	pt											3.0000	3.36	10.08	10.08
Custom Spread(Truck)	appl			1.00	Jun							1.0000	7.00	7.00	7.00
Fert 33-0-0-12S	cwt											2.1000	17.50	36.75	36.75
Hay Disc Mower	8'	2WD 75	0.257	1.00	Aug	1.97	1.67	1.79	1.99	0.25	3.39				10.81
Hay Tedder	17'	2WD 75	0.101	1.00	Aug	0.77	0.65	0.44	0.62	0.10	1.33				3.81
Hay Rake-Double	17'	2WD 75	0.101	1.00	Aug	0.77	0.65	0.29	0.40	0.10	1.33				3.44
Hay Baler	Lg Round	2WD 75	0.211	1.00	Aug	1.62	1.37	4.95	6.12	0.21	2.78				16.84
Twine	bun											0.0300	39.00	1.17	1.17
TOTALS						9.64	8.17	10.23	14.48	1.29	16.88			244.70	304.10
INTEREST ON OPERATING CAPITAL															6.65
UNALLOCATED LABOR															0.00
TOTAL SPECIFIED COST															310.75

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations.

Table 10.B Estimated costs per acre
Hybrid bermuda establishment, 1 cutting of hay
Mississippi, 2017

ITEM	UNIT	PRICE	QUANTITY	AMOUNT	YOUR FARM
		dollars		dollars	
DIRECT EXPENSES					
FERTILIZER					
Fert 33-0-0-12S	cwt	17.50	3.0000	52.50	_____
Phosphate (46% P2O5)	cwt	21.88	1.5000	32.82	_____
Potash (60% K2O)	cwt	16.97	1.0000	16.97	_____
HERBICIDE					
Diuron 4L	pt	3.36	3.0000	10.08	_____
OTHER					
Twine	bun	39.00	0.0300	1.17	_____
CUSTOM FERT					
Custom Spread(Truck)	appl	7.00	2.0000	14.00	_____
SERVICE FEE					
Soil Test 6.00	acre	6.00	0.3300	1.98	_____
CUSTOM PLANT					
Custom Sprig	acre	100.00	1.0000	100.00	_____
CUSTOM LIME					
Lime (Spread)	ton	46.00	0.3300	15.18	_____
OPERATOR LABOR					
Tractors	hour	13.14	1.2625	16.60	_____
HAND LABOR					
Implements	hour	9.06	0.0313	0.28	_____
DIESEL FUEL					
Tractors	gal	1.70	4.8738	8.28	_____
REPAIR & MAINTENANCE					
Implements	acre	10.23	1.0000	10.23	_____
Tractors	acre	1.36	1.0000	1.36	_____
INTEREST ON OP. CAP.	acre	6.65	1.0000	6.65	_____

TOTAL DIRECT EXPENSES				288.10	_____
FIXED EXPENSES					
Implements	acre	14.48	1.0000	14.48	_____
Tractors	acre	8.17	1.0000	8.17	_____

TOTAL FIXED EXPENSES				22.65	_____

TOTAL SPECIFIED EXPENSES				310.75	_____

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations.

Table 11.A Estimated resource use and costs for field operations, per acre
Hybrid bermuda hay maintenance
Mississippi, 2017

OPERATION/ OPERATING INPUT	SIZE/ UNIT	POWER UNIT SIZE	PERF RATE	TIMES OVER	MTH	POWER UNIT COST DIRECT	POWER UNIT COST FIXED	EQUIPMENT COST DIRECT	EQUIPMENT COST FIXED	ALLOC LABOR HOURS	ALLOC LABOR COST	OPERATING/DURABLE INPUT AMOUNT	OPERATING/DURABLE INPUT PRICE	OPERATING/DURABLE INPUT COST	TOTAL COST
						dollars					dollars			dollars	
Spray (Broadcast)	27'	2WD 75	0.062	1.00	Mar	0.48	0.41	0.16	0.19	0.09	1.10				2.34
GrazonNext	pt											2.0000	6.85	13.70	13.70
Custom Spread(Truck)	appl			1.00	Apr							1.0000	7.00	7.00	7.00
Fert 33-0-0-12S	cwt											1.5000	17.50	26.25	26.25
Phosphate (46% P2O5)	cwt											1.5000	21.88	32.82	32.82
Potash (60% K2O)	cwt											2.0000	16.97	33.94	33.94
Hay Disc Mower	8'	2WD 75	0.257	1.00	Jun	1.97	1.67	1.79	1.99	0.25	3.39				10.81
Hay Tedder	17'	2WD 75	0.101	1.00	Jun	0.77	0.65	0.44	0.62	0.10	1.33				3.81
Hay Rake-Double	17'	2WD 75	0.101	2.00	Jun	1.55	1.31	0.58	0.80	0.20	2.66				6.90
Hay Baler	Lg Round	2WD 75	0.211	1.00	Jun	1.62	1.37	4.95	6.12	0.21	2.78				16.84
Twine	bun											0.0600	39.00	2.34	2.34
Hay Carrier	1B Lift	2WD 75	0.300	1.00	Jun	2.29	1.94	0.02	0.06	0.30	3.94				8.25
Custom Spread(Truck)	appl			1.00	Jun							1.0000	7.00	7.00	7.00
Fert 33-0-0-12S	cwt											1.5000	17.50	26.25	26.25
Hay Disc Mower	8'	2WD 75	0.257	1.00	Jul	1.97	1.67	1.79	1.99	0.25	3.39				10.81
Hay Tedder	17'	2WD 75	0.101	1.00	Jul	0.77	0.65	0.44	0.62	0.10	1.33				3.81
Hay Rake-Double	17'	2WD 75	0.101	2.00	Jul	1.55	1.31	0.58	0.80	0.20	2.66				6.90
Hay Baler	Lg Round	2WD 75	0.211	1.00	Jul	1.62	1.37	4.95	6.12	0.21	2.78				16.84
Twine	bun											0.0600	39.00	2.34	2.34
Hay Carrier	1B Lift	2WD 75	0.300	1.00	Jul	2.29	1.94	0.02	0.06	0.30	3.94				8.25
Custom Spread(Truck)	appl			1.00	Jul							1.0000	7.00	7.00	7.00
Fert 33-0-0-12S	cwt											1.5000	17.50	26.25	26.25
Soil Testing .60	acre			1.00	Aug							1.0000	0.60	0.60	0.60
Lime (Spread)	ton			1.00	Aug							0.5000	46.00	23.00	23.00
Hay Disc Mower	8'	2WD 75	0.257	1.00	Aug	1.97	1.67	1.79	1.99	0.25	3.39				10.81
Hay Tedder	17'	2WD 75	0.101	1.00	Aug	0.77	0.65	0.44	0.62	0.10	1.33				3.81
Hay Rake-Double	17'	2WD 75	0.101	2.00	Aug	1.55	1.31	0.58	0.80	0.20	2.66				6.90
Hay Baler	Lg Round	2WD 75	0.211	1.00	Aug	1.62	1.37	4.95	6.12	0.21	2.78				16.84
Twine	bun											0.0300	39.00	1.17	1.17
Hay Carrier	1B Lift	2WD 75	0.300	1.00	Aug	2.29	1.94	0.02	0.06	0.30	3.94				8.25
Custom Spread(Truck)	appl			1.00	Aug							1.0000	7.00	7.00	7.00
Fert 33-0-0-12S	cwt											1.5000	17.50	26.25	26.25
Potash (60% K2O)	cwt											1.0000	16.97	16.97	16.97
Hay Disc Mower	8'	2WD 75	0.257	1.00	Sep	1.97	1.67	1.79	1.99	0.25	3.39				10.81
Hay Tedder	17'	2WD 75	0.101	1.00	Sep	0.77	0.65	0.44	0.62	0.10	1.33				3.81
Hay Rake-Double	17'	2WD 75	0.101	2.00	Sep	1.55	1.31	0.58	0.80	0.20	2.66				6.90
Hay Baler	Lg Round	2WD 75	0.211	1.00	Sep	1.62	1.37	4.95	6.12	0.21	2.78				16.84
Twine	bun											0.0300	39.00	1.17	1.17
Hay Carrier	1B Lift	2WD 75	0.300	1.00	Sep	2.29	1.94	0.02	0.06	0.30	3.94				8.25
Prorated Est Cost	acre				Sep							1.0000			24.94
TOTALS						33.28	28.17	31.28	38.55	4.38	57.50			261.05	474.77
INTEREST ON OPERATING CAPITAL															7.09
UNALLOCATED LABOR															0.00
TOTAL SPECIFIED COST															481.86

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil tests.

Table 11.B Estimated costs per acre
Hybrid bermuda hay maintenance
Mississippi, 2017

ITEM	UNIT	PRICE	QUANTITY	AMOUNT	YOUR FARM
		dollars		dollars	
DIRECT EXPENSES					
FERTILIZER					
Fert 33-0-0-12S	cwt	17.50	6.0000	105.00	_____
Phosphate (46% P2O5)	cwt	21.88	1.5000	32.82	_____
Potash (60% K2O)	cwt	16.97	3.0000	50.91	_____
HERBICIDE					
GrazonNext	pt	6.85	2.0000	13.70	_____
OTHER					
Twine	bun	39.00	0.1800	7.02	_____
CUSTOM FERT					
Custom Spread(Truck)	appl	7.00	4.0000	28.00	_____
SERVICE FEE					
Soil Testing .60	acre	0.60	1.0000	0.60	_____
CUSTOM LIME					
Lime (Spread)	ton	46.00	0.5000	23.00	_____
OPERATOR LABOR					
Tractors	hour	13.14	4.3532	57.22	_____
HAND LABOR					
Implements	hour	9.06	0.0313	0.28	_____
DIESEL FUEL					
Tractors	gal	1.70	16.8054	28.57	_____
REPAIR & MAINTENANCE					
Implements	acre	31.28	1.0000	31.28	_____
Tractors	acre	4.71	1.0000	4.71	_____
INTEREST ON OP. CAP.	acre	7.09	1.0000	7.09	_____

TOTAL DIRECT EXPENSES				390.20	_____
FIXED EXPENSES					
Implements	acre	38.55	1.0000	38.55	_____
Tractors	acre	28.17	1.0000	28.17	_____
Prorated Est Cost	acre	24.94	1.0000	24.94	_____

TOTAL FIXED EXPENSES				91.66	_____

TOTAL SPECIFIED EXPENSES				481.86	_____

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations.

