

Contestant Number: KEY
Chapter: _____

Score: _____

**Utah Farm Business Management CDE
Multiple Choice Section
2010**

ANSWER SHEET:

1. D
2. B
3. D
4. B
5. B
6. A
7. C
8. B
9. D
10. D
11. C
12. A
13. H
14. A
15. A
16. B
17. D
18. A
19. C
20. B
21. A
22. B
23. F
24. C
25. L

26. N
27. A
28. D
29. B
30. C
31. E
32. C
33. D
34. A
35. B
36. B
37. E
38. A
39. D
40. A or E
41. B
42. G
43. C
44. E
45. D
46. H
47. F
48. I
49. A
50. J

Contestant Number: ___KEY_____

Score: _____

Chapter: _____

Utah Farm Business Management CDE
Problem Section
2010

Use the *Resource Information for Brown Farms* provided and the additional information given in this section to answer the questions. Please read all questions carefully.

Part I. Financial Statements Analysis (66 Points)

- 1. Income Statement:** Using the following information, enter the items and their values into the form to create an income statement for Brown Farms for 2009. (40 points)

<u>Income Statement Information</u>	<u>2009</u>
Finished Hogs	\$518,503
Seed	\$31,622
Fertilizer	\$9,061
Change in Accrued Interest Payable	-\$5,706
Crop Sales	\$87,125
Pesticides/Herbicides	\$440
Change in Livestock Inventory	-\$13,861
Government Payments	\$63,202
Insurance	\$7,222
Feed purchased	\$160,270
Cull Sales	\$31,077
Depreciation	\$34,800
Reproduction	\$15,205
Veterinary	\$12,893
Change in Accounts Payable	\$4,293
Supplies	\$22,582
Change in Crop Inventory	\$40,162
Fuel, Oil, Lubricants	\$15,729
Repairs and Maintenance	\$41,703
Change in Accounts Receivable	\$26,546
Hired Labor	\$17,917
Custom Hire	\$56,482
Utilities	\$14,373
Interest Paid	\$53,636
Dues and Fees	\$661
Taxes	\$9,518
Other Farm Income	\$8,535
Miscellaneous Costs	\$25,687

INCOME STATEMENT	
INCOME	2009
<i>Cash Sales</i>	
Finished Hogs	\$518,503
Crop Sales	\$87,125
Government Payments	\$63,202
Cull Sales	\$31,077
Other Farm Income	\$8,535
<i>Accrual Adjustments</i>	
Change in Livestock Inventory	-\$13,861
Change in Crop Inventory	\$40,162
Change in Accounts Receivable	\$26,546
Total Income (cash basis)	\$708,442
Total Income (accrual basis)	\$761,289
EXPENSES	
<i>Cash Expenses</i>	
Seed	\$31,622
Fertilizer	\$9,061
Pesticides/Herbicides	\$440
Insurance	\$7,222
Feed purchased	\$160,270
Reproduction	\$15,205
Veterinary	\$12,893
Supplies	\$22,582
Fuel, Oil, Lubricants	\$15,729
Repairs and Maintenance	\$41,703
Hired Labor	\$17,917
Custom Hire	\$56,482
Utilities	\$14,373
Interest Paid	\$53,636
Dues and Fees	\$661
Taxes	\$9,518
Miscellaneous	\$25,687
<i>Accrual Adjustments</i>	
Change in Accrued Interest Payable	-\$5,706
Depreciation	\$34,800
Change in Accounts Payable	\$4,293
Total Expenses (cash basis)	\$495,001
Total Expenses (accrual basis)	\$528,388
Net Farm Income (cash basis)	\$213,441
Net Farm Income (accrual basis)	\$232,901

2. Financial Statements Analysis:

Use the *Resource Information for Brown Farms*, the income statement created in question 1 and the information below to answer the following questions.
(26 points)

	31 December 2008	31 December 2009
Current Ratio	2.04	2.38
Debt to Asset Ratio	0.49	0.47
Debt to Equity Ratio	0.97	0.89
Working Capital	\$188,145	\$242,972
Total Farm Assets	\$1,514,572	\$1,756,040
Total Farm Liabilities	\$744,456	\$825,574
Net Farm Income (accrual)	\$203,235	

- a. What was the change in net worth from 2008 to 2009? (3 points) \$160,350
- b. What was the change in net farm income (accrual basis) from 2008 to 2009? (3 points) \$29,666
- c. What assessment can you make about Brown Farms' Liquidity? (10 points)

Answers Vary

The Current Ratio is greater than 1.5 and Working Capital is positive, both showing good liquidity. The Working Capital and Current Ratio also both increased relative to 2008, which increased the liquidity of Brown Farms.

- d. What assessment can you make about Brown Farms' Solvency? (10 points)

Answers Vary

The Debt/Asset ratio is less than 0.5 and Debt/Equity ratio is less than 1, both showing good solvency. The Debt/Asset ratio and Debt/Equity ratio also both decreased which increased the solvency of Brown Farms.

