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NATIONAL FFA

**FARM AND  
AGRIBUSINESS  
MANAGEMENT**

CAREER DEVELOPMENT EVENT

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2017



**JOHN DEERE**



# 2017 NATIONAL FFA FARM AND AGRIBUSINESS MANAGEMENT CDE

## CAREER DEVELOPMENT EVENT

### RESOURCE INFORMATION FOR VALLEY VIEW FARM

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## Valley View Farm

Valley View Farm is owned by Paul and Vicki Sorenson. They have two children Valerie (25) and Robert (20) who are very involved in the farm. Valerie is employed by the farm as manager of the Orchard. Robert is a welder for Whiley Construction and helps on the grain farm when not working for Whiley.

Paul has been farming since he was 15 years old with his grandfather Neal Wilson. Paul was the president of the State FFA in 1978-79. After that he attended Purdue University and earned a degree in Agricultural Economics. Paul met Vicki at Purdue, and they married in June 1984. Vicki earned a degree in Animal Science. They continued to farm about 200 acres for several years, including land owned by Paul's grandfather and a 95-acre piece that Paul purchased in 1979 with a beginning farmer loan.

Paul worked for one year as a grain merchant for Farmers' Co-op while Vicki worked as a Moormans feed representative. After moving back home in 1985, Paul was employed by Farmers Elevator as a grain merchant, and Vicki worked for B&H Accounting on their records program. They continued to farm the 200 acres while adding more. In 1989 they bought Paul's grandfather's farm of 120 acres and a neighbor's farm of 108 acres. They put a house on the neighbor's farm that year and moved into it. They also fed about 50-75 head of feeder cattle each year during that time.

In 2000 Paul left the elevator and started farming full time. They rented more ground as land became available and increased their cattle herd to 125. In 2002 an orchard down the road came up for sale since the owner was retiring. They looked at the opportunity and recognized the growing trend of agri-tourism. They purchased the orchard in January 2002. The former owner was very helpful because Paul and Vicki were inexperienced in this business. Their first year gross sales were \$150,000. This last year sales were \$425,000 (with an additional \$56,000 of insurance for apple loss). Now the orchard has taken on a life of its own with some acres used for vegetables, including pumpkins.

The level of competition for land to rent is very high, so the couple felt the orchard purchase would limit the gamble of competing with their neighbors for additional land. The Sorensons had not seen competition in the area for the orchard business, and they thought that it had huge potential. Since the purchase, others in the area have tried to compete against them, but they have grown each year while a few competitors have closed.

The orchard has had its struggles with three crop failures, employee issues and challenges in working with the public. Crop Insurance has covered some of the crop losses, and they have learned how to make allowances for possible losses. The employee issues will be ongoing because the Sorensens hire 20 or more people every fall and more than half are new employees. Several of the employees are high school students; the Sorensens believe they are some of the best workers. Handling the public is an ongoing learning process every year, and the Sorensens recognize they can't make everyone happy.

Making and selling donuts has also been a hugely popular enterprise for the orchard. Some customers come every weekend just to buy donuts. The Sorensens recently purchased a new donut machine that has more capacity to meet the demand.

The Sorensens also raise garden produce including pumpkins, sweet corn and tomatoes. The pumpkin patch is very popular with children. In the fall, people can go into the pumpkin field and select the pumpkins they would like to buy.

Along with purchasing the orchard, the Sorensens continue to add rented acres to their operation for grain production when the opportunity arises. They did not feed any cattle for about three years. About three years ago they remodeled their facilities and started feeding Holstein steers.

In January of 2015 Paul's cousin Albert died at the age of 55. They were born nine days apart and went to 12 years of school together. His widow decided to sell their 332 acres and offered it to the Sorensens to keep it in the family. They purchased 124 acres that included a house, equipment storage barn and cattle feedlot. Robert is purchasing 130 acres that includes a house with 90 tillable acres. Valerie is purchasing 78 acres with a house, cattle feedlot and 74 tillable acres. This was all bought at the end of 2016.

Because of this purchase the Sorensens are going to start feeding more cattle (they have potential to feed 500 head) as funds allow. They have also recently purchased some larger planting and spraying equipment to be able to work more efficiently.

# Valley View Farm Resource Information

**Valley View  
Farm 1/1/2016  
Balance Sheet**

<b>Current Assets</b>				Value	<b>Current Liabilities</b>						Balance			
Cash and checking (Schd A)				91,835	Accrued interest						40,034			
Prepaid exp. & suppl. (Schd B)				41,895	Accounts payable and other accrued expenses						-			
Growing crops				25,000										
Accounts receivable				-			Int	P & I		Principal				
Hedging accounts				1,000			Rate	Due		Balance				
Other current assets (Schd F)				63,150			5.00	214,301		207,389				
Crops (Schd G)				Quantity	Value/Unit	Principal due within 12 months on term liabilities						310,809		
Corn				29,485	3.95/bu.									
Soybeans				13,045	8.93/bu.									
Corn Silage				200	30.00/ton									
Mkt Ivst (Schd H)				No.	Value/Unit									
Finish Beef				149	119.97/cwt.									
<b>Total Current Assets</b>				<b>640,838</b>	<b>Total Current Liabilities</b>						<b>558,232</b>			
<b>Intermediate Assets</b>				Cost	Market	<b>Intermediate Liabilities (Schd V)</b>								
				Value	Value		Int	Principal	P & I	Principal	Intermed			
Breeding livestock				-	-	Loan	Rate	Balance	Due	Due	Balance			
Machinery and equipment				225,000	450,000	BigBank-Grinder	6.00	13,992	14,844	13,992	-			
Titled vehicles				-	-	Big Bank -Baler	6.00	8,829	9,391	8,829	-			
Other intermediate assets				-	-	Big Bank-Mower	6.00	9,000	9,573	9,000	-			
<b>Total Intermediate Assets</b>				<b>225,000</b>	<b>450,000</b>	AgBank-Combine	6.25	60,000	4,108	-	60,000			
						AgBank-Equipment	6.10	200,000	213,360	200,000	-			
						Toyota-Pickup	1.00	9,000	3,499	3,400	5,600			
						<b>Total Intermediate Liabilities</b>					<b>65,600</b>			
<b>Long Term Assets</b>				Cost	Market	<b>Long Term Liabilities (Schd W)</b>								
				Value	Value		Int	Principal	P & I	Principal	Lg Term			
Land (Schd M)				Acres	Value	Loan	Rate	Balance	Due	Due	Balance			
John				95	11,575	700,000	BigBank-Farm Loan	5.00	720,000	111,713	75,588	644,412		
Syndergaard				120	163,920	1,000,000								
Arrieta				108	149,148	910,000								
Addl Land (Schd M)					101,135	495,000								
Bldgs & improve. (Schd N)					253,740	750,000								
Other long term assets					-	-								
<b>Total Long Term Assets</b>				<b>679,518</b>	<b>3,855,000</b>	<b>Total Long Term Liabilities</b>						<b>644,412</b>		
<b>Total Farm Assets</b>				<b>1,545,355</b>	<b>4,945,838</b>	<b>Total Farm Liabilities</b>						<b>1,268,244</b>		
Personal Assets (Schd P)				475,091	800,091	Personal Liabilities						-		
<b>Total Assets (a)(b)</b>				<b>2,020,446</b>	<b>5,745,929</b>	<b>Net Worth</b>						<b>4,477,685</b>		
						Total Liabilities (d)(e)						Cost	Market	
						Retained Earnings/Contributed Capital						[a-d]	752,202	
						Market valuation equity						[b-a]	3,725,482	
												[b-e]	4,477,685	

<b>Schedule A: Cash and checking</b>		Value
Original		32,000
Adjustment for Cash Descr		59,835
<b>Total cash and checking</b>		<b>91,835</b>

**Schedule B: Prepaid expenses and supplies**

	Expense		Value Per		Value
	Category	Quantity	Unit	Value	
Seed		-	-		2,000
Feed		-	-		5,000
Fertilizer & Chemicals		-	-		10,000
Chicken Manure Applied		-	-		14,395
Crop supplies		-	-		2,500
Orcahard Supplies		-	-		5,000
Miscellaneous Supplies		-	-		3,000
<b>Total prepaid expenses and supplies</b>					<b>41,895</b>

**Schedule F: Other current assets**

	Quantity	Value Per		Value	
		Unit	Value		
Marketable Bonds	-	-		63,150	
<b>Total other current assets</b>					<b>63,150</b>

**Schedule G: Crop inventory**

Crop	Description	Quantity	Value Per		Value
			Unit	Value	
Corn		29,485 bu.	3.95		116,466
Soybeans		13,045 bu.	8.93		116,492
Corn Silage		200 ton	30.00		6,000
<b>Total crop inventory</b>					<b>238,958</b>

**Schedule H: Livestock held for sale**

Livestock	Description	Number Of Head	Average Weight	Value Per	
				Unit	Value
Finish Beef	1,200 lb.	50	1,200	120.00/cwt.	72,000
Finish Beef	1,000 lb.	50	1,000	120.00/cwt.	60,000
Finish Beef	800	49	800	119.90/cwt.	47,000
<b>Total livestock held for sale</b>					<b>179,000</b>

**Schedule M: Land**

	Acres	Mkt Val	Cost	Market
		Per Acr	Value	Value
John	95	7,368	11,575	700,000
Syndergaard	120	8,333	163,920	1,000,000
Arrieta	108	8,426	149,148	910,000
Cueto	95	4,000	62,225	380,000
Strasberg	5	3,800	6,430	19,000
Fernandez	10	5,000	16,920	50,000
Sale	20	2,300	15,560	46,000
Adjustment for NW Descr	-	-	-	-
<b>Total land</b>		<b>453</b>	<b>425,778</b>	<b>3,105,000</b>

**Schedule N: Buildings and improvements**

	Year	Cost	Market
	Purchased	Value	Value
Orchard	-	253,740	750,000
<b>Total buildings and improvements</b>		<b>253,740</b>	<b>750,000</b>

**Schedule P: Personal assets assets**

	Quantity	Mkt Val	Cost	Market
		Per Unit	Value	Value
Savings and checking			-	-
Stocks and bonds				
Securities	-	-	75,000	75,000
Other personal current assets			-	-
Furnishings and appliances			25,000	25,000
Personal vehicles			25,000	25,000
Cash value of life insurance			25,091	25,091
Retirement accounts			325,000	650,000
Personal business investment			-	-
Other intermediate assets			-	-
Personal real estate			-	-
Other long term assets			-	-
<b>Total personal assets</b>			<b>475,091</b>	<b>800,091</b>



**Valley View  
Farm 1/1/2017  
Balance Sheet**

<b>Current Assets</b>				Value	<b>Current Liabilities</b>						Balance
Cash and checking				30,000	Accrued interest					19,963	
Prepaid expenses and supplies				139,047	Accounts payable and other accrued expenses					-	
Growing crops				25,000							
Accounts receivable				-		Int	P & I		Principal		
Hedging accounts				1,000	Current loans (Schd U)	Rate	Due		Balance		
Other current assets				63,150	BigBank-Cattle2	5.00	162,253		157,019		
					BigBank-Operating	4.00	-		127,533		
Crops (Schd G)	Quantity	Value/Unit			Principal due within 12 months on term liabilities				65,245		
Corn	60,360	3.50/bu.	211,260								
Soybeans	10,588	9.50/bu.	100,586								
Corn Silage	296	34.95/ton	10,345								
Mkt Ivst (Schd H)	No.	Value/Unit									
Finish Beef	197	120.00/cwt.	215,124								
<b>Total Current Assets</b>				<b>795,512</b>	<b>Total Current Liabilities</b>					<b>369,760</b>	
<b>Intermediate Assets</b>				Cost	Market	<b>Intermediate Liabilities (Schd V)</b>					
				Value	Value	Int	Principal	P & I	Principal	Intermed	
Breeding livestock				-	-	Rate	Balance	Due	Due	Balance	
Machinery and equipment				181,750	405,000	Loan					
Titled vehicles				-	-	AgBank-Combine	6.25	60,000	3,750	360	59,640
Other intermediate assets				-	-	Toyota-Pickup	1.00	5,600	3,499	3,443	2,157
<b>Total Intermediate Assets</b>				<b>181,750</b>	<b>405,000</b>	<b>Total Intermediate Liabilities</b>					<b>61,797</b>
<b>Long Term Assets</b>				Cost	Market	<b>Long Term Liabilities (Schd W)</b>					
				Value	Value	Int	Principal	P & I	Principal	Lg Term	
Land (Schd M)	Acres					Rate	Balance	Due	Due	Balance	
John	95	11,575	700,000			Loan					
Syndergaard	120	163,920	1,000,000			BigBank-Farm Loan	5.00	1,800,000	137,789	47,789	1,752,211
Arrieta	108	149,148	910,000			Howell-Land Contrac	4.50	175,000	21,576	13,653	161,347
Cueto	95	62,225	380,000								
Strasberg	5	6,430	19,000								
Fernandez	10	16,920	50,000								
Sale	20	15,560	46,000								
Howell	25	60,000	60,000								
New Farm	124	742,500	742,500								
Bldgs & improve. (Schd N)		323,740	821,750								
Other long term assets		-	-								
<b>Total Long Term Assets</b>		<b>1,552,018</b>	<b>4,729,250</b>			<b>Total Long Term Liabilities</b>					<b>1,913,558</b>
<b>Total Farm Assets</b>		<b>2,529,280</b>	<b>5,929,762</b>			<b>Total Farm Liabilities</b>					<b>2,345,115</b>
Personal Assets (Schd P)		537,956	877,501			Personal Liabilities					-
									Cost	Market	
						Total Liabilities (d)(e)			2,345,115	2,345,115	
						Retained Earnings/Contributed Capital			722,121		
						Market valuation equity			[a-d]	3,740,027	
<b>Total Assets (a)(b)</b>		<b>3,067,236</b>	<b>6,807,263</b>			<b>Net Worth</b>			[b-a]	<b>4,462,148</b>	
									[b-e]		

**Schedule G: Crop inventory**

Crop	Description	Quantity	Value Per		Value
			Unit	Unit	
Corn		60,360 bu.	3.50		211,260
Soybeans		10,588 bu.	9.50		100,586
Corn Silage		296 ton	34.95		10,345
<b>Total crop inventory</b>					<b>322,191</b>

**Schedule H: Livestock held for sale**

Livestock	Description	Number Of Head	Average Weight	Value Per	
				Unit	Value
Finish Beef	846 lb.	197	910	120.00/cwt.	215,124
<b>Total livestock held for sale</b>					<b>215,124</b>

**Schedule M: Land**

	Acres	Mkt Val		Cost		Market	
		Per Acr	Value	Value	Value	Value	
John	95	7,368	11,575	700,000			
Syndergaard	120	8,333	163,920	1,000,000			
Arrieta	108	8,426	149,148	910,000			
Cueto	95	4,000	62,225	380,000			
Strasberg	5	3,800	6,430	19,000			
Fernandez	10	5,000	16,920	50,000			
Sale	20	2,300	15,560	46,000			
Howell	25	2,400	60,000	60,000			
New Farm	124	5,988	742,500	742,500			
<b>Total land</b>		<b>602</b>	<b>1,228,278</b>	<b>3,907,500</b>			

**Schedule U: Current loans**

	Interest Rate	Principal Balance	Accrued Interest	Normal P & I	Past Due P & I	Month Due	Balance
							Balance
Big Bank-Cattle 2	5.00 %	157,019	2,083	162,253	-	multiple	157,019
Big Bank-Operating	4.00 %	127,533	-	-	-	-	127,533
<b>Total current loans</b>		<b>284,552</b>	<b>2,083</b>	<b>162,253</b>	<b>-</b>		<b>284,552</b>

**Schedule N: Buildings and improvements**

	Year Purchased	Cost Value	Market Value
Feedlot	2016	69,500	71,250
House	2016	38,000	38,000
<b>Total buildings and improvements</b>		<b>323,740</b>	<b>821,750</b>

**Schedule P: Personal assets**

	Quantity	Mkt Val Per Unit	Cost Value	Market Value
<b>Stocks and bonds</b>				
Securities	-	-	75,000	75,000
Marketable Securities	-	-	61,715	63,515
Marketable Bonds	-	-	1,150	1,150
<b>Other personal current assets</b>				
Furnishings and appliances			25,000	25,000
Personal vehicles			25,000	25,000
Cash value of life insurance			25,091	26,371
Retirement accounts			325,000	661,465
Personal business investment			-	-
Other intermediate assets			-	-
Personal real estate			-	-
Other long term assets			-	-
<b>Total personal assets</b>			<b>537,956</b>	<b>877,501</b>

**2016 Financial Analysis Executive Summary**

**Income Statement**

Crop sales	448,473	
Crop inventory change	83,234	
Gross crop income		531,707
Livestock sales	346,727	
Livestock inventory change	36,124	
Gross livestock income		382,851
Government payments		25,491
Other cash farm income		286,710
Change in accounts receivable		-
Gain or loss on hedging accts		-
Change in other assets		-
Gain or loss on breeding lvst		-
<b>Gross farm income</b>		<b>1,226,759</b>
Cash operating expense	1,117,864	
Change in prepaid exp and supplies	-97,152	
Change in growing crops	-	
Change in accounts payable	-	
Depreciation	88,250	
Total operating expense		1,108,962
Interest paid	91,504	
Change in accrued interest	-20,071	
Total interest expense		71,433
<b>Total expenses</b>		<b>1,180,395</b>
<b>Net farm income</b>		<b>46,364</b>

**Other Measures**

Total crop acres		975
Finish Beef sold or transferred out		229
Change in earned net worth	-30,081	-4 %
Change in market value net worth	-15,537	0 %

**Financial Standards Measures**

<b>Liquidity</b>	<b>Beg</b>	<b>End</b>
Current ratio	1.15	2.15
Working capital	82,606	425,752
Working capital to gross revenues	6.7 %	34.7 %
<b>Solvency (market)</b>	<b>Beg</b>	<b>End</b>
Debt to asset ratio	26 %	40 %
Debt to equity ratio	0.34	0.65
<b>Profitability</b>	<b>Cost</b>	<b>Market</b>
Net farm income	46,364	46,363
Rate of return on assets	3.3 %	1.2 %
Rate of return on equity	-1.6 %	-0.1 %
Operating profit margin	7.8 %	7.8 %
<b>Repayment Capacity</b>		
Term debt coverage ratio (farm only)		0.31
Replacement margin coverage ratio		0.31
<b>Efficiency</b>	<b>Cost</b>	<b>Market</b>
Asset turnover rate	42.4 %	15.9 %
Operating expense ratio		83.2 %
Depreciation expense ratio		7.2 %
Interest expense ratio		5.8 %
Net farm income ratio		3.8 %
<b>Other</b>		
Term debt coverage (farm+personal)		0.31
Term debt to EBITDA		3.45

**Information Accuracy**

Cash discrepancy	0
Liability discrepancy	0
Cash discrepancy to gross revenue	0 %

**Income Statement**

<b>Income</b>	Quantity	Price	Amount	<b>Expense</b>	Amount
Corn	44,372 bu.	3.69/bu.	163,832	Seed	75,583
Soybeans	29,045 bu.	9.80/bu.	284,641	Fertilizer	67,493
Finish Beef	229 head	117.99 /cwt.	346,727	Crop chemicals	43,762
Crop government payments			25,491	Crop insurance	15,252
Custom work income			1,428	Drying expense	6,350
Patronage dividends, cash			2,164	Crop Marketing	3,664
Crop insurance income			10,526	Feeder livestock purchase	222,965
Sale of resale items			64,959	Veterinary	1,985
Other farm income			207,633	Livestock Marketing	3,206
				Interest	91,504
				Purchased feed	67,585
				Fuel & oil	17,147
				Repairs	113,504
				Custom hire	3,100
				Hired labor	165,515
				Land rent	61,702
				Machinery leases	13,416
				Real estate taxes	26,858
				Farm insurance	24,199
				Utilities	27,454
				Dues & professional fees	17,423
				Purchase of resale items	72,346
				Miscellaneous	67,355
Gross cash income			1,107,401	Total cash expense	1,209,368
				Net cash income	-101,967
<b>Inventory Changes</b>	Beginning Inventory	Purchases	Sales	Ending Inventory	Inventory Change
Prepays and supplies	41,895			139,047	97,152
Growing crops	25,000			25,000	-
Hedging gains or losses	1,000	-	-	1,000	-
Other current assets	63,150			63,150	-
Crops and feed	238,958			322,191	83,234
Market livestock	179,000			215,124	36,124
Accrued interest	40,034			19,963	20,071
Total inventory change					236,581
Net operating profit					134,614
<b>Depreciation</b>	Beginning Inventory	Purchases	Sales	Ending Inventory	Depreciation
Machinery and equipment	225,000	-	-	181,750	-43,250
Titled vehicles	-	-	-	-	-
Buildings and improvement	253,740	115,000	-	323,740	-45,000
Total depreciation					-88,250
<b>Net farm income</b>					<b>46,364</b>