Table 12.A Estimated resource use and costs for field operations, per acre
Overseeded annual(min till)ryegrass pasture maintenance
Mississippi, 2017

OPERATION/ OPERATING INPUT	SIZE/ UNIT	POWER UNIT SIZE	PERF RATE	TIMES OVER	MTH	POWER UNIT COST DIRECT	POWER UNIT COST FIXED	EQUIPMENT COST DIRECT	EQUIPMENT COST FIXED	ALLOC LABOR HOURS	ALLOC LABOR COST	OPERATING/DURABLE INPUT AMOUNT	OPERATING/DURABLE INPUT PRICE	OPERATING/DURABLE INPUT COST	TOTAL COST
						dollars					dollars			dollars	
Soil Test 6.00	acre			0.33	Aug							0.3300	6.00	1.98	1.98
Lime (Spread)	ton			0.33	Aug							0.3300	46.00	15.18	15.18
Rotary Mower	12'	2WD 75	0.098	1.00	Aug	0.75	0.64	0.92	0.65	0.09	1.29				4.25
Disk Harrow	14'	2WD 75	0.140	1.00	Oct	1.07	0.91	0.95	2.01	0.14	1.84				6.78
Custom Spread + Seed	appl			1.00	Oct							1.0000	13.00	13.00	13.00
Phosphate (46% P2O5)	cwt											2.0000	21.88	43.76	43.76
Potash (60% K2O)	cwt											1.5000	16.97	25.46	25.46
Ryegrass Seed	lb											30.0000	0.47	14.10	14.10
Section Harrow	13'	2WD 75	0.119	1.00	Oct	0.91	0.77	0.21	0.31	0.11	1.57				3.77
Custom Spread(Truck)	appl			1.00	Feb							1.0000	7.00	7.00	7.00
Fert 33-0-0-12S	cwt											0.9000	17.50	15.75	15.75
Custom Spread(Truck)	appl			1.00	Mar							1.0000	7.00	7.00	7.00
Fert 33-0-0-12S	cwt											1.2000	17.50	21.00	21.00
Rotary Mower	12'	2WD 75	0.098	1.00	May	0.75	0.64	0.92	0.65	0.09	1.29				4.25
Spray (Broadcast)	27'	2WD 75	0.062	1.00	Jun	0.48	0.41	0.16	0.19	0.09	1.10				2.34
Weedmaster	pt											2.0000	4.00	8.00	8.00
Custom Spread(Truck)	appl			1.00	Jun							1.0000	7.00	7.00	7.00
Fert 33-0-0-12S	cwt											2.1000	17.50	36.75	36.75
Prorated Est Cost	acre				Jun							1.0000			15.50
TOTALS						3.96	3.37	3.16	3.81	0.55	7.09			215.98	252.87
INTEREST ON OPERATING CAPITAL															3.35
UNALLOCATED LABOR															0.00
TOTAL SPECIFIED COST															256.22

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations.

Table 12.B Estimated costs per acre
Overseeded annual(min till)ryegrass pasture maintenance
Mississippi, 2017

ITEM	UNIT	PRICE	QUANTITY	AMOUNT	YOUR FARM
		dollars		dollars	
DIRECT EXPENSES					
FERTILIZER					
Phosphate (46% P2O5)	cwt	21.88	2.0000	43.76	_____
Potash (60% K2O)	cwt	16.97	1.5000	25.46	_____
Fert 33-0-0-12S	cwt	17.50	4.2000	73.50	_____
HERBICIDE					
Weedmaster	pt	4.00	2.0000	8.00	_____
SEED/PLANTS					
Ryegrass Seed	lb	0.47	30.0000	14.10	_____
CUSTOM FERT					
Custom Spread(Truck)	appl	7.00	3.0000	21.00	_____
SERVICE FEE					
Soil Test 6.00	acre	6.00	0.3300	1.98	_____
CUSTOM PLANT					
Custom Spread + Seed	appl	13.00	1.0000	13.00	_____
CUSTOM LIME					
Lime (Spread)	ton	46.00	0.3300	15.18	_____
OPERATOR LABOR					
Tractors	hour	13.14	0.5188	6.81	_____
HAND LABOR					
Implements	hour	9.06	0.0313	0.28	_____
DIESEL FUEL					
Tractors	gal	1.70	2.0030	3.39	_____
REPAIR & MAINTENANCE					
Implements	acre	3.16	1.0000	3.16	_____
Tractors	acre	0.57	1.0000	0.57	_____
INTEREST ON OP. CAP.	acre	3.35	1.0000	3.35	_____

TOTAL DIRECT EXPENSES				233.54	_____
FIXED EXPENSES					
Implements	acre	3.81	1.0000	3.81	_____
Tractors	acre	3.37	1.0000	3.37	_____
Prorated Est Cost	acre	15.50	1.0000	15.50	_____

TOTAL FIXED EXPENSES				22.68	_____

TOTAL SPECIFIED EXPENSES				256.22	_____

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations.

Table 13.A Estimated resource use and costs for field operations, per acre
Tall fescue-white clover pasture establishment,
prepared seedbed, North Mississippi, 2017

OPERATION/ OPERATING INPUT	SIZE/ UNIT	POWER UNIT SIZE	PERF RATE	TIMES OVER	MTH	POWER UNIT COST DIRECT	POWER UNIT COST FIXED	EQUIPMENT COST DIRECT	EQUIPMENT COST FIXED	ALLOC LABOR HOURS	ALLOC LABOR COST	OPERATING/DURABLE INPUT AMOUNT	OPERATING/DURABLE INPUT PRICE	OPERATING/DURABLE INPUT COST	TOTAL COST
						dollars					dollars			dollars	
Soil Test 6.00	acre			0.33	Aug							0.3300	6.00	1.98	1.98
Lime (Spread)	ton			0.33	Aug							0.3300	46.00	15.18	15.18
Chisel Plow Rigid	15'	2WD 75	0.123	1.00	Aug	0.94	0.80	0.51	0.88	0.12	1.62				4.75
Custom Spread(Truck)	appl			1.00	Sep							1.0000	7.00	7.00	7.00
Phosphate (46% P2O5)	cwt											1.5000	21.88	32.82	32.82
Potash (60% K2O)	cwt											1.0000	16.97	16.97	16.97
Disk Harrow	14'	2WD 75	0.140	2.00	Sep	2.14	1.82	1.90	4.02	0.28	3.69				13.57
Section Harrow	13'	2WD 75	0.119	1.00	Sep	0.91	0.77	0.21	0.31	0.11	1.57				3.77
Cyclone Spin	750 lb	2WD 75	0.200	1.00	Sep	1.53	1.29	0.24	0.91	0.30	3.54				7.51
Fescue Seed	lb											20.0000	2.50	50.00	50.00
Cultipacker	12'	2WD 75	0.124	1.00	Sep	0.95	0.80	0.19	0.26	0.12	1.64				3.84
Tailgate Seeder		2WD 50	0.200	1.00	Sep	1.01	0.79	0.28	0.31	0.20	2.63				5.02
White Clover Seed	lb											3.0000	6.12	18.36	18.36
Custom Spread(Truck)	appl			1.00	Oct							1.0000	7.00	7.00	7.00
Fert 33-0-0-12S	cwt											1.0000	17.50	17.50	17.50
TOTALS						7.48	6.27	3.33	6.69	1.14	14.69			166.81	205.27
INTEREST ON OPERATING CAPITAL															5.32
UNALLOCATED LABOR															0.00
TOTAL SPECIFIED COST															210.59

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations.

Table 13.B Estimated costs per acre
Tall fescue-white clover pasture establishment,
prepared seedbed, North Mississippi, 2017

ITEM	UNIT	PRICE	QUANTITY	AMOUNT	YOUR FARM
		dollars		dollars	
DIRECT EXPENSES					
FERTILIZER					
Phosphate (46% P2O5)	cwt	21.88	1.5000	32.82	_____
Potash (60% K2O)	cwt	16.97	1.0000	16.97	_____
Fert 33-0-0-12S	cwt	17.50	1.0000	17.50	_____
SEED/PLANTS					
Fescue Seed	lb	2.50	20.0000	50.00	_____
White Clover Seed	lb	6.12	3.0000	18.36	_____
CUSTOM FERT					
Custom Spread(Truck)	appl	7.00	2.0000	14.00	_____
SERVICE FEE					
Soil Test 6.00	acre	6.00	0.3300	1.98	_____
CUSTOM LIME					
Lime (Spread)	ton	46.00	0.3300	15.18	_____
OPERATOR LABOR					
Tractors	hour	13.14	1.0477	13.78	_____
HAND LABOR					
Implements	hour	9.06	0.1000	0.91	_____
DIESEL FUEL					
Tractors	gal	1.70	3.7874	6.44	_____
REPAIR & MAINTENANCE					
Implements	acre	3.33	1.0000	3.33	_____
Tractors	acre	1.04	1.0000	1.04	_____
INTEREST ON OP. CAP.	acre	5.32	1.0000	5.32	_____

TOTAL DIRECT EXPENSES				197.63	_____
FIXED EXPENSES					
Implements	acre	6.69	1.0000	6.69	_____
Tractors	acre	6.27	1.0000	6.27	_____

TOTAL FIXED EXPENSES				12.96	_____

TOTAL SPECIFIED EXPENSES				210.59	_____

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations.

Table 14.A Estimated resource use and costs for field operations, per acre
Tall fescue-white clover pasture establishment,
novel/endophyte free, sod-seeding, North Mississippi, 2017

OPERATION/ OPERATING INPUT	SIZE/ UNIT	POWER UNIT SIZE	PERF RATE	TIMES OVER	MTH	POWER UNIT COST DIRECT	POWER UNIT COST FIXED	EQUIPMENT COST DIRECT	EQUIPMENT COST FIXED	ALLOC LABOR HOURS	ALLOC LABOR COST	OPERATING/DURABLE INPUT AMOUNT	OPERATING/DURABLE INPUT PRICE	OPERATING/DURABLE INPUT COST	TOTAL COST
						dollars					dollars			dollars	
Soil Test 6.00	acre			0.33	Aug							0.3300	6.00	1.98	1.98
Lime (Spread)	ton			0.33	Aug							0.3300	46.00	15.18	15.18
Spray (Broadcast)	27'	2WD 75	0.062	1.00	Sep	0.48	0.41	0.16	0.19	0.09	1.10				2.34
Glyphosate 3lbs a.e.	pt											2.5000	2.29	5.73	5.73
Custom Spread(Truck)	appl			1.00	Sep							1.0000	7.00	7.00	7.00
Fert 33-0-0-12S	cwt											1.0000	17.50	17.50	17.50
Phosphate (46% P2O5)	cwt											1.5000	21.88	32.82	32.82
Potash (60% K2O)	cwt											1.0000	16.97	16.97	16.97
Grain Drill	12'	2WD 75	0.157	1.00	Sep	1.20	1.02	1.42	2.72	0.31	3.48				9.84
Fescue Seed	lb											20.0000	2.50	50.00	50.00
Grain Drill	12'	2WD 75	0.157	1.00	Sep	1.20	1.02	1.42	2.72	0.31	3.48				9.84
White Clover Seed	lb											3.0000	6.12	18.36	18.36
TOTALS						2.88	2.45	3.00	5.63	0.72	8.06			165.54	187.56
INTEREST ON OPERATING CAPITAL															5.04
UNALLOCATED LABOR															0.00
TOTAL SPECIFIED COST															192.60

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations.

