Utah Farm Business Management CDE 2013
Resource Information for the Hill Family Farm

Jack and Jill Hill began milking cows 30 years ago. They wanted to create a small farm where they could raise their children and teach the important principles of hard work, responsibility, respect, and teamwork. They also hoped the farm would contribute some extra funds for other family activities. Jack has maintained outside employment as a county agricultural extension agent and feels that his dairy farm has been a good complement to his work. He is planning to work for ten more years and then retire. Jill has focused mainly on raising their six children and volunteering at various non-profit organizations around town. She has served on the school board several times and is considering running for mayor in the next election.

The Hills established their dairy farm when their first child was 10 years old. They built and equipped a two-stall milk barn on part of the 10-acres adjacent to their house and purchased 10 dairy heifers. Over the years, the farm has been expanded to 40 cows and a new 8-stall milk barn was built. Corrals have been expanded to accommodate the increase in cow numbers and other feed barns were built to store feed purchased in advance. Jack plans to expand the farm to 45 cows during 2013. The Hills have also fenced in a small pasture and have kept several horses for recreational purposes, which have been paid for entirely through income from the farm.

Jack and Jill raised 6 children on their family farm, and all have gotten married and started their own families. One of their sons, George, studied ag technology at college and is an FFA instructor at the high school where he grew up. George especially liked growing up on a dairy farm and is interested in providing a similar experience for his own children. He also realizes that his parents are getting older and may not be able to continue farming without additional help. George has approached his parents about becoming involved again in the dairy and eventually becoming the primary owner/manager as his parents become less able to maintain the farming activity. George has many of the same goals for the dairy as his parents--to teach his children important values and have some extra funds for family activities. George is also interested in further expanding the farm to 80 cows over the next 15 years and either renting or purchasing some land to add a crop enterprise within the next 10 years. He would like the farm to become a stable source of additional income for his family and for his parents as they head into retirement.

Jack and Jill do not have a succession plan in place but have thought about it over the past several years. They have considered selling the farm and moving to a smaller place nearby that would require less work as they got older. Jack would like to keep farming as long as he is able but is concerned about being able to maintain the farm into the future. The Hills would like to see the farm continue in the family but did not think any of their children were interested or able to take over the farm. They are happy that George has shown an interest in the farm and are considering his ideas and future involvement.

While huge profits have not necessarily been the main goal of the Hill Family Farm, the farm has, on average, provided a fairly positive net income over the years. The following materials include financial statements for the Hill Family Farm for 2012 and projected statements for 2013. Also included are several budgets, including the Hill Family Farm dairy budget and several crop budgets George obtained from the extension service as he would like to consider adding a crop enterprise to the farm.

Hill Family Farm
Financial Records

BALANCE SHEET

(cost-basis)

ASSETS	December 31, 2012	December 31, 2013 *(Projected)*
Current Assets		
AG Bank Checking	$16,847.47	$24,785.95
Accounts Receivable	$8,600.00	$3,545.00
Crops and Feed	$45,500.00	$43,600.00
Total Current Assets	**$70,947.47**	**$71,930.95**
Non-Current Assets		
Dairy Livestock	$48,000.00	$54,000.00
Machinery and Equipment	$104,000.00	$104,000.00
Buildings	$178,500.00	$178,500.00
Accumulated Depreciaton	-$149,736.00	-$159,568.00
Total Non-Current Assets	**$180,764.00**	**$176,932.00**
Total Farm Assets	**$251,711.47**	**$248,862.95**
LIABILITIES		
Current Liabilities		
Accrued Interest	$2,443.90	$2,238.79
Accounts Payable	$6,458.35	$2,345.00
Machinery Loan Due in 12 Mo.	$4,008.98	$4,214.09
Total Current Liabilities	**$12,911.23**	**$8,797.88**
Non-Current Liabilities		
Machinery Loan Due after 12 Mo.	$46,689.84	$42,475.75
Total Non-Current Liabilities	**$46,689.84**	**$42,475.75**
Total Farm Liabilities	**$59,601.07**	**$51,273.63**
Net Worth (Equity)	**$192,110.40**	**$197,589.32**