<b>Profitability Measures</b>		<b>Cost</b>	<b>Market</b>	<b>Statement of Owner's Equity</b>		
(A)	Net farm income from operations	46,364	46,363	(a)	Beginning net worth	4,477,685
	Rate of return on assets (E/F)	3.3 %	1.2 %		Net farm income	46,364
	Rate of return on equity (G/H)	-1.6 %	-0.1 %		Personal income (+)	3,000
	Operating profit margin (E/I)	7.8 %	7.8 %		Family living expense (-)	72,043
	Asset turnover rate (I/F)	42.4 %	15.9 %		Income taxes accrued (-)	7,402
	EBITDA	206,047	206,046		Change in personal assets (+)	-
(B)	Change in market valuation	-	0		Change in nonfarm accounts payable (+)	-
(C)	Interest expense	71,433	71,433	(b)	Total change in retained earnings (=)	-30,081
(D)	Value of unpaid oper labor & mgmt	50,000	50,000		Change in market value of capital assets	14,545
(E)	Return on farm assets (A+C-D)	67,797	67,796	(d)	Total change in market valuation =	14,545
(F)	Average farm assets	2,037,318	5,437,800	(e)	Total change in net worth (b+d)	-15,537
(G)	Return on farm equity (A-D)	-3,636	-3,637		Ending net worth	4,462,148
(H)	Average farm net worth	230,638	3,631,120			
(I)	Value of farm production	863,863	863,863			

<b>Liquidity Measures</b>		<b>Begin</b>	<b>End</b>	<b>Statement of Cash Flows</b>		
(J)	Current assets	640,838	795,512	(f)	Beginning cash balance (farm & personal)	91,835
(K)	Current liabilities	558,232	369,760		Gross cash farm income	1,107,401
	Current ratio (J/K)	1.15	2.15		Cash farm expenses (-)	1,209,368
	Working capital (J-K)	82,606	425,752	(g)	Cash provided by operating activities (=)	-101,967
	Working capital to gross revenues	6.7 %	34.7 %		Sale of capital assets	-
					Purchase of farm land (-)	802,500
					Purchase of farm buildings (-)	115,000
					Purchase of personal assets (-)	62,865
(L)	Total assets	5,745,929	6,807,263	(h)	Cash provided by investing activities (=)	-980,365
(M)	Total liabilities	1,268,244	2,345,115		Money borrowed	2,671,984
	Net worth (L-M)	4,477,685	4,462,148		Principal payments (-)	1,575,042
	Net worth change	-15,536			Personal income (+)	3,000
	Current debt to assets (K/J)	87 %	46 %		Family living expense (-)	72,043
	Intermediate debt to assets	15 %	15 %		Income taxes paid (-)	7,402
	Long term debt to assets	17 %	40 %	(i)	Cash provided by financing activities (=)	1,020,497
	Total debt to assets ratio (M/L)	22 %	34 %		Net change in cash (g+h+i)	-61,835
					Ending cash balance (farm and personal)	30,000

<b>Solvency Measures (Market)</b>		<b>Begin</b>	<b>End</b>
(L)	Total assets	5,745,929	6,807,263
(M)	Total liabilities	1,268,244	2,345,115
	Net worth (L-M)	4,477,685	4,462,148
	Net worth change	-15,536	
	Current debt to assets (K/J)	87 %	46 %
	Intermediate debt to assets	15 %	15 %
	Long term debt to assets	17 %	40 %
	Total debt to assets ratio (M/L)	22 %	34 %

  

<b>Repayment Capacity</b>		
	Net farm income from operations	46,364
	Depreciation (+)	88,250
	Personal income (+)	3,000
	Family living expense (-)	72,043
	Income taxes accrued (-)	7,402
	Interest on term debt (+)	55,680
(N)	Capital debt repayment capacity (=)	113,849
(O)	Scheduled term debt payments	366,489
(P)	Capital debt repayment margin (N-O)	-252,640
(Q)	Cash replacement allowance	-
	Replacement margin (P-Q)	-252,640
	Term debt coverage ratio (N/O)	0.31
	Replacement coverage ratio (N/O+Q)	0.31

**Crop Summary**

Total acres owned	513
Total crop acres	975
Crop acres owned	453
Crop acres cash rented	523
Crop acres share rented	-
Percent crop acres owned	46 %
Machinery investment/crop acre (cost)	209
Machinery investment/crop acre (market)	438

**Livestock Summary**

<b>Finish Beef</b>	
Number sold or trans out	229
Avg wgt / Finish Beef sold	1,283
Avg sales price / cwt.	117.99

**Crop Yields**

	<b>Acres</b>	<b>Yield</b>
Corn	481.4	180.0 bu.
Soybeans	466.5	57.0 bu.
Corn Silage	27.5	22.0 ton

**Labor Summary**

Total unpaid labor hours	2,500
Total hired labor hours	-
Total farm labor hours	2,500
Value of farm production per hour	345.55
Net farm income per unpaid hour	18.55
Average hourly hired labor wage	n/a

**Crop Enterprise Analysis**

	<b>Corn Owned</b>	<b>Corn Cash Rented</b>	<b>Soybeans Owned</b>	<b>Soybeans Cash Rented</b>	<b>Corn Silage Owned</b>
<b>Returns</b>					
Acres	181.40	300.00	244.00	222.50	27.50
Unit	bu.	bu.	bu.	bu.	ton
Yield per acre	179.99	179.99	56.99	56.99	22.04
Share of production (%)	100.00	100.00	100.00	100.00	100.00
Value per unit	3.50	3.50	8.75	8.75	34.50
Total product value	629.96	629.96	498.70	498.70	760.25
Other crop income	-	-	-	-	-
Gross return per acre	629.96	629.96	498.70	498.70	760.25
<b>Direct Expenses</b>					
Seed	98.67	98.67	53.59	53.59	112.11
Fertilizer	102.81	102.81	34.30	34.30	72.73
Crop chemicals	56.09	56.09	32.72	32.72	54.55
Crop insurance	16.62	16.62	15.01	15.01	9.16
Drying expense	13.19	13.19	-	-	-
Custom hire	6.44	6.44	-	-	-
Hired labor	10.39	10.39	10.72	10.72	18.18
Land rent	-	118.33	-	117.76	-
Marketing	4.15	4.15	3.57	3.57	-
Fuel & oil	19.50	19.50	11.70	11.70	21.28
Repairs	78.89	78.89	47.34	47.34	86.06
Operating interest	5.48	5.48	3.29	3.29	5.98
Total direct expenses	412.23	530.57	212.22	329.98	380.05
Return over direct expenses	217.73	99.40	286.48	168.72	380.21
<b>Overhead Expenses</b>					
Hired labor	70.40	70.40	42.24	42.24	76.80
Machinery leases	6.78	6.78	4.07	4.07	7.40
Real estate taxes	47.44	-	47.44	-	47.44
Farm insurance	15.29	15.29	9.17	9.17	16.68
Utilities	17.35	17.35	10.41	10.41	18.92
Dues & professional fees	16.51	16.51	9.91	9.91	18.01
Interest on interm. debt	4.88	4.88	2.93	2.93	5.32
Interest on lng term debt	87.65	-	87.65	-	87.65
Machinery depreciation	43.73	43.73	26.24	26.24	47.70
Building depreciation	14.22	14.22	8.53	8.53	15.51
Miscellaneous	1.70	1.70	1.02	1.02	1.86
Total overhead expenses	325.94	190.86	249.60	114.51	343.29
Total dir & ovhd expenses	738.18	721.42	461.82	444.50	723.34
Net return per acre	-108.21	-91.46	36.88	54.21	36.91
Government payments	-	-	-	-	-
Net return with govt pmts	-108.21	-91.46	36.88	54.21	36.91
Labor & management charge	47.39	47.39	28.43	28.43	51.70
Net return over lbr & mgt	-155.60	-138.85	8.45	25.77	-14.78
<b>Cost of Production Per Unit</b>					
Total direct expenses	2.29	2.95	3.72	5.79	17.25
Total dir & ovhd expenses	4.10	4.01	8.10	7.80	32.82
Less govt & other income	4.10	4.01	8.10	7.80	32.82
With labor & management	4.36	4.27	8.60	8.30	35.17
Net value per unit	3.50	3.50	8.75	8.75	34.50
Machinery cost per acre	160.22	160.22	92.27	92.27	167.76
Est. labor hours per acre	2.21	2.21	1.33	1.33	2.41

**LIVESTOCK ENTERPRISE ANALYSIS -- Beef Finishing**

	<i>Per Cwt. Produced</i>		<i>Per Head</i>		<i>Enterprise Total</i>	
	<i>Quantity</i>	<i>Value</i>	<i>Quantity</i>	<i>Value</i>	<i>Quantity</i>	<i>Value</i>
<b>Returns</b>						
Finish Beef	159.21 lb.	187.85	1257.76 lb.	1484.04	293861.0 lb.	346727
Inventory change	16.29 lb.	19.57	128.69 lb.	154.62	30066.0 lb.	36124
Other income		2.00		15.84		3700
Gross return	175.50 lb.	209.43	1386.45 lb.	1654.49	323927.0 lb.	386551
Purchased	-75.50 lb.	-120.80	-596.45 lb.	-954.32	-139353.0 lb.	-222965
Gross margin	100.00 lb.	88.63	790.00 lb.	700.17	184574.0 lb.	163586
<b>Direct Expenses</b>						
Corn	6.18 bu.	21.62	48.79 bu.	170.78	11400.0 bu.	39900
Corn Silage	552.62 lb.	9.67	4365.73 lb.	76.40	510.0 ton	17850
Protein Vit Minerals	151.70 lb.	36.62	1198.44 lb.	289.27	140.0 ton	67585
Complete Ration	59.60 lb.	8.13	470.81 lb.	64.20	55.0 ton	15000
Veterinary		1.08		8.50		1985
Hired labor		7.04		55.64		13000
Machinery leases		1.90		14.98		3500
Marketing		1.74		13.72		3206
Fuel & oil		0.01		0.07		17
Repairs		0.06		0.49		114
Operating interest		0.05		0.43		101
Total direct expenses		87.91		694.48		162258
Return over direct expenses		0.72		5.68		1328
<b>Overhead Expenses</b>						
Hired labor		0.20		1.57		367
Machinery leases		0.02		0.19		45
Real estate taxes		0.01		0.06		13
Farm insurance		0.07		0.52		121
Utilities		0.07		0.59		137
Dues & professional fees		0.02		0.19		44
Interest on interm. debt		0.05		0.39		90
Interest on lng term debt		0.02		0.19		44
Machinery depreciation		0.05		0.37		87
Building depreciation		0.18		1.44		338
Miscellaneous		0.01		0.06		13
Total overhead expenses		0.70		5.56		1299
Total dir & ovhd expense		88.61		700.04		163557
Net return		0.02		0.12		29
Labor & management charge		0.07		0.54		125
Net return over lbr & mgt		-0.05		-0.41		-96
Est. labor hours per unit		0.00		0.03		8

**Cost of Prod Per Cwt. Sold/Trans**

Total direct expenses	118.80
Total dir & ovhd expenses	119.24
With other revenue adjustments	117.98
With labor & management	118.02

**Other Information**

No. purchased or trans in	297	Feed cost per head	600.65
Number sold or trans out	229	Hired labor per head	57.21
Percentage death loss	4.5	Average purchase weight	469
Avg. daily gain (lb.)	2.53	Avg wgt / Finish Beef sold	1,283
Lb. of conc / lb. of gain	5.57	Avg purch price / cwt.	160.00
Lb. of feed / lb. of gain	7.41	Avg sales price / cwt.	117.99
Feed cost per cwt. of gain	76.03		



**Contributions to Overhead Expenses**

<b>Enterprise</b>	<b>Units</b>	<b>Contribution Per Unit</b>	<b>Total Contribution</b>
Corn	481. Acres	143.99	69,315
Soybeans	466. Acres	230.32	107,442
Corn Silage	27.5 Acres	380.21	10,456
Finish Beef	233. Head	5.68	1,328
Total contributions			188,541
<b>Overhead expenses</b>			
Hired labor			92,361
Machinery leases			9,916
Real estate taxes			22,829
Farm insurance			24,199
Utilities			27,454
Dues & professional fees			17,423
Interest on interm. debt			12,868
Interest on lng term debt			44,105
Machinery depreciation			43,250
Building depreciation			45,000
Miscellaneous			2,694
Total overhead expense			342,099
Total return over overhead expe			-153,558

**Nonfarm Summary**

<b>Personal Income</b>	<b>Amount</b>
Personal wages & salary	-
Personal business income	-
Personal rental income	-
Personal interest income	-
Personal cash dividends	3,000
Tax refunds	-
Other personal income	-
Total personal income	3,000

**Planned vs Actual**

**Income Statement**

Cash Farm Income	Unit	Planned Quantity	Planned Value	Actual Quantity	Actual Value
Corn	bu.	-	170,832	44,372	163,832
Soybeans	bu.	28,045	274,841	29,045	284,641
Finish Beef	lb.	293,855	344,816	293,863	346,727
Crop government payments			-		25,491
Other government payments			20,000		-
Custom work income			1,500		1,428
Patronage dividends, cash			2,164		2,164
Crop insurance income			8,000		10,526
Sale of resale items			-		64,959
Other farm income			280,000		207,633
Gross cash farm income			1,102,153		1,107,401
Seed			75,372		75,583
Fertilizer			67,147		67,493
Crop chemicals			43,654		43,762
Crop insurance			15,193		15,252
Drying expense			-		6,350
Purchased feed			66,047		67,585
Feeder livestock purchase			217,223		222,965
Veterinary			2,144		1,985
Marketing			7,050		6,870
Interest			89,473		91,504
Fuel & oil			8,500		17,147
Repairs			115,000		113,504
Custom hire			3,000		3,100
Hired labor			162,500		165,515
Land rent			62,000		61,702
Machinery leases			13,500		13,416
Real estate taxes			26,858		26,858
Farm insurance			24,000		24,199
Utilities			28,000		27,454
Dues & professional fees			15,000		17,423
Purchase of resale items			-		72,346
Miscellaneous			150,000		67,355
Total cash farm expense			1,191,660		1,209,368
Net cash farm income			-89,507		-101,967
Inventory change			204,526		236,581
Depreciation			-88,250		-88,250
Net farm income			26,769		46,364

**Cash Flows**

Cash Inflows	Planned	Actual
Beginning cash balance	91,835	91,835
Gross cash farm income	1,102,153	1,107,401
Personal income	-	3,000
Capital sales	-	-
Money borrowed	1,962,084	2,671,984
Total inflows	3,156,072	3,874,220

**Cash Outflows**

Cash Outflows	Planned	Actual
Cash farm expense	1,191,660	1,209,368
Family living	80,000	72,043
Income taxes	-	7,402
Capital purchases	917,500	980,365
Principal payments	936,913	1,575,042
Ending cash balance	30,000	30,000
Total outflows	3,156,072	3,874,220

**Livestock**

Finish Beef sold	226	229
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**Ending Inventories**

Silage	366	296
Corn	53,865	60,360
Soybeans	10,152	10,588
Finish Beef	190	197

**Crop Production**

Crop	Unit	Planned Acres	Planned Yield	Planned Production	Actual Acres	Actual Yield	Actual Production
Corn	bu.	370.0	210.0	77,700	481.4	180.0	86,647
Soybeans	bu.	393.0	64.0	25,152	466.5	57.0	26,588
Corn Silage	ton	18.0	28.0	504	27.5	22.0	606

	Year 2017												
	2017												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
<b>CASH INFLOWS</b>													
Beg cash bal	30000	30000	83633	107487	75570	38720	30000	30000	30000	30000	95859	30000	30000
Corn	90000	90000	6225	-	-	-	-	-	-	-	-	73000	259225
Soybeans	60799	-	38690	-	-	-	-	-	-	78400	-	78400	256290
Finish Beef	-	-	132496	-	-	106698	-	80262	-	79625	-	119438	518518
Other govt	-	-	-	-	-	-	-	-	-	12745	-	-	12745
Custom work	-	-	-	1428	-	-	-	-	-	-	-	-	1428
Pat dividend	2164	-	-	-	-	-	-	-	-	-	-	-	2164
Other farm	-	1008	-	-	-	-	10807	25710	88601	234461	50355	1650	412592
Total inflow	182963	121008	261045	108915	75570	145417	40807	135972	118601	435231	146213	302488	1492962
<b>CASH OUTFLOWS</b>													
Seed	-	-	45	2284	-	2025	-	-	-	-	83036	-	87390
Fertilizer	55	-	100	1861	-	-	-	-	-	1318	72280	-	75614
Chemicals	-	16	-	207	827	-	-	-	-	-	47614	-	48664
Crop insur.	-	299	-	-	-	-	320	-	5471	2755	10055	-	18900
Pur. Corn	-	-	-	3086	3376	4677	3370	3402	3736	-	-	-	21647
Feeder lvstk	-	-	44825	-	-	62480	-	62480	-	-	46800	34925	251510
Veterinary	275	238	300	206	206	306	225	263	263	263	284	346	3174
L. Marketing	-	-	1120	-	-	938	-	700	-	700	-	1050	4508
Purch. feed	10540	2494	9395	2166	2166	29157	2363	2756	2756	2756	33222	3636	103406
Fuel & oil	2216	1953	2296	-	1410	-	-	-	31	-	6295	2946	17147
Repairs	415	268	571	28	50	1033	132	289	649	1457	1445	353	6692
Cust hire	-	-	-	-	-	-	-	-	-	3100	-	-	3100
Labor	5494	6181	5896	8245	7153	7914	7954	14658	24780	40361	25903	10976	165515
Land rent	-	11512	-	-	-	-	44448	-	-	5067	30390	-	91417
Mach leases	1118	1118	1118	1118	1118	1118	1118	1118	1118	1118	1118	1118	13416
RE taxes	-	-	-	-	13491	-	-	-	-	15847	-	-	29338
Farm insur.	5910	168	-	5907	173	-	3125	2228	382	5262	155	889	24199
Utilities	2936	2027	1739	1528	-	2571	1360	894	665	5508	5251	2975	27454
Marketing	2731	-	135	-	-	-	-	-	-	613	185	-	3664
Dues & fees	210	10	2028	10	205	134	379	233	1241	9350	2872	751	17423
Misc.	504	281	5485	32	8	1548	2189	14333	50791	58615	11169	1096	146051
Living/Draw	6667	6667	6667	6667	6667	6667	6667	6667	6667	6667	6667	6667	80000
Min end bal	30000	30000	30000	30000	30000	30000	30000	30000	30000	30000	30000	30000	30000
Tot. outflow	69071	63231	111721	63345	66850	150568	103649	140021	128550	190756	414740	97727	1270229
Opr. surplus	113892	57777	149324	45570	8720	-5151	-62842	-4049	-9949	244476	-268527	204760	222733