Table 14.B Estimated costs per acre
Tall fescue-white clover pasture establishment,
novel/endophyte free, sod-seeding, North Mississippi, 2017

ITEM	UNIT	PRICE	QUANTITY	AMOUNT	YOUR FARM
		dollars		dollars	
DIRECT EXPENSES					
FERTILIZER					
Fert 33-0-0-12S	cwt	17.50	1.0000	17.50	_____
Phosphate (46% P2O5)	cwt	21.88	1.5000	32.82	_____
Potash (60% K2O)	cwt	16.97	1.0000	16.97	_____
HERBICIDE					
Glyphosate 3lbs a.e.	pt	2.29	2.5000	5.73	_____
SEED/PLANTS					
Fescue Seed	lb	2.50	20.0000	50.00	_____
White Clover Seed	lb	6.12	3.0000	18.36	_____
CUSTOM FERT					
Custom Spread(Truck)	appl	7.00	1.0000	7.00	_____
SERVICE FEE					
Soil Test 6.00	acre	6.00	0.3300	1.98	_____
CUSTOM LIME					
Lime (Spread)	ton	46.00	0.3300	15.18	_____
OPERATOR LABOR					
Tractors	hour	13.14	0.3769	4.94	_____
HAND LABOR					
Implements	hour	9.06	0.3456	3.12	_____
DIESEL FUEL					
Tractors	gal	1.70	1.4552	2.47	_____
REPAIR & MAINTENANCE					
Implements	acre	3.00	1.0000	3.00	_____
Tractors	acre	0.41	1.0000	0.41	_____
INTEREST ON OP. CAP.	acre	5.04	1.0000	5.04	_____

TOTAL DIRECT EXPENSES				184.52	_____
FIXED EXPENSES					
Implements	acre	5.63	1.0000	5.63	_____
Tractors	acre	2.45	1.0000	2.45	_____

TOTAL FIXED EXPENSES				8.08	_____

TOTAL SPECIFIED EXPENSES				192.60	_____

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations.

Table 15.A Estimated resource use and costs for field operations, per acre
Tall fescue-white clover pasture maintenance
novel/endophyte free, North Mississippi, 2017

OPERATION/ OPERATING INPUT	SIZE/ UNIT	POWER UNIT SIZE	PERF RATE	TIMES OVER	MTH	POWER UNIT COST DIRECT	POWER UNIT COST FIXED	EQUIPMENT COST DIRECT	EQUIPMENT COST FIXED	ALLOC LABOR HOURS	ALLOC LABOR COST	OPERATING/DURABLE INPUT AMOUNT	OPERATING/DURABLE INPUT PRICE	OPERATING/DURABLE INPUT COST	TOTAL COST
						dollars					dollars			dollars	
Rotary Mower	12'	2WD 75	0.098	1.00	Aug	0.75	0.64	0.92	0.65	0.09	1.29				4.25
Soil Test 6.00	acre			0.33	Aug							0.3300	6.00	1.98	1.98
Lime (Spread)	ton			0.33	Aug							0.1089	46.00	5.01	5.01
Tailgate Seeder		2WD 50	0.200	1.00	Oct	1.01	0.79	0.28	0.31	0.20	2.63				5.02
White Clover Seed	lb											2.0000	6.12	12.24	12.24
Custom Spread(Truck)	appl			1.00	Oct							1.0000	7.00	7.00	7.00
Phosphate (46% P2O5)	cwt											1.5000	21.88	32.82	32.82
Potash (60% K2O)	cwt											1.0000	16.97	16.97	16.97
Fert 33-0-0-12S	cwt											0.7500	17.50	13.13	13.13
Prorated Est Cost	acre				Oct							1.0000			15.45
TOTALS						1.76	1.43	1.20	0.96	0.29	3.92			89.15	113.87
INTEREST ON OPERATING CAPITAL															2.35
UNALLOCATED LABOR															0.00
TOTAL SPECIFIED COST															116.22

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations.

Table 15.B Estimated costs per acre
Tall fescue-white clover pasture maintenance
novel/endophyte free, North Mississippi, 2017

ITEM	UNIT	PRICE	QUANTITY	AMOUNT	YOUR FARM
		dollars		dollars	
DIRECT EXPENSES					
FERTILIZER					
Phosphate (46% P2O5)	cwt	21.88	1.5000	32.82	_____
Potash (60% K2O)	cwt	16.97	1.0000	16.97	_____
Fert 33-0-0-12S	cwt	17.50	0.7500	13.13	_____
SEED/PLANTS					
White Clover Seed	lb	6.12	2.0000	12.24	_____
CUSTOM FERT					
Custom Spread(Truck)	appl	7.00	1.0000	7.00	_____
SERVICE FEE					
Soil Test 6.00	acre	6.00	0.3300	1.98	_____
CUSTOM LIME					
Lime (Spread)	ton	46.00	0.1089	5.01	_____
OPERATOR LABOR					
Tractors	hour	13.14	0.2982	3.92	_____
DIESEL FUEL					
Tractors	gal	1.70	0.8938	1.52	_____
REPAIR & MAINTENANCE					
Implements	acre	1.20	1.0000	1.20	_____
Tractors	acre	0.24	1.0000	0.24	_____
INTEREST ON OP. CAP.	acre	2.35	1.0000	2.35	_____

TOTAL DIRECT EXPENSES				98.38	_____
FIXED EXPENSES					
Implements	acre	0.96	1.0000	0.96	_____
Tractors	acre	1.43	1.0000	1.43	_____
Prorated Est Cost	acre	15.45	1.0000	15.45	_____

TOTAL FIXED EXPENSES				17.84	_____

TOTAL SPECIFIED EXPENSES				116.22	_____

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations.

Table 16.A Estimated resource use and costs for field operations, per acre
No-till renovation of old tall fescue pasture with
Novel endophyte/endophyte free tall fescue, North Mississippi, 2017

OPERATION/ OPERATING INPUT	SIZE/ UNIT	POWER UNIT SIZE	PERF RATE	TIMES OVER	MTH	POWER UNIT COST DIRECT	POWER UNIT COST FIXED	EQUIPMENT COST DIRECT	EQUIPMENT COST FIXED	ALLOC LABOR HOURS	ALLOC LABOR COST	OPERATING/DURABLE INPUT AMOUNT	OPERATING/DURABLE INPUT PRICE	OPERATING/DURABLE INPUT COST	TOTAL COST
						dollars					dollars			dollars	
Soil Test 6.00	acre			0.33	Mar							0.3300	6.00	1.98	1.98
Lime (Spread)	ton			0.33	Mar							0.3300	46.00	15.18	15.18
Spray (Broadcast)	27'	2WD 75	0.062	1.00	Apr	0.48	0.41	0.16	0.19	0.09	1.10				2.34
Glyphosate 3lbs a.e.	pt											2.5000	2.29	5.73	5.73
Surfactant	pt											0.4000	3.69	1.48	1.48
NT Grain Drill	12'	2WD 75	0.196	1.00	May	1.50	1.27	3.07	5.88	0.39	4.36				16.08
Sorghum x Sudan Seed	lb											25.0000	0.85	21.25	21.25
Spray (Broadcast)	27'	2WD 75	0.062	1.00	Sep	0.48	0.41	0.16	0.19	0.09	1.10				2.34
Glyphosate 3lbs a.e.	pt											2.5000	2.29	5.73	5.73
NT Grain Drill	12'	2WD 75	0.196	1.00	Sep	1.59	1.78	3.07	5.88	0.39	4.36				16.68
White Clover Seed	lb											3.0000	6.12	18.36	18.36
NT Grain Drill	12'	2WD 75	0.196	1.00	Sep	1.50	1.27	3.07	5.88	0.39	4.36				16.08
Fescue Seed	lb											20.0000	2.50	50.00	50.00
Custom Spread(Truck)	appl			1.00	Oct							1.0000	7.00	7.00	7.00
Fert 33-0-0-12S	cwt											1.0000	17.50	17.50	17.50
Phosphate (46% P2O5)	cwt											1.5000	21.88	32.82	32.82
Potash (60% K2O)	cwt											1.0000	16.97	16.97	16.97
TOTALS						5.55	5.14	9.53	18.02	1.36	15.28			194.00	247.52
INTEREST ON OPERATING CAPITAL															2.55
UNALLOCATED LABOR															0.00
TOTAL SPECIFIED COST															250.07

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations.

Table 16.B Estimated costs per acre
No-till renovation of old tall fescue pasture with
novel endophyte/endophyte free tall fescue, North Mississippi, 2017

ITEM	UNIT	PRICE	QUANTITY	AMOUNT	YOUR FARM
		dollars		dollars	
DIRECT EXPENSES					
FERTILIZER					
Fert 33-0-0-12S	cwt	17.50	1.0000	17.50	_____
Phosphate (46% P2O5)	cwt	21.88	1.5000	32.82	_____
Potash (60% K2O)	cwt	16.97	1.0000	16.97	_____
HERBICIDE					
Glyphosate 3lbs a.e.	pt	2.29	5.0000	11.45	_____
SEED/PLANTS					
Sorghum x Sudan Seed	lb	0.85	25.0000	21.25	_____
White Clover Seed	lb	6.12	3.0000	18.36	_____
Fescue Seed	lb	2.50	20.0000	50.00	_____
ADJUVANTS					
Surfactant	pt	3.69	0.4000	1.48	_____
CUSTOM FERT					
Custom Spread(Truck)	appl	7.00	1.0000	7.00	_____
SERVICE FEE					
Soil Test 6.00	acre	6.00	0.3300	1.98	_____
CUSTOM LIME					
Lime (Spread)	ton	46.00	0.3300	15.18	_____
OPERATOR LABOR					
Tractors	hour	13.14	0.7146	9.38	_____
HAND LABOR					
Implements	hour	9.06	0.6519	5.90	_____
DIESEL FUEL					
Tractors	gal	1.70	2.7588	4.69	_____
REPAIR & MAINTENANCE					
Implements	acre	9.53	1.0000	9.53	_____
Tractors	acre	0.86	1.0000	0.86	_____
INTEREST ON OP. CAP.	acre	2.55	1.0000	2.55	_____

TOTAL DIRECT EXPENSES				226.91	_____
FIXED EXPENSES					
Implements	acre	18.02	1.0000	18.02	_____
Tractors	acre	5.14	1.0000	5.14	_____

TOTAL FIXED EXPENSES				23.16	_____

TOTAL SPECIFIED EXPENSES				250.07	_____

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations.