Hill Family Farm
Financial Records

INCOME STATEMENT

	2012	2013 (Projected)
REVENUE		
Cash Sales		
Milk Sales	$157,813.12	$177,539.76
Sale of Calves	$3,983.58	$4,481.53
Sale of Cull Cows	$3,427.62	$3,856.07
Total Income (cash basis)	**$165,224.32**	**$185,877.36**
Accrual Adjustments		
Change in Accounts Recievable	-$2,548.26	-$5,055.00
Change in Crop Inventory	$4,300.00	-$1,900.00
Total Income (accrual basis)	**$166,976.06**	**$178,922.36**
EXPENSES		
Cash Expenses		
Feed	$70,237.01	$79,016.63
Breeding	$1,767.20	$1,988.10
Veterinary and Medicine	$3,130.80	$3,522.15
Supplies	$4,741.20	$5,333.85
Fuel and Oil	$1,532.80	$1,724.40
Repairs	$3,938.40	$4,430.70
Custom Hire	$388.00	$436.50
Milk Hauling	$5,122.40	$5,762.70
Marketing	$5,454.40	$6,136.20
Bedding	$522.40	$587.70
Replacement Cost	$14,001.44	$15,751.62
Hired Labor	$10,010.40	$11,261.70
Utilities	$1,723.20	$1,938.60
Record Keeping	$560.00	$630.00
Dues and Fees	$600.00	$675.00
Operating Interest	$491.20	$552.60
Misc.	$255.60	$287.55
Property Taxes	$160.00	$180.00
Insurance	$240.00	$270.00
Interest on Machinery	$2,639.02	$2,443.90
Total Expenses (cash basis)	**$127,515.47**	**$142,929.90**
Accrual Adjustments		
Depreciaton	$9,832.00	$9,832.00
Change in Accounts Payable	$1,275.46	-$4,113.35
Change in Accrued Interest Payable	-$195.12	-$205.11
Total Expenses (accrual basis)	**$138,427.81**	**$148,443.44**
Net Farm Income (cash basis)	**$37,708.85**	**$42,947.46**
Net Farm Income (accrual basis)	**$28,548.25**	**$30,478.92**

Hill Family Farm
Financial Records

STATEMENT OF CASH FLOWS

	2012	2013 (Projected)
Cash at beginning of Period	$4,576.24	$16,847.47
OPERATING ACTIVITIES		
Net Income	$37,708.85	$42,947.46
Net Cash from Operating Activities	$42,285.09	$42,947.46
INVESTING ACTIVITIES		
Purchase New Dairy Heifers	-1,200.00	-6,000.00
Net Cash from Investing Activities	-1,200.00	-6,000.00
FINANCING ACTIVITIES		
Machinery Loan Payments	-3,813.86	-4,008.98
Owner Contributions	0.00	0.00
Owner Withdrawals	-25,000.00	-25,000.00
Net Cash from Financing Activities	-28,813.86	-29,008.98
Net Cash Increase	$12,271.23	$7,938.48
Cash at end of Period	$16,847.47	$24,785.95

Hill Family Farm
Financial Records

STATEMENT OF OWNER EQUITY

	2012	*(Projected)* 2013
OWNER EQUITY (Beginning)	$188,562.15	$192,110.40
Change in Retained Earnings		
Net Income	$28,548.25	$30,478.92
Withdrawals for Family Living	-$25,000.00	-$25,000.00
Total Change in Retained Earnings	**$3,548.25**	**$5,478.92**
Change in Contributed Capital		
Contributed Capital	$0.00	$0.00
Total Change in Contributed Capital	**$0.00**	**$0.00**
OWNER EQUITY (Ending)	**$192,110.40**	**$197,589.32**

Hill Family Farm
Financial Records

FINANCIAL ANALYSIS

	2012	*(Projected)* 2013
Net Income	$28,548.25	$30,478.92
Owner Withdrawals	$25,000.00	$25,000.00
Liquidity		
Current Ratio	5.50	8.18
Working Capital	$58,036.24	$63,133.07
Solvency		
Debt/Asset Ratio	0.24	0.21
Debt/Equity Ratio	0.31	0.26
Equity/Asset Ratio	0.76	0.79

Hill Family Farm
Financial Records

Depreciation Schedules

Asset	Cost	Salvage Value	Useful Life	Depreciation per year	Year Purchased/ Built	Accumulated Depreciation as of December 2012	Accumulated Depreciation as of December 2013
Tractor	$64,000	$16,000	20 years	2,400	2000	$31,200	$33,600
Mixer Wagon	$32,000	$8,000	20 years	1,200	2005	$9,600	$10,800
Truck	$8,000	$1,200	10 years	680	2008	$3,400	$4,080
Total Machinery	**$104,000**	**$25,200**		**4,280**		**$44,200**	**$48,480**
Milk Barn	$98,500	$19,700	25 years	3,152	1995	$56,736	$59,888
Hay Shed	$30,000	$6,000	30 years	800	1988	$20,000	$20,800
Cow Stalls	$50,000	$10,000	25 years	1,600	1995	$28,800	$30,400
Total Buildings	**$178,500**	**$35,700**		**5,552**		**$105,536**	**$111,088**
Total Machinery and Buildings	**$282,500**	**$60,900**		**9,832**		**$149,736**	**$159,568**