	Year 2017												Total
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
<b>LOAN PAYMENTS</b>													
BigB-Cattle	-	-	-	-	-	-	-	-	-	-	-	-	-
BigB-Baler	-	-	-	-	-	-	-	-	-	-	-	-	-
AgBa-Comb..	-	-	-	-	-	-	4108	-	-	-	-	-	4108
AgBa-Equi..	-	-	-	-	-	-	-	-	-	-	-	-	-
BigB-Grin..	-	-	-	-	-	-	-	-	-	-	-	-	-
Big B-Mower	-	-	-	-	-	-	-	-	-	-	-	-	-
Toyot-Pickup	-	-	-	-	-	-	-	-	-	-	3499	-	3499
BigB-Farm..	-	-	-	-	-	-	-	-	-	-	145288	-	145288
BigB-Catt..	-	-	71837	-	-	48359	42132	-	-	-	-	-	162328
Ind-LandC..	-	-	-	-	-	-	-	-	-	-	22184	-	22184
Tot loan pay	-	-	71837	-	-	48359	46240	-	-	-	170972	-	337408
<b>Surp. or def</b>	<b>113892</b>	<b>57777</b>	<b>77487</b>	<b>45570</b>	<b>8720</b>	<b>-53510</b>	<b>-109082</b>	<b>-4049</b>	<b>-9949</b>	<b>244476</b>	<b>-439498</b>	<b>204760</b>	<b>-114675</b>

**ANNUAL OPERATING LOAN TRANSACTIONS & BALANCES**

Beg AO bal	117594	4128	-	-	-	-	53510	162592	166641	176589	-	439498	117594
AO borrowing	-	-	-	-	-	53510	109082	4049	9949	-	439498	-	616088
AO int. pay	426	15	-	-	-	-	-	-	-	2028	-	1593	4062
AO prin. pay	113466	4128	-	-	-	-	-	-	-	176589	-	203167	497351
<b>End AO bal.</b>	<b>4128</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>53510</b>	<b>162592</b>	<b>166641</b>	<b>176589</b>	<b>-</b>	<b>439498</b>	<b>236331</b>	<b>236331</b>
Accrued int.	-	-	-	-	-	-	194	783	1387	-	-	-	-
End cash bal	30000	83633	107487	75570	38720	30000	30000	30000	30000	95859	30000	30000	30000

<b>BALANCE SHEETS</b>	<b>1/1/2016</b>	<b>1/1/2017</b>	<b>Projected 1/1/2018</b>
<b>ASSETS</b>			
Total current assets	640,838	795,512	804,705
Total intermediate assets	450,000	405,000	364,500
Total long term assets	3,855,000	4,729,250	4,688,163
Personal assets	800,091	877,501	823,021
Total assets	5,745,929	6,807,263	6,680,388

<b>LIABILITIES</b>			
Total current liabilities	558,232	369,760	320,931
Total inter. liabilities	65,600	61,797	59,227
Total long term liab.	644,412	1,913,558	1,840,957
Total liabilities	1,268,244	2,345,115	2,221,115
Net Worth	4,477,685	4,462,148	4,459,273
Total Debt to Asset Ratio	22 %	34 %	33 %

<b>Financial Standards Measures</b>	<b>Beg</b>	<b>2016</b>	<b>Projected 2017</b>
<b>Liquidity</b>			
Current ratio	1.15	2.15	2.5
Working capital	82,606	425,752	483,774
Working capital to gross	6.7 %	34.7 %	32.2 %

<b>Solvency (market)</b>			
Debt to asset ratio	26.0 %	40.0 %	37.9 %
Debt to equity ratio	0.34	0.65	0.6

<b>Profitability (market)</b>			
Net farm income		46,363	153,689
Rate of return on assets		1.2 %	3.4 %
Rate of return on equity		-0.1 %	2.6 %
Operating profit margin		7.8 %	18.0 %

<b>Repayment Capacity</b>			
Term debt coverage ratio (farm)		0.31	1.47
Replacement margin coverage ratio		0.31	1.21

<b>Efficiency</b>			
Asset turnover rate (mkt)		15.9	19.2
Operating expense ratio		83.2 %	77.1 %
Depreciation ratio		7.2 %	5.4 %
Interest expense ratio		5.8 %	7.2 %
Net farm income ratio		3.8 %	10.2 %

<b>Other</b>			
Term debt coverage (farm + personal)		0.31	1.47
Term debt to EBITDA		3.45	5.74

**Shocks to Farm Term Debt Coverage Ratio**

10% decrease in revenue			0.61
10% increase in expenses			0.80
3% incr. in interest rates			1.07

Area Average – Financial Summary, 2013-2016				
	2013	2014	2015	2016
<b>Income Statement</b>				
Gross cash farm income	854,350	824,988	784,327	992,953
Total cash farm expense	611,436	570,085	598,332	802,777
Net cash farm income	242,914	254,904	185,996	190,176
Average net farm income	204,657	107,142	85,672	91,340
Median net farm income	157,144	56,673	66,452	5,127
<b>Solvency Values (yearend at market)</b>				
Total assets	3,628,671	4,132,668	4,107,900	4,174,605
Total liabilities	702,781	667,918	741,545	803,540
Net worth	2,925,890	3,464,750	3,366,355	3,371,066
Total net worth change	421,097	267,889	69,884	47,575
Change in total net worth %	17 %	8 %	2 %	1 %
Net Nonfarm Income	23,692	34,138	36,810	70,864
Area Average – Financial Standards Measures, 2013-2016				
<b>Liquidity</b>				
Current ratio	4.05	3.71	2.52	2.45
Working capital	580,845	536,574	418,822	358,682
Working capital to gross inc	65.9 %	68.1 %	55.6 %	38.3 %
<b>Solvency (market)</b>				
Farm debt to asset ratio	19 %	18 %	19 %	21 %
Farm equity to asset ratio	81 %	82 %	81 %	79 %
Farm debt to equity ratio	0.24	0.22	0.24	0.27
<b>Profitability (cost)</b>				
Rate of return on farm assets	8.9 %	4.2 %	2.3 %	1.1 %
Rate of return on farm equity	11.9 %	4.6 %	1.9 %	-0.1 %
Operating profit margin	17.8 %	9.3 %	7.1 %	3.0 %
Net farm income	184,378	105,640	83,956	80,107
EBITDA	319,241	249,234	174,139	173,519
<b>Repayment Capacity</b>				
Capital debt repayment capacity	270,360	176,716	104,273	131,903
Capital debt repayment margin	207,365	103,096	27,045	58,438
Replacement margin	173,666	64,965	-15,761	16,826
Term debt coverage ratio	4.29	2.40	1.35	1.80
Replacement coverage ratio	2.80	1.58	0.87	1.15
<b>Efficiency</b>				
Asset turnover rate (cost)	50.3 %	45.1 %	32.7 %	35.3 %
Operating expense ratio	63.8 %	68.8 %	76.9 %	81.5 %
Depreciation expense ratio	12.8 %	15.3 %	9.0 %	7.2 %
Interest expense ratio	2.5 %	2.7 %	3.0 %	2.8 %
Net farm income ratio	20.9 %	13.2 %	11.2 %	8.5 %

<b>Area Average – 2016 Corn and Soybean Enterprises – Per Acre</b>				
	Corn - Owned	Corn - Rented	Soybeans - Owned	Soybeans – Rented
Yield	151.13	158.57	48.25	48.12
Value per bu.	3.52	3.50	8.69	8.76
Total product return per acre	531.97	555.39	419.29	421.64
<b>Direct Expenses</b>				
Seed	109.28	107.93	57.37	66.92
Fertilizer	122.3	112.37	38.57	33.86
Crop chemicals	45.62	53.08	37.87	26.78
Crop insurance	8.54	6.26	7.21	5.16
Drying expense	9.62	15.59	-	-
Fuel & oil	26.09	33.70	23.20	11.29
Repairs	64.65	77.22	34.99	36.90
Custom hire	31.21	42.45	22.83	13.49
Hired labor	6.92	0.12	22.19	0.50
Land rent	-	111.10	-	110.35
Machinery leases	2.22	1.59	0.06	5.84
Utilities	1.51	1.18	2.78	1.13
Hauling and trucking	-	-	0.27	1.46
Marketing	0.58	0.08	0.40	1.60
Operating interest	6.55	5.27	2.12	3.50
Miscellaneous	0.39	0.34	4.90	2.21
Total direct expenses per acre	430.78	454.93	255.17	321.52
Return over direct exp per acre	170.55	101.52	164.12	119.78
<b>Overhead Expenses</b>				
Hired labor	66.31	74.37	7.68	36.74
Machinery leases	0.68	1.34	0.12	0.02
RE & pers. property taxes	28.79	-	14.76	-
Farm insurance	10.13	6.34	7.04	8.10
Utilities	4.93	2.52	0.90	2.74
Dues & professional fees	2.99	1.96	2.72	4.99
Interest (Intermediate & Long Term)	22.32	3.88	28.23	3.97
Mach & bldg depreciation	57.97	65.67	53.48	42.55
Miscellaneous	4.79	3.63	10.36	8.87
Total overhead expenses per acre	198.91	159.71	125.29	107.98
Total dir & ovhd expenses per acre	629.69	727.99	380.46	429.50
<b>Net return per acre</b>	<b>-95.92</b>	<b>-171.50</b>	<b>38.83</b>	<b>-1.40</b>
Government payments	23.57	25.01	5.74	28.60
Net return with govt pmts	-72.35	-146.50	44.57	27.20
Labor & management charge	27.66	15.85	35.39	23.80
Net return over lbr & mgt	-100.02	-162.40	9.18	3.39
<b>Cost of Production</b>				
Total direct expense per bu.	2.40	2.87	5.29	6.41
Total dir & ovhd exp per bu.	4.17	4.59	7.89	8.93
With labor & management	4.18	4.53	8.00	8.69
Machinery cost per acre	182.00	217.53	115.87	109.45
Est. labor hours per acre	5.76	4.80	3.21	3.27

<b>Area Average – Beef Finishing Summary Information, 2013-2016 – Per CWT</b>				
	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
Finish Beef sold	192.71	219.70	256.25	199.19
Gross margin	118.37	172.76	35.78	113.36
Total direct expenses	122.78	101.31	85.92	102.22
Total overhead expenses	21.93	18.68	10.53	16.46
Total dir & ovhd expenses	144.71	119.98	96.45	118.68
<b>Net return</b>	<b>-26.34</b>	<b>52.78</b>	<b>-60.67</b>	<b>-5.33</b>
Dir & Ovhd Cost with labor & mgmt. per CWT	139.84	128.86	177.44	141.85
Avg. daily gain (lbs)	2.14	1.89	1.57	1.87
Lbs of conc / lb of gain	8.51	6.17	5.89	6.01
Lbs of feed / lb of gain	12.32	10.69	10.51	10.94
Feed cost per cwt of gain	98.97	72.77	69.80	80.83
Feed cost per head	726.77	563.46	570.79	662.02
Average purchase weight	641	589	508	537
Avg wgt / Finish Beef sold	1,388	1,205	1,286	1,296
Avg purch price / cwt.	144.00	207.17	209.09	167.26
Avg sales price / cwt.	116.94	154.94	138.50	129.58



<b>Area Average – 2016 Vegetable Enterprises – Per Acre</b>				
	<b>Apples (Bushels)</b>	<b>Pumpkins (Tons)</b>	<b>Sweet Corn (Dozen)</b>	<b>Tomatoes (CWT)</b>
Yield	123.71	8.55	375.91	120.00
Value per Unit	31.52	400.00	4.46	55.00
Other product return per acre	217.59	-	-	-
Total product return per acre	4,116.59	3,420.80	1,675.58	6,600.00
Selected Direct Expenses				
Seed / Transplants	14.28	200.13	151.66	450.00
Fertilizer	215.56	123.14	134.30	137.55
Crop chemicals	228.72	71.23	55.91	216.22
Packaging and Supplies	215.38		18.28	1352.25
Fuel & Oil / Land Preparation	185.60	41.09	60.94	435.60
Repairs	280.03	65.63	82.47	202.55
Hired labor	730.86	118.22	55.39	804.00
Marketing	293.12	67.59	57.62	1170.00
Total direct expenses per acre	2,435.20	885.46	763.57	5611.13
Land cost per acre	273.70	183.25	182.84	200.00
Total overhead expenses per acre	2,381.13	492.02	468.45	652.00
Total dir & ovhd expenses per acre	4,816.34	1,377.48	1,232.02	6263.13
<b>Net return per acre</b>	<b>-672.68</b>	<b>2,043.32</b>	<b>443.56</b>	<b>336.87</b>
Dir & Ovhd Cost with labor & mgmt. per unit	49.85		3.64	
Machinery cost per acre	950.23	226.05	228.59	452.00
Estimated Labor Hours	268.27	49.42	52.14	94.00

<b>Valley View Apple Orchard - Vegetable Production Summary, 2013-2016 – Per Acre</b>					
		<b>Apples (Bushels)</b>	<b>Pumpkins (Tons)</b>	<b>Sweet Corn (Dozen)</b>	<b>Tomatoes (CWT)</b>
Acres		52.0	1.0	1.0	1.0
2016	Yield	11.70	10.00	430.13	125.00
	Total Product Return	351.00	3,850.00	1,720.52	6,250.00
	Total Direct & Overhead	3,957.50	1,578.90	1,456.89	6,076.10
	Net Return	-3,606.5	2,271.10	263.63	173.90
2015	Yield	185.00	.50	106.80	15.00
	Total Product Return	5,550.00	192.5	427.20	750.00
	Total Direct & Overhead	3,925.65	1564.21	1,423.45	5,978.98
	Net Return	1,624.35	-1,371.71	-996.25	-5,228.98
2014	Yield	234.00	8.00	600.00	149.00
	Total Product Return	7,020.00	3,080.00	2,400.00	7,450.00
	Total Direct & Overhead	3,875.64	1,510.23	1,515.90	5,899.74
	Net Return	3,144.36	1,569.77	884.10	1,550.26
2013	Yield	264.00	8.46	572.85	137.40
	Total Product Return	7,920.00	3,257.10	2,291.40	6,875.00
	Total Direct & Overhead	4,003.21	1,545.67	1,509.67	5,845.67
	Net Return	3,916.79	1,711.43	781.73	1,029.33

## Valley View Apple Orchard - 2017 Cash Flow Plan

	Apples	Cider	Donuts	Entertainment	Orchard Merchandise	Pumpkins	Sweet Corn	Total
<b>Income</b>								
Crop	93,486	71,667				38,932	5,918	210,003
Donut			122,455					122,455
Entertainment				71,963				71,963
Resale					647,128			647,120
<b>Gross Income</b>	<b>93,486</b>	<b>71,667</b>	<b>122,455</b>	<b>71,963</b>	<b>647,128</b>	<b>38,932</b>	<b>5,918</b>	<b>1,051,541</b>

<b>Expense</b>								
Advertising	923	692	1,154	692	646	369	141	4,617
Donut ingredients			24,286					24,286
Total Gas, Oil, Fuel	3,593					799	399	4,791
Total Insurance	1,924	1,068	1,780	1,068	997	569	213	7,619
Total Interest	1,195				797	398		2,390
Legal & Professional fees	1,332	999	1,665	999	932	533	540	7,000
Payroll	19,269	20,262	35,033	12,365	11,168	13,630	6,767	118,494
Total Repairs & Maint.	5,794	6,438	6,861	4,472	3,357	1,919	1,575	30,417
Resale Material	25,220	13,045			34,081			72,346
Seeds & Plants							948	948
Supplies	2,329	7,650	4,942	21,151	6,332	931	970	44,305
Total Utilities	1,712	1,286	2,141	1,284	1,199	685	256	8,563
<b>Total Expenses</b>	<b>63,291</b>	<b>51,440</b>	<b>77,862</b>	<b>42,031</b>	<b>59,509</b>	<b>19,833</b>	<b>11,809</b>	<b>325,776</b>
<b>Net Cash Income</b>	<b>30,195</b>	<b>20,227</b>	<b>44,593</b>	<b>29,932</b>	<b>587,619</b>	<b>19,099</b>	<b>-5,892</b>	<b>725,765</b>

## 2016 Household and Personal Expenses for the Area Average and Valley View Farm

	Area Average	Valley View
Family Size	3.6	4
<b>Family Living Expenses</b>		
Food and meals expense	8,991	9,657
Medical care	4,965	5,009
Health insurance	6,211	6,662
Cash donations	2,737	2,382
Household supplies	4,570	4,541
Clothing	1,852	1,984
Personal care	2,984	1,769
Child/Dependent care	769	0
Alimony and child support	181	0
Gifts	1,408	1,212
Education	1,680	750
Recreation	3,390	4,790
Utilities (household share)	2,368	2,168
Personal vehicle operating expense	3,824	3,836
Household real estate taxes	323	306
Dwelling rent	157	0
Household repairs	1,782	1,591
Personal interest	932	1,371
Disability/Long term care insurance	361	614
Life insurance payments	3,815	3,542
Personal property insurance	256	188
Miscellaneous	6,076	6,865
Total cash family living expense	59,632	59,237
Farm products consumed by family	870	1,303
Total family living	60,503	60,540
<b>Other Nonfarm Expenditures</b>		
Income taxes	7,244	7,402
Furnishing and appliance purchases	149	182
Nonfarm vehicle purchases	2,356	1,453
Nonfarm real estate purchases	7,382	8,754
Other nonfarm capital purchases	4,188	112
Nonfarm savings and investments	1,270	1,002
Total other nonfarm expenditures	22,588	18,905
Total family living and investment and Nonfarm capital purchases	82,220	79,445

**Amortization factors for alternative annual interest rates and years of repayment.**

<b>Repayment Period</b>	<b>Annual Interest Rate</b>				
	3.0%	3.5%	4.0%	4.5%	5.0%
1	1.03000	1.03500	1.04000	1.04500	1.05000
2	0.52261	0.52640	0.53020	0.53400	0.53780
3	0.35353	0.35693	0.36035	0.36377	0.36721
4	0.26903	0.27225	0.27549	0.27874	0.28201
5	0.21835	0.22148	0.22463	0.22779	0.23097
6	0.18460	0.18767	0.19076	0.19388	0.19702
7	0.16051	0.16354	0.16661	0.16970	0.17282
8	0.14246	0.14548	0.14853	0.15161	0.15472
9	0.12843	0.13145	0.13449	0.13757	0.14069
10	0.11723	0.12024	0.12329	0.12638	0.12950
11	0.10808	0.11109	0.11415	0.11725	0.12039
12	0.10046	0.10348	0.10655	0.10967	0.11283
13	0.09403	0.09706	0.10014	0.10328	0.10646
14	0.08853	0.09157	0.09467	0.09782	0.10102
15	0.08377	0.08683	0.08994	0.09311	0.09634
16	0.07961	0.08268	0.08582	0.08902	0.09227
17	0.07595	0.07904	0.08220	0.08542	0.08870
18	0.07271	0.07582	0.07899	0.08224	0.08555
19	0.06981	0.07294	0.07614	0.07941	0.08275
20	0.06722	0.07036	0.07358	0.07688	0.08024



Participant Number \_\_\_\_\_

State Abbreviation \_\_\_\_\_

Participant's Name (please print clearly) \_\_\_\_\_

**Important:** Before you start this portion of the event, please write your participant number and state abbreviation on the blanks provided at the top of *each page*.

## 2017 NATIONAL FFA FARM AND AGRIBUSINESS MANAGEMENT CAREER DEVELOPMENT EVENT

Page Number	Part	Area	Possible Points
3	I	Financial Statements	27
7	II	Budgeting	25
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20	VI	Investment Analysis	21
23	VII	Risk Management	28
27	VIII	Business Organization	16
30	IX.1	Analyzing the Agricultural Business, Sec. 1	31
33	IX.2	Analyzing the Agricultural Business, Sec. 2	30
36	X	Family Living	17
38	XI	Economic Principles	26
<b>TOTAL POSSIBLE POINTS</b>			<b>300</b>

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## Part I - Financial Statements

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Short Answer questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice and True/False questions are one point each. Calculations and Short Answer questions are two points each.