Table 17.A Estimated resource use and costs for field operations, per acre
Ryegrass annual pasture, prepared seedbed
Mississippi, 2017

OPERATION/ OPERATING INPUT	SIZE/ UNIT	POWER UNIT SIZE	PERF RATE	TIMES OVER	MTH	POWER UNIT COST DIRECT	POWER UNIT COST FIXED	EQUIPMENT COST DIRECT	EQUIPMENT COST FIXED	ALLOC LABOR HOURS	ALLOC LABOR COST	OPERATING/DURABLE INPUT AMOUNT	OPERATING/DURABLE INPUT PRICE	OPERATING/DURABLE INPUT COST	TOTAL COST
						dollars					dollars			dollars	
Soil Test 6.00	acre			0.33	Aug							0.3300	6.00	1.98	1.98
Lime (Spread)	ton			0.33	Aug							0.3300	46.00	15.18	15.18
Chisel Plow Rigid	15'	2WD 75	0.123	1.00	Aug	0.94	0.80	0.51	0.88	0.12	1.62				4.75
Disk Harrow	14'	2WD 75	0.140	2.00	Aug	2.14	1.82	1.90	4.02	0.28	3.69				13.57
Custom Spread(Truck)	appl			1.00	Sep							1.0000	7.00	7.00	7.00
Phosphate (46% P2O5)	cwt											1.5000	21.88	32.82	32.82
Potash (60% K2O)	cwt											1.0000	16.97	16.97	16.97
Ryegrass Seed	lb											25.0000	0.47	11.75	11.75
Section Harrow	13'	2WD 75	0.119	1.00	Sep	0.91	0.77	0.21	0.31	0.11	1.57				3.77
Cultipacker	12'	2WD 75	0.124	1.00	Sep	0.95	0.80	0.19	0.26	0.12	1.64				3.84
Custom Spread(Truck)	appl			1.00	Oct							1.0000	7.00	7.00	7.00
Fert 33-0-0-12S	cwt											1.0000	17.50	17.50	17.50
Custom Spread(Truck)	appl			1.00	Dec							1.0000	7.00	7.00	7.00
Fert 33-0-0-12S	cwt											2.0000	17.50	35.00	35.00
Spray (Broadcast)	27'	2WD 75	0.062	1.00	Dec	0.48	0.41	0.16	0.19	0.09	1.10				2.34
2,4-D amine	pt											1.0000	2.79	2.79	2.79
Custom Spread(Truck)	appl			1.00	Mar							1.0000	7.00	7.00	7.00
Fert 33-0-0-12S	cwt											2.0000	17.50	35.00	35.00
TOTALS						5.42	4.60	2.97	5.66	0.74	9.62			196.99	225.26
INTEREST ON OPERATING CAPITAL															4.42
UNALLOCATED LABOR															0.00
TOTAL SPECIFIED COST															229.68

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations.

Table 17.B Estimated costs per acre
Ryegrass annual pasture, prepared seedbed
Mississippi, 2017

ITEM	UNIT	PRICE	QUANTITY	AMOUNT	YOUR FARM
		dollars		dollars	
DIRECT EXPENSES					
FERTILIZER					
Phosphate (46% P2O5)	cwt	21.88	1.5000	32.82	_____
Potash (60% K2O)	cwt	16.97	1.0000	16.97	_____
Fert 33-0-0-12S	cwt	17.50	5.0000	87.50	_____
HERBICIDE					
2,4-D amine	pt	2.79	1.0000	2.79	_____
SEED/PLANTS					
Ryegrass Seed	lb	0.47	25.0000	11.75	_____
CUSTOM FERT					
Custom Spread(Truck)	appl	7.00	4.0000	28.00	_____
SERVICE FEE					
Soil Test 6.00	acre	6.00	0.3300	1.98	_____
CUSTOM LIME					
Lime (Spread)	ton	46.00	0.3300	15.18	_____
OPERATOR LABOR					
Tractors	hour	13.14	0.7104	9.34	_____
HAND LABOR					
Implements	hour	9.06	0.0313	0.28	_____
DIESEL FUEL					
Tractors	gal	1.70	2.7425	4.66	_____
REPAIR & MAINTENANCE					
Implements	acre	2.97	1.0000	2.97	_____
Tractors	acre	0.76	1.0000	0.76	_____
INTEREST ON OP. CAP.	acre	4.42	1.0000	4.42	_____

TOTAL DIRECT EXPENSES				219.42	_____
FIXED EXPENSES					
Implements	acre	5.66	1.0000	5.66	_____
Tractors	acre	4.60	1.0000	4.60	_____

TOTAL FIXED EXPENSES				10.26	_____

TOTAL SPECIFIED EXPENSES				229.68	_____

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations.

Table 18.A Estimated resource use and costs for field operations, per acre
Ryegrass-wheat annual pasture, prepared seedbed
Mississippi, 2017

OPERATION/ OPERATING INPUT	SIZE/ UNIT	POWER UNIT SIZE	PERF RATE	TIMES OVER	MTH	POWER UNIT COST DIRECT	POWER UNIT COST FIXED	EQUIPMENT COST DIRECT	EQUIPMENT COST FIXED	ALLOC LABOR HOURS	ALLOC LABOR COST	OPERATING/DURABLE INPUT AMOUNT	OPERATING/DURABLE INPUT PRICE	OPERATING/DURABLE INPUT COST	TOTAL COST
						dollars					dollars			dollars	
Soil Test 6.00	acre			0.33	Aug							0.3300	6.00	1.98	1.98
Lime (Spread)	ton			0.33	Aug							0.3300	46.00	15.18	15.18
Chisel Plow Rigid	15'	2WD 75	0.123	1.00	Aug	0.94	0.80	0.51	0.88	0.12	1.62				4.75
Disk Harrow	14'	2WD 75	0.140	2.00	Aug	2.14	1.82	1.90	4.02	0.28	3.69				13.57
Custom Spread(Truck)	appl			1.00	Sep							1.0000	7.00	7.00	7.00
Fert 33-0-0-12S	cwt											1.0000	17.50	17.50	17.50
Phosphate (46% P2O5)	cwt											1.0000	21.88	21.88	21.88
Potash (60% K2O)	cwt											1.0000	16.97	16.97	16.97
Section Harrow	13'	2WD 75	0.119	1.00	Sep	0.91	0.77	0.21	0.31	0.11	1.57				3.77
Grain Drill	12'	2WD 75	0.157	1.00	Sep	1.20	1.02	1.42	2.72	0.31	3.48				9.84
Wheat Seed	lb											90.0000	0.25	22.50	22.50
Ryegrass Seed	lb											25.0000	0.47	11.75	11.75
Custom Spread(Truck)	appl			1.00	Dec							1.0000	7.00	7.00	7.00
Fert 33-0-0-12S	cwt											2.0000	17.50	35.00	35.00
Spray (Broadcast)	27'	2WD 75	0.062	1.00	Dec	0.48	0.41	0.16	0.19	0.09	1.10				2.34
2,4-D amine	pt											1.0000	2.79	2.79	2.79
Custom Spread(Truck)	appl			1.00	Mar							1.0000	7.00	7.00	7.00
Fert 33-0-0-12S	cwt											2.0000	17.50	35.00	35.00
TOTALS						5.67	4.82	4.20	8.12	0.93	11.46			201.55	235.82
INTEREST ON OPERATING CAPITAL															4.72
UNALLOCATED LABOR															0.00
TOTAL SPECIFIED COST															240.54

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations.

Table 18.B Estimated costs per acre
Ryegrass-wheat annual pasture, prepared seedbed
Mississippi, 2017

ITEM	UNIT	PRICE	QUANTITY	AMOUNT	YOUR FARM
		dollars		dollars	
DIRECT EXPENSES					
FERTILIZER					
Fert 33-0-0-12S	cwt	17.50	5.0000	87.50	_____
Phosphate (46% P2O5)	cwt	21.88	1.0000	21.88	_____
Potash (60% K2O)	cwt	16.97	1.0000	16.97	_____
HERBICIDE					
2,4-D amine	pt	2.79	1.0000	2.79	_____
SEED/PLANTS					
Wheat Seed	lb	0.25	90.0000	22.50	_____
Ryegrass Seed	lb	0.47	25.0000	11.75	_____
CUSTOM FERT					
Custom Spread(Truck)	appl	7.00	3.0000	21.00	_____
SERVICE FEE					
Soil Test 6.00	acre	6.00	0.3300	1.98	_____
CUSTOM LIME					
Lime (Spread)	ton	46.00	0.3300	15.18	_____
OPERATOR LABOR					
Tractors	hour	13.14	0.7431	9.76	_____
HAND LABOR					
Implements	hour	9.06	0.1884	1.70	_____
DIESEL FUEL					
Tractors	gal	1.70	2.8688	4.87	_____
REPAIR & MAINTENANCE					
Implements	acre	4.20	1.0000	4.20	_____
Tractors	acre	0.80	1.0000	0.80	_____
INTEREST ON OP. CAP.	acre	4.72	1.0000	4.72	_____

TOTAL DIRECT EXPENSES				227.60	_____
FIXED EXPENSES					
Implements	acre	8.12	1.0000	8.12	_____
Tractors	acre	4.82	1.0000	4.82	_____

TOTAL FIXED EXPENSES				12.94	_____

TOTAL SPECIFIED EXPENSES				240.54	_____

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations.

Table 19.A Estimated resource use and costs for field operations, per acre
No-till ryegrass into volunteer summer grasses
Mississippi, 2017

OPERATION/ OPERATING INPUT	SIZE/ UNIT	POWER UNIT SIZE	PERF RATE	TIMES OVER	MTH	POWER UNIT COST DIRECT	POWER UNIT COST FIXED	EQUIPMENT COST DIRECT	EQUIPMENT COST FIXED	ALLOC LABOR HOURS	ALLOC LABOR COST	OPERATING/DURABLE INPUT AMOUNT	OPERATING/DURABLE INPUT PRICE	OPERATING/DURABLE INPUT COST	TOTAL COST
						dollars					dollars			dollars	
Soil Test 6.00	acre			0.33	Aug							0.3300	6.00	1.98	1.98
Lime (Spread)	ton			0.33	Aug							0.3300	46.00	15.18	15.18
Spray (Broadcast)	27'	2WD 75	0.062	1.00	Aug	0.48	0.41	0.16	0.19	0.09	1.10				2.34
Glyphosate 3lbs a.e.	pt											2.0000	2.29	4.58	4.58
Custom Spread(Truck)	appl			1.00	Sep							1.0000	7.00	7.00	7.00
Phosphate (46% P2O5)	cwt											1.0000	21.88	21.88	21.88
Potash (60% K2O)	cwt											1.0000	16.97	16.97	16.97
NT Grain Drill	12'	2WD 75	0.196	1.00	Sep	1.50	1.27	3.07	5.88	0.39	4.36				16.08
Ryegrass Seed	lb											35.0000	0.47	16.45	16.45
Spray (Broadcast)	27'	2WD 75	0.062	1.00	Sep	0.48	0.41	0.16	0.19	0.09	1.10				2.34
Mustang Max	oz											3.0000	1.44	4.32	4.32
Custom Spread(Truck)	appl			1.00	Oct							1.0000	7.00	7.00	7.00
Fert 33-0-0-12S	cwt											1.0000	17.50	17.50	17.50
Custom Spread(Truck)	appl			1.00	Dec							1.0000	7.00	7.00	7.00
Fert 33-0-0-12S	cwt											2.0000	17.50	35.00	35.00
Spray (Broadcast)	27'	2WD 75	0.062	1.00	Dec	0.48	0.41	0.16	0.19	0.09	1.10				2.34
Gramoxone SL 2.0	oz											16.0000	0.27	4.32	4.32
Custom Spread(Truck)	appl			1.00	Mar							1.0000	7.00	7.00	7.00
Fert 33-0-0-12S	cwt											2.0000	17.50	35.00	35.00
TOTALS						2.94	2.50	3.55	6.45	0.67	7.66			201.18	224.28
INTEREST ON OPERATING CAPITAL															4.42
UNALLOCATED LABOR															0.00
TOTAL SPECIFIED COST															228.70

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations.