Robotic Milker Loan and Depreciation Schedules

Loan Option 1

Loan Term: 15 years
Interest Rate: 4.25
Purchase Price: $200,000
Financed amount: $200,000
Payments Due: 31 December each year

Year	Payment	Principal	Interest	Balance as of December 31
2013	$18,054.68	$9,743.01	$8,311.67	$190,256.99
2014	$18,054.69	$10,165.26	$7,889.43	$180,091.73
2015	$18,054.68	$10,605.79	$7,448.89	$169,485.94
2016	$18,054.68	$11,065.42	$6,989.26	$158,420.52
2017	$18,054.68	$11,544.97	$6,509.71	$146,875.55
2018	$18,054.69	$12,045.31	$6,009.38	$134,830.24
2019	$18,054.69	$12,567.33	$5,487.36	$122,262.91
2020	$18,054.68	$13,111.96	$4,942.72	$109,150.95
2021	$18,054.68	$13,680.20	$4,374.48	$95,470.75
2022	$18,054.69	$14,273.08	$3,781.61	$81,197.67
2023	$18,054.69	$14,891.64	$3,163.05	$66,306.03
2024	$18,054.68	$15,537.00	$2,517.68	$50,769.03
2025	$18,054.68	$16,210.34	$1,844.34	$34,558.69
2026	$18,054.68	$16,912.86	$1,141.82	$17,645.83
2027	$18,054.68	$17,645.83	$408.85	$0.00

Loan Option 2

Loan Term: 15 years
Interest Rate: 3.75
Purchase Price: $200,000
Financed amount: $180,000
Payments Due: 31 December each year

Year	Payment	Principal	Interest	Balance as of December 31
2013	$21,588.09	$6,078.01	$15,510.08	$173,921.99
2014	$21,588.09	$6,631.69	$14,956.40	$167,290.30
2015	$21,588.09	$7,235.81	$14,352.28	$160,054.49
2016	$21,588.09	$7,894.96	$13,693.13	$152,159.53
2017	$21,588.09	$8,614.16	$12,973.93	$143,545.37
2018	$21,588.09	$9,398.87	$12,189.22	$134,146.50
2019	$21,588.09	$10,255.07	$11,333.02	$123,891.43
2020	$21,588.09	$11,189.26	$10,398.83	$112,702.17
2021	$21,588.09	$12,208.56	$9,379.53	$100,493.61
2022	$21,588.09	$13,320.71	$8,267.38	$87,172.90
2023	$21,588.09	$14,534.17	$7,053.92	$72,638.73
2024	$21,588.09	$15,858.17	$5,729.92	$56,780.56
2025	$21,588.09	$17,302.78	$4,285.31	$39,477.78
2026	$21,588.09	$18,878.99	$2,709.10	$20,598.79
2027	$21,588.09	$20,598.79	$989.30	$0.00

Depreciation

Asset	Cost	Salvage Value	Useful Life	Depreciation per year	Purchased
Robotic Milker	$200,000.00	$40,000.00	15 years	$10,666.67	1-Jan-13