1. Which financial statement lists the value of farm assets and liabilities on a specified date?
  - A. Balance sheet
  - B. Income statement
  - C. Statement of owner equity
  - D. Statement of cash flows
  
2. This financial statement reports farm revenues minus farm operating and financial expenses over an accounting period.
  - A. Balance sheet
  - B. Income statement
  - C. Statement of owner equity
  - D. Statement of cash flows
  
3. This financial statement expresses the relationship between the sources of cash and uses of cash over an accounting period.
  - A. Balance sheet
  - B. Income statement
  - C. Statement of owner equity
  - D. Statement of cash flows
  
4. This financial statement explains changes in net worth.
  - A. Balance sheet
  - B. Income statement
  - C. Statement of owner equity
  - D. Statement of cash flows
  
5. Which of the following is considered a farm revenue in an accrual-adjusted income statement?
  - A. Fertilizer expense during the accounting period.
  - B. Crop sales during the accounting period.
  - C. The increase in the value of crop inventory during the accounting period.
  - D. B & C
  - E. A & C



6. The original cost basis of an asset plus the cost of any improvements or alterations that extends the life of the asset less accumulated depreciation or depletion on the asset is referred to as the
  - A. net cost value of the asset.
  - B. net market value of the asset.
  - C. adjusted basis or cost value of the asset.
  - D. total amortization value of the asset.
  
7. Net Farm Income from Operations for a sole proprietorship business refers to
  - A. accrual adjusted revenues minus accrual adjusted expenses.
  - B. total market value assets minus total liabilities.
  - C. current assets minus current liabilities.
  - D. cash income minus cash expenses.
  
8. Cash on hand on a business balance sheet would most closely correspond to which of the following?
  - A. The balance in the farm checking and savings account.
  - B. The balance in the farm checking and savings account plus other current assets.
  - C. The cash balance in the farm hedging account.
  - D. The value of stored grain inventory plus the value of market livestock.
  
9. The owner equity of a farm business is comprised of which three parts?
  - A. Current assets, intermediate assets and long term assets.
  - B. Cost based asset values, market based asset values and inflation adjusted asset values.
  - C. Contributed or paid in capital, retained earnings and valuation equity.
  - D. Change in asset values, change in liabilities and change in cash.
  
10. Net Farm Income for a farm business organized as a sole proprietorship represents a return to all the following except
  - A. unpaid family labor.
  - B. owner's investment in the business.
  - C. equity capital.
  - D. borrowed capital.
  
11. Which one of the following statements is true?
  - A. The Statement of Cash Flows includes non-cash revenues while the Income Statement includes only cash revenue and cash expenses.
  - B. The Accrual Income Statement can have a gross revenue smaller than total cash income reported in the Statement of Cash Flows.
  - C. Depreciation is included in the Statement of Cash Flows and the Income Statement.
  - D. The purpose of both the Income Statement and the Statement of Cash Flows is to measure profits of the farm business.

12. Which one of the following can increase the retained earnings of the farm business?
- A. Net farm income greater than business withdrawals for family living expenses and income taxes.
  - B. Net farm income less than business withdrawals for family living expenses and income.
  - C. An operating loss for the accounting period.
  - D. An increase in the amount of money withdrawn from the business for family living expenses and income taxes.
13. On the beginning balance sheet of Valley View Farm, R1 & R2, crop inventory is valued at \$238,958. On the ending balance sheet of Valley View Farm, R3 & R4, crop inventory is valued at \$322,191. This indicates that crops sold
- A. correctly report accrual adjusted crop revenues.
  - B. understate the accrual adjusted crop revenues.
  - C. overstates the accrual adjusted crop revenues.
  - D. play no part in calculating accrual adjusted crop revenues.
14. If the calculated ending owner equity equals the owner equity reported on the ending balance sheet,
- A. this would give you confidence your balance sheet and accrual-adjusted income and expense data are accurate.
  - B. this would indicate there is an error in your balance sheet, income, and expense data.
  - C. this tells you nothing about the accuracy of your financial data.

**Use the data found in the financial statements for the Valley View Farm to answer the following questions.**

15. On the beginning balance sheet, current assets represent what percent of total market farm assets? Round to the nearest tenth of a percent xx.x%.

16. On the ending balance sheet, what asset contributes the largest value to the total market value assets of Valley View Farm?
- A. Machinery
  - B. Inventory of stored grain and market livestock
  - C. Operating loan
  - D. Land

17. On the beginning balance sheet, what is the valuation equity for the Valley View Farm?

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18. When Olaf purchased a farm in 2016, he decided to refinance the existing farm mortgage. The accrued interest from the existing mortgage was added to the new mortgage. The last payment on the existing mortgage was made on March 31, 2016. Interest on the mortgage accrues at the rate of \$88.28 per day. What was the amount of accrued interest added to the new mortgage on November 1, 2016? Calculate to the nearest cent.

19. Part of the farm purchased in 2016 was financed with a \$175,000 contract with the seller. The interest rate is 4.5%. Constant annual principal and interest payments will be made each November 1 for 10 years. Using the table of amortization factors in the resource material, R22, what is the annual principal and interest payment that must be made on this contract? Calculate to the nearest cent.

20. The accrual adjustment for Prepaids and Supplies in the Income Statement, R5 & R6, indicates cash expenses overstate expenses for the accounting period by how much?

21. The statement of cash flows indicates \$ \_\_\_\_\_ was borrowed during 2016.

## Part II - Budgeting

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Short Answer questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice and True/False questions are one point each. Calculations and Short Answer questions are two points each.

1. A financial management tool showing the projected costs and returns associated with a single production process is a/an
  - A. cash flow projection.
  - B. enterprise budget.
  - C. partial budget.
  - D. whole farm budget.
  
2. A management tool where a person compares two different production options or practices, and then compares estimated income and expenses to identify the better option or practice is a/an
  - A. partial budget.
  - B. cash flow projection.
  - C. enterprise budget.
  - D. whole farm budget.
  
3. When determining the effect of growing more acres of a crop in an enterprise budget, the value least likely to change would be
  - A. total average costs.
  - B. total operating costs.
  - C. operating costs per acre.
  - D. total variable costs.
  
4. When determining the effect of growing more acres of a crop, the cost most likely to change would be
  - A. operating costs per acre.
  - B. fixed costs per acre.
  - C. rent per acre.
  - D. crop insurance per acre.
  
5. A whole farm schedule of expected returns and expenses is a
  - A. balance sheet.
  - B. partial budget.
  - C. depreciation schedule.
  - D. budget.

6. In a partial budget, to determine the effect of choosing one option over another, you would
  - A. subtract additional costs plus reduced returns from additional revenue plus reduced costs.
  - B. add additional revenue to reduced costs.
  - C. subtract additional revenue plus reduced returns from additional costs plus reduced costs.
  - D. subtract additional revenue from additional costs.
  
7. For a livestock budget to be meaningful, what value should be placed on raised crops fed?
  - A. The costs to produce these crops
  - B. Local market value
  - C. Local market value plus 10%
  - D. Reported state average sale price
  
8. A cash flow projection is a form of budgeting that is used to
  - A. determine living expenses.
  - B. determine a yearend balance.
  - C. determine operating credit needs.
  - D. calculate total farm equity.

Use the Valley View Farm Enterprise Analysis pages to answer questions 9 and 10.

9. Which of the following contributes the largest amount of expense to the total farm overhead expenses?
  - A. Interest on long term debt
  - B. Building depreciation
  - C. Utilities
  - D. Hired labor
  
10. Based on the Enterprise Analysis, which enterprise would contribute the most to the total Net Farm Income?
  - A. Corn cash rented
  - B. Corn silage owned
  - C. Soybeans cash rented
  - D. Beef finishing

Valley View Farm would like to determine break-even prices and break-even yields on some of their enterprises in order to make some management decisions.

11. What is the break-even price per bushel to cover total direct and overhead expenses for owned corn? Round answer to the nearest cent.

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12. What is the break-even price per bushel to cover only the total direct expenses for the owned corn? Round answer to the nearest cent.

13. What is the break-even yield per acre necessary to cover all direct and overhead expenses for the owned corn? Round answer to the nearest whole bushel.

14. What is the break-even price per bushel to cover all direct and overhead costs for soybeans on rented ground? Round answer to the nearest cent.

15. Over the long run, if Valley View Farm sees little or no change in the Enterprise Analysis, should they maintain corn grain production on their owned ground?

- A. Yes
- B. No

16. The beef enterprise anticipates that 510 tons of corn silage will be needed to feed the cattle. How many tons of corn silage does the farm expect to produce from its corn silage enterprise? Round the answer to the nearest ton.

17. The beef enterprise budget anticipates that they will need 11,400 bushels of corn to feed the cattle. What is the expected production from the owned and rented corn enterprises? Round the answer to the nearest whole bushel.

18. How many bushels of extra corn would the farm expect to have for sale? Round the answer to the nearest whole bushel.

### Part III – Cash Flow

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Short Answer questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice and True/False questions are one point each. Calculations and Short Answer questions are two points each.

1. Which of the following is correct, concerning the 2017 Cash Flow Projections and the resulting Projected Income Statement?
  - A. When looking at the profitability of the projected year, the Cash Flow Projection portion estimates the various sources of and uses for cash on a monthly basis.
  - B. The Cash Flow Projection by itself does not give a true picture of Net Farm Income (profitability) for the coming year.
  - C. The projected changes in inventory of both income and expense items are important in projecting Net Farm Income.
  - D. None of the above is true.
  - E. A, B and C are all true.

2. Without counting the “Beginning Cash Balance” for the month, which month is anticipated to have the largest inflow of cash from its various sources?

3. Which month is anticipated to have the largest combined payments on intermediate and long-term loans?

4. What is the Operating Loan (AO) balance projected to be at the end of the year 2017?

5. What is the amount of the projected Net Farm Income for 2017?

6. The amount spent for Family Living has no effect on the ability to service debt.
  - A. True
  - B. False

7. A 10% decrease in 2017 revenue would cause the Term Debt Coverage Ratio to be less than adequate.
  - A. True
  - B. False
  
8. The 2017 Cash Flow Projection indicates a cash surplus after paying operating expenses and servicing term debt.
  - A. True
  - B. False
  
9. In 2017, the projected ending operating loan balance is larger than the beginning operating loan balance.
  - A. True
  - B. False
  
10. Holding all else constant, if less cash were retained in the checking account, the ending balance of the operating loan would be smaller.
  - A. True
  - B. False
  
11. If the large seed bill that is anticipated to be paid in November of 2017 was postponed until January of 2018, the Operating Loan Balance at the end of the 2017 would be smaller, and the Net Farm Income for 2017 would be larger.
  - A. True
  - B. False
  
12. Solvency measures the ability of all assets, if sold at market value, to cover all debts.
  - A. True
  - B. False
  
13. A good measure of Solvency is the Current Ratio.
  - A. True
  - B. False
  
14. Refinancing a portion of an operating loan as a longer-term debt would improve the Liquidity of the business.
  - A. True
  - B. False



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15. Refinancing a portion of an operating loan as a longer-term debt would improve the Solvency of the business.
- A. True
  - B. False
16. Selling a piece of equipment that is no longer used would generate cash that could help meet the cash flow needs of the business.
- A. True
  - B. False
17. Increasing cash flow does not necessarily increase net profit.
- A. True
  - B. False
18. Comparing the Planned Income for 2017 with the Actual Income for 2016, in the 2016 Analysis, a major reason for the improvement in Net Cash Farm Income is because the producer was able to lower cash farm expenses.
- A. True
  - B. False
19. Although family living for a sole proprietor farmer is not a “farm expense,” it is important to include it on a Cash Flow Projection because it has a definite effect on the finances of the operation.
- A. True
  - B. False
20. The Current Ratio is calculated by dividing the Current Assets by the \_\_\_\_\_ . (Complete the statement with the correct word or words.)
- 
21. What percent of the 2017 total inflow (cash) is corn sales?  
(Calculate to the nearest tenth of one percent, x.x%.)
-

## Part IV - Marketing

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Short Answer questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice and True/False questions are one point each. Calculations and Short Answer questions are two points each.

1. Which of the following are business marketing utilities?  
a) Form   b) Order   c) Place   d) Shape   e) Time   f) Possession  
A. a, b, d, e, and f  
B. a, c, e and f  
C. b, c, d and f  
D. b, c, d, e and f  
E. c and d
2. The law of demand says that a consumer will buy more at  
A. lower prices.  
B. higher prices.  
C. same prices.  
D. any price.
3. The most common element of federal government programs has been to  
A. lower production.  
B. have a food reserve.  
C. provide price support.  
D. fund research activities.
4. Price movement occurs over time because  
a. demand shifts.   b. supply shifts.   c. prices rise.   d. prices fall.  
A. a and b  
B. b and c  
C. c and d  
D. a and c
5. Producers can protect prices by the use of  
a. cash contracts.   b. basis contracts.   c. futures contracts.   d. option contracts  
A. a, b and c  
B. a, b and d  
C. a, c and d  
D. b, c and d

6. Producers have more corn than they can store. In looking at alternatives open to them, they found that the elevator will take corn at harvest for \$3.65 per bu. or they will let them store it. The storage charges are \$.25 for Oct., Nov., Dec. if it is there for one day or the 92 days. It is \$.05 per month after that charged on the first day of the month. They could sell out of the field **or** sell on the futures market.

Futures prices are:

Oct. \$3.65    Dec. \$3.75    Jan. \$3.85    Mar. \$4.00    May \$4.10    June \$4.15

What is the best alternative for selling this extra corn?

7. Valley View Farm is considering holding corn until March. What would be the minimum price needed to cover storage costs?

8. A neighbor has a bin he will rent for \$.35 per bushel for the year. How much more could be made per bushel if the corn were sold in June?

9. In the above case if a \$4.00 call option is purchased for June for \$.20, what price would the futures have to reach before any money would be made with this option?

10. If he purchased the option and the corn price remained the same, what would the net price for his corn be?

11. If corn rallied to \$4.50, what would his net corn price be?

12. How many bushels are in a corn futures option contract?

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13. If he uses futures contracts for his feeder cattle, how many pounds are in each contract?

14. To protect the price of the cattle on feed, he should
- A. purchase a call option.
  - B. purchase a put option.
  - C. sell a put option.
  - D. sell a call option.
15. If the cattle were hedged, what would he do on the futures market when he sells the cattle?
- A. sell a futures contract
  - B. sell call options
  - C. buy a futures contract
  - D. purchase put options

## Part V - Income Tax

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Short Answer questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice and True/False questions are one point each. Calculations and Short Answer questions are two points each.

1. Under the cash method of accounting, an expense becomes a deductible expense if the bill is owed but has not yet been paid.
  - A. True
  - B. False
  
2. Under the cash method of accounting, income that arrives in the mail at the end of the year does not have to be claimed as income for the year if it is not deposited into the bank account until the next business year.
  - A. True
  - B. False
  
3. Under the cash method of accounting, income is considered to be constructively received if it is available to you without restriction.
  - A. True
  - B. False
  
4. In order to figure gain or loss on the sale of a capital asset, you must often make adjustments to the original basis of the asset.
  - A. True
  - B. False
  
5. In the case of Commodity Credit Corporation (CCC) loans on grain, the farmer can choose to have them treated either as a sale of grain, or as a loan for tax purposes.
  - A. True
  - B. False
  
6. If you buy or make improvements to farm property that have a useful life of more than one year, you generally must spread the cost over several years. This is called
  - A. basis.
  - B. deflation.
  - C. depreciation.
  - D. appreciation.
  - E. inflation.

7. Assuming that the farmer's purchases of all qualifying property is below the allowable Section 179 limit, which property(ies) would be eligible for a Section 179 deduction?
- A. A new grain bin costing \$48,000.
  - B. A portion of the cost of a used tractor purchased from her father.
  - C. A portion of the new machine shed that could also double as a grain storage facility in certain years.
  - D. All of the above.
  - E. None of the above.

**In 2016, a "Special Depreciation Allowance" (additional 50% special depreciation allowance) was available to farmers in certain cases. The following are characteristics of the "Special Depreciation Allowance":**

8. It would allow you to receive a \$75,000 depreciation deduction over time on a \$50,000 new tractor.
- A. True
  - B. False
9. It could be used on the construction cost of a new machine shed that could double as a hay storage facility.
- A. True
  - B. False

A farmer purchased a used tractor several years ago for \$40,000. For tax purposes, she owned it long enough that it was fully depreciated. She decided it would make good business sense to have a newer and better tractor. The local dealer had a nice used tractor that he would sell for \$85,000, or he would offer a trade-in value of \$28,000 for the farmer's older one. The farmer decided to trade in the old tractor. The trade was made on September 15, 2016. She paid \$30,000 of her own cash and borrowed the rest on a three-year loan. Use this information to answer questions 10 – 13 . Round the answers to the nearest dollar.

10. What was the adjusted basis of the old tractor?

11. What was the original tax basis of the newly purchased tractor?

12. How much of this tractor purchase could she write off using the Additional 50% Special Depreciation Allowance?

13. If she did not use any Section 179 deduction, how much depreciation could she take in 2016 using MACRS GDS Straight Line Method? Round the answer to the nearest dollar.

A farmer had purchased a breeding bull several years ago for \$7,000. While he owned it, he took \$5,600 depreciation on it. He sold the bull and received \$1,800. Use this information to answer question 14. Round the answer to the nearest dollar.

14. What is the taxable gain (or loss) on the sale?

15. What is the self-employment tax rate?

16. Which of the following sources of farm income would be subject to Self-Employment Tax for a self-employed farmer?

- A. Sale of raised crops
- B. Sale of an old plow
- C. Sale of raised dairy cows
- D. All of the above
- E. None of the above

A farm business can be structured as one of several types of business entities. Answer questions 17 - 21 by using the letter by the business entity. Use each answer only once.

17. The entity itself is not taxed. The owner's share of income is taxable to the owner, subject to federal and state (if appropriate) income taxes, but not to self-employment tax.

- A. Sole-proprietor
- B. Partnership
- C. LLC
- D. S-Corporation
- E. C-Corporation

18. The entity is taxed. The after-tax profits can be distributed to the owner as dividends and are subject to tax for a second time.

- A. Sole-proprietor
- B. Partnership
- C. LLC
- D. S-Corporation
- E. C-Corporation

19. Simplest form of business structure. All farm income earned is subject to self-employment tax.
- A. Sole-proprietor
  - B. Partnership
  - C. LLC
  - D. S-Corporation
  - E. C-Corporation
20. Owners are called members.
- A. Sole-proprietor
  - B. Partnership
  - C. LLC
  - D. S-Corporation
  - E. C-Corporation
21. The entity itself is not taxed. The owner's share of income is taxable to the owner and is subject to self-employment tax as well as federal income taxes.
- A. Sole-proprietor
  - B. Partnership
  - C. LLC
  - D. S-Corporation
  - E. C-Corporation

Farmer Mary has three employees. Michael works full-time, all year. Sheri works part-time during the summer months. Mary's son Steve (seventeen-years-old) works part-time all year on the farm. Total cash wages paid to the three employees totaled \$51,500 in 2016. In addition to cash wages, son Steve is paid a commodity wage of 500 bushels of corn, which he feeds to his FFA swine project.

22. Social Security and Medicare (FICA) taxes must be withheld from the cash wages paid to all three employees.
- A. True
  - B. False
23. The value of Steve's commodity wage corn is subject to Federal taxes, but not to FICA taxes.
- A. True
  - B. False



## Part VI – Investment Analysis

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Short Answer questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice and True/False questions are one point each. Calculations and Short Answer questions are two points each.

Valley View Farm wants to buy a lightly used 2014 John Deere JD1760 12 row corn planter. They want this newer planter to replace the JD7000 six row planter they currently own. The dealer will provide them a six-year loan with an interest rate of 6.5%. The price of the planter delivered is \$61,000. The local dealer will allow them \$10,000 trade-in for the newer one. The payments are due in annual installments. Because they are such great customers, the dealer allowed zero percent down and will carry the note in-house.

