

Working Paper

Giant Miscanthus Budgets

The mention in these budgets of any commercial product does not imply its endorsement by MSU, MAFES, or USDA over other products not named nor does the omission imply they are not satisfactory.

Table 1. Estimated Resource Use and Costs for Field Operation, per acre of Giant Miscanthus, Establishment Year, Mississippi, 2011

OPERATION/OPERATING INPUT	SIZE/ UNIT	POWER UNIT SIZE	PERF RATE	TIMES OVER	MTH	POWER UNIT COST		EQUIPMENT FIXED DIRECT	COST	ALLOC HOURS	LABOR COST	OPERATING/DURABLE INPUT AMOUNT	PRICE	COST	TOTAL COST
						DIRECT	FIXED								
Soil Test	20 acre			0.05	May							0.05	\$ 12.00	\$ 0.60	\$ 0.60
Lime (Spread)	ton			1	May							0.5	\$ 35.00	\$ 17.50	\$ 17.50
Disk Harrow	32'	MFWD 170	0.061	1	May	\$ 1.28	\$ 18.65	\$ 1.01	\$ 18.00	0.6	\$ 0.70			\$ 39.64	\$ 39.64
Harrow	47'	MFWD 170	0.033	2	May	\$ 1.38	\$ 9.87	\$ 0.57	\$ 7.03	0.6	\$ 0.76			\$ 19.61	\$ 19.61
Spray (Broadcast)	60'	MFWD 170	0.028	1	May	\$ 0.59	\$ 3.29	\$ 0.24	\$ 4.11	0.04	\$ 0.45			\$ 8.68	\$ 8.68
Prowl 3.3 EC	pt			1	May	\$ 13.66	\$ 25.26	\$ 0.21	\$ -	0.6	\$ 6.81	1	\$ 4.19	\$ 4.19	\$ 4.19
Trailer H2O/utility	4R 36-48"	MFWD 170	0.687	1	May	\$ 15.66	\$ 29.94	\$ 0.28	\$ -	6.87	\$ 63.84	4840	\$ 0.25	\$ 1,210.00	\$ 1,210.00
Pint-Transplant-H2O	spring														
Giant Miscanthus	acre			1	May							1	\$ 5.00	\$ 5.00	\$ 5.00
Custom Apply Fert	cwt											0.7352	\$ 14.23	\$ 10.46	\$ 10.46
Amm Nitrate (34% N)	cwt											1	\$ 26.10	\$ 26.10	\$ 26.10
Potash (60% K2O)	cwt														
Hay Disc mower	10'	MFWD 170	0.206	1	Nov	\$ 4.02	\$ 13.17	\$ 1.84	\$ 2.43	0.2	\$ 2.34			\$ 23.80	\$ 23.80
Hay Rake Double	17'	MFWD 170	0.101	1	Nov	\$ 2.08	\$ 6.59	\$ 0.57	\$ 1.22	0.1	\$ 1.15			\$ 11.61	\$ 11.61
Hay baler LB433	3x4 sqr	MFWD 170	0.229	1	Nov	\$ 4.43	\$ 14.81	\$ 14.60	\$ 27.05	0.22	\$ 2.60			\$ 63.49	\$ 63.49
Hay Mover	1B Lift	MFWD 170	0.3	1	Nov	\$ 5.74	\$ 18.65	\$ 0.98	\$ 0.08	0.3	\$ 3.41			\$ 28.86	\$ 28.86
+Hay Trailer	20'		0.3					\$ 0.34	\$ 0.66					\$ 1.00	\$ 1.00
TOTALS						\$ 48.84	\$ 140.24	\$ 20.64	\$ 60.58	9.53	\$ 82.06		\$ 1,273.85	\$ 1,626.21	\$ 1,626.21
INTEREST ON OPERATION CAPITAL														\$ 20.20	\$ 20.20
TOTAL SPECIFIED COST														\$ 1,646.41	\$ 1,646.41

Note: Cost of production estimates are based on 2010 input prices.

Table 2. Estimated Cost per acre of Giant Miscanthus, Establishment, Mississippi, 2011