Hill Family Farm
Financial Records

ENTERPRISE BUDGET-DAIRY

Receipts	Unit	Number of Units/Cow	Price/cost per unit	Value/cost per cow
Milk Sales	Cwt	214.42	$18.40	$3,945.33
Sale of Heifer Calves	Head	0.44	$128.96	$56.74
Sale of Bull Calves	Head	0.44	$97.38	$42.85
Sale of Cull Cows	Head	0.15	$571.27	$85.69
Subtotal				**$4,130.61**
Operating costs				
Feed				
Hay	Ton	2.70	$160.00	$432.00
Corn Silage	Ton	4.10	$36.89	$151.25
Grain and Concentrates	Cwt	101.18	$11.59	$1,172.68
Total Feed				**$1,755.93**
Breeding	Head	1.00	$44.18	$44.18
Veterinary and Medicine	Head	1.00	$78.27	$78.27
Supplies	Head	1.00	$118.53	$118.53
Fuel and Oil	Head	1.00	$38.32	$38.32
Repairs	Head	1.00	$98.46	$98.46
Custom Hire	Head	1.00	$9.70	$9.70
Milk Hauling	Head	1.00	$128.06	$128.06
Marketing	Head	1.00	$136.36	$136.36
Bedding	Head	1.00	$13.06	$13.06
Replacement Cost	Head	0.24	$1,446.43	$350.04
Hired Labor	Head	1.00	$250.26	$250.26
Utilities	Head	1.00	$43.08	$43.08
Record Keeping	Head	1.00	$14.00	$14.00
Dues and Fees	Head	1.00	$15.00	$15.00
Operating Interest	Head	1.00	$12.28	$12.28
Misc.	Head	1.00	$6.39	$6.39
Subtotal				**$3,111.91**
Ownership costs				
Interest	Head	1.00	$65.98	$65.98
Depreciation (mach and bldgs)	Head	1.00	$245.80	$245.80
Property taxes	Head	1.00	$4.00	$4.00
Insurance	Head	1.00	$6.00	$6.00
Subtotal				**$321.78**
Total Expenses				**$3,433.69**
Returns Above Operating Expenses				**$1,018.70**
Returns Above Total Expenses				**$696.92**

University Extension Budgets

ENTERPRISE BUDGET-CORN SILAGE

Receipts	Quantity per acre	Unit	Price/cost per unit	Value/cost per acre	Your Value
Corn Silage	26.0	tons	$34.60	$899.60	
Subtotal				**$899.60**	
Operating costs					
Seed	0.5	bags	$144.00	$72.00	
Fertilizer	182	lbs	$0.42	$34.00	
Custom Application	1	acre	$7.82	$7.82	
Pesticides/Herbicides	2.5	quarts	$8.50	$37.00	
Custom Application	1	acre	$7.82	$7.82	
Irrigation	1	acre	$36.00	$36.00	
Hired Labor	1.8	hours	$10.00	$18.00	
Operator Labor	1	acre	$75.00	$75.00	
Fuel and Oil	1	acre	$12.57	$18.92	
Repairs and Maintenance	1	acre	$18.76	$28.56	
Crop Insurance	1	acre	$14.22	$14.22	
Miscellaneous	1	acre	$12.86	$12.86	
Operating Interest	1	acre	$3.46	$3.46	
Subtotal				**$365.66**	
Ownership costs (excludes cost of land)					
Farm insurance	1	acre	$4.14	$4.14	
Depreciation	1	acre	$36.45	$36.45	
Taxes	1	acre	$8.86	$8.86	
Interest	1	acre	$45.82	$45.82	
Subtotal				**$95.27**	
Total Expenses				**$460.93**	
Returns Above Operating Expenses				**$533.94**	
Returns Above Total Expenses				**$438.67**	

University Extension Budgets

ENTERPRISE BUDGET-ALFALFA HAY

Receipts	Quantity per acre	Unit	Price/cost per unit	Value/cost per acre	Your Value
Alfalfa hay	5.5	tons	$125.00	$687.50	
Subtotal				**$687.50**	
Operating costs					
Fertilizer	182	lbs	$0.42	$76.44	
Custom Application	1	acre	$7.82	$7.82	
Pesticides/Herbicides	2.5	quarts	$8.50	$21.25	
Custom Application	1	acre	$7.82	$7.82	
Irrigation	1	acre	$36.00	$36.00	
Hired Labor	1.8	hours	$10.00	$18.00	
Operator Labor	1	acre	$75.00	$75.00	
Fuel and Oil	1	acre	$12.57	$12.57	
Repairs and Maintenance	1	acre	$18.76	$18.76	
Crop Insurance	1	acre	$14.22	$14.22	
Miscellaneous	1	acre	$12.86	$12.86	
Operating Interest	1	acre	$3.46	$3.46	
Subtotal				**$304.20**	
Ownership costs (excludes cost of land)					
Farm insurance	1	acre	$4.14	$4.14	
Depreciation	1	acre	$26.45	$26.45	
Taxes	1	acre	$8.86	$8.86	
Interest	1	acre	$35.82	$35.82	
Subtotal				**$75.27**	
Total Expenses				**$379.47**	
Returns Above Operating Expenses				**$383.30**	
Returns Above Total Expenses				**$308.03**	

Contestant Number: _____ Score: _____
Chapter: _____

Utah Farm Business Management CDE
Individual Event
2013

MULTIPLE CHOICE SECTION. (100 points)
Circle the correct answer and place the letter of the correct answer on the answer sheet provided.