Year	Annual Payment	Interest	Principal	Balance
0	XXXX	XXXX	XXXX	\$51,000.00
1	\$10,534.98	\$3,315.00	\$7,219.98	\$43,780.02
2	\$10,534.98	\$2,845.70	\$7,689.28	\$36,090.74
3	\$10,534.98	\$2,345.90	\$8,189.08	\$27,901.66
4	\$10,534.98	\$1,813.61	\$8,721.37	\$19,180.29
5	\$10,534.98	\$1,246.72	\$9,288.26	\$9,892.03
6	\$10,535.01	\$642.98	\$9,892.03	\$0.00

1. The accumulated interest will be

2. The annual payment will always be the same.

- A. True
- B. False

3. What is the beginning balance?

4. What will the balance be after the final payment is made?

5. What is the annual payment in year 6?

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6. If quarterly payments were made instead of annual payments, the quarterly payment would be \$2,583.25. What would be the balance on the loan after the first quarterly payment? Calculate to the nearest cent. \$xx.xx

7. What would the interest be for the second quarterly payment? Calculate to the nearest cent. \$xx.xx

8. The principal amount in each of the payments on this note will always be the same.

- A. True
- B. False

9. What is principal?

- A. The actual amount of money borrowed from the dealer.
- B. The total amount of money you pay to the lender.
- C. The present value.
- D. The amount of money left over.

10. What is amortization?

- A. The ability to get a loan from the bank.
- B. Paying off debt with a varying repayment schedule.
- C. Paying off debt with a fixed repayment schedule.
- D. The ability to repay a loan from the bank.

11. What is the usual length of time for the term on a loan?

- A. 5 year property
- B. 7 year property
- C. 10 year property
- D. It will match the useful life of the asset

12. The annual payment generally consists of two things. What are they?

- A. Interest and Principal
- B. Principal and Balance
- C. Balance and Interest

13. Interest is

- A. the actual amount of money borrowed from the dealer.
- B. the amount of money you pay to the lender for borrowing the money.
- C. the present value.
- D. the amount of money left over.

Participant Number \_\_\_\_\_

State Abbreviation \_\_\_\_\_

14. For all amortized loans the interest amount on each loan payment will always remain the same during the life of the loan.
  - A. True
  - B. False
  
15. Regardless of the loan type, all loans, except personal loans, are governed by state and federal guidelines to protect consumers.
  - A. True
  - B. False

## Part VII - Risk Management

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Short Answer questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice and True/False questions are one point each. Calculations and Short Answer questions are two points each.

1. Which of the following is an example of market risk?
  - A. A change in corn prices
  - B. A change in corn production
  - C. A change in consumer's tastes and preferences that affect the willingness to pay for GMO products
  - D. Both A and C
  
2. What is an example of human risk?
  - A. A drought reducing corn yields
  - B. A change in interest rates
  - C. Hired help injured by farm machinery
  - D. A change in regulations regarding pesticide use
  
3. \_\_\_\_\_ is an example of risk transfer.
  - A. Crop insurance
  - B. Hedging with commodity futures
  - C. Fire alarms and fire sprinklers
  - D. Both A and B
  
4. The current ratio is a measure of \_\_\_\_\_ risk.
  - A. production
  - B. market
  - C. financial
  - D. human
  - E. legal
  
5. Forming an LLC can reduce the business owner's \_\_\_\_\_ risk.
  - A. production
  - B. market
  - C. financial
  - D. human
  - E. legal
  
6. To establish a price ceiling for corn feed expense, a livestock producer should
  - A. buy a Put option.
  - B. sell a Put option.
  - C. buy a Call option.
  - D. sell a Call option

7. Revenue protection crop insurance protects against
- A. a decline in price.
  - B. a decline in yield.
  - C. an increase in variable costs.
  - D. a decline in price or yield.
8. It is June and the soybean futures market is trading at a profitable price. A farmer decides to hedge the price of soybeans that will be sold at harvest. What should the farmer do to hedge the soybeans?
- A. Buy futures contracts expecting to buy more contracts when selling soybeans at harvest.
  - B. Buy futures contracts expecting to sell those contracts when selling soybeans at harvest.
  - C. Sell futures contracts expecting to buy those contracts when selling soybeans at harvest.
  - D. Sell futures contracts expecting to sell more contracts when selling soybeans at harvest.
9. Once a farmer is hedged in the futures market, what is the only factor that could change the price received?
- A. An increase in the futures price.
  - B. A decrease in the futures price.
  - C. A smaller than expected yield.
  - D. A change in the basis.
10. Which of the following is not one of the steps of the risk management process?
- A. Identify
  - B. Monitor
  - C. Prioritize
  - D. Budget
11. Which of the following risks should realistically be transferred?
- A. A low frequency and low severity risk.
  - B. A low frequency and high severity risk.
  - C. A high frequency and low severity risk
  - D. All of these risks should be transferred.

Use the following information to answer questions 12 – 14. A farmer budgets corn production assuming an expected yield of 150 bushels per acre, total variable input costs of \$445 and cash rent of \$200 per acre.

12. What is the per bushel break-even price needed to cover total input costs and cash rent? Round to the nearest penny.

Participant Number \_\_\_\_\_

State Abbreviation \_\_\_\_\_

13. What is the per bushel break-even price needed if the harvested yield is 125 bushels/acre? Round to the nearest penny.

The farmer could produce soybeans yielding 65 bushels/acre with production costs of \$350/acre and land cash rent of \$200 per acre.

14. What is the per bushel price of soybeans needed to have the same profit as 150 bushel corn sold at a price of \$4.50 / bushel? Round to the nearest penny.

15. A family just purchased a home with borrowed money. They should consider which risk management tool?

- A. Hedging with commodity futures
- B. Enterprise diversification
- C. Life insurance
- D. Liability insurance

16. Liability insurance protects against

- A. lost income due to family member's death.
- B. crop loss due to inclement weather.
- C. legal risk.
- D. lower commodity prices.

17. When a farmer hedges with commodity futures, the risk is passed to

- A. the purchaser of the contract (speculator).
- B. the commodity exchange.
- C. the commodity broker.
- D. all who share in the risk equally.

18. \_\_\_\_\_ is an economic device where an individual substitutes a certain cost (premium) for an uncertain financial risk.

- A. Insurance
- B. Hedging
- C. Forward contracting
- D. Diversification

19. \_\_\_\_\_ is the selling of a commodity futures contract to protect a farmer from lower prices at the time the product is sold.
- A. Insurance
  - B. Hedging
  - C. Forward contracting
  - D. Diversification
20. \_\_\_\_\_ is the practice of producing several enterprises to protect against risk.
- A. Insurance
  - B. Hedging
  - C. Forward contracting
  - D. Diversification
21. A neighbor sues because trees were killed by herbicide drift. This is an example of
- A. market risk.
  - B. financial risk.
  - C. production risk.
  - D. legal risk.
  - E. human risk.
22. Increased fertilizer cost for producing corn is an example of
- A. market risk.
  - B. financial risk.
  - C. production risk.
  - D. legal risk.
  - E. human risk.
23. What is an example of a direct loss to a corn farm prevented from planting?
- A. The value of corn not harvested and sold
  - B. The value of seed and inputs not applied to the crop
  - C. Cost of tillage and inputs applied prior to planting
  - D. All of the above
24. An example of risk control
- A. is life insurance.
  - B. are fire extinguishers and eye goggles.
  - C. is hedging.
  - D. All of the above
25. The deductible for an insurance policy is a form of \_\_\_\_\_
- A. risk avoidance.
  - B. risk control.
  - C. risk transfer.
  - D. risk retention.

## Part VIII - Business Organization

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Short Answer questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice and True/False questions are one point each. Calculations and Short Answer questions are two points each.

1. The business organizational structure should
  - a. be as simple as possible.
  - b. provide access to sufficient resource's.
  - c. have a credit card.
  - d. encourage planning ahead.
  - e. distribute benefits fairly on the basis of contribution.
  - f. decrease the efficiency of all capital resources.
  - A. a, b and c
  - B. d, e and f
  - C. a, b, d and e
  - D. a, b, c and e
  
2. The appropriate business organization should involve combinations of factors related to the goals of the owners.
  - a. who owns the business
  - b. what is the ability to acquire resources
  - c. what county is the business located
  - d. what is the liability of the owners
  - e. what is the family living cost
  - f. who participates in management decisions
  - g. how easy is it to transfer business ownership
  - h. how long is the expected life of the business
  - A. a, b, c, d, f and g
  - B. d, e, f, g and h
  - C. a, b, d, e, g and h
  - D. a, b, d, f, g and h
  
3. The most common form of farm/ranch business organization is a
  - A. sole proprietorship.
  - B. partnership.
  - C. Limited Liability Company.
  - D. Corporation.



4. The business organization that limits individual liability.
  - A. Partnership
  - B. Operating Agreements
  - C. Sole proprietorship
  - D. Corporation
  
5. Which is not considered an advantage of sole proprietorship in most cases?
  - A. Simplicity
  - B. Tax Savings
  - C. Freedom
  - D. Flexibility
  
6. Which of the following is not a form of partnership?
  - A. General
  - B. Corporate
  - C. Limited
  - D. Limited Liability
  
7. The favorable characteristics of being incorporated are
  - a. continuity of business life.
  - b. possible reduced tax burden.
  - c. possible access to more capital.
  - d. opportunities for estate planning.
  - A. a, b and c
  - B. b, c and d
  - C. a, c and d
  - D. All of these

Cooperatives can be classified by functions or activities. List any three of the five kinds of cooperatives.

8.

9.

10.

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State Abbreviation \_\_\_\_\_

11. Trusts are a form of property ownership and they may be formed for many reasons. Which of the following is **not** true?

- A. Minimization of income tax
- B. Avoidance of probate
- C. Minimization of estate taxes
- D. Avoidance of real estate taxes

List one way a partnership can be dissolved.

12.

## Part IX, Section 1 - Analyzing the Agricultural Business

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Short Answer questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice and True/False questions are one point each. Calculations and Short Answer questions are two points each.

Using the Resource Information for the Valley View Farm 1/1/2016 and the 1/1/2017 Balance Sheets, found on Pages R1 - R4, answer the following questions.

1. Which of the three major liability categories showed the largest reduction in value from the beginning to the end of the year?

2. What was the total dollar reduction in that liability category?

3. What is the change in Net Worth from the beginning to year's end?

4. What percentage change in beginning Net Worth is the amount in question 3? Calculate to the nearest xx.xx %.

Using the Resource Information, answer the questions below from the Valley View Farm 2016 Executive Summary, found on Page R5, and the Area Average data, found on Page R16.

5. Term Debt Coverage Ratio is a ratio
- A. that shows the ability to pay off all debt.
  - B. showing the dollar amount available to pay off term debt.
  - C. that calculates the dollar comparison of current assets minus current debt.
  - D. showing the ability to pay all term debt payments.
6. Did the ending Term Debt Coverage Ratio indicate that Valley View farm could cover all payments required to cover term debt?
- A. Yes
  - B. No

Participant Number \_\_\_\_\_

State Abbreviation \_\_\_\_\_

7. What is the minimum Term Debt Coverage Ratio that would enable the average farm to cover term debt?

8. Is the Ending Working Capital as a % of Gross Farm Income (Revenues) better or worse for Valley View Farm compared to the average?

- A. Better
- B. Worse

9. What percentage would be a better Asset Turnover Rate (Cost) than what the average farm has?

10. What would be a better Operating Profit Margin (Cost) than what Valley View farm has?

11. What would be a better Operating Expense Ratio than what Valley View farm has?

The owners of Valley View Farm are interested in comparing financial information, Pages R5 and R6, with the average farms in their area, Page R16.

12. Valley View Farm has a larger gross farm income than the average farm.

- A. True
- B. False

13. The Net Farm Income for Valley View Farm is greater than their Net Cash Income.

- A. True
- B. False

14. What ratio provides a comparison of the Total Liabilities and Net Worth for a farm business?

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Net Farm Income is used to pay for family living, social security and income tax, retirement accounts, health and medical expenses, and loan principal payments. Calculate the balance remaining using the following items, rounded to whole numbers. NOTE: Your answer for items 15 through 19 **must include a + or - sign** in front of the numbers, to show whether they are added or subtracted in the calculation.

15. Net Farm Income (+ or -)

Cash Family Living Expenses (+ or -) \$ -46,952  
(excluding Health/Medical/Long Term Care)

16. Social Security and Income Tax (+ or -)

Health, Medical, Long Term Care Expense (+ or -) \$ -12,285

17. Other Nonfarm Expenditures, Excl Taxes (+ or -)

18. Principal Payments (+ or -)

19. Balance or Net: (+ or -)

A positive balance indicates revenue for other uses, while a negative balance indicates a need for revenue from other sources.

## Part IX, Section 2 - Analyzing the Agricultural Business

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Short Answer questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice and True/False questions are one point each. Calculations and Short Answer questions are two points each.

Answer the following questions that relate to the crop enterprises, found on Pages R9 and R17 in the Resource information.

1. For which crop enterprise was the net return per acre for Valley View Farm greater than the average?

Cash revenues for the orchard on the Income Statement for the Valley View Farm, Page R6, include the Sale of Resale Items and Other Farm Income. Orchard cash expenses on the Income Statement are listed as Miscellaneous and Purchase of Resale Items. Using this information, and the fruit and vegetable enterprise data found on page R19 in the Resource Information, answer the following questions.

2. Based on the 2017 Valley View Apple Orchard Cash Flow plan, how much net cash income is planned for the Orchard?

3. Which Orchard enterprise is projected to have the highest level of gross income in 2017?

4. Which Orchard enterprise is projected to have the largest total expenses in 2017?

Answer the following questions related to the Valley View Apple Orchard enterprise information for fruit and vegetable crops.

5. Which crop had the largest net return in 2016?

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6. Is the 2016 yield for that crop more or less than the average yield?
  - A. More
  - B. Less
  
7. Each crop on Valley View Apple Orchard had one year of negative returns in the past 4 years.
  - A. True
  - B. False
  
8. Over the past 4 years, which crop has produced the greatest amount of net income per acre?

Planning for the future is an important aspect of farm business management. Using the Projected balance sheet for 1/1/2018, found on page R15 in the Resource Information, answer the following questions.

9. The 1/1/2018 projected balance sheet indicates that there will be a decrease in assets, liabilities, and net worth, as compared to the 1/1/2017 balance sheet.
  - A. True
  - B. False
  
10. The 1/1/2018 projected balance sheet shows an improvement in the total debt to asset ratio, as compared to the 1/1/2017 balance sheet.
  - A. True
  - B. False

Comparing trend data is also an important aspect of farm business management. Using the Financial Trends, found on page R15 in the Resource Information, indicate whether each of these ratios/factors were projected to be better or worse in 2017 versus 2016.

11. Asset Turnover Rate
  - A. Better
  - B. Worse
  
12. Interest Expense Ratio
  - A. Better
  - B. Worse

Compare the Beef data for Valley View Farm, Page R10, with the Beef enterprise in the Area Averages, Page R18. Answer the following questions. Round dollar answers to cents.

13. Feed Costs per Head and per CWT were higher for Valley View Farm, compared to the Area Averages.
- A. True
  - B. False
14. Valley View Farm purchased their animals at a lower price per CWT and sold their animals at a lower price per CWT, compared to the Area Averages.
- A. True
  - B. False
15. How many pounds of growth were added to the average beef finishing animal in 2016 for the Area Average?

16. How many pounds of growth were added to the average beef finishing animal in 2016 for Valley View Farm?

Based on the pounds of growth added to each finishing animal, and the average daily gain, answer the following questions. Calculate to the nearest hundredth xx.xx.

17. How many days was the finishing animal on the average farm?

18. How many days was the finishing animal on Valley View Farm?



## Part X – Family Living

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Short Answer questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice and True/False questions are one point each. Calculations and Short Answer questions are two points each.

Review the farm and family information along with the 2016 Household and Personal Expense Summary (page XX in the Resource Information) before answering the following questions.

1. What is the total family living expense per family member for the Valley View Farm? Round answer to whole dollars.

2. In which category does the Valley View Farm have a larger per person cash expenditure than the Area Average?
- A. Clothing
  - B. Food and Meal Expense
  - C. Recreation
  - D. Medical care
  - E. Gifts
3. What annual cash family living expense would the Valey View Farm find the easiest to reduce?
- A. Health insurance
  - B. Cash donations
  - C. Utilities
  - D. Life insurance payments
  - E. Medical care

The Valley View Farm includes 4 family members instead of the 3.6 family members of the Area Average. For the following expense items, calculate whether Valley View Farm spends more or less than the Area Average on a per family member basis.

4. Cash donations
- A. Less
  - B. More
5. Disability/Long term care insurance
- A. Less
  - B. More

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6. Miscellaneous

- A. Less
- B. More

7. Utilities

- A. Less
- B. More

As the children of Valley View Farm buy their own homes and begin paying their own family living expenses, we assume the food and meals expense along with the clothing expense of Valley View Farm will decrease over time. What percent of total family living expense does each of these areas comprise for Valley View Farm? Round to the nearest whole percent.

8. Food and meals expense

9. Clothing expense

10. In the list below, indicate which expenses would be the most difficult to reduce?

- A. Cash Donations
- B. Miscellaneous
- C. Recreation
- D. Health insurance
- E. Gifts

11. What is the total family living and investment and nonfarm capital purchase expense dollar amount per family member for the Area Average? Round answer to whole dollars.

12. What is the total family living and investment and nonfarm capital purchase expense dollar amount per family member for the Valley View Farm? Round answer to whole dollars.

## Part XI - Economic Principles

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Short Answer questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Each question is worth two points.

1. Economics is the science of
  - A. money.
  - B. planning.
  - C. allocation.
  - D. capitalism.
  - E. All of the above
  
2. A production function is used to determine all of the following except
  - A. the optimal level of input to use.
  - B. the level of input at which profits are maximized.
  - C. the level of input at which total revenue diminishes.
  - D. the expected change in output for a given change in input.
  - E. the maximum price a consumer will pay for an output.
  
3. If a freeze were to occur that killed much of an apple crop, which of the following statements would be true if the market equilibrated?
  - A. The demand curve would shift to the left.
  - B. The quantity demanded would decrease.
  - C. The supply would decrease.
  - D. The supply curve would shift to the right.
  - E. both B and C are true.
  
4. The economic principle that states “when more units of a single input are used in a production process, output increases at a decreasing rate when all other factors are held equal” is called
  - A. the Law of Marginal Utility.
  - B. the Law of Diminishing Returns.
  - C. the Law of Falling Profits.
  - D. the Principle of Marginal Reductions.
  - E. None of the above
  
5. The concept in economics that explains the magnitude of changes in the consumption of a product relative to changes in the price of the product is called
  - A. Price Elasticity of Demand
  - B. Cross-Price Elasticity
  - C. Income Elasticity
  - D. Price Elasticity of Supply
  - E. None of the above

6. Which term describes all of the costs associated with producing an output on a per unit basis.
- Fixed Cost
  - Variable Cost
  - Average Fixed Cost
  - Average Variable Cost
  - Average Total Cost
7. The gains forgone by choosing to use a resource for one use instead of another is called the
- Opportunity Cost
  - Marginal Cost
  - Marginal Revenue
  - Alternative Cost
  - Production Cost
8. The decision rule for profit maximization is
- Marginal Revenue = Marginal Cost
  - Marginal Revenue  $\geq$  Marginal Cost
  - Marginal Revenue  $\leq$  Marginal Cost
  - Marginal Revenue  $\neq$  Marginal Cost
  - None of the above

Use the table below to answer questions 10 through 15.