Table 19.B Estimated costs per acre
No-till ryegrass into volunteer summer grasses
Mississippi, 2017

ITEM	UNIT	PRICE	QUANTITY	AMOUNT	YOUR FARM
		dollars		dollars	
DIRECT EXPENSES					
FERTILIZER					
Phosphate (46% P2O5)	cwt	21.88	1.0000	21.88	_____
Potash (60% K2O)	cwt	16.97	1.0000	16.97	_____
Fert 33-0-0-12S	cwt	17.50	5.0000	87.50	_____
HERBICIDE					
Glyphosate 3lbs a.e.	pt	2.29	2.0000	4.58	_____
Gramoxone SL 2.0	oz	0.27	16.0000	4.32	_____
INSECTICIDE					
Mustang Max	oz	1.44	3.0000	4.32	_____
SEED/PLANTS					
Ryegrass Seed	lb	0.47	35.0000	16.45	_____
CUSTOM FERT					
Custom Spread(Truck)	appl	7.00	4.0000	28.00	_____
SERVICE FEE					
Soil Test 6.00	acre	6.00	0.3300	1.98	_____
CUSTOM LIME					
Lime (Spread)	ton	46.00	0.3300	15.18	_____
OPERATOR LABOR					
Tractors	hour	13.14	0.3844	5.04	_____
HAND LABOR					
Implements	hour	9.06	0.2904	2.62	_____
DIESEL FUEL					
Tractors	gal	1.70	1.4842	2.52	_____
REPAIR & MAINTENANCE					
Implements	acre	3.55	1.0000	3.55	_____
Tractors	acre	0.42	1.0000	0.42	_____
INTEREST ON OP. CAP.	acre	4.42	1.0000	4.42	_____

TOTAL DIRECT EXPENSES				219.75	_____
FIXED EXPENSES					
Implements	acre	6.45	1.0000	6.45	_____
Tractors	acre	2.50	1.0000	2.50	_____

TOTAL FIXED EXPENSES				8.95	_____

TOTAL SPECIFIED EXPENSES				228.70	_____

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations.

Table 20.A Estimated resource use and costs for field operations, per acre
Sorghum sudan/millet/sudangrass annual hay
Mississippi, 2017

OPERATION/ OPERATING INPUT	SIZE/ UNIT	POWER UNIT SIZE	PERF RATE	TIMES OVER	MTH	POWER UNIT COST DIRECT	POWER UNIT COST FIXED	EQUIPMENT COST DIRECT	EQUIPMENT COST FIXED	ALLOC LABOR HOURS	ALLOC LABOR COST	OPERATING/DURABLE INPUT AMOUNT	OPERATING/DURABLE INPUT PRICE	OPERATING/DURABLE INPUT COST	TOTAL COST
						dollars					dollars			dollars	
Soil Test 6.00	acre			0.33	Apr							0.3300	6.00	1.98	1.98
Lime (Spread)	ton			0.33	Apr							0.3300	46.00	15.18	15.18
Chisel Plow Rigid	15'	2WD 75	0.123	1.00	Apr	0.94	0.80	0.51	0.88	0.12	1.62				4.75
Disk Harrow	14'	2WD 75	0.140	2.00	Apr	2.14	1.82	1.90	4.02	0.28	3.69				13.57
Custom Spread(Truck)	appl			1.00	Apr							1.0000	7.00	7.00	7.00
Fert 33-0-0-12S	cwt											1.5000	17.50	26.25	26.25
Phosphate (46% P2O5)	cwt											1.0000	21.88	21.88	21.88
Potash (60% K2O)	cwt											1.0000	16.97	16.97	16.97
Grain Drill	12'	2WD 75	0.157	1.00	May	1.20	1.02	1.42	2.72	0.31	3.48				9.84
Sorghum Sudan/Millet	lb											30.0000	0.85	25.50	25.50
Hay Cut-Cond	9'	2WD 75	0.229	1.00	Jun	1.75	1.48	3.57	3.97	0.22	3.01				13.78
Hay Rake	8.5'	2WD 50	0.202	2.00	Jun	2.03	1.59	1.19	1.66	0.40	5.31				11.78
Hay Baler	Lg Round	2WD 75	0.211	1.00	Jun	1.62	1.37	4.95	6.12	0.21	2.78				16.84
Twine	bun											0.0800	39.00	3.12	3.12
Hay Carrier	1B Lift	2WD 75	0.300	1.00	Jun	2.29	1.94	0.02	0.06	0.30	3.94				8.25
Custom Spread(Truck)	appl			1.00	Jun							1.0000	7.00	7.00	7.00
Fert 33-0-0-12S	cwt											1.5000	17.50	26.25	26.25
Hay Cut-Cond	9'	2WD 75	0.229	1.00	Jul	1.75	1.48	3.57	3.97	0.22	3.01				13.78
Hay Rake	8.5'	2WD 50	0.202	2.00	Jul	2.03	1.59	1.19	1.66	0.40	5.31				11.78
Hay Baler	Lg Round	2WD 75	0.211	1.00	Jul	1.62	1.37	4.95	6.12	0.21	2.78				16.84
Twine	bun											0.0600	39.00	2.34	2.34
Hay Carrier	1B Lift	2WD 75	0.300	1.00	Jul	2.29	1.94	0.02	0.06	0.30	3.94				8.25
Custom Spread(Truck)	appl			1.00	Aug							1.0000	7.00	7.00	7.00
Fert 33-0-0-12S	cwt											1.5000	17.50	26.25	26.25
Potash (60% K2O)	cwt											1.0000	16.97	16.97	16.97
Hay Cut-Cond	9'	2WD 75	0.229	1.00	Aug	1.75	1.48	3.57	3.97	0.22	3.01				13.78
Hay Rake	8.5'	2WD 50	0.202	2.00	Aug	2.03	1.59	1.19	1.66	0.40	5.31				11.78
Hay Baler	Lg Round	2WD 75	0.211	1.00	Aug	1.62	1.37	4.95	6.12	0.21	2.78				16.84
Twine	bun											0.0400	39.00	1.56	1.56
Hay Carrier	1B Lift	2WD 75	0.300	1.00	Aug	2.29	1.94	0.02	0.06	0.30	3.94				8.25
Hay Cut-Cond	9'	2WD 75	0.229	1.00	Sep	1.75	1.48	3.57	3.97	0.22	3.01				13.78
Hay Rake	8.5'	2WD 50	0.202	2.00	Sep	2.03	1.59	1.19	1.66	0.40	5.31				11.78
Hay Baler	Lg Round	2WD 75	0.211	1.00	Sep	1.62	1.37	4.95	6.12	0.21	2.78				16.84
Twine	bun											0.0300	39.00	1.17	1.17
Hay Carrier	1B Lift	2WD 75	0.300	1.00	Sep	2.29	1.94	0.02	0.06	0.30	3.94				8.25
TOTALS						35.04	29.16	42.75	54.86	5.29	68.95			206.42	437.18
INTEREST ON OPERATING CAPITAL															8.09
UNALLOCATED LABOR															0.00
TOTAL SPECIFIED COST															445.27

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations.

Table 20.B Estimated costs per acre
Sorghum sudan/millet/sudangrass annual hay
Mississippi, 2017

ITEM	UNIT	PRICE	QUANTITY	AMOUNT	YOUR FARM
		dollars		dollars	
DIRECT EXPENSES					
FERTILIZER					
Fert 33-0-0-12S	cwt	17.50	4.5000	78.75	_____
Phosphate (46% P2O5)	cwt	21.88	1.0000	21.88	_____
Potash (60% K2O)	cwt	16.97	2.0000	33.94	_____
SEED/PLANTS					
Sorghum/Sudan/Millet	lb	0.85	30.0000	25.50	_____
OTHER					
Twine	bun	39.00	0.2100	8.19	_____
CUSTOM FERT					
Custom Spread(Truck)	appl	7.00	3.0000	21.00	_____
SERVICE FEE					
Soil Test 6.00	acre	6.00	0.3300	1.98	_____
CUSTOM LIME					
Lime (Spread)	ton	46.00	0.3300	15.18	_____
OPERATOR LABOR					
Tractors	hour	13.14	5.1415	67.53	_____
HAND LABOR					
Implements	hour	9.06	0.1571	1.42	_____
DIESEL FUEL					
Tractors	gal	1.70	17.7667	30.20	_____
REPAIR & MAINTENANCE					
Implements	acre	42.75	1.0000	42.75	_____
Tractors	acre	4.84	1.0000	4.84	_____
INTEREST ON OP. CAP.	acre	8.09	1.0000	8.09	_____

TOTAL DIRECT EXPENSES				361.25	_____
FIXED EXPENSES					
Implements	acre	54.86	1.0000	54.86	_____
Tractors	acre	29.16	1.0000	29.16	_____

TOTAL FIXED EXPENSES				84.02	_____

TOTAL SPECIFIED EXPENSES				445.27	_____

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations.