1. Production functions show:
    a. the profit maximization point
    b. revenue and expenses
    c. the cost of the next best alternative
    d. the relationship between inputs and outputs

2. Which of the following is ***not*** an advantage of a sole proprietorship?
    a. farmer directly receives all rewards of good management and labor
    b. easily formed
    c. relatively few government regulations and restrictions
    d. owner has limited liability for the business

3. Diversification in the production of crops and/or livestock generally tends to:
    a. increased returns and decreased risks
    b. decreased returns and decreased risks
    c. increased returns and increased risks
    d. decreased returns and increased risks

4. If George wanted to explore whether he should add a crop enterprise to the dairy farm, he should complete a:
    a. whole farm budget
    b. enterprise budget
    c. partial budget
    d. family living budget

5. Which of the following could reduce production risk?
    a. genetically modified crops
    b. crop insurance
    c. crop diversification
    d. all of the above

6. If hamburgers and hot dogs are substitute goods, an increase in the price of hamburgers will cause:
    a. the demand for hot dogs to increase and the equilibrium price to decrease
    b. the demand for hot dogs to decrease and the equilibrium price to decrease
    c. the demand for hot dogs to decrease and the equilibrium price to increase
    d. the demand for hot dogs to increase and the equilibrium price to increase

7. Monopolistic competition markets and monopoly markets are both characterized by:
    a. homogenous products
    b. high barriers to entry
    c. price-searchers
    d. many sellers

8. If Jack and Jill wanted to maximize profits they should:
    a. produce where marginal revenue is equal to marginal cost
    b. produce where total revenue is greater than total cost
    c. produce where costs are minimized
    d. produce at the maximum production point

9. Who is the current U.S. Secretary of Agriculture?
    a. Kathleen Merrigan
    b. Ed Schafer
    c. Tom Vilsack
    d. John Kerry

10. Which of the following is a disadvantage of a corporation?
    a. owners have unlimited liability
    b. no regulations for start-up
    c. double taxation
    d. a and c

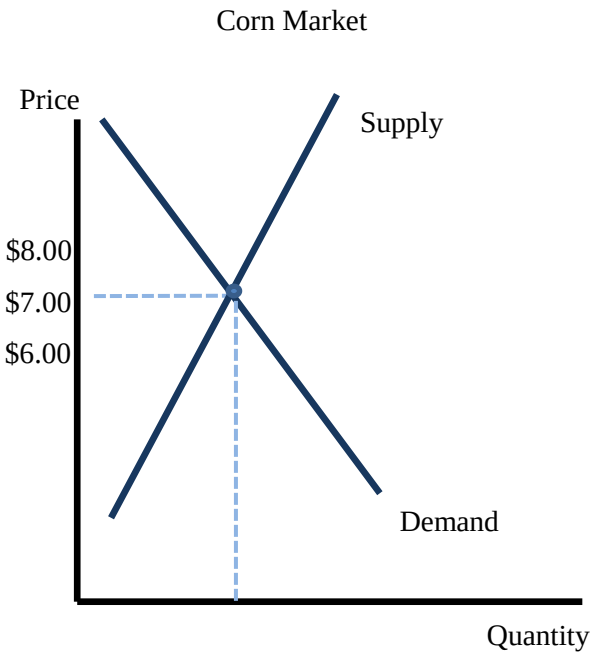
11. Which of the following would be included on an accrual income statement but not on a cash income statement?
    a. fertilizer expenses
    b. cash paid interest on operating loans
    c. receipts for livestock sales
    d. depreciation on machinery

12. A mission statement is:
    a. a list of objectives that must be accomplished to reach a goal
    b. never useful for agricultural producers
    c. a clear and concise statement describing the company's purpose
    d. a list of tasks to be accomplished on a daily basis

13. Which of the following is a way to manage human risk:
    a. create an employee handbook
    b. properly train employees
    c. clearly establish the roles of each member of the farm operation
    d. all of the above

14. Because Jack can produce milk at a lower opportunity cost than his neighbor Bob, Jack:
    a. will always make a larger profit
    b. has the comparative advantage
    c. will never have a net loss on operations
    d. must be smarter

Use the following graph to answer questions 15-17.