Part II. Budgeting (89 Points)

1. Given the enterprise budgets provided, what are the net returns above operating costs and above total costs for Brown Farms for their farrow-to-finish hog enterprise and crop enterprises? (12 points)

	<u>Net Returns Above Operating Costs</u>	<u>Net Returns Above Total Costs</u>
a. Hogs:	\$ <u>371.58</u> per sow	\$ <u>233.06</u> per sow
b. Corn:	\$ <u>353.67</u> per acre	\$ <u>282.30</u> per acre
c. Alfalfa:	\$ <u>228.49</u> per acre	\$ <u>129.22</u> per acre

2. Prices are always changing in agricultural markets. If sales prices changed from those given in the enterprise budgets to the following, what would the new net returns for the various enterprises of Brown Farms? (18 points)

Finished Hogs: \$38.46/cwt
 Corn: \$3.36/bushel
 Alfalfa: \$96.00/ton

	<u>Net Returns Above Operating Costs</u>	<u>Net Returns Above Total Costs</u>
a. Hogs:	\$ <u>276.80</u> per sow	\$ <u>138.28</u> per sow
b. Corn:	\$ <u>187.07</u> per acre	\$ <u>115.70</u> per acre
c. Alfalfa:	\$ <u>282.49</u> per acre	\$ <u>183.22</u> per acre

3. The enterprise budgets are given on a per-sow or per-acre basis. Based on the sow numbers and acres in corn and alfalfa production given in the *Resource Information for Brown Farms*, calculate total returns for each enterprise of Brown Farms. (18 points)

	<u>Net Returns Above Operating Costs</u>	<u>Net Returns Above Total Costs</u>
d. Hogs:	\$ <u>81,747.60</u> total	\$ <u>51,273.20</u> total
e. Corn:	\$ <u>88,417.50</u> total	\$ <u>70,575.00</u> total
f. Alfalfa:	\$ <u>22,849.00</u> total	\$ <u>12,922.00</u> total

4. Answer the following questions about Brown Farms:

- a. Which Brown Farms enterprise is the most profitable? (4 points) Corn
- b. Which Brown Farms enterprise is the least profitable? (4 points) Alfalfa
- c. Given the price changes in question 2, which crop enterprise yields had the greatest percent change in net returns above operating costs per acre? (4 points) Corn
- d. Which enterprise requires the most hired labor? (4 points) Hogs

5. The Browns are considering shifting the 100 acres they currently have in hay production to barley production. Using the enterprise budgets provided in the *Resource Information for Brown Farms*, create a partial budget for the Browns. (15 points)

Per Acre

PARTIAL BUDGET TO CHANGE FROM ALFALFA HAY TO BARLEY							
Additional Returns				Reduced Returns			
	Quantity	Price	Value		Quantity	Price	Value
Barley	95	\$4.09	\$388.55	Alfalfa	6	\$87.00	\$522.00
Straw	0.65	\$38.00	\$24.70				
Total AR:			\$413.25	Total RR:			\$522.00
Reduced Costs				Additional Costs			
	Quantity	Price	Value		Quantity	Price	Value
Fertilizer	1	\$24.96	\$24.96	Seed	1	\$18.70	\$18.70
Pesticides/Herbicide	1	\$43.50	\$43.50	Fertilizer	1	\$63.55	\$63.55
Fuel and Oil	1	\$56.96	\$56.96	Pesticides/Herbicide	1	\$3.44	\$3.44
Custom Hire	1	\$15.64	\$15.64	Fuel and Oil	1	\$32.18	\$32.18
Hired Labor	1	\$23.33	\$23.33	Custom Hire	1	\$47.21	\$47.21
Utilities	1	\$1.26	\$1.26	Hired Labor	1	\$18.00	\$18.00
Crop Insurance	1	\$24.22	\$24.22	Utilities	1	\$1.26	\$1.26
Repairs and Maint.	1	\$68.72	\$68.72	Crop Insurance	1	\$21.84	\$21.84
Dues	1	\$0.58	\$0.58	Repairs and Maint.	1	\$36.22	\$36.22
Miscellaneous	1	\$12.86	\$12.86	Dues	1	\$0.58	\$0.58
Operating Interest	1	\$3.46	\$3.46	Miscellaneous	1	\$8.27	\$8.27
Farm Insurance	1	\$4.14	\$4.14	Operating Interest	1	\$2.58	\$2.58
Depreciation	1	\$36.45	\$36.45	Farm Insurance	1	\$4.14	\$4.14
Taxes	1	\$30.88	\$30.88	Depreciation	1	\$18.46	\$18.46
Interest	1	\$45.82	\$45.82	Taxes	1	\$12.86	\$12.86
				Interest	1	\$38.22	\$38.22
Total RC:			\$392.78	Total AC:			\$327.51
Total AR + RC			\$806.03	Total RR + AC			\$849.51
Net Change:				-\$43.48			

6. Would you recommend the Browns shift their 100 acres of alfalfa to barley production? *Why or why not?* (10 points)

Answers Vary

No. The partial budget shows a negative net change from switching 100 acres from alfalfa to barley production. Therefore, making that change would reduce overall returns above expenses by \$43.48 per acre. Shifting the acreage would reduce total profits by \$4,348.00.