Table 21.A Estimated resource use and costs for field operations, per acre
Sorghum sudan/millet/sudangrass annual pasture
Mississippi, 2017

OPERATION/ OPERATING INPUT	SIZE/ UNIT	POWER UNIT SIZE	PERF RATE	TIMES OVER	MTH	POWER UNIT COST DIRECT	POWER UNIT COST FIXED	EQUIPMENT COST DIRECT	EQUIPMENT COST FIXED	ALLOC LABOR HOURS	ALLOC LABOR COST	OPERATING/DURABLE INPUT AMOUNT	OPERATING/DURABLE INPUT PRICE	OPERATING/DURABLE INPUT COST	TOTAL COST
						dollars					dollars			dollars	
Soil Test 6.00	acre			0.33	Apr							0.3300	6.00	1.98	1.98
Lime (Spread)	ton			0.33	Apr							0.3300	46.00	15.18	15.18
Chisel Plow Rigid	15'	2WD 75	0.123	1.00	Apr	0.94	0.80	0.51	0.88	0.12	1.62				4.75
Custom Spread(Truck)	appl			1.00	May							1.0000	7.00	7.00	7.00
Fert 33-0-0-12S	cwt											1.0000	17.50	17.50	17.50
Phosphate (46% P2O5)	cwt											1.0000	21.88	21.88	21.88
Potash (60% K2O)	cwt											1.0000	16.97	16.97	16.97
Disk Harrow	14'	2WD 75	0.140	2.00	May	2.14	1.82	1.90	4.02	0.28	3.69				13.57
Grain Drill	12'	2WD 75	0.157	1.00	May	1.20	1.02	1.42	2.72	0.31	3.48				9.84
Sorghum/Sudan/Millet	lb											30.0000	0.85	25.50	25.50
Custom Spread(Truck)	appl			1.00	Jul							1.0000	7.00	7.00	7.00
Fert 33-0-0-12S	cwt											1.0000	17.50	17.50	17.50
Custom Spread(Truck)	appl			1.00	Aug							1.0000	7.00	7.00	7.00
Fert 33-0-0-12S	cwt											1.0000	17.50	17.50	17.50
TOTALS						4.28	3.64	3.83	7.62	0.71	8.79			155.01	183.17
INTEREST ON OPERATING CAPITAL															4.36
UNALLOCATED LABOR															0.00
TOTAL SPECIFIED COST															187.53

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations.

Table 21.B Estimated costs per acre
Sorghum sudan/millet/sudan grass annual pasture
Mississippi, 2017

ITEM	UNIT	PRICE	QUANTITY	AMOUNT	YOUR FARM
		dollars		dollars	
DIRECT EXPENSES					
FERTILIZER					
Fert 33-0-0-12S	cwt	17.50	3.0000	52.50	_____
Phosphate (46% P2O5)	cwt	21.88	1.0000	21.88	_____
Potash (60% K2O)	cwt	16.97	1.0000	16.97	_____
SEED/PLANTS					
Sorghum/Sudan/Millet	lb	0.85	30.0000	25.50	_____
CUSTOM FERT					
Custom Spread(Truck)	appl	7.00	3.0000	21.00	_____
SERVICE FEE					
Soil Test 6.00	acre	6.00	0.3300	1.98	_____
CUSTOM LIME					
Lime (Spread)	ton	46.00	0.3300	15.18	_____
OPERATOR LABOR					
Tractors	hour	13.14	0.5610	7.37	_____
HAND LABOR					
Implements	hour	9.06	0.1571	1.42	_____
DIESEL FUEL					
Tractors	gal	1.70	2.1657	3.68	_____
REPAIR & MAINTENANCE					
Implements	acre	3.83	1.0000	3.83	_____
Tractors	acre	0.60	1.0000	0.60	_____
INTEREST ON OP. CAP.	acre	4.36	1.0000	4.36	_____

TOTAL DIRECT EXPENSES				176.27	_____
FIXED EXPENSES					
Implements	acre	7.62	1.0000	7.62	_____
Tractors	acre	3.64	1.0000	3.64	_____

TOTAL FIXED EXPENSES				11.26	_____

TOTAL SPECIFIED EXPENSES				187.53	_____

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations.

Table 22.A Estimated resource use and costs for field operations, per acre
Corn silage, non-irrigated
Mississippi, 2017

OPERATION/ OPERATING INPUT	SIZE/ UNIT	POWER UNIT SIZE	PERF RATE	TIMES OVER	MTH	POWER UNIT COST DIRECT	POWER UNIT COST FIXED	EQUIPMENT COST DIRECT	EQUIPMENT COST FIXED	ALLOC LABOR HOURS	ALLOC LABOR COST	OPERATING/DURABLE INPUT AMOUNT	OPERATING/DURABLE INPUT PRICE	OPERATING/DURABLE INPUT COST	TOTAL COST
						dollars					dollars			dollars	
Lime (Spread)	ton			1.00	Sep							0.5000	46.00	23.00	23.00
Chisel Plow Rigid	15'	2WD 75	0.123	1.00	Sep	0.94	0.80	0.51	0.88	0.12	1.62				4.75
Disk Harrow	14'	2WD 75	0.140	1.00	Mar	1.07	0.91	0.95	2.01	0.14	1.84				6.78
Spin Spreader	5 Ton	2WD 75	0.042	1.00	Mar	0.33	0.27	0.28	0.56	0.08	0.93				2.37
Fert 33-0-0-12S	cwt											1.8000	17.50	31.50	31.50
Phosphate (46% P2O5)	cwt											1.0000	21.88	21.88	21.88
Potash (60% K2O)	cwt											2.0000	16.97	33.94	33.94
Disk Bed (Hipper)	4R-38	2WD 75	0.147	1.00	Mar	1.13	0.96	0.32	0.86	0.14	1.94				5.21
Row Cond Rigid	13'	2WD 75	0.119	1.00	Mar	0.91	0.77	0.23	0.99	0.11	1.57				4.47
Plant & Pre Rigid	4R-38	2WD 75	0.153	1.00	Mar	1.18	0.99	1.63	3.11	0.30	3.41				10.32
Atrazine 4L	pt											2.5000	1.95	4.88	4.88
Dual II Magnum	pt											1.3300	15.51	20.63	20.63
Corn Seed RR2	thous											22.0000	3.17	69.74	69.74
Fert Appl (Liquid)	4R-38	2WD 75	0.154	1.00	Apr	1.19	1.00	1.52	1.71	0.23	2.73				8.15
UAN (32% N)	cwt											4.0000	14.31	57.24	57.24
Spray (Spot)	27'	2WD 75	0.062	1.00	May	0.48	0.41	0.16	0.19	0.09	1.10				2.34
Accent	oz											0.6700	24.75	16.58	16.58
Cultivate	4R-38	2WD 105	0.162	1.00	Jun	1.78	1.76	0.52	1.37	0.16	2.13				7.56
Silage Harvester	2-Row	2WD 75	0.510	1.00	Aug	3.90	3.30	13.58	15.11	0.51	6.70				42.59
Silage Wagon 12T	12-Ton	2WD 75	0.510	1.00	Aug	3.90	3.30	1.78	3.97	0.51	6.70				19.65
TOTALS						16.81	14.47	21.48	30.76	2.43	30.67			279.39	393.58
INTEREST ON OPERATING CAPITAL															2.66
UNALLOCATED LABOR															0.00
TOTAL SPECIFIED COST															396.24

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations.

Table 22.B Estimated costs per acre
Corn silage, non-irrigated
Mississippi, 2017

ITEM	UNIT	PRICE	QUANTITY	AMOUNT	YOUR FARM
		dollars		dollars	
DIRECT EXPENSES					
FERTILIZER					
Fert 33-0-0-12S	cwt	17.50	1.8000	31.50	_____
Phosphate (46% P2O5)	cwt	21.88	1.0000	21.88	_____
Potash (60% K2O)	cwt	16.97	2.0000	33.94	_____
UAN (32% N)	cwt	14.31	4.0000	57.24	_____
HERBICIDE					
Atrazine 4L	pt	1.95	2.5000	4.88	_____
Dual II Magnum	pt	15.51	1.3300	20.63	_____
Accent	oz	24.75	0.6700	16.58	_____
SEED/PLANTS					
Corn Seed RR2	thous	3.17	22.0000	69.74	_____
CUSTOM LIME					
Lime (Spread)	ton	46.00	0.5000	23.00	_____
OPERATOR LABOR					
Tractors	hour	13.14	2.1266	27.92	_____
HAND LABOR					
Implements	hour	9.06	0.3045	2.75	_____
DIESEL FUEL					
Tractors	gal	1.70	8.4604	14.39	_____
REPAIR & MAINTENANCE					
Implements	acre	21.48	1.0000	21.48	_____
Tractors	acre	2.42	1.0000	2.42	_____
INTEREST ON OP. CAP.	acre	2.66	1.0000	2.66	_____

TOTAL DIRECT EXPENSES				351.01	_____
FIXED EXPENSES					
Implements	acre	30.76	1.0000	30.76	_____
Tractors	acre	14.47	1.0000	14.47	_____

TOTAL FIXED EXPENSES				45.23	_____

TOTAL SPECIFIED EXPENSES				396.24	_____

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations.

Table 23.A Estimated resource use and costs for field operations, per acre
Sorghum silage
Mississippi, 2017

OPERATION/ OPERATING INPUT	SIZE/ UNIT	POWER UNIT SIZE	PERF RATE	TIMES OVER	MTH	POWER UNIT COST DIRECT	POWER UNIT COST FIXED	EQUIPMENT COST DIRECT	EQUIPMENT COST FIXED	ALLOC LABOR HOURS	ALLOC LABOR COST	OPERATING/DURABLE INPUT AMOUNT	OPERATING/DURABLE INPUT PRICE	OPERATING/DURABLE INPUT COST	TOTAL COST
						dollars					dollars			dollars	
Lime (Spread)	ton			1.00	Sep							0.5000	46.00	23.00	23.00
Chisel Plow Rigid	15'	2WD 75	0.123	2.00	Apr	1.88	1.59	1.01	1.76	0.24	3.24				9.48
Spin Spreader	5 Ton	2WD 75	0.042	1.00	May	0.33	0.27	0.28	0.56	0.08	0.93				2.37
Fert 33-0-0-12S	cwt											1.0000	17.50	17.50	17.50
Phosphate (46% P2O5)	cwt											1.5000	21.88	32.82	32.82
Potash (60% K2O)	cwt											2.0000	16.97	33.94	33.94
Field Cultivate	12'	2WD 75	0.124	1.00	May	0.95	0.80	0.39	1.66	0.12	1.64				5.44
Disk Bed (Hipper)	4R-38	2WD 75	0.147	1.00	May	1.13	0.96	0.32	0.86	0.14	1.94				5.21
Row Cond Rigid	13'	2WD 75	0.119	1.00	May	0.91	0.77	0.23	0.99	0.11	1.57				4.47
Plant & Pre Rigid	4R-38	2WD 75	0.153	1.00	May	1.18	0.99	1.63	3.11	0.30	3.41				10.32
Forage Sorghum Seed	lb											20.0000	1.32	26.40	26.40
Bicep ll Magnum	qt											2.0000	11.69	23.38	23.38
Cultivate	4R-38	2WD 75	0.162	1.00	May	1.24	1.05	0.52	1.37	0.16	2.13				6.31
Spin Spreader	5 Ton	2WD 75	0.042	1.00	May	0.33	0.27	0.28	0.56	0.08	0.93				2.37
Fert 33-0-0-12S	cwt											3.0000	17.50	52.50	52.50
Cultivate	4R-38	2WD 105	0.162	1.00	Jun	1.78	1.76	0.52	1.37	0.16	2.13				7.56
Silage Harvester	2-Row	2WD 75	0.510	1.00	Sep	3.90	3.30	13.58	15.11	0.51	6.70				42.59
Silage Wagon 12T	12-Ton	2WD 75	0.510	1.00	Sep	3.90	3.30	1.78	3.97	0.51	6.70				19.65
TOTALS						17.53	15.06	20.54	31.32	2.45	31.32			209.54	325.31
INTEREST ON OPERATING CAPITAL															1.91
UNALLOCATED LABOR															0.00
TOTAL SPECIFIED COST															327.22

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations.