Fertilizer Units	Yield Per Acre	Marginal Product	Total Cost Per Acre	Marginal Cost per Unit of Output	Total Revenue Per Acre	Marginal Revenue Per Unit of Output
0	10	N/A	\$100	N/A	\$50	\$5
1	25	15	\$200	\$6.70	\$125	\$5
2	55	30	\$300	\$3.30	\$275	\$5
3	85	30	\$400	\$3.30	\$425	\$5
4	120	35	\$500	\$2.90	\$600	\$5
5	160	40	\$600	\$2.50	\$800	\$5
6	205	45	\$700	\$2.20	\$1,025	\$5
7	210	5	\$800	\$20.00	\$1,050	\$5

Assumptions:

- Fixed costs = \$100/acre.
- Fertilizer costs \$100/unit.
- Output is worth \$5/unit.

9. At which level of fertilizer input is total revenue per acre maximized?
- A. 4
  - B. 5
  - C. 6
  - D. 7
10. Between which levels of fertilizer input is profit maximized?
- A. 3 & 4
  - B. 4 & 5
  - C. 5 & 6
  - D. 6 & 7
11. What is the marginal revenue if 2 units of fertilizer are used?
- A. \$300
  - B. \$275
  - C. \$5
  - D. \$3.30
12. What is the total revenue per acre if 2 units of fertilizer are used?
- A. \$300
  - B. \$275
  - C. \$5
  - D. \$3.30
13. What is the marginal cost per unit of output if 5 units of fertilizer are used?
- A. \$600
  - B. \$2.50
  - C. \$600
  - D. \$5



Participant Number \_\_\_\_\_

State Abbreviation \_\_\_\_\_

Participant's Name (please print clearly) \_\_\_\_\_

**Important:** Before you start this portion of the event, please write your participant number and state abbreviation on the blanks provided at the top of *each page*.

## 2017 NATIONAL FFA FARM AND AGRIBUSINESS MANAGEMENT CAREER DEVELOPMENT EVENT

Page Number	Part	Area	Possible Points
3	I	Financial Statements	27
7	II	Budgeting	25
10	III	Cash Flow Planning	27
13	IV	Marketing	23
16	V	Income Tax	29
20	VI	Investment Analysis	21
23	VII	Risk Management	28
27	VIII	Business Organization	16
30	IX.1	Analyzing the Agricultural Business, Sec. 1	31
33	IX.2	Analyzing the Agricultural Business, Sec. 2	30
36	X	Family Living	17
38	XI	Economic Principles	26
<b>TOTAL POSSIBLE POINTS</b>			<b>300</b>

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State Abbreviation \_\_\_\_\_

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## Part I - Financial Statements

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Short Answer questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice and True/False questions are one point each. Calculations and Short Answer questions are two points each.

1. Which financial statement lists the value of farm assets and liabilities on a specified date?
  - A. Balance sheet**
  - B. Income statement
  - C. Statement of owner equity
  - D. Statement of cash flows
  
2. This financial statement reports farm revenues minus farm operating and financial expenses over an accounting period.
  - A. Balance sheet
  - B. Income statement**
  - C. Statement of owner equity
  - D. Statement of cash flows
  
3. This financial statement expresses the relationship between the sources of cash and uses of cash over an accounting period.
  - A. Balance sheet
  - B. Income statement
  - C. Statement of owner equity
  - D. Statement of cash flows**
  
4. This financial statement explains changes in net worth.
  - A. Balance sheet
  - B. Income statement
  - C. Statement of owner equity**
  - D. Statement of cash flows
  
5. Which of the following is considered a farm revenue in an accrual-adjusted income statement?
  - A. Fertilizer expense during the accounting period.
  - B. Crop sales during the accounting period.
  - C. The increase in the value of crop inventory during the accounting period.
  - D. B & C**
  - E. A & C

6. The original cost basis of an asset plus the cost of any improvements or alterations that extends the life of the asset less accumulated depreciation or depletion on the asset is referred to as the
- A. net cost value of the asset.
  - B. net market value of the asset.
  - C. adjusted basis or cost value of the asset.**
  - D. total amortization value of the asset.
7. Net Farm Income from Operations for a sole proprietorship business refers to
- A. accrual adjusted revenues minus accrual adjusted expenses.**
  - B. total market value assets minus total liabilities.
  - C. current assets minus current liabilities.
  - D. cash income minus cash expenses.
8. Cash on hand on a business balance sheet would most closely correspond to which of the following?
- A. The balance in the farm checking and savings account.**
  - B. The balance in the farm checking and savings account plus other current assets.
  - C. The cash balance in the farm hedging account.
  - D. The value of stored grain inventory plus the value of market livestock.
9. The owner equity of a farm business is comprised of which three parts?
- A. Current assets, intermediate assets and long term assets.
  - B. Cost based asset values, market based asset values and inflation adjusted asset values.
  - C. Contributed or paid in capital, retained earnings and valuation equity.**
  - D. Change in asset values, change in liabilities and change in cash.
10. Net Farm Income for a farm business organized as a sole proprietorship represents a return to all the following except
- A. unpaid family labor.
  - B. owner's investment in the business.
  - C. equity capital.
  - D. borrowed capital.**
11. Which one of the following statements is true?
- A. The Statement of Cash Flows includes non-cash revenues while the Income Statement includes only cash revenue and cash expenses.
  - B. The Accrual Income Statement can have a gross revenue smaller than total cash income reported in the Statement of Cash Flows.**
  - C. Depreciation is included in the Statement of Cash Flows and the Income Statement.
  - D. The purpose of both the Income Statement and the Statement of Cash Flows is to measure profits of the farm business.

12. Which one of the following can increase the retained earnings of the farm business?
- A. Net farm income greater than business withdrawals for family living expenses and income taxes.**
  - B. Net farm income less than business withdrawals for family living expenses and income.
  - C. An operating loss for the accounting period.
  - D. An increase in the amount of money withdrawn from the business for family living expenses and income taxes.
13. On the beginning balance sheet of Valley View Farm, R1 & R2, crop inventory is valued at \$238,958. On the ending balance sheet of Valley View Farm, R3 & R4, crop inventory is valued at \$322,191. This indicates that crops sold
- A. correctly report accrual adjusted crop revenues.
  - B. understate the accrual adjusted crop revenues.**
  - C. overstates the accrual adjusted crop revenues.
  - D. play no part in calculating accrual adjusted crop revenues.
14. If the calculated ending owner equity equals the owner equity reported on the ending balance sheet,
- A. this would give you confidence your balance sheet and accrual-adjusted income and expense data are accurate.**
  - B. this would indicate there is an error in your balance sheet, income, and expense data.
  - C. this tells you nothing about the accuracy of your financial data.

**Use the data found in the financial statements for the Valley View Farm to answer the following questions.**

15. On the beginning balance sheet, current assets represent what percent of total market farm assets? Round to the nearest tenth of a percent xx.x%.

$$\$640,838 / \$5,745,929 = 11.2\%$$

16. On the ending balance sheet, what asset contributes the largest value to the total market value assets of Valley View Farm?
- A. Machinery
  - B. Inventory of stored grain and market livestock
  - C. Operating loan
  - D. Land**
17. On the beginning balance sheet, what is the valuation equity for the Valley View Farm?

$$\$5,745,929 - \$2,020,446 = \$3,725,483$$

**or if looked up \$3,725,482**

Participant Number \_\_\_\_\_

State Abbreviation \_\_\_\_\_

18. When Olaf purchased a farm in 2016, he decided to refinance the existing farm mortgage. The accrued interest from the existing mortgage was added to the new mortgage. The last payment on the existing mortgage was made on March 31, 2016. Interest on the mortgage accrues at the rate of \$88.28 per day. What was the amount of accrued interest added to the new mortgage on November 1, 2016? Calculate to the nearest cent.

$$(30+31+30+31+31+30+31) \times \\ \$88.28 = \$18,891.92$$

19. Part of the farm purchased in 2016 was financed with a \$175,000 contract with the seller. The interest rate is 4.5%. Constant annual principal and interest payments will be made each November 1 for 10 years. Using the table of amortization factors in the resource material, R22, what is the annual principal and interest payment that must be made on this contract? Calculate to the nearest cent.

$$\$175,000 \times 0.12638 = \$22,116.50$$

20. The accrual adjustment for Prepaids and Supplies in the Income Statement, R5 & R6, indicates cash expenses overstate expenses for the accounting period by how much?

$$\$139,047 - \$41,895 = \$97,152$$

21. The statement of cash flows indicates \$\_\_\_\_\_ was borrowed during 2016.

$$\$2,671,984$$

## Part II - Budgeting

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Short Answer questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice and True/False questions are one point each. Calculations and Short Answer questions are two points each.

1. A financial management tool showing the projected costs and returns associated with a single production process is a/an
  - A. cash flow projection.
  - B. enterprise budget.**
  - C. partial budget.
  - D. whole farm budget.
2. A management tool where a person compares two different production options or practices, and then compares estimated income and expenses to identify the better option or practice is a/an
  - A. partial budget.**
  - B. cash flow projection.
  - C. enterprise budget.
  - D. whole farm budget.
3. When determining the effect of growing more acres of a crop in an enterprise budget, the value least likely to change would be
  - A. total average costs.
  - B. total operating costs.
  - C. operating costs per acre.**
  - D. total variable costs.
4. When determining the effect of growing more acres of a crop, the cost most likely to change would be
  - A. operating costs per acre.
  - B. fixed costs per acre.**
  - C. rent per acre.
  - D. crop insurance per acre.
5. A whole farm schedule of expected returns and expenses is a
  - A. balance sheet.
  - B. partial budget.
  - C. depreciation schedule.
  - D. budget.**

6. In a partial budget, to determine the effect of choosing one option over another, you would
- A. subtract additional costs plus reduced returns from additional revenue plus reduced costs.**
  - B. add additional revenue to reduced costs.
  - C. subtract additional revenue plus reduced returns from additional costs plus reduced costs.
  - D. subtract additional revenue from additional costs.
7. For a livestock budget to be meaningful, what value should be placed on raised crops fed?
- A. The costs to produce these crops
  - B. Local market value**
  - C. Local market value plus 10%
  - D. Reported state average sale price
8. A cash flow projection is a form of budgeting that is used to
- A. determine living expenses.
  - B. determine a yearend balance.
  - C. determine operating credit needs.**
  - D. calculate total farm equity.

Use the Valley View Farm Enterprise Analysis pages to answer questions 9 and 10.

9. Which of the following contributes the largest amount of expense to the total farm overhead expenses?
- A. Interest on long term debt
  - B. Building depreciation
  - C. Utilities
  - D. Hired labor**
10. Based on the Enterprise Analysis, which enterprise would contribute the most to the total Net Farm Income?
- A. Corn cash rented
  - B. Corn silage owned
  - C. Soybeans cash rented**
  - D. Beef finishing

Valley View Farm would like to determine break-even prices and break-even yields on some of their enterprises in order to make some management decisions.

11. What is the break-even price per bushel to cover total direct and overhead expenses for owned corn? Round answer to the nearest cent.

<b>\$ 4.10</b>
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Participant Number \_\_\_\_\_

State Abbreviation \_\_\_\_\_

12. What is the break-even price per bushel to cover only the total direct expenses for the owned corn? Round answer to the nearest cent.

**\$ 2.29**

13. What is the break-even yield per acre necessary to cover all direct and overhead expenses for the owned corn? Round answer to the nearest whole bushel.

**\$738.18 / \$3.50 = 211**

14. What is the break-even price per bushel to cover all direct and overhead costs for soybeans on rented ground? Round answer to the nearest cent.

**\$7.80**

15. Over the long run, if Valley View Farm sees little or no change in the Enterprise Analysis, should they maintain corn grain production on their owned ground?

A. Yes

**B. No**

16. The beef enterprise anticipates that 510 tons of corn silage will be needed to feed the cattle. How many tons of corn silage does the farm expect to produce from its corn silage enterprise? Round the answer to the nearest ton.

**27.5 x 22.04 = 606 tons**

17. The beef enterprise budget anticipates that they will need 11,400 bushels of corn to feed the cattle. What is the expected production from the owned and rented corn enterprises? Round the answer to the nearest whole bushel.

**(181.4 x 179.99) + (300 x 179.99) = 86,647**

18. How many bushels of extra corn would the farm expect to have for sale? Round the answer to the nearest whole bushel.

**86,647 - 11,400 = 75,247**

### Part III – Cash Flow

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Short Answer questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice and True/False questions are one point each. Calculations and Short Answer questions are two points each.

1. Which of the following is correct, concerning the 2017 Cash Flow Projections and the resulting Projected Income Statement?
  - A. When looking at the profitability of the projected year, the Cash Flow Projection portion estimates the various sources of and uses for cash on a monthly basis.
  - B. The Cash Flow Projection by itself does not give a true picture of Net Farm Income (profitability) for the coming year.
  - C. The projected changes in inventory of both income and expense items are important in projecting Net Farm Income.
  - D. None of the above is true.
  - E. A, B and C are all true.**

2. Without counting the “Beginning Cash Balance” for the month, which month is anticipated to have the largest inflow of cash from its various sources?

**October**

3. Which month is anticipated to have the largest combined payments on intermediate and long-term loans?

**November**

4. What is the Operating Loan (AO) balance projected to be at the end of the year 2017?

**\$236,331**

5. What is the amount of the projected Net Farm Income for 2017?

**\$153,689**

6. The amount spent for Family Living has no effect on the ability to service debt.
  - A. True
  - B. False**



7. A 10% decrease in 2017 revenue would cause the Term Debt Coverage Ratio to be less than adequate.
- A. True**  
B. False
8. The 2017 Cash Flow Projection indicates a cash surplus after paying operating expenses and servicing term debt.
- A. True  
**B. False**
9. In 2017, the projected ending operating loan balance is larger than the beginning operating loan balance.
- A. True**  
B. False
10. Holding all else constant, if less cash were retained in the checking account, the ending balance of the operating loan would be smaller.
- A. True**  
B. False
11. If the large seed bill that is anticipated to be paid in November of 2017 was postponed until January of 2018, the Operating Loan Balance at the end of the 2017 would be smaller, and the Net Farm Income for 2017 would be larger.
- A. True  
**B. False**
12. Solvency measures the ability of all assets, if sold at market value, to cover all debts.
- A. True**  
B. False
13. A good measure of Solvency is the Current Ratio.
- A. True  
**B. False**
14. Refinancing a portion of an operating loan as a longer-term debt would improve the Liquidity of the business.
- A. True**  
B. False

15. Refinancing a portion of an operating loan as a longer-term debt would improve the Solvency of the business.
- A. True  
**B. False**
16. Selling a piece of equipment that is no longer used would generate cash that could help meet the cash flow needs of the business.
- A. True**  
B. False
17. Increasing cash flow does not necessarily increase net profit.
- A. True**  
B. False
18. Comparing the Planned Income for 2017 with the Actual Income for 2016, in the 2016 Analysis, a major reason for the improvement in Net Cash Farm Income is because the producer was able to lower cash farm expenses.
- A. True  
**B. False**
19. Although family living for a sole proprietor farmer is not a “farm expense,” it is important to include it on a Cash Flow Projection because it has a definite effect on the finances of the operation.
- A. True**  
B. False
20. The Current Ratio is calculated by dividing the Current Assets by the \_\_\_\_\_ . (Complete the statement with the correct word or words.)

**Current Liabilities**

21. What percent of the 2017 total inflow (cash) is corn sales?  
(Calculate to the nearest tenth of one percent, x.x%.)

**\$259,225 / \$1,492,962 = 17.7%**

## Part IV - Marketing

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Short Answer questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice and True/False questions are one point each. Calculations and Short Answer questions are two points each.

1. Which of the following are business marketing utilities?  
a) Form   b) Order   c) Place   d) Shape   e) Time   f) Possession  
A. a, b, d, e, and f  
**B. a, c, e and f**  
C. b, c, d and f  
D. b, c, d, e and f  
E. c and d
2. The law of demand says that a consumer will buy more at  
**A. lower prices.**  
B. higher prices.  
C. same prices.  
D. any price.
3. The most common element of federal government programs has been to  
A. lower production.  
B. have a food reserve.  
**C. provide price support.**  
D. fund research activities.
4. Price movement occurs over time because  
a. demand shifts.   b. supply shifts.   c. prices rise.   d. prices fall.  
**A. a and b**  
B. b and c  
C. c and d  
D. a and c
5. Producers can protect prices by the use of  
a. cash contracts.   b. basis contracts.   c. futures contracts.   d. option contracts  
A. a, b and c  
B. a, b and d  
**C. a, c and d**  
D. b, c and d

6. Producers have more corn than they can store. In looking at alternatives open to them, they found that the elevator will take corn at harvest for \$3.65 per bu. or they will let them store it. The storage charges are \$.25 for Oct., Nov., Dec. if it is there for one day or the 92 days. It is \$.05 per month after that charged on the first day of the month. They could sell out of the field **or** sell on the futures market.

Futures prices are:

Oct. \$3.65    Dec. \$3.75    Jan. \$3.85    Mar. \$4.00    May \$4.10    June \$4.15

What is the best alternative for selling this extra corn?

**Sell out of the field - October**

7. Valley View Farm is considering holding corn until March. What would be the minimum price needed to cover storage costs?

**\$4.05**  
 **$\$3.65 + .25 + .15 = \$4.05$**

8. A neighbor has a bin he will rent for \$.35 per bushel for the year. How much more could be made per bushel if the corn were sold in June?

**\$.15**  
 **$\$4.15 - 3.65 - .35 = \$.15$**

9. In the above case if a \$4.00 call option is purchased for June for \$.20, what price would the futures have to reach before any money would be made with this option?

**\$4.20**  
 **$\$4.00 + .20 = \$4.20$**

10. If he purchased the option and the corn price remained the same, what would the net price for his corn be?

**\$3.45**  
 **$\$3.65 - .20 = \$3.45$**

11. If corn rallied to \$4.50, what would his net corn price be?

**\$3.95**  
 **$\$4.50 - 4.20 = .30$**   
 **$\$3.65 + .30 = \$3.95$**

12. How many bushels are in a corn futures option contract?

**5000**

Participant Number \_\_\_\_\_

State Abbreviation \_\_\_\_\_

13. If he uses futures contracts for his feeder cattle, how many pounds are in each contract?

<b>50,000</b>
---------------

14. To protect the price of the cattle on feed, he should

- A. purchase a call option.
- B. purchase a put option.**
- C. sell a put option.
- D. sell a call option.

15. If the cattle were hedged, what would he do on the futures market when he sells the cattle?

- A. sell a futures contract
- B. sell call options
- C. buy a futures contract**
- D. purchase put options

## Part V - Income Tax

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Short Answer questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice and True/False questions are one point each. Calculations and Short Answer questions are two points each.

1. Under the cash method of accounting, an expense becomes a deductible expense if the bill is owed but has not yet been paid.  
**A. True**  
**B. False**
  
2. Under the cash method of accounting, income that arrives in the mail at the end of the year does not have to be claimed as income for the year if it is not deposited into the bank account until the next business year.  
**A. True**  
**B. False**
  
3. Under the cash method of accounting, income is considered to be constructively received if it is available to you without restriction.  
**A. True**  
B. False
  
4. In order to figure gain or loss on the sale of a capital asset, you must often make adjustments to the original basis of the asset.  
**A. True**  
B. False
  
5. In the case of Commodity Credit Corporation (CCC) loans on grain, the farmer can choose to have them treated either as a sale of grain, or as a loan for tax purposes.  
**A. True**  
B. False
  
6. If you buy or make improvements to farm property that have a useful life of more than one year, you generally must spread the cost over several years. This is called  
**A. basis.**  
B. deflation.  
**C. depreciation.**  
D. appreciation.  
E. inflation.

7. Assuming that the farmer's purchases of all qualifying property is below the allowable Section 179 limit, which property(ies) would be eligible for a Section 179 deduction?
- A. A new grain bin costing \$48,000.**
  - B. A portion of the cost of a used tractor purchased from her father.
  - C. A portion of the new machine shed that could also double as a grain storage facility in certain years.
  - D. All of the above.
  - E. None of the above.