Part III. Risk Management (45 Points)

1. List one *specific* way the Browns can manage each of the following types of risk and one advantage and disadvantage for each. (9 points each)

Answers Vary

	<u>Advantage</u>	<u>Disadvantage</u>
a. Production Risk:		
1. Diversification	If one enterprise suffers, others may still be profitable.	Lower overall returns.
Crop Insurance	Protects against total losses.	Costs a premium.
b. Price Risk:		
1. Futures Contracts	Reduces risk of losses.	Reduces ability to capture gains.
Put and Calls	Reduces risk of loss without losing ability to capture gains.	Premium cost.
c. Financial Risk:		
1. Fixed Interest Rates	Won't change or increase.	May be higher.
Self-Liquidating Loans	Can be repaid with productivity of what was purchased (crops, dairy milk, etc.).	If production falls, loans may be difficult to repay.
b. Human Risk:		
1. Good Training of Employees	Helps avoid human accidents.	Requires time and energy.
Life Insurance	Protection in case of death.	Premium cost.
c. Legal/Institutional Risk:		
1. LLC	Limited personal liability.	More difficult to start than a sole proprietorship.
Written Contracts	Protection in even of breach of contract.	More difficult to set up than a "hand shake" and may offend neighbors or friends.

**Utah Farm Business Management CDE
Team Section
2010**

1. Using the *Resource Information for Brown Farms* and the information below, fill in the non-shaded areas in the templates on the following page to create a balance sheet and calculate financial performance figures for Brown Farms.

<u>Balance Sheet Information</u>	<u>31 Dec 2009</u>
Cash and Checking Account Balances	\$2,364
Accrued Interest	\$11,644
Equipment and Machinery	\$216,922
Accounts Payable	\$21,644
Loan for building and breeding livestock	\$148,379
Market Livestock	\$161,939
Buildings	\$412,284
Accounts Receivable	\$37,145
Farm Land	\$650,000
Prepaid Expenses	\$15,686
Crops and Feed on hand	\$201,850
Mortgage on 350 acres	\$501,183
Portion of long-term loans due within 12 months	\$92,723
Breeding Livestock	\$57,850
Current Farm Loans	\$50,001

BALANCE SHEET

<u>ASSETS</u>			<u>LIABILITIES</u>		
Current Assets	2008	2009	Current Liabilities	2008	2009
Cash and Checking		\$2,364.00	Accrued Interest		\$11,644.00
Accounts Receivable		\$37,145.00	Accounts Payable		\$21,644.00
Prepaid Expenses		\$15,686.00	Portion of long-term loans due in 12 months		\$92,723.00
Crops and Feed		\$201,850.00	Current Farm Loans		\$50,001.00
Market Livestock		\$161,939.00			
Total Current Assets	\$368,210.00	\$418,984.00	Total Current Liabilities	\$180,065.00	\$176,012.00
Non-Current Assets			Non-Current Liabilities		
Equip. and Machinery		\$216,922.00	Loan for Building and Breeding Livestock		\$148,379.00
Breeding Livestock		\$57,850.00	Mortgage on 350 acres		\$501,183.00
Buildings		\$412,284.00			
Land		\$650,000.00			
Total Non-Current Assets	\$1,146,362.00	\$1,337,056.00	Total Non-Current Liabilities	\$564,391.00	\$649,562.00
Total Farm Assets	\$1,514,572.00	\$1,756,040.00	Total Farm Liabilities	\$744,456.00	\$825,574.00
			Net Worth (Equity)	\$770,116.00	\$930,466.00
			Total Liabilities + Net Worth	\$1,514,572.00	\$1,756,040.00

FINANCIAL PERFORMANCE

<u>RATIO ANALYSIS</u>		
	31 December 2008	31 December 2009
Current Ratio	2.04	2.38
Working Capital	\$188,145.00	\$242,972.00
Debt/Asset Ratio	0.49	0.47
Debt/Equity Ratio	0.97	0.89

2. Using the *Resource Information for Brown Farms* and your answers in question 1, perform a SWOT analysis for Brown Farms.

Answers Vary

<p>Strengths:</p> <ol style="list-style-type: none">1. Good financial records.2. Increasing liquidity and solvency.3. Positive net farm income.4. Owners have related education and experience.5. Increasing assets and equity.6. Off-farm income.	<p>Weaknesses:</p> <ol style="list-style-type: none">1. Sole proprietorship organization has higher risk of personal liability.2. Insufficient labor.3. Children's intentions not known.4. Insufficient risk management strategy.5. No apparent marketing strategy.6. Insufficient wean-to-finish space in hog enterprise.
<p>Opportunities:</p> <ol style="list-style-type: none">1. Consideration of converting to an LLC.2. Children coming back to join the farm business.3. Expanding the hog enterprise.4. Explore greater profits in other enterprises.	<p>Threats:</p> <ol style="list-style-type: none">1. Variable market prices.2. Children don't return to the farm.3. Institutional changes.4. Financial instability in the economy.