Table 23.B Estimated costs per acre
Sorghum silage
Mississippi, 2017

ITEM	UNIT	PRICE	QUANTITY	AMOUNT	YOUR FARM
		dollars		dollars	
DIRECT EXPENSES					
FERTILIZER					
Fert 33-0-0-12S	cwt	17.50	4.0000	70.00	_____
Phosphate (46% P2O5)	cwt	21.88	1.5000	32.82	_____
Potash (60% K2O)	cwt	16.97	2.0000	33.94	_____
HERBICIDE					
Bicep ll Magnum	qt	11.69	2.0000	23.38	_____
SEED/PLANTS					
Forage Sorghum Seed	lb	1.32	20.0000	26.40	_____
CUSTOM LIME					
Lime (Spread)	ton	46.00	0.5000	23.00	_____
OPERATOR LABOR					
Tractors	hour	13.14	2.2211	29.17	_____
HAND LABOR					
Implements	hour	9.06	0.2379	2.15	_____
DIESEL FUEL					
Tractors	gal	1.70	8.8253	15.02	_____
REPAIR & MAINTENANCE					
Implements	acre	20.54	1.0000	20.54	_____
Tractors	acre	2.51	1.0000	2.51	_____
INTEREST ON OP. CAP.	acre	1.91	1.0000	1.91	_____

TOTAL DIRECT EXPENSES				280.84	_____
FIXED EXPENSES					
Implements	acre	31.32	1.0000	31.32	_____
Tractors	acre	15.06	1.0000	15.06	_____

TOTAL FIXED EXPENSES				46.38	_____

TOTAL SPECIFIED EXPENSES				327.22	_____

Note: Cost of production estimates are based on 2016 input prices.
Fertilization decisions should be based on soil test recommendations.

Appendix

Appendix Table 1. Tractors/Harvesters: estimated purchase price, annual use, useful life, fuel use, and direct and fixed cost per hour, Mississippi, 2017

Item Name	Size	Purchase Price	Annual Use	Useful Life	Fuel Use	Labor	Fuel	R&M	Total Direct	Fixed	Total Cost
		dollars	hours	years	gal/hr	$/hour					
Tractor(40-59hp)CAB	2WD 50	32,200	600	8	2.57	13.14	4.37	1.00	18.52	6.05	24.57
Tractor(40-59hp)CAB	MFWD 50	39,100	600	8	2.57	13.14	4.37	1.22	18.73	7.35	26.08
Tractor(40-59hp)RB	2WD 50	20,900	600	8	2.57	13.14	4.37	0.65	18.16	3.93	22.09
Tractor(40-59hp)RB	MFWD 50	24,300	600	8	2.57	13.14	4.37	0.75	18.27	4.56	22.84
Tractor(60-89hp)CAB	2WD 75	48,300	600	8	3.86	13.14	6.56	1.50	21.21	9.08	30.29
Tractor(60-89hp)CAB	MFWD 75	54,100	600	8	3.86	13.14	6.56	1.69	21.39	10.17	31.56
Tractor(60-89hp)RB	2WD 75	34,400	600	8	3.86	13.14	6.56	1.07	20.77	6.46	27.24
Tractor(60-89hp)RB	MFWD 75	35,800	600	8	3.86	13.14	6.56	1.11	20.82	6.73	27.55
Tractor(90-119hp)CB	2WD 105	65,300	600	8	5.40	13.14	9.18	2.04	24.36	12.28	36.64
Tractor(90-119hp)CB	MFWD 105	77,400	600	8	5.40	13.14	9.18	2.41	24.74	14.55	39.30
Tractor(90-119hp)RB	2WD 105	57,600	600	8	5.40	13.14	9.18	1.80	24.12	10.83	34.95
Tractor(90-119hp)RB	MFWD 105	62,100	600	8	5.40	13.14	9.18	1.94	24.26	11.67	35.94
Tractor(120-139hp)CB	2WD 130	117,000	600	8	6.69	13.14	11.37	3.65	28.17	22.00	50.17
Tractor(120-139hp)CB	MFWD 130	123,000	600	8	6.69	13.14	11.37	3.84	28.35	23.13	51.48
Tractor(140-159hp)	2WD 150	108,000	600	8	7.72	13.14	13.12	3.37	29.64	20.30	49.95
Tractor(140-159hp)CB	MFWD 150	143,000	600	8	7.72	13.14	13.12	4.46	30.73	26.89	57.62

Notes:
Labor: Includes allocated labor from power unit.
Total Direct: Does not include interest on operating capital.

Appendix Table 2. Implements: estimated purchase price, annual use, useful life, performance rate, and direct and fixed cost per acre, Mississippi, 2017