**In 2016, a "Special Depreciation Allowance" (additional 50% special depreciation allowance) was available to farmers in certain cases. The following are characteristics of the "Special Depreciation Allowance":**

8. It would allow you to receive a \$75,000 depreciation deduction over time on a \$50,000 new tractor.
- A. True
  - B. False**
9. It could be used on the construction cost of a new machine shed that could double as a hay storage facility.
- A. True**
  - B. False

A farmer purchased a used tractor several years ago for \$40,000. For tax purposes, she owned it long enough that it was fully depreciated. She decided it would make good business sense to have a newer and better tractor. The local dealer had a nice used tractor that he would sell for \$85,000, or he would offer a trade-in value of \$28,000 for the farmer's older one. The farmer decided to trade in the old tractor. The trade was made on September 15, 2016. She paid \$30,000 of her own cash and borrowed the rest on a three-year loan. Use this information to answer questions 10 – 13 . Round the answers to the nearest dollar.

10. What was the adjusted basis of the old tractor?

**-0- Zero**

11. What was the original tax basis of the newly purchased tractor?

**\$57,000**

12. How much of this tractor purchase could she write off using the Additional 50% Special Depreciation Allowance?

**-0- Zero**

13. If she did not use any Section 179 deduction, how much depreciation could she take in 2016 using MACRS GDS Straight Line Method? Round the answer to the nearest dollar.

<b>\$4,071</b>
----------------

A farmer had purchased a breeding bull several years ago for \$7,000. While he owned it, he took \$5,600 depreciation on it. He sold the bull and received \$1,800. Use this information to answer question 14. Round the answer to the nearest dollar.

14. What is the taxable gain (or loss) on the sale?

<b>\$400</b>
--------------

15. What is the self-employment tax rate?

<b>15.3%</b>
--------------

16. Which of the following sources of farm income would be subject to Self-Employment Tax for a self-employed farmer?

- A. Sale of raised crops**
- B. Sale of an old plow
- C. Sale of raised dairy cows
- D. All of the above
- E. None of the above

A farm business can be structured as one of several types of business entities. Answer questions 17 - 21 by using the letter by the business entity. Use each answer only once.

17. The entity itself is not taxed. The owner's share of income is taxable to the owner, subject to federal and state (if appropriate) income taxes, but not to self-employment tax.

- A. Sole-proprietor
- B. Partnership
- C. LLC
- D. S-Corporation**
- E. C-Corporation

18. The entity is taxed. The after-tax profits can be distributed to the owner as dividends and are subject to tax for a second time.

- A. Sole-proprietor
- B. Partnership
- C. LLC
- D. S-Corporation
- E. C-Corporation**



19. Simplest form of business structure. All farm income earned is subject to self-employment tax.
- A. Sole-proprietor**
  - B. Partnership
  - C. LLC
  - D. S-Corporation
  - E. C-Corporation
20. Owners are called members.
- A. Sole-proprietor
  - B. Partnership
  - C. LLC**
  - D. S-Corporation
  - E. C-Corporation
21. The entity itself is not taxed. The owner's share of income is taxable to the owner and is subject to self-employment tax as well as federal income taxes.
- A. Sole-proprietor
  - B. Partnership**
  - C. LLC
  - D. S-Corporation
  - E. C-Corporation

Farmer Mary has three employees. Michael works full-time, all year. Sheri works part-time during the summer months. Mary's son Steve (seventeen-years-old) works part-time all year on the farm. Total cash wages paid to the three employees totaled \$51,500 in 2016. In addition to cash wages, son Steve is paid a commodity wage of 500 bushels of corn, which he feeds to his FFA swine project.

22. Social Security and Medicare (FICA) taxes must be withheld from the cash wages paid to all three employees.
- A. True
  - B. False**
23. The value of Steve's commodity wage corn is subject to Federal taxes, but not to FICA taxes.
- A. True**
  - B. False

## Part VI – Investment Analysis

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Short Answer questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice and True/False questions are one point each. Calculations and Short Answer questions are two points each.

Valley View Farm wants to buy a lightly used 2014 John Deere JD1760 12 row corn planter. They want this newer planter to replace the JD7000 six row planter they currently own. The dealer will provide them a six-year loan with an interest rate of 6.5%. The price of the planter delivered is \$61,000. The local dealer will allow them \$10,000 trade-in for the newer one. The payments are due in annual installments. Because they are such great customers, the dealer allowed zero percent down and will carry the note in-house.

Year	Annual Payment	Interest	Principal	Balance
0	XXXX	XXXX	XXXX	\$51,000.00
1	\$10,534.98	\$3,315.00	\$7,219.98	\$43,780.02
2	\$10,534.98	\$2,845.70	\$7,689.28	\$36,090.74
3	\$10,534.98	\$2,345.90	\$8,189.08	\$27,901.66
4	\$10,534.98	\$1,813.61	\$8,721.37	\$19,180.29
5	\$10,534.98	\$1,246.72	\$9,288.26	\$9,892.03
6	\$10,535.01	\$642.98	\$9,892.03	\$0.00

1. The accumulated interest will be

**\$12,209.91**

2. The annual payment will always be the same.

- A. True  
**B. False**

3. What is the beginning balance?

**\$51,000**

4. What will the balance be after the final payment is made?

**\$0**

5. What is the annual payment in year 6?

**\$10,535.01**

Participant Number \_\_\_\_\_

State Abbreviation \_\_\_\_\_

6. If quarterly payments were made instead of annual payments, the quarterly payment would be \$2,583.25. What would be the balance on the loan after the first quarterly payment? Calculate to the nearest cent. \$xx.xx

**\$49,245.50**

7. What would the interest be for the second quarterly payment? Calculate to the nearest cent. \$xx.xx

**\$800.24**

8. The principal amount in each of the payments on this note will always be the same.

- A. True
- B. False**

9. What is principal?

- A. The actual amount of money borrowed from the dealer.**
- B. The total amount of money you pay to the lender.
- C. The present value.
- D. The amount of money left over.

10. What is amortization?

- A. The ability to get a loan from the bank.
- B. Paying off debt with a varying repayment schedule.
- C. Paying off debt with a fixed repayment schedule.**
- D. The ability to repay a loan from the bank.

11. What is the usual length of time for the term on a loan?

- A. 5 year property
- B. 7 year property
- C. 10 year property
- D. It will match the useful life of the asset**

12. The annual payment generally consists of two things. What are they?

- A. Interest and Principal**
- B. Principal and Balance
- C. Balance and Interest

13. Interest is

- A. the actual amount of money borrowed from the dealer.
- B. the amount of money you pay to the lender for borrowing the money.**
- C. the present value.
- D. the amount of money left over.

Participant Number \_\_\_\_\_

State Abbreviation \_\_\_\_\_

14. For all amortized loans the interest amount on each loan payment will always remain the same during the life of the loan.
- A. True
  - B. False**
15. Regardless of the loan type, all loans, except personal loans, are governed by state and federal guidelines to protect consumers.
- A. True**
  - B. False

## Part VII - Risk Management

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Short Answer questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice and True/False questions are one point each. Calculations and Short Answer questions are two points each.

1. Which of the following is an example of market risk?
  - A. A change in corn prices
  - B. A change in corn production
  - C. A change in consumer's tastes and preferences that affect the willingness to pay for GMO products
  - D. Both A and C**
  
2. What is an example of human risk?
  - A. A drought reducing corn yields
  - B. A change in interest rates
  - C. Hired help injured by farm machinery**
  - D. A change in regulations regarding pesticide use
  
3. \_\_\_\_\_ is an example of risk transfer.
  - A. Crop insurance
  - B. Hedging with commodity futures
  - C. Fire alarms and fire sprinklers
  - D. Both A and B**
  
4. The current ratio is a measure of \_\_\_\_\_ risk.
  - A. production
  - B. market
  - C. financial**
  - D. human
  - E. legal
  
5. Forming an LLC can reduce the business owner's \_\_\_\_\_ risk.
  - A. production
  - B. market
  - C. financial
  - D. human
  - E. legal**
  
6. To establish a price ceiling for corn feed expense, a livestock producer should
  - A. buy a Put option.
  - B. sell a Put option.
  - C. buy a Call option.**
  - D. sell a Call option

7. Revenue protection crop insurance protects against
- A. a decline in price.
  - B. a decline in yield.
  - C. an increase in variable costs.
  - D. a decline in price or yield.**
8. It is June and the soybean futures market is trading at a profitable price. A farmer decides to hedge the price of soybeans that will be sold at harvest. What should the farmer do to hedge the soybeans?
- A. Buy futures contracts expecting to buy more contracts when selling soybeans at harvest.
  - B. Buy futures contracts expecting to sell those contracts when selling soybeans at harvest.
  - C. Sell futures contracts expecting to buy those contracts when selling soybeans at harvest.**
  - D. Sell futures contracts expecting to sell more contracts when selling soybeans at harvest.
9. Once a farmer is hedged in the futures market, what is the only factor that could change the price received?
- A. An increase in the futures price.
  - B. A decrease in the futures price.
  - C. A smaller than expected yield.
  - D. A change in the basis.**
10. Which of the following is not one of the steps of the risk management process?
- A. Identify
  - B. Monitor
  - C. Prioritize
  - D. Budget**
11. Which of the following risks should realistically be transferred?
- A. A low frequency and low severity risk.
  - B. A low frequency and high severity risk.**
  - C. A high frequency and low severity risk
  - D. All of these risks should be transferred.

Use the following information to answer questions 12 – 14. A farmer budgets corn production assuming an expected yield of 150 bushels per acre, total variable input costs of \$445 and cash rent of \$200 per acre.

12. What is the per bushel break-even price needed to cover total input costs and cash rent? Round to the nearest penny.

<b>\$4.30</b>
---------------

$$\text{Break-even Price} = (\$445 + \$200) / 150 = (\$645 / 150) = \$4.30 / \text{bushel}$$

Participant Number \_\_\_\_\_

State Abbreviation \_\_\_\_\_

13. What is the per bushel break-even price needed if the harvested yield is 125 bushels/acre? Round to the nearest penny.

**\$5.16**

**Break-even Price = ( $\$645 / 125$ ) =  $\$5.16 / \text{bushel}$**

The farmer could produce soybeans yielding 65 bushels/acre with production costs of \$350/acre and land cash rent of \$200 per acre.

14. What is the per bushel price of soybeans needed to have the same profit as 150 bushel corn sold at a price of \$4.50 / bushel? Round to the nearest penny.

**\$7.19**

**Soybean Price = ( $\$4.50 \times 150 - \$445 + \$350$ ) / 65 =  $\$7.19 / \text{bushel}$**

15. A family just purchased a home with borrowed money. They should consider which risk management tool?
- A. Hedging with commodity futures
  - B. Enterprise diversification
  - C. Life insurance**
  - D. Liability insurance
16. Liability insurance protects against
- A. lost income due to family member's death.
  - B. crop loss due to inclement weather.
  - C. legal risk.**
  - D. lower commodity prices.
17. When a farmer hedges with commodity futures, the risk is passed to
- A. the purchaser of the contract (speculator).**
  - B. the commodity exchange.
  - C. the commodity broker.
  - D. all who share in the risk equally.
18. \_\_\_\_\_ is an economic device where an individual substitutes a certain cost (premium) for an uncertain financial risk.
- A. Insurance**
  - B. Hedging
  - C. Forward contracting
  - D. Diversification

19. \_\_\_\_\_ is the selling of a commodity futures contract to protect a farmer from lower prices at the time the product is sold.
- A. Insurance
  - B. Hedging**
  - C. Forward contracting
  - D. Diversification
20. \_\_\_\_\_ is the practice of producing several enterprises to protect against risk.
- A. Insurance
  - B. Hedging
  - C. Forward contracting
  - D. Diversification**
21. A neighbor sues because trees were killed by herbicide drift. This is an example of
- A. market risk.
  - B. financial risk.
  - C. production risk.
  - D. legal risk.**
  - E. human risk.
22. Increased fertilizer cost for producing corn is an example of
- A. market risk.**
  - B. financial risk.
  - C. production risk.
  - D. legal risk.
  - E. human risk.
23. What is an example of a direct loss to a corn farm prevented from planting?
- A. The value of corn not harvested and sold
  - B. The value of seed and inputs not applied to the crop
  - C. Cost of tillage and inputs applied prior to planting**
  - D. All of the above
24. An example of risk control
- A. is life insurance.
  - B. are fire extinguishers and eye goggles.**
  - C. is hedging.
  - D. All of the above
25. The deductible for an insurance policy is a form of \_\_\_\_\_
- A. risk avoidance.
  - B. risk control.
  - C. risk transfer.
  - D. risk retention.**



## Part VIII - Business Organization

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Short Answer questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice and True/False questions are one point each. Calculations and Short Answer questions are two points each.

1. The business organizational structure should
  - a. be as simple as possible.
  - b. provide access to sufficient resource's.
  - c. have a credit card.
  - d. encourage planning ahead.
  - e. distribute benefits fairly on the basis of contribution.
  - f. decrease the efficiency of all capital resources.
  - A. a, b and c
  - B. d, e and f
  - C. a, b, d and e**
  - D. a, b, c and e
  
2. The appropriate business organization should involve combinations of factors related to the goals of the owners.
  - a. who owns the business
  - b. what is the ability to acquire resources
  - c. what county is the business located
  - d. what is the liability of the owners
  - e. what is the family living cost
  - f. who participates in management decisions
  - g. how easy is it to transfer business ownership
  - h. how long is the expected life of the business
  - A. a, b, c, d, f and g
  - B. d, e, f, g and h
  - C. a, b, d, e, g and h
  - D. a, b, d, f, g and h**
  
3. The most common form of farm/ranch business organization is a
  - A. sole proprietorship.**
  - B. partnership.
  - C. Limited Liability Company.
  - D. Corporation.

4. The business organization that limits individual liability.
  - A. Partnership
  - B. Operating Agreements
  - C. Sole proprietorship
  - D. Corporation**
  
5. Which is **not** considered an advantage of sole proprietorship in most cases?
  - A. Simplicity
  - B. Tax Savings**
  - C. Freedom
  - D. Flexibility
  
6. Which of the following is **not** a form of partnership?
  - A. General
  - B. Corporate**
  - C. Limited
  - D. Limited Liability
  
7. The favorable characteristics of being incorporated are
  - a. continuity of business life.
  - b. possible reduced tax burden.
  - c. possible access to more capital.
  - d. opportunities for estate planning.
  - A. a, b and c
  - B. b, c and d
  - C. a, c and d
  - D. All of these**

Cooperatives can be classified by functions or activities. List any three of the five kinds of cooperatives.

8. 

<b>Marketing, Purchasing, Service, Credit, Processing</b>
---
  
9. 

<b>Marketing, Purchasing, Service, Credit, Processing</b>
---
  
10. 

<b>Marketing, Purchasing, Service, Credit, Processing</b>
---

**Answers can be in any order.**

Participant Number \_\_\_\_\_

State Abbreviation \_\_\_\_\_

11. Trusts are a form of property ownership and they may be formed for many reasons. Which of the following is **not** true?

- A. Minimization of income tax
- B. Avoidance of probate
- C. Minimization of estate taxes
- D. Avoidance of real estate taxes**

List one way a partnership can be dissolved.

12.

**Withdrawal or death**

## Part IX, Section 1 - Analyzing the Agricultural Business

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Short Answer questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice and True/False questions are one point each. Calculations and Short Answer questions are two points each.

Using the Resource Information for the Valley View Farm 1/1/2016 and the 1/1/2017 Balance Sheets, found on Pages R1 - R4, answer the following questions.

1. Which of the three major liability categories showed the largest reduction in value from the beginning to the end of the year?

**Current**

2. What was the total dollar reduction in that liability category?

**(\$558,232 - \$369,760) = \$188,472**

3. What is the change in Net Worth from the beginning to year's end?

**(\$4,462,148 - \$4,477,685) =  
\$-15,537**

4. What percentage change in beginning Net Worth is the amount in question 3? Calculate to the nearest xx.xx %.

**\$-15,537 / \$4,462,148 = -.35%**

Using the Resource Information, answer the questions below from the Valley View Farm 2016 Executive Summary, found on Page R5, and the Area Average data, found on Page R16.

5. Term Debt Coverage Ratio is a ratio
- that shows the ability to pay off all debt.
  - showing the dollar amount available to pay off term debt.
  - that calculates the dollar comparison of current assets minus current debt.
  - showing the ability to pay all term debt payments.**
6. Did the ending Term Debt Coverage Ratio indicate that Valley View farm could cover all payments required to cover term debt?
- Yes
  - No**

Participant Number \_\_\_\_\_

State Abbreviation \_\_\_\_\_

7. What is the minimum Term Debt Coverage Ratio that would enable the average farm to cover term debt?

**1.00**

8. Is the Ending Working Capital as a % of Gross Farm Income (Revenues) better or worse for Valley View Farm compared to the average?

- A. Better**  
B. Worse

9. What percentage would be a better Asset Turnover Rate (Cost) than what the average farm has?

**A percentage more than 42.4%**

10. What would be a better Operating Profit Margin (Cost) than what Valley View farm has?

**A percentage more than 7.8%**

11. What would be a better Operating Expense Ratio than what Valley View farm has?

**A percentage less than 83.2%**

The owners of Valley View Farm are interested in comparing financial information, Pages R5 and R6, with the average farms in their area, Page R16.

12. Valley View Farm has a larger gross farm income than the average farm.

- A. True**  
B. False

13. The Net Farm Income for Valley View Farm is greater than their Net Cash Income.

- A. True**  
B. False

14. What ratio provides a comparison of the Total Liabilities and Net Worth for a farm business?

**Debt to Equity Ratio  
Or Leverage Ratio**

Participant Number \_\_\_\_\_

State Abbreviation \_\_\_\_\_

Net Farm Income is used to pay for family living, social security and income tax, retirement accounts, health and medical expenses, and loan principal payments. Calculate the balance remaining using the following items, rounded to whole numbers. NOTE: Your answer for items 15 through 19 **must include a + or - sign** in front of the numbers, to show whether they are added or subtracted in the calculation.

15. Net Farm Income	(+ or -)	<b>\$ +46,364</b>
Cash Family Living Expenses	(+ or -)	\$ <u>-46,952</u>
(excluding Health/Medical/Long Term Care)		
16. Social Security and Income Tax	(+ or -)	<b>\$ -7,402</b>
Health, Medical, Long Term Care Expense	(+ or -)	\$ <u>-12,285</u>
17. Other Nonfarm Expenditures, Excl Taxes	(+ or -)	<b>\$ -11,503</b>
18. Principal Payments	(+ or -)	<b>\$ -65,245</b>
19. Balance or Net:	(+ or -)	<b>\$ -97,023</b>

A positive balance indicates revenue for other uses, while a negative balance indicates a need for revenue from other sources.

## Part IX, Section 2 - Analyzing the Agricultural Business

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Short Answer questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice and True/False questions are one point each. Calculations and Short Answer questions are two points each.

Answer the following questions that relate to the crop enterprises, found on Pages R9 and R17 in the Resource information.

1. For which crop enterprise was the net return per acre for Valley View Farm greater than the average?

**Rented Soybeans**

Cash revenues for the orchard on the Income Statement for the Valley View Farm, Page R6, include the Sale of Resale Items and Other Farm Income. Orchard cash expenses on the Income Statement are listed as Miscellaneous and Purchase of Resale Items. Using this information, and the fruit and vegetable enterprise data found on page R19 in the Resource Information, answer the following questions.

2. Based on the 2017 Valley View Apple Orchard Cash Flow plan, how much net cash income is planned for the Orchard?

**\$725,765**

3. Which Orchard enterprise is projected to have the highest level of gross income in 2017?

**Orchard Merchandise**

4. Which Orchard enterprise is projected to have the largest total expenses in 2017?

**Donuts**

Answer the following questions related to the Valley View Apple Orchard enterprise information for fruit and vegetable crops.