15. What is the equilibrium price for corn?
    a. $8.00
    b. $5.00
    c. $6.00
    d. $7.00

16. The supply of corn is:
    a. relatively elastic
    b. downward sloping
    c. upward sloping
    d. both a and b

17. Which of the following will occur at a market price of $6.00?
    a. a surplus
    b. equilibrium conditions
    c. a shortage
    d. more supply than demand

18. The Hill's sell their milk to a local cheese processing plant. The milk price often varies from month to month and the Hills are looking into some options to try and better manage their price risk in the future. They want to be able to benefit if prices increase, but don't want to be hurt if milk prices fall. Which of the following alternatives should they investigate?
    a. storage until the cash market price increases
    b. put options
    c. futures contracts
    d. none of the above

19. SMART goals are:
    a. Standard, Measurable, Attainable, Rigorous, and Trite
    b. Specific, Moneymaking, Awesome, Related, and Tractable
    c. Specific, Measurable, Attainable, Related, and Tractable
    d. Specific, Moneymaking, Attainable, Rigorous, and Trite

20. For the Hill Family Farm, dairy feed is considered:
    a. a fixed cost
    b. an expense on the accrual income statement
    c. a current liability
    d. none of the above

21. If Jack wants to avoid paying any taxes he should:
    a. not make any money
    b. not file taxes
    c. lie to the IRS about his contact information
    d. move to Bermuda in the winter

22. Which type of costs change with the level of production?
    a. variable costs
    b. average variable costs
    c. total cost of production
    d. all of the above

23. Principle payments on debt would be included directly on which financial statements?
    a. balance sheet
    b. accrual income statement
    c. statement of cash flows
    d. none of the above

24. The difference between the local cash market price and the futures price is called:
    a. profit margin
    b. basis
    c. premium
    d. distance factor

25. Which type of market is characterized by many sellers, price-takers, and homogenous products?
    a. perfect competition markets
    b. monopolistic competition markets
    c. oligopoly markets
    d. monopoly markets

MATCHING. (30 Points)
Match the terms on the right with the correct definitions and statements on the left. Write your answers in the blanks provided and on the answer sheet provided.
Hint: Each answer will be used once.

26. _____	Measures the relationship between farm liabilities and farm assets and is a measure of solvency.	a. Balance Sheet
27. _____	Assets that will not be used or converted to cash within a year.	b. Income Statement
28. _____	Liabilities such as land mortgages or equipment loans.	c. Statement of Owner Equity
29. _____	Shows the profit or loss of a business over a period of time.	d. Statement of Cash Flows
30. _____	Shows a business' inflows and outflows of cash over a period of time.	e. Current Ratio
31. _____	Measures how efficiently farm operating expenses are used to create revenue and is a measure of financial efficiency.	f. Debt/Asset Ratio
32. _____	Would be considered an accrual adjustment on the accrual income statement.	g. Return on Assets
33. _____	Measures the amount of borrowed capital relative to capital invested by owners. Shows the ability of the owners to pay all liabilities if all assets were sold.	h. Operating Expense Ratio
34. _____	Shows the assets, liabilities, and owner's equity of a business at a point in time.	i. Current Asset
35. _____	Measures the relationship between current assets and current liabilities and is a measure of liquidity.	j. Fixed Asset
36. _____	Liabilities that will be repaid within a year.	k. Current Liability
37. _____	Measures the rate of return on farm assets and is a measure of profitability.	l. Long-Term Liability
38. _____	Shows the beginning and ending net worth of a business over a period of time, including the source of changes in owner's equity.	m. Depreciation
39. _____	Assets such as banking accounts, feed, or market livestock.	n. Solvency
40. _____	Measures the business' ability to meet all the ongoing financial obligations of the operation.	o. Liquidity

PROBLEM SECTION. (170 points)
Use the *Resource Information for the Hill Family Farm* provided and the additional information given in this section to answer the questions. Please read all questions carefully and answer them completely. Round all numerical answers to two decimal places.

1. George is trying to convince his dad to rent some ground to grow corn silage or alfalfa hay as feed for his dairy cows. Using the budgets provided in the *Resource Information*, answer the following questions:

a. Which crop would yield a higher net return? (5 points) _____

b. If they wanted to grow enough corn silage to feed 45 dairy cows, how many acres would he need to plant in corn silage? (10 points) _____

c. If they wanted to grow enough alfalfa hay to feed 45 dairy cows, how many acres would he need to plant in alfalfa hay? (10 points) _____

d. What considerations should the Hills take into account before making a decision about adding a crop enterprise? (15 points)

e. List one advantage and one disadvantage for each of the three scenarios? (30 points)

	Advantage	**Disadvantage**
Add a corn silage enterprise:		
Add an alfalfa hay enterprise:		
Do not add a crop enterprise:		