Item Name	Size	Power Unit	Purchase Price	Annual Use	Useful Life	Perf Rate	Labor	Fuel	---R&M---- Imp.	P.U.	Total Direct	--Fixed--- Imp.	P.U.	Total Cost
			dollars	hours	years	hr/ac	$/acre							
Chisel Plow Folding	24'	2WD 105	38,000	150	12	0.115	1.51	1.06	1.58	0.20	4.37	2.75	1.25	8.37
Chisel Plow Rigid	15'	2WD 105	11,400	150	12	0.123	1.61	1.13	0.50	0.22	3.48	0.88	1.33	5.69
Cult & Post	4R-38	2WD 105	17,400	150	10	0.173	3.06	1.59	0.80	0.31	5.76	2.12	1.87	9.76
Cult & Post	6R-30	2WD 105	21,600	150	10	0.146	2.59	1.34	0.84	0.26	5.04	2.23	1.58	8.86
Cult & Post	6R-38	2WD 105	22,500	150	10	0.115	2.04	1.06	0.69	0.20	4.01	1.83	1.25	7.10
Cult & Post	8R-30	2WD 105	25,900	150	10	0.110	1.94	1.01	0.75	0.19	3.91	2.00	1.19	7.11
Cultipacker	12'	2WD 105	6,520	300	12	0.124	1.63	1.14	0.19	0.22	3.19	0.26	1.34	4.80
Cultipacker	20'	2WD 105	17,000	300	12	0.074	0.98	0.68	0.29	0.13	2.10	0.41	0.80	3.32
Cultivate	4R-38	2WD 105	12,000	150	10	0.162	2.13	1.49	0.51	0.29	4.43	1.37	1.75	7.56
Cultivate	6R-30	2WD 105	16,200	150	10	0.137	1.80	1.26	0.59	0.24	3.91	1.56	1.48	6.96
Cultivate	6R-38	2WD 105	17,100	150	10	0.108	1.42	0.99	0.49	0.19	3.11	1.30	1.17	5.59
Cultivate	8R-30	2WD 105	20,500	150	10	0.103	1.35	0.94	0.56	0.18	3.05	1.48	1.11	5.65
Cyclone Spin	750 lb	2WD 105	1,630	50	8	0.200	3.53	1.83	0.24	0.36	5.97	0.90	2.16	9.04
Disk & Incorporate	14'	2WD 105	29,800	200	10	0.147	2.60	1.35	1.31	0.26	5.53	2.31	1.59	9.45
Disk & Incorporate	24'	2WD 105	47,900	200	10	0.085	1.51	0.78	1.23	0.15	3.69	2.17	0.93	6.80
Disk & Incorporate	32'	2WD 130	59,300	200	10	0.064	1.13	0.73	1.14	0.23	3.25	2.01	1.41	6.69
Disk Bed (Hipper)	4R-38	2WD 105	8,800	160	10	0.147	1.93	1.35	0.32	0.26	3.88	0.85	1.59	6.34
Disk Bed (Hipper)	6R-30	2WD 50	15,100	160	10	0.125	1.64	0.54	0.47	0.08	2.74	1.24	0.49	4.48
Disk Bed (Hipper)	6R-38	2WD 105	15,100	160	10	0.098	1.29	0.90	0.37	0.17	2.75	0.98	1.06	4.80
Disk Bed (Hipper)	8R-30	2WD 130	17,400	160	10	0.093	1.23	1.06	0.40	0.34	3.04	1.07	2.06	6.18
Disk Harrow	14'	2WD 105	24,400	180	10	0.140	1.84	1.28	0.95	0.25	4.33	2.00	1.51	7.86
Disk Harrow	24'	2WD 105	40,600	180	10	0.081	1.07	0.75	0.92	0.14	2.89	1.95	0.88	5.73
Disk Harrow	32'	2WD 130	53,900	180	10	0.061	0.80	0.69	0.91	0.22	2.64	1.94	1.35	5.94
Fert Appl (Liquid)	4R-38	2WD 105	14,700	150	8	0.154	2.73	1.42	1.51	0.27	5.94	1.71	1.67	9.33
Fert Appl (Liquid)	6R-30	2WD 105	13,700	150	8	0.130	2.31	1.20	1.19	0.25	4.97	1.34	1.55	7.88
Fert Appl (Liquid)	6R-38	2WD 105	11,600	150	8	0.103	1.82	0.94	0.79	0.18	3.76	0.90	1.11	5.78
Fert Appl (Liquid)	8R-30	2WD 105	14,500	150	8	0.098	1.73	0.90	0.94	0.19	3.78	1.07	1.16	6.02
Field Cult & Inc	12'	2WD 105	18,000	100	10	0.132	2.33	1.21	0.59	0.23	4.38	2.51	1.43	8.33
Field Cult & Inc	24'	2WD 105	38,000	100	10	0.066	1.16	0.60	0.62	0.11	2.52	2.65	0.71	5.89
Field Cultivate	12'	2WD 105	12,600	100	10	0.124	1.63	1.14	0.39	0.22	3.39	1.65	1.34	6.39
Field Cultivate Fld	24'	2WD 105	25,300	100	10	0.062	0.81	0.57	0.39	0.11	1.89	1.66	0.67	4.23
Front Loader	.5 yd	2WD 75	5,430	100	10	0.120	1.57	0.78	0.19	0.12	2.68	0.79	0.77	4.25
Grain Drill	12'	2WD 105	24,100	150	8	0.157	3.48	1.44	1.42	0.28	6.63	2.71	1.70	11.05
Hay Baler	Conv	2WD 50	24,400	200	8	0.229	3.01	1.00	2.79	0.14	6.95	3.88	0.90	11.74
Hay Baler	Lg Round	2WD 105	41,600	200	8	0.211	2.77	1.94	4.95	0.38	10.05	6.11	2.29	18.46
Hay Baler	Med Rnd	2WD 75	24,900	200	8	0.211	2.77	1.38	2.96	0.22	7.35	3.66	1.36	12.38
Hay Carrier	1B Lift	2WD 50	328	200	10	0.300	3.94	1.31	0.02	0.19	5.47	0.05	1.17	6.71
Hay Cut-Cond	9'	2WD 105	24,900	200	8	0.229	3.01	2.10	3.56	0.41	9.09	3.96	2.48	15.54
Hay Cut-Cond	12'	2WD 105	32,600	200	8	0.171	2.25	1.57	3.50	0.30	7.64	3.89	1.86	13.40
Hay Disc Mower	8'	2WD 75	11,100	200	8	0.257	3.38	1.69	1.78	0.27	7.14	1.98	1.66	10.80
Hay Disc Mower	10'	2WD 50	12,800	200	8	0.206	2.71	0.90	1.65	0.13	5.39	1.83	0.81	8.04
Hay Rake	8.5'	2WD 50	5,900	200	8	0.202	2.65	0.88	0.59	0.13	4.27	0.82	0.79	5.89
Hay Rake-Double	17'	2WD 75	5,720	200	8	0.101	1.32	0.66	0.28	0.10	2.38	0.40	0.65	3.44
Hay Tedder	17'	2WD 105	8,780	200	8	0.101	1.32	0.92	0.44	0.18	2.88	0.61	1.09	4.59
Hay Trailer	20'	2WD 75	4,260	200	15	0.090	1.18	0.59	0.10	0.09	1.97	0.17	0.58	2.72
NT Grain Drill	12'	2WD 105	41,700	150	8	0.196	4.36	1.80	3.07	0.35	9.59	5.87	2.12	17.59
NT Plant & Pre Rigid	4R-38	2WD 105	30,500	150	8	0.166	3.69	1.53	1.90	0.29	7.43	3.64	1.80	12.88
NT Plant & Pre Rigid	6R-30	2WD 105	39,600	150	8	0.130	2.89	1.19	1.93	0.23	6.25	3.69	1.41	11.36
NT Plant & Pre Rigid	6R-38	2WD 105	35,400	150	8	0.102	2.28	0.94	1.36	0.18	4.77	2.60	1.11	8.49
NT Plant Rigid	4R-38	2WD 105	25,100	150	8	0.148	3.29	1.36	1.39	0.26	6.32	2.67	1.60	10.60
NT Plant Rigid	6R-30	2WD 105	34,100	150	8	0.125	2.79	1.15	1.60	0.22	5.77	3.07	1.36	10.21
NT Plant Rigid	6R-38	2WD 105	29,900	150	8	0.099	2.20	0.91	1.11	0.17	4.40	2.12	1.07	7.61
Plant & Pre Rigid	4R-38	2WD 105	28,200	150	8	0.153	3.41	1.41	1.62	0.27	6.72	3.11	1.66	11.50
Plant & Pre Rigid	6R-30	2WD 105	36,000	150	8	0.126	2.80	1.16	1.70	0.22	5.89	3.26	1.36	10.52
Plant & Pre Rigid	6R-38	2WD 105	31,900	150	8	0.102	2.28	0.94	1.22	0.18	4.64	2.35	1.11	8.10
Plant Rigid	4R-38	2WD 105	22,700	150	8	0.148	3.29	1.36	1.26	0.26	6.19	2.41	1.60	10.21
Plant Rigid	6R-30	2WD 105	30,600	150	8	0.125	2.79	1.15	1.44	0.22	5.61	2.75	1.36	9.73
Plant Rigid	6R-38	2WD 105	26,400	150	8	0.099	2.20	0.91	0.98	0.17	4.27	1.87	1.07	7.23
Rotary Mower	7'	2WD 50	4,690	185	10	0.168	2.21	0.73	0.64	0.10	3.69	0.45	0.66	4.81
Rotary Mower	12'	2WD 105	11,600	185	10	0.098	1.29	0.90	0.92	0.17	3.29	0.65	1.06	5.00
Rotary Mower Flex	15'	2WD 105	19,400	185	10	0.078	1.03	0.72	1.23	0.14	3.13	0.87	0.85	4.85
Row Cond & Inc Rigid	13'	2WD 105	13,300	100	10	0.126	2.24	1.16	0.42	0.22	4.05	1.78	1.37	7.21
Row Cond & Inc Rigid	21'	2WD 105	16,700	100	10	0.078	1.38	0.72	0.32	0.14	2.57	1.38	0.85	4.81
Row Cond Rigid	13'	2WD 105	7,840	100	10	0.119	1.56	1.09	0.23	0.21	3.11	0.98	1.29	5.39
Row Cond Rigid	21'	2WD 105	11,200	100	10	0.073	0.97	0.67	0.20	0.13	1.99	0.87	0.80	3.66
Section Harrow	13'	2WD 105	4,950	200	10	0.119	1.56	1.09	0.20	0.21	3.08	0.31	1.29	4.69
Silage Harvester	2-Row	2WD 105	42,600	200	8	0.510	6.70	4.68	13.58	0.91	25.89	15.10	5.52	46.52
Silage Harvester 3-R	3-Row	2WD 105	43,900	200	8	0.336	4.42	3.09	9.23	0.66	17.42	10.27	4.00	31.70
Silage Wagon 12T	12-Ton	2WD 105	17,400	200	15	0.510	6.70	4.68	1.77	1.00	14.17	3.96	6.07	24.21
Spin Spreader	5 Ton	2WD 105	11,800	100	8	0.042	0.93	0.38	0.27	0.07	1.67	0.56	0.45	2.69
Spray (Broadcast)	27'	2WD 105	5,440	200	8	0.062	1.10	0.57	0.15	0.11	1.95	0.19	0.67	2.82
Spray (Spot)	27'	2WD 105	5,440	200	8	0.062	1.10	0.57	0.15	0.11	1.95	0.19	0.67	2.82
Subsoiler	3 Shank	2WD 130	3,550	100	15	0.204	2.68	2.32	0.24	0.74	5.99	0.59	4.49	11.09
Tailgate Seeder		2WD 50	1,110	100	8	0.200	2.62	0.87	0.27	0.13	3.91	0.30	0.78	5.00

Notes:
Labor: Includes labor from Power unit plus additional labor from the implement.
Total Direct: Does not include interest on operating capital.

Appendix Table 3. Operating inputs: estimated prices, Mississippi, 2017

ITEM NAME	UNIT	PRICE	ITEM NAME	UNIT	PRICE
		dollars			dollars
ADJUVANTS			Glyphosate 3lbs a.e.	pt	2.29
Crop Oil (veg)	pt	3.75	Gramoxone SL 2.0	oz	0.27
Crop Oil Conc.(Pet.)	pt	2.47	GrazonNext	pt	6.85
Surfactant	pt	3.69	Londax DF	oz	20.27
CUSTOM FERT			Lorox DF	lb	26.36
App Fert by Air	cwt	7.00	Metribuzin 75	lb	14.41
App Fert by Air(Min)	appl	7.00	MSMA Plus	pt	3.63
Custom Spread(Truck)	appl	7.00	Poast	pt	13.41
CUSTOM LIME			Poast Plus	pt	9.69
Lime (Spread)	ton	46.00	Pursuit	oz	3.97
CUSTOM PLANT			Remedy Ultra	pt	10.76
Custom Spread + Seed	appl	13.00	Roundup Power Max	oz	0.21
Custom Sprig	acre	100.00	Roundup Power Max	pt	4.29
Plant by Air	cwt	7.00	Weedmaster	pt	4.00
CUSTOM SPRAY			INSECTICIDE		
App by Air (10 gal)	appl	8.50	Baythroid XL	oz	2.48
App by Air (3 gal)	appl	5.00	Dipel ES	pt	5.50
App by Air (5 gal)	appl	6.50	Lannate LV	pt	12.23
FERTILIZER			Lorsban 4E	pt	6.66
Boron 15G	lb	0.80	Malathion 5E	pt	4.40
Boron Plus	pt	4.24	Mustang Max	oz	1.44
Fert 10-34-0	cwt	28.58	Sevin XLR Plus	qt	12.50
Fert 33-0-0-12S	cwt	17.50	OTHER		
Phosphate (46% P2O5)	cwt	21.88	Twine	bun	39.00
Potash (60% K2O)	cwt	16.97	SEED/PLANTS		
UAN (32% N)	cwt	14.31	Alfalfa RR Seed	lb	10.64
UAN + Sulfur (28%)	cwt	14.48	Alfalfa Seed	lb	5.83
Urea, Solid (46% N)	cwt	16.78	Bahiagrass Seed	lb	3.92
HAUL			Common Bermuda Seed	lb	4.02
Hay Haul (Conv)	ton	25.00	Corn Seed RR2	thous	3.17
HERBICIDE			Fescue K-31Seed	lb	1.29
2,4-D Amine	pt	2.79	Fescue Seed	lb	2.50
2,4-DB 200	pt	4.77	Fescue Seed Max Q	lb	3.72
AAtrex 4L	pt	2.58	Forage Sorghum Seed	lb	1.32
Accent	oz	24.75	Millet Seed	lb	0.86
Atrazine 4L	pt	1.95	Red Clover Seed	lb	2.96
Balan	lb	17.01	Ryegrass Seed	lb	0.47
Banvel	pt	15.02	Ryegrass Seed	lb	0.47
Basagran	pt	15.81	Sorghum x Sudan Seed	lb	0.85
Bicep ll Magnum	qt	11.69	Wheat Seed	lb	0.25
Blazer Ultra	pt	11.65	White Clover Seed	lb	6.12
Buctril	pt	2.62	SERVICE FEE		
Clethodim	oz	0.74	Soil Test 10.00	acre	10.00
Diuron 4L	pt	3.36	Soil Test 6.00	acre	6.00
Dual II Magnum	pt	15.51			

Appendix Table 4. Estimated fuel prices and interest rates, Mississippi, 2017

ITEM NAME	UNIT	PRICE
		dollars
FUEL TYPES		
Diesel Fuel	gal	1.70
Gasoline	gal	1.90
LP Gas	gal	1.50
INTEREST RATES		
Short-term	%	4.75
Intermediate-term	%	5.00

Appendix Table 5. Labor names, units and wage rates, Mississippi, 2017.

Item name	Unit	Wage Rate
OPERATOR LABOR	hour	13.14
HAND LABOR	hour	9.06

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