ITEM	UNIT	PRICE	QUANTITY	AMOUNT
DIRECT EXPENSES				
FERTILIZERS				
Amm Nitrate (34% N)	cwt	\$14.23	0.7352	\$10.46
Potash (60% K ₂ O)	cwt	\$26.10	1	\$26.10
HERBICIDES				
Prowl 3.3 EC	pt	\$4.19	1	\$4.19
SEED/PLANTS				
Giant Miscanthus	sprig	\$0.25	4840	\$1,210.00
SERVICE FEE				
Soil Test	20 acres	\$12.00	0.05	\$0.60
CUSTOM FERT/LIME				
Lime (Spread)	ton	\$35.00	0.5	\$17.50
Custom Apply Fert	acre	\$5.00	1	\$5.00
OPERATOR LABOR				
Tractors	hour	\$11.35	2.2796	\$25.87
HAND LABOR				
Implements	hour	\$9.06	6.2016	\$56.19
DIESEL FUEL				
Tractors	gal	\$2.39	16.2419	\$38.82
REPAIR & MAINTENANCE				
Implements	acre	\$20.64	1	\$20.64
Tractors	acre	\$10.02	1	\$10.02
INTEREST ON OP. CAP.	acre	\$20.20	1	\$20.20
TOTAL DIRECT EXPENSES				\$1,445.59
FIXED EXPENSES				
Implements	acre	\$60.58	1	\$60.58
Tractors	acre	\$140.20	1	\$140.20
TOTAL FIXED EXPENSES				\$200.78
TOTAL EXPENSES				\$1,646.37

Note: Cost of production estimates are based on 2010 input prices.

Table 3. Estimated Resource Use and Costs for Field Operation, per acre of Giant Miscanthus, Single-Harvest Year, Mississippi, 2011

	SIZE/ UNIT	POWER UNIT SIZE	PERF RATE	TIMES OVER	MONTH	POWER UNIT COST		EQUIPMENT COST		ALLOC LABOR		OPERATING/DURABLE INPUT		TOTAL COST
						DIRECT	FIXED	DIRECT	FIXED	HOURS	COST	AMOUNT	PRICE	
OPERATION/ OPERATING INPUT														
Custom Apply Fert	acre				1 May							1.00	\$ 5.00	\$ 5.00
Amm Nitrate (34% N)	cwt											2,941.1	\$ 14.23	\$ 41.85
Potash (60% K2O)	cwt											1	\$ 26.10	\$ 26.10
Hay Disc mower	10'	MFWD 170	0.206		1 Nov	\$ 5.03	\$ 35.06	\$ 1.84	\$ 2.43	0.20	\$ 2.34			\$ 46.70
Hay Rake Double	17'	MFWD 170	0.101		1 Nov	\$ 2.47	\$ 16.83	\$ 0.57	\$ 1.22	0.10	\$ 1.15			\$ 22.24
Hay baler LB433	3x4 sqr	MFWD 170	0.229		1 Nov	\$ 5.59	\$ 37.87	\$ 14.60	\$ 27.05	0.22	\$ 2.60			\$ 87.71
Hay Mover	1B Lift	MFWD 170	0.3		1 Nov	\$ 7.32	\$ 50.49	\$ 0.98	\$ 0.08	0.30	\$ 3.41			\$ 62.28
+Hay Trailer	20'		0.3					\$ 0.34	\$ 0.66					\$ 1.00
OTHER FIXED COSTS														
Disk Harrow	32'								\$ 18.00					\$ 18.00
Harrow	47'								\$ 7.03					\$ 7.03
Spray (Broadcast)	60'								\$ 4.11					\$ 4.11
Trailer H2O/utility														\$ -
Plint- Transplant-H2O	4R 36-48"													\$ -
TOTALS						\$ 20.41	\$ 140.24	\$ 18.33	\$ 60.58	0.82	\$ 9.50		\$ 72.95	\$ 322.01
INTEREST ON OPERATING CAPITAL														\$ 3.50
TOTAL SPECIFIED COST														\$ 325.51

Note: Cost of production estimates are based on 2010 input prices.

Table 4. Estimated Cost per acre of Giant Miscanthus, Single-Harvest Year, Mississippi, 2011

ITEM	UNIT	PRICE	QUANTITY	AMOUNT
DIRECT EXPENSES				
FERTILIZERS				
Amm Nitrate (34% N)	cwt	\$14.23	2.9411	\$41.85
Potash (60% K ₂ O)	cwt	\$26.10	1	\$26.10
CUSTOM FERT/LIME				
Custom Apply Fert	acre	\$5.00	1	\$5.00
OPERATOR LABOR				
Tractors	hour	\$11.35	0.8365	\$9.49
DIESEL FUEL				
Tractors	gal	\$2.39	7.3198	\$17.49
REPAIR & MAINTENANCE				
Implements	acre	\$18.33	1	\$18.33
Tractors	acre	\$2.73	1	\$2.73
INTEREST ON OP. CAP.	acre	\$3.50	1	\$3.50
TOTAL DIRECT EXPENSES				\$124.50
FIXES EXPENSES				
Implements	acre	\$71.04	1	\$60.58
Tractors	acre	\$93.57	1	\$140.24
TOTAL FIXED EXPENSES				\$200.82
TOTAL EXPENSES				\$325.32

Note: Cost of production estimates are based on 2010 input prices.