2. In George's expansion plans he would consider purchasing a robotic milker for $200,000. If purchased at the beginning of 2013, George estimates that, relative to the projected 2013 values, the robotic milker would increase production by 5 lbs per cow (or $4,140 in revenue), reduce total labor hours by 25%, and increase repairs costs by 10%. Use this information and the ***Robotic Milker Loan and Depreciation Schedules*** in the *Resource Information for the Hill Family Farm* to answer the following questions:

a. Assume the Hills purchased the milker January 1, 2013 using Loan Option 1. Use the template provided to adjust the projected income statement for 2013. Note: Do not forget to include the loan interest expense and milker depreciation expense on the income statement adjustment. (32 points)

b. Use the template provided to adjust the projected balance sheet for December 2013. Hint: You will have to adjust the Ag Bank Checking balance based on the change in net cash income from the adjusted income statement created in part a ***and*** the loan principle payment for 2013 which does not affect the income statement, but does affect the cash balance. (32 points)

c. How would purchasing the robotic milker affect the Hill Family Farm liquidity and solvency? (16 points)

d. Would you recommend purchasing the robotic milker? ***Why or why not?*** (20 points)

a. Projected Income Statement

	2012	*(Projected)* 2013
REVENUE		
Cash Sales		
Milk Sales	$157,813.12	
Sale of Calves	$3,983.58	$4,481.53
Sale of Cull Cows	$3,427.62	$3,856.07
Total Income (cash basis)	**$165,224.32**	
Accrual Adjustments		
Change in Accounts Recievable	-$2,548.26	-$5,055.00
Change in Crop Inventory	$4,300.00	-$1,900.00
Total Income (accrual basis)	**$166,976.06**	
EXPENSES		
Cash Expenses		
Feed	$70,237.01	$79,016.63
Breeding	$1,767.20	$1,988.10
Veterinary and Medicine	$3,130.80	$3,522.15
Supplies	$4,741.20	$5,333.85
Fuel and Oil	$1,532.80	$1,724.40
Repairs	$3,938.40	
Custom Hire	$388.00	$436.50
Milk Hauling	$5,122.40	$5,762.70
Marketing	$5,454.40	$6,136.20
Bedding	$522.40	$587.70
Replacement Cost	$14,001.44	$15,751.62
Hired Labor	$10,010.40	
Utilities	$1,723.20	$1,938.60
Record Keeping	$560.00	$630.00
Dues and Fees	$600.00	$675.00
Operating Interest	$491.20	$552.60
Misc.	$255.60	$287.55
Property Taxes	$160.00	$180.00
Insurance	$240.00	$270.00
Interest on Machinery	$2,639.02	
Total Expenses (cash basis)	**$127,515.47**	
Accrual Adjustments		
Depreciaton	$9,832.00	
Change in Accounts Payable	$1,275.46	-$4,113.35
Change in Accrued Interest Payable	-$195.12	-$205.11
Total Expenses (accrual basis)	**$138,427.81**	
Net Farm Income (cash basis)	**$37,708.85**	
Net Farm Income (accrual basis)	**$28,548.25**	

b. Projected Balance Sheet

ASSETS	December 31, 2012	December 31, 2013 (Projected)
Current Assets		
AG Bank Checking	$16,847.47	
Accounts Receivable	$8,600.00	$3,545.00
Crops and Feed	$45,500.00	$43,600.00
Total Current Assets	**$70,947.47**	
Non-Current Assets		
Dairy Livestock	$48,000.00	$54,000.00
Machinery and Equipment	$104,000.00	
Buildings	$178,500.00	$178,500.00
Accumulated Depreciaton	-$149,736.00	
Total Non-Current Assets	**$180,764.00**	
Total Farm Assets	**$251,711.47**	
LIABILITIES		
Current Liabilities		
Accrued Interest	$2,443.90	$2,238.79
Accounts Payable	$6,458.35	$2,345.00
Machinery Loan Due in 12 Mo.	$4,008.98	
Total Current Liabilities	**$12,911.23**	
Non-Current Liabilities		
Machinery Loan Due after 12 Mo.	$46,689.84	
Total Non-Current Liabilities	**$46,689.84**	
Total Farm Liabilities	**$59,601.07**	
Net Worth (Equity)	**$192,110.40**	

ANSWER SHEET:

Score: _____/130_

1. _____
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3. _____
4. _____
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6. _____
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_____/100_

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32. _____
33. _____
34. _____
35. _____
36. _____
37. _____
38. _____
39. _____
40. _____