5. Which crop had the largest net return in 2016?

**Pumpkins**

6. Is the 2016 yield for that crop more or less than the average yield?
- A. More
  - B. Less**
7. Each crop on Valley View Apple Orchard had one year of negative returns in the past 4 years.
- A. True**
  - B. False
8. Over the past 4 years, which crop has produced the greatest amount of net income per acre?

<b>Apples</b>
---------------

Planning for the future is an important aspect of farm business management. Using the Projected balance sheet for 1/1/2018, found on page R15 in the Resource Information, answer the following questions.

9. The 1/1/2018 projected balance sheet indicates that there will be a decrease in assets, liabilities, and net worth, as compared to the 1/1/2017 balance sheet.
- A. True**
  - B. False
10. The 1/1/2018 projected balance sheet shows an improvement in the total debt to asset ratio, as compared to the 1/1/2017 balance sheet.
- A. True**
  - B. False

Comparing trend data is also an important aspect of farm business management. Using the Financial Trends, found on page R15 in the Resource Information, indicate whether each of these ratios/factors were projected to be better or worse in 2017 versus 2016.

11. Asset Turnover Rate
- A. Better**
  - B. Worse
12. Interest Expense Ratio
- A. Better
  - B. Worse**



Compare the Beef data for Valley View Farm, Page R10, with the Beef enterprise in the Area Averages, Page R18. Answer the following questions. Round dollar answers to cents.

13. Feed Costs per Head and per CWT were higher for Valley View Farm, compared to the Area Averages.

A. True  
**B. False**

14. Valley View Farm purchased their animals at a lower price per CWT and sold their animals at a lower price per CWT, compared to the Area Averages.

**A. True**  
B. False

15. How many pounds of growth were added to the average beef finishing animal in 2016 for the Area Average?

$$(1,296 - 537) = 759$$

16. How many pounds of growth were added to the average beef finishing animal in 2016 for Valley View Farm?

$$(1,283 - 469) = 814$$

Based on the pounds of growth added to each finishing animal, and the average daily gain, answer the following questions. Calculate to the nearest hundredth xx.xx.

17. How many days was the finishing animal on the average farm?

$$(759 / 1.87) = 405.88$$

18. How many days was the finishing animal on Valley View Farm?

$$(814 / 2.53) = 321.74$$

## Part X – Family Living

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Short Answer questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice and True/False questions are one point each. Calculations and Short Answer questions are two points each.

Review the farm and family information along with the 2016 Household and Personal Expense Summary (page XX in the Resource Information) before answering the following questions.

1. What is the total family living expense per family member for the Valley View Farm? Round answer to whole dollars.

$\$60,540 / 4 = \$15,135$
---------------------------

2. In which category does the Valley View Farm have a larger per person cash expenditure than the Area Average?
- A. Clothing
  - B. Food and Meal Expense
  - C. Recreation**
  - D. Medical care
  - E. Gifts
3. What annual cash family living expense would the Valey View Farm find the easiest to reduce?
- A. Health insurance
  - B. Cash donations**
  - C. Utilities
  - D. Life insurance payments
  - E. Medical care

The Valley View Farm includes 4 family members instead of the 3.6 family members of the Area Average. For the following expense items, calculate whether Valley View Farm spends more or less than the Area Average on a per family member basis.

4. Cash donations
- A. Less**            **\$596 vs \$760**
  - B. More
5. Disability/Long term care insurance
- A. Less
  - B. More**            **\$154 vs \$100**

Participant Number \_\_\_\_\_

State Abbreviation \_\_\_\_\_

6. Miscellaneous

A. Less

**B. More            \$1,716 vs \$1,688**

7. Utilities

**A. Less            \$542 vs \$658**

B. More

As the children of Valley View Farm buy their own homes and begin paying their own family living expenses, we assume the food and meals expense along with the clothing expense of Valley View Farm will decrease over time. What percent of total family living expense does each of these areas comprise for Valley View Farm? Round to the nearest whole percent.

8. Food and meals expense

$$\mathbf{\$9,657 / \$60,540 = 16\%}$$

9. Clothing expense

$$\mathbf{\$1,984 / \$60,540 = 3\%}$$

10. In the list below, indicate which expenses would be the most difficult to reduce?

A. Cash Donations

B. Miscellaneous

C. Recreation

**D. Health insurance**

E. Gifts

11. What is the total family living and investment and nonfarm capital purchase expense dollar amount per family member for the Area Average? Round answer to whole dollars.

$$\mathbf{\$82,220 / 3.6 = \$22,839}$$

12. What is the total family living and investment and nonfarm capital purchase expense dollar amount per family member for the Valley View Farm? Round answer to whole dollars.

$$\mathbf{\$79,445 / 4 = \$19,861}$$

## Part XI - Economic Principles

On the answer sheet enter the answer for each question. For Multiple Choice and True/False, shade the appropriate oval. For Calculations and Short Answer questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Each question is worth two points.

1. Economics is the science of
  - A. money.
  - B. planning.
  - C. allocation.**
  - D. capitalism.
  - E. All of the above
  
2. A production function is used to determine all of the following except
  - A. the optimal level of input to use.
  - B. the level of input at which profits are maximized.
  - C. the level of input at which total revenue diminishes.
  - D. the expected change in output for a given change in input.
  - E. the maximum price a consumer will pay for an output.**
  
3. If a freeze were to occur that killed much of an apple crop, which of the following statements would be true if the market equilibrated?
  - A. The demand curve would shift to the left.
  - B. The quantity demanded would decrease.
  - C. The supply would decrease.
  - D. The supply curve would shift to the right.
  - E. both B and C are true.**
  
4. The economic principle that states “when more units of a single input are used in a production process, output increases at a decreasing rate when all other factors are held equal” is called
  - A. the Law of Marginal Utility.
  - B. the Law of Diminishing Returns.**
  - C. the Law of Falling Profits.
  - D. the Principle of Marginal Reductions.
  - E. None of the above
  
5. The concept in economics that explains the magnitude of changes in the consumption of a product relative to changes in the price of the product is called
  - A. Price Elasticity of Demand**
  - B. Cross-Price Elasticity
  - C. Income Elasticity
  - D. Price Elasticity of Supply
  - E. None of the above

6. Which term describes all of the costs associated with producing an output on a per unit basis.
- Fixed Cost
  - Variable Cost
  - Average Fixed Cost
  - Average Variable Cost
  - Average Total Cost**
7. The gains forgone by choosing to use a resource for one use instead of another is called the
- Opportunity Cost**
  - Marginal Cost
  - Marginal Revenue
  - Alternative Cost
  - Production Cost
8. The decision rule for profit maximization is
- Marginal Revenue = Marginal Cost**
  - Marginal Revenue  $\geq$  Marginal Cost
  - Marginal Revenue  $\leq$  Marginal Cost
  - Marginal Revenue  $\neq$  Marginal Cost
  - None of the above

Use the table below to answer questions 10 through 15.

Fertilizer Units	Yield Per Acre	Marginal Product	Total Cost Per Acre	Marginal Cost per Unit of Output	Total Revenue Per Acre	Marginal Revenue Per Unit of Output
0	10	N/A	\$100	N/A	\$50	\$5
1	25	15	\$200	\$6.70	\$125	\$5
2	55	30	\$300	\$3.30	\$275	\$5
3	85	30	\$400	\$3.30	\$425	\$5
4	120	35	\$500	\$2.90	\$600	\$5
5	160	40	\$600	\$2.50	\$800	\$5
6	205	45	\$700	\$2.20	\$1,025	\$5
7	210	5	\$800	\$20.00	\$1,050	\$5

Assumptions:

- Fixed costs = \$100/acre.
- Fertilizer costs \$100/unit.
- Output is worth \$5/unit.

9. At which level of fertilizer input is total revenue per acre maximized?
- A. 4
  - B. 5
  - C. 6
  - D. 7**
10. Between which levels of fertilizer input is profit maximized?
- A. 3 & 4
  - B. 4 & 5
  - C. 5 & 6
  - D. 6 & 7**
11. What is the marginal revenue if 2 units of fertilizer are used?
- A. \$300
  - B. \$275
  - C. \$5**
  - D. \$3.30
12. What is the total revenue per acre if 2 units of fertilizer are used?
- A. \$300
  - B. \$275**
  - C. \$5
  - D. \$3.30
13. What is the marginal cost per unit of output if 5 units of fertilizer are used?
- A. \$600
  - B. \$2.50**
  - C. \$600
  - D. \$5



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**2017 National FFA Farm and Agribusiness Management  
Career Development Event  
Team Activity**

**Expectations:** The team activity evaluates the ability of team members to work together to use decision making and problem analysis skills while applying economic principles and concepts taught in farm business management.

**Evaluation:** The team activity portion is evaluated as follows:

- involve all members of the team
- organize the team effort
- communicate with each other in resolving issues relating to the current situation
- reach consensus and agreement
- complete the analysis of possible alternatives and solutions
- communicate and submit in writing the team's consensus of solutions

**Team Activity Overview:** The Valley View Farm expanded into the orchard business when they purchased the orchard over 10 years ago. Over time, the orchard business has grown to include the production and sale of donuts, and the addition of a playground for which they charge admission. At one time, they relied on paid advertisements in newspapers, etc., but now their purchased advertising is limited, and they rely heavily on social media and word of mouth.

Their customers come mainly from residents within a 50-mile radius, with very few tourists pulling in off of the freeway. Their season runs from August 1<sup>st</sup> (if fruit is ready) through the end of October. Week-day traffic is fairly light. Saturday mornings begin light, but by late morning and through the afternoon, the customer traffic is very heavy. On Sundays they are open fewer hours, but business on Sundays often exceeds Saturdays.

The present business is conducted in numerous repurposed buildings. Customer flow within the business buildings competes with the work flow to prepare, display and service the business. The family has not experienced problems with inspections from regulatory agencies but with their numerous employees, there is a potential for issues in the future.

The apple crop varies from year to year due to hail, wind, moisture, etc. Some varieties are more favorable than others for a number of reasons. The imperfect apples are crushed for apple cider. Fresh cider (unpasteurized) is a significant portion of their orchard business. They utilize a coding system to identify batches. They also prepare slushies. They make donuts in their facilities, and donut sales are a huge draw to their business. They offer hay rides for a



Please put your state and team number in the blanks in the upper right corner of each page

fee. They have developed an extensive playground utilizing old farm equipment, old tires, climbing and sliding areas, etc. A fee is charged to the adults and children that use it, and this has been a significant money maker for them.

The labor force includes family members and approximately 20 part-time workers. They have not had a problem finding workers when they need them. They say that some of the high school-aged workers have proven to be some of their best.

Their business is located on a county road. Customer parking is limited to an area on their own property across the road. If customers begin parking in the neighbor's field, the neighbor does not appreciate it. Some of the cars park along the edge of the road.

Explore the orchard portion of their business in the areas listed below. Review the current and past situations considering what you have learned from the Resource Information and from working on the individual problem.

<b>Points:</b>	<b>Question 1:</b>	<b>Potential Liability Issues</b>	<b>15 points</b>
	<b>Question 2:</b>	<b>Addressing Potential Liability Issues</b>	<b>15 points</b>
	<b>Question 3:</b>	<b>Increasing Net Income</b>	<b>15 points</b>
	<b>Question 4:</b>	<b>Other Products to sell</b>	<b>15 points</b>
	<b>Question 5:</b>	<b>Regulatory Agencies</b>	<b>15 points</b>
	<b>Question 6:</b>	<b>Inspections/Regulations: Consumer benefit</b>	<b>10 points</b>
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	<b>Question 12:</b>	<b>Depreciation Costs</b>	<b>14 points</b>
	<b>Question 13:</b>	<b>Impact – New machine on Gross Income</b>	<b>7 points</b>
	<b>Question 14:</b>	<b>Cost of Ingredients</b>	<b>7 points</b>
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	<b>Question 19–21:</b>	<b>Gain in Net Income</b>	<b>11 points</b>
	<b>Question 22:</b>	<b>Order of Enterprise Expansion</b>	<b><u>8 points</u></b>
		<b>Total</b>	<b>200 points</b>

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**1. List three potential liability issues for the Orchard. (5 pts. Ea. = 15 points)**

**2. For the issues you listed in answering #1, list three ways they might limit or eliminate the potential liability. (5 pts. Ea. = 15 points)**

**3. List three ways they could realistically increase their net income. (5 pts. Ea. = 15 points)**

Please put your state and team number in the blanks in the upper right corner of each page

**4. List three other products they might consider selling. (5 pts. Ea. = 15 points)**

**5. With a portion of their business involved in food handling, they are subject to additional regulatory inspections. List at least three different regulatory agencies that their business, as a whole, may be subject to. (5 pts. Ea. = 15 points)**

**6. List two ways that these inspections and regulations benefit the consumer. (5 pts. Ea. = 10 points)**

Please put your state and team number in the blanks in the upper right corner of each page

**7. List two ways that these inspections and regulations benefit the business? (5 pts. Ea. = 10 points)**

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**8. List two ways they could extend the length of their season (currently August through Halloween). (5 pts. Ea. = 10 points)**

--

**9. List two advantages of hiring local high school students. (5 pts. Ea. = 10 points)**

--

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**10. List two challenges for hiring high school students. (5 pts. Ea. = 10 points)**

**11. FFA members that work for this business might have the potential opportunity to earn FFA proficiency awards. List two possible proficiency awards and explain how they might qualify for them. (5 pts. Ea. = 10 points)**

**The operation has been very satisfied with the production and sale of donuts. To expand this part of the operation, they have purchased a slightly used donut-making machine that will double the production with the same amount of labor. The cost of the machine was \$9,500. (7 pts. possible for each calculation for questions 12 to 14.)**

**12. Using straight line depreciation, what will the depreciation be on this newly purchased machine in year one and in year three. (7 pts. Ea. = 14 points)**

Year One: \_\_\_\_\_

Year Three: \_\_\_\_\_

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**13. With this new machine, they will double their output. What will be the gross income? (7 points)**

**14. The cost of donut ingredients will double with the increased production of donuts. What will that cost be? (7 points)**

**If all other costs remain the same, calculate the following four items:  
(2 points each for questions #15 & #16; 7 points each for #17 & #18) = (18 total points)**

**15. Gross Income** \_\_\_\_\_

**16. Donut Ingredients** \_\_\_\_\_

**17. Other Costs** \_\_\_\_\_

**18. Net Income** \_\_\_\_\_

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**Based on your answer to question 18, what is the increase in net income from doing this? (2 points each for questions #19 & #20; 7 points for #21) = (11 total points)**

19. Net Income after Expansion \_\_\_\_\_

20. Net Income before Expansion \_\_\_\_\_

21. Gain in Net Income \_\_\_\_\_

**22. Based on the gain earned from each dollar spent on the enterprises of apples, cider, entertainment and pumpkins; in what order would you expand them?  
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First Enterprise \_\_\_\_\_

Second Enterprise \_\_\_\_\_

Third Enterprise \_\_\_\_\_

Fourth Enterprise \_\_\_\_\_





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		<b>Total</b>	<b>200 points</b>

Please put your state and team number in the blanks in the upper right corner of each page

**1. List three potential liability issues for the Orchard. (5 pts. Ea. = 15 points)**

- Food-borne illness
- Injuries to workers
- Injuries to customers
- Lack of parking
- Property damage

**2. For the issues you listed in answering #1, list three ways they might limit or eliminate the potential liability. (5 pts. Ea. = 15 points)**

- Meet all regulatory requirements
- Develop parking area on the same side of road, to eliminate people crossing the road
- Insurance
- Workers' training
- Sanitary conditions

**3. List three ways they could realistically increase their net income. (5 pts. Ea. = 15 points)**

- Longer season
- Improve work flow area
- Reduce expenses
- Expand their market
- Charge more
- Consign extra products
- Add concession items

Please put your state and team number in the blanks in the upper right corner of each page

**4. List three other products they might consider selling. (5 pts. Ea. = 15 points)**

- Purchased produce to sell (honey, popcorn)
- Gift shop items
- Clothing apparel
- Bakery items

**5. With a portion of their business involved with food handling, they are subject to additional regulatory inspections. List at least three different regulatory agencies that their business, as a whole, may be subject to. (5 pts. Ea. = 15 points)**

- Dept. of Environmental Quality
- OSHA
- Public Health Board
- ADA – Dept. of Labor, Justice, Transportation
- Fire Marshall
- Food, Drug Administration – Food Safety Modernization Act

**6. List two ways that these inspections and regulations benefit the consumer. (5 pts. Ea. = 10 points)**

- Protect against environmental hazards
- Protect against food borne hazards
- Protect against fire hazards
- Protect ease of accessibility

Please put your state and team number in the blanks in the upper right corner of each page

**7. List two ways that these inspections and regulations benefit the business? (5 pts. Ea. = 10 points)**

- Encourages safer environments
- Encourages better food safety
- Limits legal liability by complying with regulations
- Discourages competition – barrier to entry
- Employee satisfaction for working environment
- Customer satisfaction & positive business relations

**8. List two ways they could extend the length of their season (currently August through Halloween). (5 pts. Ea. = 10 points)**

- Early fruit varieties
- Additional storage
- Purchase additional products for re-sale
- Market more varieties of vegetables

**9. List two advantages of hiring local high school students. (5 pts. Ea. = 10 points)**

- They likely know the student prior to hiring
- They likely know the families of the workers
- Eager to work
- Good tech skills
- Word of mouth advertising to a different demographic
- Flexible work hours
- Support FFA SAE opportunities

Please put your state and team number in the blanks in the upper right corner of each page

**10. List two challenges for hiring high school students. (5 pts. Ea. = 10 points)**

- School session begins before season ends
- Work hours conflicting with school activities
- Lack of interest in the type of work available
- Lack of experience in working with the public

**11. FFA members that work for this business might have the potential opportunity to earn FFA proficiency awards. List two possible proficiency awards and explain how they might qualify for them. (5 pts. Ea. = 10 points)**

- Placement in fruit production
- Placement in ag. sales
- Ag. repair and maintenance
- Ag. processing

The operation has been very satisfied with the production and sale of donuts. To expand this part of the operation, they have purchased a slightly used donut-making machine that will double the production with the same amount of labor. The cost of the machine was \$9,500. (7 pts. possible for each calculation for questions 12 to 14.)

**12. Using straight line depreciation, what will the depreciation be on this newly purchased machine in year one and in year three. (7 pts. Ea. = 14 points)**

Year One: \_\_\_\_\_ **\$679** \_\_\_\_\_

Year Three: \_\_\_\_\_ **\$1,357** \_\_\_\_\_

Please put your state and team number in the blanks in the upper right corner of each page

**13. With this new machine, they will double their output. What will be the gross income? (7 points)**

**\$244,910 (\$122,455 X 2)**

**14. The cost of donut ingredients will double with the increased production of donuts. What will that cost be? (7 points)**

**\$24,286 X 2 = \$49,724**

**If all other costs remain the same, calculate the following four items:  
(2 points each for questions #15 & #16; 7 points each for #17 & #18) = (18 total points)**

**15. Gross Income**          \$244,910    

**16. Donut Ingredients**          \$49,724    

**17. Other Costs**          \$53,576          (\$77,862 - \$24,286)

**18. Net Income**          \$141,610          (\$244,910 - \$49,724 - \$53,576)

Please put your state and team number in the blanks in the upper right corner of each page

**Based on your answer to question 18, what is the increase in net income from doing this? (2 points each for questions #19 & #20; 7 points for #21) = (11 total points)**

19. Net Income after Expansion          \$141,610    

20. Net Income before Expansion          \$44,593    

21. Gain in Net Income                          \$97,017    

**22. Based on the gain earned from each dollar spent on the enterprises of apples, cider, entertainment and pumpkins; in what order would you expand them? (2 pts. Ea. = 8 points)**

First Enterprise:          Pumpkins    

Second Enterprise:          Entertainment    

Third Enterprise:          Apples    

Fourth Enterprise:          Cider







**JOHN DEERE**