Table 5. Estimated Resource Use and Costs for Field Operation, per acre of Giant Miscanthus, Double-Harvest Year, Mississippi, 2011

OPERATION/ OPERATING INPUT	SIZE/ UNIT	POWER UNIT SIZE	PERF RATE	TIMES OVER	MONTH	POWER UNIT COST		EQUIPMENT DIRECT	FIXED COST	ALLOC LABOR HOURS	OPERATING/DURABLE PRICE	INPUT COST	TOTAL COST
						DIRECT	FIXED						
Custom Apply Fert	acre				1 May							5.00	\$ 5.00
Amm Nitrate (34% N)	cwt											41.85	\$ 41.85
Potash (60% K2O)	cwt											26.10	\$ 26.10
Hay Disc mower	10'	MFWD 170	0.206		1 Nov	\$ 5.03	\$ 35.06	\$ 1.84	\$ 2.43	0.20	\$ 2.34		\$ 46.70
Hay Rake Double	17'	MFWD 170	0.101		1 Nov	\$ 2.47	\$ 16.83	\$ 0.57	\$ 1.22	0.10	\$ 1.15		\$ 22.24
Hay baler LBX432	3x4 sqr	MFWD 170	0.229		1 Nov	\$ 5.59	\$ 37.87	\$ 14.60	\$ 27.05	0.22	\$ 2.60		\$ 87.71
Hay Mover	1B Lift	MFWD 170	0.3		1 Nov	\$ 7.32	\$ 50.49	\$ 0.98	\$ 0.08	0.30	\$ 3.41		\$ 62.28
+Hay Trailer	20'		0.3					\$ 0.34	\$ 0.66				\$ 1.00
Hay Disc mower	10'	MFWD 170	0.206		1 Nov	\$ 5.03	\$ 35.06	\$ 1.84	\$ 2.43	0.20	\$ 2.34		\$ 46.70
Hay Rake Double	17'	MFWD 170	0.101		1 Nov	\$ 2.47	\$ 16.83	\$ 0.57	\$ 1.22	0.10	\$ 1.15		\$ 22.24
Hay baler LBX432	3x4 sqr	MFWD 170	0.229		1 Nov	\$ 5.59	\$ 37.87	\$ 14.60	\$ 27.05	0.22	\$ 2.60		\$ 87.71
Hay Mover	1B Lift	MFWD 170	0.3		1 Nov	\$ 7.32	\$ 50.49	\$ 0.98	\$ 0.08	0.30	\$ 3.41		\$ 62.28
+Hay Trailer	20'		0.3					\$ 0.34	\$ 0.66				\$ 1.00
OTHER FIXED COSTS													
Disk Harrow	32'								\$ 18.00				\$ 18.00
Harrow	47'								\$ 7.03				\$ 7.03
Spray (Broadcast)	60'								\$ 4.11				\$ 4.11
Trailer H2O/utility									\$ -				\$ -
Pint- Transplant-H2O	4R 36-48"								\$ -				\$ -
TOTALS						\$ 40.82	\$ 280.49	\$ 36.66	\$ 92.02	1.64	\$ 19.00	\$ 72.95	\$ 541.94
INTEREST ON OPERATION CAPITAL													\$ 4.88
TOTAL SPECIFIED COST													\$ 546.82

Note: Cost of production estimates are based on 2010 input prices.

Table 6. Estimated Cost per acre of Giant Miscanthus, Double-Harvest, Mississippi, 2011

ITEM	UNIT	PRICE	QUANTITY	AMOUNT
DIRECT EXPENSES				
FERTILIZERS				
Amm Nitrate (34% N)	cwt	\$14.23	2.9411	\$41.85
Potash (60% K ₂ O)	cwt	\$26.10	1	\$26.10
CUSTOM FERT/LIME				
Custom Apply Fert	acre	\$5.00	1	\$5.00
OPERATOR LABOR				
Tractors	hour	\$11.35	1.673	\$18.99
DIESEL FUEL				
Tractors	gal	\$2.39	14.6396	\$34.99
REPAIR & MAINTENANCE				
Implements	acre	\$36.66	1	\$36.66
Tractors	acre	\$5.46	1	\$5.46
INTEREST ON OP. CAP.	acre	\$2.81	1	\$4.88
TOTAL DIRECT EXPENSES				\$173.93
FIXED EXPENSES				
Implements	acre	\$92.02	1	\$92.02
Tractors	acre	<u>\$ 280.49</u>	1	<u>\$280.49</u>
TOTAL FIXED EXPENSES				<u>\$372.51</u>
TOTAL EXPENSES				<u>\$546.44</u>

Note: Cost of production estimates are based on 2010 input prices.