_____/30_

Chapter: _____ Score: _____

Utah Farm Business Management CDE
Team Section
2013

Use the templates and space provided on the subsequent pages to answer the following questions. Please read each question carefully and answer them completely. (200 points)

1. George wants to take over his dad's hobby farm, expand it, and perpetuate it as a stable source for additional family income for his family and continued financial support for his aging parents. His dad is somewhat reluctant to get on board with his son's expansion ideas, but he also doesn't want the farm to disappear. He is willing to consider George's ideas if George can give him a better understanding of what he wants the farm to become and how he plans to achieve his vision. Imagine you are in George's position. Using the reference material and your own creativity, complete the worksheets to create the following for George's future farm:

a. Mission Statement (40 points)
b. 3 Strategic Goals relating to the Mission Statement (36 points)
c. 3 Tactical Objectives for one of the Strategic Goals (36 points)
d. 3 Operational Plans for one of the Tactical Objectives (36 points)

2. George's plan to continue his dad's farm has some inherent risks characteristic of the agricultural industry. A comprehensive plan for the future should include plans to manage those risks. Using the sheet provided, e***xplain*** one specific way George could manage each of the five types of risk. (52 points)

a. **Mission Statement**

List the things you want your operation to become in the future:

What is your long-term vision for the business?

What is the business' name?

List what you want the business to provide for you or your family:

Why are you in business?

What do you want to get out of the business?

List what you want your business to provide for others:

What products does your business provide or sell?

Who are your customers?

How do you differ from your competitors?

Combine and refine your answers to create a clear and concise mission statement for the Hill Family Farm:

b. Strategic Goals

Strategic goals are the long-term goals that must be accomplished to support the mission statement and reach the final vision of the business. When creating strategic goals, it helps to look at the business' mission statement from the various differenc aspects of the business, such as financial, organizational, production, family involvement, risk management, etc. Then create a concise statement explaining what the business needs to accomplish in each of those areas to support its mission statement and achieve its final vision.

For example, one aspect of George's future farm may deal with the management organization of the farm. Currently, George's dad is the owner and operator of the dairy. George would like to eventually become the primary owner and operator of the farm, but still involve his father to a lesser degree as he ages. A strategic goal related to this aspect of the business could be:

> ***Create and maintain an organizational structure that will be conducive to business growth and will allow the level of involvement desired by each business member based on ability and life situations.***

Use the information in the resource materials, your mission statement you created in part a., and your creativity to write 3 Strategic Goals for Hill Family Farm.

Effective goals should be SMART:

S: Specific

M: Measurable

A: Attainable

R: Related

T: Tractable

Strategic Goal #1:

Strategic Goal #2:

Strategic Goal #3:

c. Tactical Objectives

Tactical objectives are the practical actions that should be taken to achieve the strategic goal. For example, a tactical objectives for the following strategic goal would outline shorter-term objectives that would lead to the accomplishment of this goal.

Strategic Goal:

Create and maintain an organizational structure that will be conducive to business growth and will allow the level of involvement desired by each business member based on ability and life circumstances.

A tactical objective for this goal might be:

Develop and carry out a transition plan that establishes George as the primary owner and operator of the Hill Family Farm within 10 years.

Using the information in the resource materials and your own creativity, select one of your Strategic Goals and write 3 Tactical Objective for that Strategic Goal.

Strategic Goal:

Tactical Objective #1

Tactical Objective #2:

Tactical Objective #3:

d. Opearational Plans

Opearational plans are specific steps taken to meet the tactical objectives. They usually include a planned completion date and a specific person responsible for completion. For example:
Tactical Objective:

Develop and carry out a transition plan that establishes George as the primary owner and operator of the Hill Family Farm within 10 years.

An operational plan for this tactical objective might be:

Participate in the transition planning workshop offered by the local extension office on January 15th. Utilize the knowledge and expertise of the extension specialists and create a draft transition plan at the meeting with their input.
Responsible: Jack and George
Complete by: January 15th

Using the information in the resource materials and your own creativity, select one of your Tactical Objectives and write 3 Opearational Plans for that Tactical Ojective.

Tactical Objective:

Opearational Plan #1

Operational Plan #2:

Opearational Plan #3:

2. George's plan to continue his dad's farm has some inherent risks characteristic of the agricultural industry. A comprehensive plan for the future should include plans to manage those risks. ***Explain*** one specific way George could manage each of the five types of risk. (52 points)

a. Production Risk:

b. Price/Marketing Risk:

c. Financial Risk:

d. Human Risk:

e. Legal/Institutional Risk: