2019 NATIONAL FFA FARM AND AGRIBUSINESS MANAGEMENT CDE

CAREER DEVELOPMENT EVENT

RESOURCE INFORMATION FOR VOLKSTAD PECAN COMPANY

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Volkstad Pecan Company
Bryan and Brianna Volkstad, owners

Bryan and Brianna were married in 1985. Both had been students at the local state college with majors in agriculture. Bryan majored in Ag Finance and worked for two years in the county Farm Service Agency (FSA) before starting farming in 1987 and continued in that job until 2000. Brianna majored in Crop Science and worked with an area crop consultant for eight years, until beginning a family. The Volkstads have three children: Benjamin (26), Bethany (23) and Brittany (19). Benjamin and Bethany are working in the area, but Brittany still lives at home.

In 1987, the Volkstads were approached by a neighbor and long-time friend of Bryan's father. The neighbor had known Bryan since he was a small child and had a very positive opinion of Bryan and his work ethic. That neighbor presented the Volkstads with the first option to purchase a 210-acre parcel, which had been part of a cattle and hay ranch for many years. The neighbor's children did not have an interest in the ranch parcel and supported their parent's plan to sell it.

After thinking about this tremendous opportunity for several weeks, the Volkstads decided to purchase the acreage but not to continue with cattle and hay production. The Volkstads purchased the farm in August of 1987 and immediately began planting 180 acres of the land to pecans. The remaining 30 acres was an established grove of native pecans. By 1992, they had completed planting pecans on all productive acres. They harvested the native pecans each year, but the initial production on the first acres they planted began on a limited basis in 1994, with full production beginning in 2002. The orchard now consists of 180 acres of irrigated Pawnee pecans and 30 acres of native pecans. They have been in full production of pecans at this farm for over 15 years.

The equipment for the pecan operation was small during the first 10 years and was purchased used, rather than new, to limit costs in the start-up phase of the orchard. As returns increased, they purchased larger equipment to keep up with production. By the early 2000s, the Volkstads started upgrading equipment to manage the operation under full production for the long term. Their equipment line is not large, but they are very strategic in their planning of the practices needed to effectively manage a pecan orchard. In 2018, they purchased a new John Deere tractor to replace the older model that had been in the operation for 15 years. In addition to 1 full-time hired worker, they also hire seasonal help (custom hire) in the form of 2 local individuals who operate their own tractors to pull equipment during harvest.

Irrigation is a critical management tool for pecan production in the area. The Volkstads began with sprinkler irrigation and found it to be effective. Over the past 10 years, they have been gradually moving to drip irrigation for all their acres. This has been an efficient and cost-effective method for watering their trees once the initial investment has been covered. They use four 6" wells to provide the water supply.

Benjamin became a member of the FFA beginning in 9th grade in 2007. For his SAE, he was interested in raising beef cattle. Bryan had focused on pecan production up to that time and had little interest in beef production. Father and son discussions had an influence on Bryan, resulting in his decision to support his son in this interest. He purchased a neighboring 160-acre pasture to begin Benjamin's SAE. Benjamin started by purchasing 15 beef cows with help from dad and an FSA loan. He sold half the calves, saved half the calves to build the herd, purchased a few heifers along the way, increasing the herd to 50 cows by the time he graduated from college. After college, Bryan purchased the herd and added another 50 cows for a total of 100 beef cows. By that time, he had also purchased the remaining 240 acres of pasture. This is "improved" pasture, with an ongoing fertility program, so that the 400 acres could handle 100 beef cows with calves.

The year 2016 was good for pecan producers in the area and the Volkstads had planned for an expansion in the fall of 2017, but due to a combination of setbacks, the addition was delayed. In 2018, the family was rewarded for years of hard work when Bryan and Brianna followed through on their plan for an addition to their home.

Within the pecan industry, like other industries, there are always discussions that occur targeting options to improve income potential. Two areas that have been discussed include the grazing of beef cattle on the orchard land during the normal growing season and the option to convert the operation to organic. The organic option may include purchasing additional land. The Volkstads are willing to consider both options. They have beef cattle and could easily expand the herd slightly to pasture the orchard grounds. Bethany has talked about organic production because of her college classes and her parents have been attentive in those discussions.

Pecan production is a business that requires planning for the long-term. Management strategies differ from traditional annual crops because the health of the pecan tree is critical for it to survive. Natural events with significant negative impacts are a serious concern because they can occur multiple times over the life of an orchard. Weather events and wildlife, insect and disease issues can have a major impact on pecan production.

Bryan and Brianna would like to retire within the next 10-12 years. Before they retire, some management decisions will need to be made as the pecan trees continue to mature. Research studies have shown that thinning the trees has long-term benefits. They will also need to evaluate the potential for, and the cost of, replacing the 30 acres of native pecans and planting new, more productive trees on those acres of the orchard. Currently, the children are unsure of their long-term interest in taking over the operation.

Good managers will plan for the future by establishing short and long-term goals for the business and the family. The Volkstads have written goals for the operation that include:

1. By 2020, evaluate the addition of processing and cold storage to their operation.
2. Thin the orchard by 2022 to increase production over the long-term.
3. Prior to 2025, develop an estate plan to transfer the operation to members of the family.

Volkstad Pecan Company
1/1/2018 Beginning Balance Sheet

Current Assets			Value
Cash and checking			18,755
Prepaid expenses and supplies			60,143
Growing crops			-
Accounts receivable			31,564
Hedging accounts			-
Other current assets			-
Crop inventory	Quantity	Value/Unit	
Pecans	1,000	2.75/lb.	2,750
Mixed Hay	100	95.00/ton	9,500
Livestock held for sale			-
Total Current Assets			**122,712**

Current Liabilities			Balance
Accrued interest			2,549
Accounts payable and other accrued expenses			28,335
	Int	P & I	Principal
Current loans	Rate	Due	Balance
Principal due within 12 months on term liabilities			45,466
Total Current Liabilities			**76,350**

Intermediate Assets		Cost	Market
Breeding livestock	No.	Value	Value
Beef Cows	100	85,000	85,000
Machinery and equipment		522,850	525,450
Titled vehicles		34,830	44,000
Other intermediate assets		-	-
Total Intermediate Assets		**642,680**	**654,450**

Intermediate Liabilities (Schd V)	Int	Principal	P & I	Principal	Intermed
Loan	Rate	Balance	Due	Due	Balance
John Deere Credit-6130R	7.50	32,000	8,500	5,921	26,079
JDCC-6130R new	6.25	85,000	15,000	9,555	75,445
FCS-Equip line	7.25	212,500	35,000	18,992	193,508
Total Intermediate Liabilities					**295,032**

Long Term Assets		Cost	Market
Land	Acres	Value	Value
Home Orchard	210	210,000	735,000
Farmstead	10	10,000	35,000
Pasture land	160	140,000	168,000
Pasture land	240	200,000	245,000
Buildings and improvements		27,500	40,000
Other long term assets		-	-
Total Long Term Assets		**587,500**	**1,223,000**

Long Term Liabilities (Schd W)	Int	Principal	P & I	Principal	Lg Term
Loan	Rate	Balance	Due	Due	Balance
FCS-Orchard	4.25	6,500	7,000	6,500	-
FCS-Pastrure Fm	3.75	52,500	6,500	4,498	48,002
Total Long Term Liabilities					**48,002**

	Cost	Market
Total Farm Assets	**1,352,892**	**2,000,162**
Personal Assets (Schd P)	571,160	617,860
Total Assets (a)(b)	**1,924,052**	**2,618,022**

Total Farm Liabilities			**419,384**
Personal Liabilities			-
		Cost	Market
Deferred Liabilities (c)			281,163
Total Liabilities (d)(e)		419,384	700,547
Retained Earnings/Contributed Capital	[a-d]	1,504,668	
Market valuation equity	[b-a-c]		412,807
Net Worth	[b-e]		**1,917,475**

Volkstad Pecan Company
1/1/2019 Ending Balance Sheet

Current Assets			Value
Cash and checking			13,939
Prepaid expenses and supplies			65,580
Growing crops			-
Accounts receivable			38,765
Hedging accounts			-
Other current assets			-
Crop inventory	Quantity	Value/Unit	
Mixed Hay	100	95.00/ton	9,500
Pecans	1,000	2.80/lb.	2,800
Livestock held for sale			-
Total Current Assets			**130,584**

Current Liabilities			Balance
Accrued interest			21,499
Accounts payable and other accrued expenses			24,335
	Int	P & I	Principal
Current loans	Rate	Due	Balance
Principal due within 12 months on term liabilities			20,358
Total Current Liabilities			**66,192**

Intermediate Assets		Cost	Market
Breeding livestock	No.	Value	Value
Beef Cows	100	85,000	85,000
Machinery and equipment		580,015	587,905
Titled vehicles		29,606	44,000
Other intermediate assets		-	-
Total Intermediate Assets		**694,621**	**716,905**

Intermediate Liabilities (Schd V)	Int	Principal	P & I	Principal	Intermed
Loan	Rate	Balance	Due	Due	Balance
John Deere Credit-6130R	7.50	28,479	8,500	4,069	24,410
JDCC-6130R new	6.25	80,757	15,000	9,827	70,930
FCS-Equip line	7.25	209,244	35,000	3,742	205,502
Total Intermediate Liabilities					**300,842**

Long Term Assets		Cost	Market
Land	Acres	Value	Value
Home Orchard	210	210,000	735,000
Farmstead	10	10,000	35,000
Pasture land	160	140,000	170,000
Pasture land	240	200,000	255,000
Buildings and improvements		26,125	40,000
Other long term assets		-	-
Total Long Term Assets		**586,125**	**1,235,000**

Long Term Liabilities (Schd W)	Int	Principal	P & I	Principal	Lg Term
Loan	Rate	Balance	Due	Due	Balance
FCS-Orchard	4.25	2	7,000	-	2
FCS-Pastrure Fm	3.75	49,971	6,500	2,720	47,251
Total Long Term Liabilities					**47,253**

Total Farm Assets	**1,411,330**	**2,082,489**
Personal Assets (Schd P)	688,875	735,575
Total Assets (a)(b)	**2,100,205**	**2,818,064**

Total Farm Liabilities			**414,287**
Personal Liabilities			-
		Cost	Market
Deferred Liabilities (c)			288,300
Total Liabilities (d)(e)		414,287	702,587
Retained Earnings/Contributed Capital	[a-d]	1,685,917	
Market valuation equity	[b-a-c]		429,560
Net Worth	[b-e]		**2,115,477**

Monthly Cash Flow Plan Executive Summary

Projected Cash Flow Summary

Total operating inflow		817,325
Total operating outflow	(-)	650,375
Capital purchases	(-)	-
Capital sales	(+)	-
New credit	(+)	-
Loan payments	(-)	78,851
Net cash flow	**(=)**	**88,099**
Beginning cash balance	(+)	13,939
Operating loan borrowings	(+)	547,531
Operating loan principal payments	(-)	547,531
Ending cash balance	(=)	102,038
Beginning operating loan balance		-
Peak operating loan balance (Sep)		547,531
Ending operating loan balance		-

Projected Change in Working Capital

Change in cash		88,099
Change in current inventories	(+)	8,824
Change in princ due on term loans	(-)	22,093
Estimated change in working capital	(=)	74,830

Projected Income Statement

Gross cash farm income		817,325
Inventory change - income items	(+)	-13,215
Gross revenue	(=)	804,110
Cash farm operating expense		489,875
Interest expense	(+)	58,173
Depreciation	(+)	67,391
Inventory change - expense items	(+)	-22,039
Total farm expense	(=)	593,399
Net farm income		210,711

Projected Earned Net Worth Change

Net farm income		210,711
Family living expense	(-)	92,500
Income taxes accrued	(-)	48,000
Personal asset depreciation	(-)	5,843
Earned net worth change	(=)	64,368

Term Debt Coverage

Net farm income from operations		210,711
Depreciation	(+)	67,391
Personal income	(+)	-
Family living expense	(-)	92,500
Income taxes accrued	(-)	48,000
Interest on term debt	(+)	24,040
Capital debt repayment capacity	(=)	161,641
Term debt payments		65,002
Capital debt repayment margin		96,639
Term debt coverage ratio		2.49

Financial Standards Measures

Liquidity	**Beginning**	**Ending**
Current ratio	2.0	3.1
Working capital	64,392	139,222
Working capital to gross revenue	8.0 %	17.3 %
Solvency (market)		
Debt to asset ratio	33.0 %	30.8 %
Debt to equity ratio	0.5	0.4
Profitability (market)		
Net farm income		210,711
Rate of return on assets		9.5 %
Rate of return on equity		11.3 %
Operating profit margin		25.9 %
EBITDA		315,990
Repayment Capacity		
Term debt coverage ratio (farm)		2.49
Replacement margin coverage ratio		1.44
Efficiency		
Asset turnover rate (market)		36.8
Operating expense ratio		60.7 %
Depreciation ratio		8.4 %
Interest expense ratio		4.7 %
Net farm income ratio		26.2 %
Other		
Term debt coverage (farm+personal)		2.49
Term debt to EBITDA		1.10

Shocks to Farm Term Debt Coverage Ratio

10% decrease in gross income	1.25
10% increase in operating expenses	1.74
3% increase in interest rates	2.04

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
CASH INFLOWS													
Beg cash bal	13939	25000	25000	25000	25000	25000	25000	25000	25000	25000	25000	156428	13939
Pecans	-	-	-	-	-	-	-	-	-	306000	416925	-	722925
Beef Calves	-	-	-	-	-	-	-	-	-	-	94400	-	94400
Total inflow	13939	25000	25000	25000	25000	25000	25000	25000	25000	331000	536325	156428	831264
CASH OUTFLOWS													
Fertilizer	-	-	-	-	38280	-	-	-	-	-	-	-	38280
Chemicals	-	-	-	-	40950	-	-	-	-	-	-	-	40950
Drying fuel	-	-	-	-	-	-	13650	13650	-	-	-	-	27300
Irrig energy	-	-	-	-	-	4620	9240	9240	-	-	-	-	23100
C. Cust hire	-	-	-	-	-	-	13650	13650	-	-	-	-	27300
C. Labor	-	-	-	-	-	-	31500	31500	-	-	-	-	63000
C. Consultan	-	-	-	-	8741	-	8741	8741	-	-	-	-	26224
Purch. feed	9371	9371	4686	-	-	-	-	-	-	-	4686	9371	37485
Veterinary	94	94	431	516	516	516	516	516	516	516	178	94	4500
Supplies	167	167	367	417	417	417	417	417	417	417	217	167	3999
L. Marketing	-	-	-	-	-	-	-	-	-	-	713	-	713
Fuel & oil	-	-	1686	5058	5058	1686	1686	1686	3372	5058	5058	-	30350
Repairs	-	1821	-	3642	-	-	1821	-	-	-	3642	-	10925
Cust hire	-	-	-	5500	7000	-	-	-	-	7000	8000	-	27500
Labor	-	-	-	-	-	-	-	-	16000	16000	32000	-	64000
RE taxes	458	458	458	458	458	458	458	458	458	458	458	458	5500
Farm insur.	1229	1229	1229	1229	1229	1229	1229	1229	1229	1229	1229	1229	14750
Utilities	279	279	279	279	279	279	279	279	279	279	279	279	3350
Marketing	-	-	-	-	-	-	-	-	-	-	9650	-	9650
Dues & fees	108	108	108	108	108	108	108	108	108	108	108	108	1300
Misc.	375	375	375	375	375	375	375	375	375	375	375	375	4500
Consultants	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	2100	25200
Living/Draw	7708	7708	7708	7708	7708	7708	7708	7708	7708	7708	7708	7708	92500
Income taxes	-	-	48000	-	-	-	-	-	-	-	-	-	48000
Gifts	-	-	10000	-	-	-	-	-	-	10000	-	-	20000
Min end bal	25000	25000	25000	25000	25000	25000	25000	25000	25000	25000	25000	25000	25000
Tot. outflow	46890	48710	102428	52391	138220	44497	118479	116658	57563	76249	101402	46890	675375
Opr. surplus	-32951	-23710	-77428	-27391	-113220	-19497	-93479	-91658	-32563	254751	434923	109538	155889

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
LOAN PAYMENTS													
JDCC-6130R	-	-	-	-	8500	-	-	-	-	-	-	-	8500
JDCC-6130R..	-	-	-	-	-	-	-	-	-	-	-	15000	15000
FCS-Equip ..	-	-	-	-	-	17500	-	-	-	-	-	17500	35000
FCS-Orchard	-	-	-	-	2	-	-	-	-	-	-	-	2
FCS-Pastru..	-	-	-	-	-	-	-	-	-	-	6500	-	6500
Tot loan pay	-	-	-	-	8502	17500	-	-	-	-	6500	32500	65002
Surp. or def	**-32951**	**-23710**	**-77428**	**-27391**	**-121722**	**-36997**	**-93479**	**-91658**	**-32563**	**254751**	**428423**	**77038**	**90887**
ANNUAL OPERATING LOAN TRANSACTIONS & BALANCES													
Beg AO bal	-	32951	56826	134538	162601	285137	323559	418656	512407	547531	295518	-	-
AO borrowing	32951	23875	77712	28063	122535	38422	95097	93751	35125	-	-	-	547531
AO int. pay	-	165	284	673	813	1426	1618	2093	2562	2738	1478	-	13849
AO prin. pay	-	-	-	-	-	-	-	-	-	252013	295518	-	547531
End AO bal.	**32951**	**56826**	**134538**	**162601**	**285137**	**323559**	**418656**	**512407**	**547531**	**295518**	**-**	**-**	**-**
Accrued int.	-	-	-	-	-	-	-	-	-	-	-	-	-
End cash bal	25000	25000	25000	25000	25000	25000	25000	25000	25000	25000	156428	102038	102038

COST OF PRODUCTION SUMMARY

Crop	Total Expenses	Less Govt & Other Income	With Labor & Mgt	Machinery Cost / Acre
Pecans, Irr.	1.71 /lb.	1.71 /lb.	1.86 /lb.	714.14
Pasture, Intensive	35.56 /aum	35.56 /aum	37.44 /aum	78.55

Enterprise	Product	Total Expenses	Less Govt & Other Income	With Labor & Mgt	Feed Cost	Feed Cost / Budget Unit
Beef Cow-Calf	Beef Calves	136.15 /cwt.	136.15 /cwt.	145.90 /cwt.	63.56 /cwt.	375.00 /Cow

2018 Financial Analysis Executive Summary

Income Statement

Crop sales	705,275	
Crop inventory change	50	
Gross crop income		705,325
Livestock sales	85,925	
Livestock inventory change	-	
Gross livestock income		85,925
Government payments		-
Other cash farm income		-
Change in accounts receivable		7,201
Gain or loss on hedging accts		-
Change in other assets		-
Gain or loss on breeding lvst		-
Gross farm income		**798,451**
Cash operating expense	376,854	
Change in prepaid exp and supplies	-5,437	
Change in growing crops	-	
Change in accounts payable	-4,000	
Depreciation	71,935	
Total operating expense		439,352
Interest paid	-	
Change in accrued interest	18,950	
Total interest expense		18,950
Total expenses		**458,302**
Net farm income		**340,149**

Other Measures

Total crop acres		210
Cow-Calf Cows		100
Change in earned net worth	199,749	12 %
Change in market value net worth	198,002	10 %

Financial Standards Measures

Liquidity	**Beg**	**End**
Current ratio	1.61	1.97
Working capital	46,362	64,392
Working capital to gross revenues	5.8 %	8.1 %

Solvency (market)	**Beg**	**End**
Debt to asset ratio	34 %	33 %
Debt to equity ratio	0.52	0.49

Profitability	**Cost**	**Market**
Net farm income	340,149	356,902
Rate of return on assets	22.4 %	16.0 %
Rate of return on equity	30.1 %	22.6 %
Operating profit margin	41.5 %	43.7 %

Repayment Capacity		
Term debt coverage ratio (farm only)		4.17
Replacement margin coverage ratio		3.11

Efficiency	**Cost**	**Market**
Asset turnover rate	54.0 %	36.5 %
Operating expense ratio		46.0 %
Depreciation expense ratio		9.0 %
Interest expense ratio		2.4 %
Net farm income ratio		42.6 %

Other		
Term debt coverage (farm+personal)		4.17
Term debt to EBITDA		0.80

Information Accuracy

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

Income Statement

Income	Quantity	Price	Amount
Pecans, Papershell	275,500 lb.	2.56/lb.	705,275
Beef Calves, Ben's Beef	96 head	153.00/cwt.	85,925
Gross cash income			791,200

Expense	Amount
Fertilizer	37,438
Crop chemicals	39,270
Drying expense	26,250
Irrigation energy	22,556
Crop Consultants	25,200
Crop Marketing	8,400
Purchased feed	52,750
Veterinary	3,250
Supplies	3,850
Livestock Marketing	935
Fuel & oil	29,850
Repairs	10,190
Custom hire	26,320
Hired labor	63,150
Real estate taxes	5,250
Farm insurance	14,550
Utilities	3,250
Dues & professional fees	1,250
Miscellaneous	3,145
Total cash expense	376,854
Net cash income	414,346

Inventory Changes	Beginning Inventory	Purchases	Sales	Ending Inventory	Inventory Change	
Prepaids and supplies	60,143			65,580	5,437	
Accounts receivable	31,564			38,765	7,201	
Crops and feed	12,250			12,300	50	
Breeding livestock	85,000	-	-	85,000	-	
Accounts payable	28,335			24,335	4,000	
Accrued interest	2,549			21,499	-18,950	
Total inventory change						-2,262
Net operating profit						412,084

Depreciation	Beginning Inventory	Purchases	Sales	Ending Inventory	Depreciation	
Machinery and equipment	522,850	122,500	-	580,015	-65,335	
Titled vehicles	34,830	-	-	29,606	-5,225	
Buildings and improvement	27,500	-	-	26,125	-1,375	
Total depreciation						-71,935
Net farm income						**340,149**

Profitability Measures

			Cost	Market
(A)	Net farm income from operations		340,149	356,902
	Rate of return on assets	(E/F)	22.4 %	16.0 %
	Rate of return on equity	(G/H)	30.1 %	22.6 %
	Operating profit margin	(E/I)	41.5 %	43.7 %
	Asset turnover rate	(I/F)	54.0 %	36.5 %
	EBITDA		431,034	447,786
(B)	Change in market valuation		-	16,752
(C)	Interest expense		18,950	18,950
(D)	Value of unpaid oper labor & mgmt		50,000	50,000
(E)	Return on farm assets	(A+C-D)	309,100	325,852
(F)	Average farm assets		1,382,111	2,041,326
(G)	Return on farm equity	(A-D)	290,149	306,902
(H)	Average farm net worth		965,275	1,355,169
(I)	Value of farm production		745,701	745,701

Liquidity Measures

			Begin	End
(J)	Current assets		122,712	130,584
(K)	Current liabilities		76,350	66,192
	Current ratio	(J/K)	1.61	1.97
	Working capital	(J-K)	46,362	64,392
	Change in working capital		18,030	
	Working capital to gross revenues		5.8 %	8.1 %

Solvency Measures (Market)

			Begin	End
(L)	Total assets		2,618,022	2,818,064
(M)	Total liabilities		700,547	702,587
	Net worth	(L-M)	1,917,475	2,115,477
	Net worth change		198,002	
	Current debt to assets	(K/J)	62 %	51 %
	Intermediate debt to assets		45 %	42 %
	Long term debt to assets		4 %	4 %
	Total debt to assets ratio	(M/L)	27 %	25 %

Repayment Capacity

	Net farm income from operations		340,149
	Depreciation	(+)	71,935
	Personal income	(+)	-
	Family living expense	(-)	92,300
	Income taxes accrued	(-)	45,750
	Interest on term debt	(+)	26,534
(N)	Capital debt repayment capacity	(=)	300,568
(O)	Scheduled term debt payments		72,000
(P)	Capital debt repayment margin	(N-O)	228,568
(Q)	Cash replacement allowance		24,677
	Replacement margin	(P-Q)	203,891
	Term debt coverage ratio	(N/O)	4.17
	Replacement coverage ratio	(N/O+Q)	3.11

Statement of Owner's Equity

(a)	Beginning net worth		1,917,475
	Net farm income		340,149
	Personal income	(+)	-
	Family living expense	(-)	92,300
	Income taxes accrued	(-)	45,750
	Change in personal assets	(+)	-2,350
	Change in nonfarm accounts payable	(+)	-
(b)	Total change in retained earnings	(=)	199,749
	Capital contributions		-
	Gifts given	(-)	18,500
(c)	Total change in contributed capital	(=)	-18,500
	Change in market value of capital assets		23,890
	Change in deferred liabilities	-	7,137
(d)	Total change in market valuation	=	16,752
(e)	Total change in net worth	(b+c+d)	198,002
	Ending net worth		2,115,477

Statement of Cash Flows

(f)	Beginning cash balance (farm & personal)		88,315
	Gross cash farm income		791,200
	Cash farm expenses	(-)	376,854
(g)	Cash provided by operating activities	(=)	414,346
	Sale of capital assets		-
	Purchase of machinery and equipment	(-)	122,500
	Purchase of personal assets	(-)	138,550
(h)	Cash provided by investing activities	(=)	-261,050
	Money borrowed		-
	Principal payments	(-)	20,047
	Personal income	(+)	-
	Family living expense	(-)	92,300
	Income taxes paid	(-)	45,750
	Gifts given	(-)	18,500
(i)	Cash provided by financing activities	(=)	-176,597
	Net change in cash	(g+h+i)	-23,301
	Ending cash balance (farm and personal)		65,014

Crop Enterprise Analysis

	Pecans Irrigated Owned	***Int. Pasture Dryland Owned***
Returns		
Acres	210.00	400.00
Unit	lb.	aum
Yield per acre	1309.52	5.00
Share of production (%)	100.00	100.00
Value per unit	2.56	18.00
Total product value	3352.38	90.00
Other crop income	-	-
Gross return per acre	3352.38	90.00
Direct Expenses		
Fertilizer	125.36	27.78
Crop chemicals	187.00	-
Drying expense	125.00	-
Custom hire	125.33	-
Hired labor	300.71	-
Utilities	15.48	-
Consultants	120.00	-
Marketing	40.00	-
Irrigation energy	107.41	-
Fuel & oil	126.67	4.39
Repairs	37.15	1.13
Operating interest	81.21	-
Total direct expenses	1391.33	33.30
Return over direct expenses	1961.05	56.70
Overhead Expenses		
Real estate taxes	15.03	4.58
Farm insurance	69.29	-
Dues & professional fees	5.95	-
Machinery depreciation	324.63	2.44
Building depreciation	5.89	-
Miscellaneous	13.48	-
Total overhead expenses	434.27	7.02
Total dir & ovhd expenses	1825.60	40.32
Net return per acre	1526.78	49.68
Government payments	-	-
Net return with govt pmts	1526.78	49.68
Labor & management charge	224.43	4.68
Net return over lbr & mgt	1302.35	45.00
Cost of Production Per Unit		
Total direct expenses	1.06	6.66
Total dir & ovhd expenses	1.39	8.06
Less govt & other income	1.39	8.06
With labor & management	1.57	9.00
Net value per unit	2.56	18.00
Machinery cost per acre	613.79	7.96
Est. labor hours per acre	30.31	-

LIVESTOCK ENTERPRISE ANALYSIS -- Beef Cow-Calf

	Per Cwt. Produced			Per Cow			Enterprise Total		
	Quantity		Value	Quantity		Value	Quantity		Value
Returns									
Beef CalvesBen's Beef	102.09	lb.	156.20	561.60	lb.	859.25	56160.0	lb.	85925
Other income			-			-			-
Gross return	102.09	lb.	156.20	561.60	lb.	859.25	56160.0	lb.	85925
Purchased	-2.09	lb.	-1.77	-11.50	lb.	-9.75	-1150.0	lb.	-975
Gross margin	100.00	lb.	154.43	550.10	lb.	849.50	55010.0	lb.	84950
Direct Expenses									
Pasture, Intensive	2.18	aum	39.27	12.00	aum	216.00	1200.0	aum	21600
Hay, Mixed	319.94	lb.	16.00	1760.00	lb.	88.00	88.0	ton	8800
Protein Vit Minerals	109.07	lb.	20.91	600.00	lb.	115.00	30.0	ton	11500
Veterinary			5.91			32.50			3250
Supplies			7.00			38.50			3850
Marketing			1.70			9.35			935
Fuel & oil			2.71			14.93			1493
Repairs			3.52			19.36			1936
Operating interest			3.44			18.95			1895
Total direct expenses			100.45			552.59			55259
Return over direct expenses			53.97			296.91			29691
Overhead Expenses									
Real estate taxes			0.48			2.63			263
Machinery depreciation			2.57			14.11			1411
Building depreciation			0.25			1.38			138
Miscellaneous			0.57			3.15			315
Total overhead expenses			3.86			21.26			2126
Total dir & ovhd expense			104.32			573.84			57384
Net return			50.11			275.66			27566
Labor & management charge			1.82			10.00			1000
Net return over lbr & mgt			48.29			265.66			26566
Est. labor hours per unit			0.61			3.35			335

Cost of Prod Per Cwt. Produced		Other Information			
Total direct expenses	100.45	Number of cows	100.0	Cows per FTE	835.8
Total dir & ovhd expenses	104.32	Pregnancy percentage	97.0	Average weaning weight	585
With other revenue adjustments	106.09	Calving percentage	97.0	Lb. weaned/exposed female	562
With labor & management	107.91	Weaning percentage	96.0	Feed cost per cow	419.00
		Calves sold per cow	0.96	Avg wgt/ Beef Calves sold	585
		Calf death loss percent	1.0	Avg price / cwt.	153.00
		Cow death loss percent	1.0		

Contributions to Overhead Expenses

Enterprise	Units	Contribution Per Unit	Total Contribution
Pecans, Irrigated	210. Acres	1,961.05	411,821
Pasture, Intensive, Dryland	400. Acres	56.70	22,679
Cow-Calf	100. Cow	296.91	29,691
Total contributions			464,191

Overhead expenses

Real estate taxes	5,250
Farm insurance	14,550
Dues & professional fees	1,250
Machinery depreciation	70,560
Building depreciation	1,375
Miscellaneous	3,145
Total overhead expense	96,130
Total return over overhead expe	368,061

Nonfarm Summary

Personal Income	Amount
Personal wages & salary	-
Personal business income	-
Personal rental income	-
Personal interest income	-
Personal cash dividends	-
Tax refunds	-
Other personal income	-
Total personal income	-

Family Living Expenses

Number of family members	3
Food and meals expense	9,423
Medical care	4,851
Health insurance	17,655
Cash donations	2,955
Household supplies	3,189
Clothing	4,432
Personal care	4,258
Gifts	3,178
Education	12,550
Recreation	7,158
Utilities (household share)	1,356
Personal vehicle operating expenses	2,896
Household real estate taxes	785
Household repairs	4,650
Personal interest	2,578
Disability / Long term care insurance	3,456
Life insurance payments	2,782
Miscellaneous	4,148
Total cash family living expense	92,300
Family living from the farm	-
Total family living	92,300
Furnishings and appliances	-
Personal vehicles	32,450
Personal business investment	-
Other intermediate assets	-
Personal real estate	106,100
Other long term assets	-
Personal savings and investments	-18,485
Income and social security tax	45,750
Total personal expenditures	258,115

Comparative Balance Sheets (cost)

	2017	***2018***
	1/1/2018	***1/1/2019***
Current Assets		
Cash and checking	18,755	13,939
Prepaid exp. & supplies	60,143	65,580
Accounts receivable	31,564	38,765
Crop inventory	12,250	12,300
Total Current Assets	**122,712**	**130,584**
Intermediate Assets		
Breeding livestock	85,000	85,000
Machinery and equipment	522,850	580,015
Titled vehicles	34,830	29,606
Total Intermediate Assets	**642,680**	**694,621**
Long Term Assets		
Land	560,000	560,000
Buildings and improvements	27,500	26,125
Total Long Term Assets	**587,500**	**586,125**
Total Farm Assets	**1,352,892**	**1,411,330**
Total Personal Assets	571,160	688,875
Total All Assets	**1,924,052**	**2,100,205**
Current Liabillities		
Accrued interest	2,549	21,499
Accts pay & accr exp	28,335	24,335
Principal due on term loans	45,466	20,358
Total Current Liabilities	**76,350**	**66,192**
Total Intermediate Loans	**295,032**	**300,842**
Total Long Term Loans	**48,002**	**47,253**
Total Farm Liabilities	**419,384**	**414,287**
Total Personal Liabilities	0	0
Total All Liabilities	**419,384**	**414,287**
Equity		
Retained earnings	1,504,668	1,685,917
Retained earnings chg	**0**	**181,249**

Comparative Balance Sheets (market)

	2017	*2018*
	1/1/2018	*1/1/2019*
Current Assets		
Cash and checking	18,755	13,939
Prepaid exp. & supplies	60,143	65,580
Accounts receivable	31,564	38,765
Crop inventory	12,250	12,300
Total Current Assets	**122,712**	**130,584**
Intermediate Assets		
Breeding livestock	85,000	85,000
Machinery and equipment	525,450	587,905
Titled vehicles	44,000	44,000
Total Intermediate Assets	**654,450**	**716,905**
Long Term Assets		
Land	1,183,000	1,195,000
Buildings and improvements	40,000	40,000
Total Long Term Assets	**1,223,000**	**1,235,000**
Total Farm Assets	**2,000,162**	**2,082,489**
Total Personal Assets	617,860	735,575
Total All Assets	**2,618,022**	**2,818,064**
Current Liabillities		
Accrued interest	2,549	21,499
Accts pay & accr exp	28,335	24,335
Principal due on term loans	45,466	20,358
Total Current Liabilities	**76,350**	**66,192**
Total Intermediate Loans	**295,032**	**300,842**
Total Long Term Loans	**48,002**	**47,253**
Total Farm Liabilities	**419,384**	**414,287**
Total Personal Liabilities	0	0
Deferred liabilities	281,163	288,300
Total All Liabilities	**700,547**	**702,587**
Equity		
Retained earnings	1,504,668	1,685,917
Market valuation equity	412,807	429,560
Net worth	1,917,475	2,115,477
Net worth change	**0**	**198,002**

2018 Financial Analysis Executive Summary

Income Statement

Crop sales	450,240	
Crop inventory change	75	
Gross crop income		450,315
Livestock sales	-	
Livestock inventory change	-	
Gross livestock income		-
Government payments		-
Other cash farm income		13,859
Change in accounts receivable		7,112
Gain or loss on hedging accts		-
Change in other assets		-
Gain or loss on breeding lvst		-
Gross farm income		**471,286**
Cash operating expense	222,741	
Change in prepaid exp and supplies	-8,728	
Change in growing crops	-	
Change in accounts payable	3,992	
Depreciation	98,475	
Total operating expense		316,480
Interest paid	23,757	
Change in accrued interest	15,083	
Total interest expense		38,840
Total expenses		**355,320**
Net farm income		**115,966**

Other Measures

Total crop acres		160
Change in earned net worth	35,543	4 %
Change in market value net worth	65,515	6 %

Financial Standards Measures

Liquidity	**Beg**	**End**
Current ratio	5.05	6.77
Working capital	82,911	146,889
Working capital to gross revenues	17.6 %	31.2 %
Solvency (market)	**Beg**	**End**
Debt to asset ratio	33 %	33 %
Debt to equity ratio	0.50	0.49
Profitability	**Cost**	**Market**
Net farm income	115,966	150,157
Rate of return on assets	18.1 %	15.5 %
Rate of return on equity	19.6 %	18.5 %
Operating profit margin	32.8 %	40.1 %
Repayment Capacity		
Term debt coverage ratio (farm only)		4.47
Replacement margin coverage ratio		2.08
Efficiency	**Cost**	**Market**
Asset turnover rate	55.1 %	38.7 %
Operating expense ratio		46.3 %
Depreciation expense ratio		20.9 %
Interest expense ratio		8.2 %
Net farm income ratio		24.6 %
Other		
Term debt coverage (farm+personal)		4.47
Term debt to EBITDA		0.95

Information Accuracy

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

Income Statement

Income	Quantity	Price	Amount	***Expense***	Amount
Pecans	168,000 lb.	2.68/lb.	450,240	Fertilizer	12,320
Other farm income			13,859	Crop chemicals	51,440
				Irrigation energy	15,600
				Crop Marketing	24,016
				Crop Miscellaneous	5,600
				Interest	23,757
				Fuel & oil	20,015
				Repairs	6,579
				Hired labor	73,432
				Real estate taxes	4,157
				Farm insurance	3,464
				Utilities	3,480
				Dues & professional fees	485
				Miscellaneous	2,153
Gross cash income			464,099	Total cash expense	246,498
				Net cash income	217,601

Inventory Changes	Beginning Inventory	Purchases	Sales	Ending Inventory	Inventory Change	
Prepaids and supplies	45,852			54,580	8,728	
Accounts receivable	22,546			29,658	7,112	
Crops and feed	4,050			4,125	75	
Accounts payable	1,650			5,642	-3,992	
Accrued interest	1,399			16,482	-15,083	
Total inventory change						-3,160
Net operating profit						214,441

Depreciation	Beginning Inventory	Purchases	Sales	Ending Inventory	Depreciation	
Machinery and equipment	505,005	48,500	-	465,015	-88,490	
Titled vehicles	18,260	-	-	11,475	-6,785	
Buildings and improvement	29,325	-	-	26,125	-3,200	
Total depreciation						-98,475
Net farm income						**115,966**

Profitability Measures

			Cost	Market
(A)	Net farm income from operations		115,966	150,157
	Rate of return on assets	(E/F)	18.1 %	15.5 %
	Rate of return on equity	(G/H)	19.6 %	18.5 %
	Operating profit margin	(E/I)	32.8 %	40.1 %
	Asset turnover rate	(I/F)	55.1 %	38.7 %
	EBITDA		253,281	287,472
(B)	Change in market valuation		-	34,191
(C)	Interest expense		38,840	38,840
(D)	Value of unpaid oper labor & mgmt		-	-
(E)	Return on farm assets	(A+C-D)	154,806	188,997
(F)	Average farm assets		855,468	1,217,521
(G)	Return on farm equity	(A-D)	115,966	150,157
(H)	Average farm net worth		592,757	812,963
(I)	Value of farm production		471,286	471,286

Liquidity Measures

			Begin	End
(J)	Current assets		103,387	172,344
(K)	Current liabilities		20,476	25,455
	Current ratio	(J/K)	5.05	6.77
	Working capital	(J-K)	82,911	146,889
	Change in working capital		63,978	
	Working capital to gross revenues		17.6 %	31.2 %

Solvency Measures (Market)

			Begin	End
(L)	Total assets		1,588,874	1,668,044
(M)	Total liabilities		417,289	430,944
	Net worth	(L-M)	1,171,585	1,237,100
	Net worth change		65,515	
	Current debt to assets	(K/J)	20 %	15 %
	Intermediate debt to assets		34 %	33 %
	Long term debt to assets		12 %	12 %
	Personal debt to assets		1 %	1 %
	Total debt to assets ratio	(M/L)	26 %	26 %

Repayment Capacity

	Net farm income from operations		115,966
	Depreciation	(+)	98,475
	Personal income	(+)	-
	Family living expense	(-)	58,082
	Income taxes accrued	(-)	17,514
	Interest on term debt	(+)	17,573
(N)	Capital debt repayment capacity	(=)	156,418
(O)	Scheduled term debt payments		35,000
(P)	Capital debt repayment margin	(N-O)	121,418
(Q)	Cash replacement allowance		40,059
	Replacement margin	(P-Q)	81,360
	Term debt coverage ratio	(N/O)	4.47
	Replacement coverage ratio	(N/O+Q)	2.08

Statement of Owner's Equity

(a)	Beginning net worth		1,171,585
	Net farm income		115,966
	Personal income	(+)	-
	Family living expense	(-)	58,082
	Income taxes accrued	(-)	17,514
	Change in personal assets	(+)	-5,732
	Change in nonfarm accounts payable	(+)	905
(b)	Total change in retained earnings	(=)	35,543
	Change in market value of capital assets		43,178
	Change in deferred liabilities	-	13,206
(d)	Total change in market valuation	=	29,972
(e)	Total change in net worth	(b+d)	65,515
	Ending net worth		1,237,100

Statement of Cash Flows

(f)	Beginning cash balance (farm & personal)		100,499
	Gross cash farm income		464,099
	Cash farm expenses	(-)	246,498
(g)	Cash provided by operating activities	(=)	217,601
	Sale of capital assets		-
	Purchase of machinery and equipment	(-)	48,500
	Purchase of personal assets	(-)	18,879
(h)	Cash provided by investing activities	(=)	-67,379
	Money borrowed		-
	Principal payments	(-)	17,721
	Personal income	(+)	-
	Family living expense	(-)	58,082
	Income taxes paid	(-)	17,514
(i)	Cash provided by financing activities	(=)	-93,317
	Net change in cash	(g+h+i)	56,905
	Ending cash balance (farm and personal)		157,404

Nonfarm Summary

Personal Income	Amount
Personal wages & salary	-
Personal business income	-
Personal rental income	-
Personal interest income	-
Personal cash dividends	-
Tax refunds	-
Other personal income	-
Total personal income	-

Family Living Expenses

Number of family members	3.6
Food and meals expense	8,439
Medical care	4,387
Health insurance	7,465
Cash donations	2,748
Household supplies	3,125
Clothing	2,829
Personal care	3,125
Child / Dependent care	758
Alimony and child support	32
Gifts	2,243
Education	2,770
Recreation	3,060
Utilities (household share)	2,716
Personal vehicle operating expenses	3,512
Household real estate taxes	519
Dwelling rent	319
Household repairs	1,583
Personal interest	1,488
Disability / Long term care insurance	522
Life insurance payments	1,476
Personal property insurance	296
Miscellaneous	4,670
Total cash family living expense	58,082
Family living from the farm	-
Total family living	58,082
Furnishings and appliances	386
Personal vehicles	4,284
Personal business investment	-
Other intermediate assets	-
Personal real estate	12,497
Other long term assets	1,712
Personal savings and investments	3,863
Income and social security tax	17,514
Total personal expenditures	98,338

Crop Enterprise Analysis
Area Average Data - Owned Acres
(Farms Sorted By Return to Overhead)

	Improved Pecans	Intensive Pasture
Acres	160	120
Yield per acre	1000.00	1.00
Operators share of yield %	100.00	100.00
Value	2.72	25.25
Gross return per acre	2720.00	25.25
Direct Expenses		
Seed		-
Fertilizer	77.00	47.50
Weed Control	88.00	3.00
Disease Control	121.00	-
Insect Control	112.50	-
Fuel & oil	125.00	-
Repairs	41.12	-
HIred Labor	259.00	1.00
Hired Labor - other	199.75	-
Irrigation	97.50	
Marketing	150.10	-
Operating interest	20.25	2.35
Miscellaneous	27.16	-
Total direct expenses per acre	1318.38	53.85
Return over direct exp per acre	1401.62	-28.60
Overhead Expenses		
Hired labor/Custom Hire	157.95	17.50
RE & pers. property taxes	25.98	3.66
Farm insurance	21.85	6.96
Utilities	21.75	3.87
Dues & professional fees	2.03	1.29
Interest	42.30	7.37
Mach & bldg depreciation	204.65	4.85
Miscellaneous	4.51	1.80
Total overhead expenses / acre	481.02	47.30
Total dir & ovhd expenses / acre	1799.40	101.15
Net return per acre	920.60	-75.90
Labor & management charge	145.30	8.50
Net return over lbr & mgt	775.30	-84.40
Cost of Production		
Total direct expense per unit	1.32	53.85
Total dir & ovhd exp per unit	1.80	101.15
With labor & management	1.94	109.65
Net value per unit	2.72	25.25
Machinery cost per acre		

Livestock Enterprise Analysis
Area Average Data
(Farms Sorted By Return to Overhead)

Beef Cow Calf		
Beef Calves sold (lb)	303.2	448.22
Cull Cow sales (lb)	98.4	123.17
Purchased (lb)	-44.8	-118.15
Other income/Inv Chg		251.21
Gross margin		704.45
Direct Expenses		
Pasture		258.12
Hay	2,384.70	78.97
Protein Vit Mineral (lb.)	572.3	73.73
Veterinary		33.25
Supplies		51.91
Fuel & oil		29.64
Repairs		46.09
Operating interest		15.96
Total direct expenses		587.67
Return over direct expense		116.78
Overhead Expenses		
Farm insurance		14.06
Utilities		14.83
Interest		47.39
Mach & bldg depreciation		41.87
Miscellaneous		30.97
Total overhead expenses		149.12
Total dir & ovhd expenses		736.79
Net return		-32.34
Labor & management charge		68.29
Net return over lbr & mgt		-100.63
Other Information		
Number of cows		102.5
Pregnancy percentage		95
Pregnancy loss percentage		1.6
Culling percentage		11.3
Calving percentage		93.5
Weaning percentage		86.4
Calves sold per cow		0.8
Calf death loss percent		7.6
Cow death loss percent		3.2
Average weaning weight		550
Lb. weaned/exposed female		475
Feed cost per cow		410.82
Avg wgt/ Beef Calves sold		636
Avg price / cwt.		147.81

2019 Beef Cow Calf Budget

PRODUCTION	Weight	Units	Price/cwt		$/Head	
Steer Calves	580	lbs	$	163.00	$	441.19
Heifer Calves	560	lbs	$	148.00	$	156.55
Cull Cows	1,150	lbs	$	60.00	$	153.33
Cull Replacement Heifers	825	lbs	$	135.00	$	61.88
Cull Bulls	1,750	lbs	$	86.00	$	-
Other Income		head	$	-	$	-
Total Receipts					**$**	**812.95**
OPERATING COSTS						
Pasture					$	260.00
Hay					$	63.00
Grain					$	-
Protein Supplement					$	61.00
Salt					$	-
Minerals					$	12.25
Other Feed Additives					$	-
Vet Services/Medicine					$	14.00
Vet Supplies					$	7.00
Marketing					$	8.50
Machinery/Equip Fuel, Lube, Repairs					$	30.00
Machinery/Equipment Labor					$	50.25
Other Labor					$	70.80
Other Expense					$	5.00
Annual Operating Capital					$	20.36
Total Operating Costs					**$**	**602.16**
Returns Above Total Operating Costs					**$**	**210.79**
FIXED COSTS						
Average value of machinery/equipment						
Proportion Charged						
Machinery/equipment						
Interest at					$	10.89
Taxes at					$	1.56
Insurance					$	1.32
Depreciation					$	24.22
Average value of breeding livestock inventory						
Interest at					$	34.72
Taxes at					$	13.89
Insurance					$	11.81
Depreciation					$	17.72
Land						
Interest at					$	-
Taxes at					$	-
Total Fixed Costs					**$**	**116.13**
Total Costs (Operating + Fixed)					**$**	**718.29**
Returns Above All Specified Costs					**$**	**94.66**

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***.

2019 NATIONAL FFA
FARM AND AGRIBUSINESS MANAGEMENT
CAREER DEVELOPMENT EVENT

Page Number	Part	Area	Possible Points
3	I	Financial Statements	34
8	II	Budgeting	25
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21	VI	Investment Analysis	22
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27	VIII	Business Organization	15
30	IX	Land Measurement	15
33	X	Analyzing the Agricultural Business	59
38	XI	Family Living	18
40	XII	Economic Principles	26
		TOTAL POSSIBLE POINTS	**300**

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Participant Number ______________ State Abbreviation ________

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 Completion questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice, Completion and True/False questions are one point each. Calculation questions are three points each.

1. How is the net farm income reported on the 2018 Income Statement calculated?

   A. Gross Cash Income – Total Cash Expense
   B. Gross Cash Income – Total Cash Expense + Total inventory change + Depreciation
   C. Gross Cash Income – Total Cash Expense ± Total Inventory Change ± Depreciation
   D. Gross Cash Income – Total Cash Expense – Depreciation

2. The statement summarizing the value of business assets and liabilities is often referred to as a balance sheet because

   A. Assets = Liabilities + Owner Equity or Net Worth
   B. Assets + Liabilities = Owner Equity
   C. Assets + Owner Equity or Net Worth = Liabilities
   D. Owner Equity or Net Worth = Assets + Liabilities

3. The purpose of the balance sheet is to show at a point in time

   A. the change in owner equity.
   B. the change in cash balances.
   C. the value of assets, liabilities and owner equity.
   D. if the business made a profit.

4. If the Statement of Cash Flow indicates an increase in the cash balance, this means

   A. total farm revenues were larger than total farm expenses.
   B. total cash received was larger than total cash used.
   C. there was an additional cash contribution made to the business.
   D. net farm income was positive.

5. Net farm income will influence all of the following except

   A. the change in retained earnings.
   B. owner equity.
   C. total cash expenses.
   D. the rate of return on assets.

6. Which of the following is a source of farm revenue? Place the letter of the correct item(s) in the answer sheet box.

   A. Customer payment of accounts receivable.
   B. Interest payments during the accounting period.
   C. Sale of grain produced during the accounting period.
   D. Cash received from a new noncurrent loan to purchase a new tractor.

7. Which of the following is likely found in a revenue ledger tracking sources of cash revenue?

   A. Date of sale
   B. Buyer
   C. Quantity sold
   D. Unit price and total revenue received
   E. All of the above

8. In an accrual adjusted income statement, accrual adjustments are made for which of the following? Place the letter of the correct item(s) in the answer sheet box.

   A. Changes to the value of 2017 and 2018 pecan inventory
   B. Changes to the value of 2017 and 2018 prepaid supplies on hand
   C. Changes in the amount of 2017 and 2018 cash pecan sales
   D. Changes in the amount of 2017 and 2018 cash

9. The chart of accounts normally includes

   A. income and expense accounts.
   B. accounts for current assets and liabilities.
   C. depreciable business asset accounts.
   D. other accounts necessary to create reports needed for good management.
   E. All the above

10. When using cash accounting records, a business will recognize

    A. income and expense transactions at the time of actual cash transactions.
    B. income and expense transactions regardless of when they are incurred.
    C. income when it is produced.
    D. expenses when the item is used in the production process.

11. Which of the following financial statements lists the cash and non-cash receipts and expenses of a business during a specified period of time?

    A. Balance sheet
    B. Income Statement
    C. Statement of Cash Flows
    D. Statement of Owner Equity

12. Which of the following financial statements explains the change in net worth for an accounting period?

    A. Balance sheet
    B. Income Statement
    C. Statement of Cash Flows
    D. Statement of Owner Equity

13. Which of the following financial statements explains the change in cash balance for an accounting period?

    A. Balance sheet
    B. Income Statement
    C. Statement of Cash Flows
    D. Statement of Owner Equity

14. Which of the following is not included in the calculation of accrual adjusted gross farm income?

    A. Crop sales
    B. Crop inventory change
    C. Change in prepaid supplies
    D. Livestock sales

15. A major advantage of cash accounting when compared to accrual accounting is it

    A. provides a more accurate calculation of profit.
    B. provides more flexibility in managing taxable income.
    C. provides a more realistic approach to measuring profits because it more closely matches cash flows.
    D. does not require maintaining revenues and expenses.

16. The original cost basis of a capital asset, plus improvements, less accumulated depreciation is referred to as the

    A. net cost value of the asset.
    B. net market value of the asset.
    C. adjusted basis of the asset.
    D. total amortization value of the asset.

17. A method of prorating the cost of a capital asset over its useful life is

A. depreciation.
B. amortization.
C. remaining value.
D. capitalized value.

18. The reason for making accrual adjustments to a cash income is to allow

A. a better match of cash receipts and expenses to the actual cash flows.
B. a better match of production with the expenses associated with the timing of production.
C. an easier explanation of the change in net worth.
D. a better match of revenue and expenses reported to the Internal Revenue Service for income tax purposes.

19. Contributed (or paid in) capital, plus retained earnings, plus valuation equity is equal to

A. total assets plus total liabilities.
B. total assets minus total liabilities.
C. net farm income from operations minus cash withdrawals from the business.
D. total assets plus total liabilities minus equity.

20. A complete set of financial statements will allow Bryan to calculate each of the following financial measures except

A. profitability measures.
B. efficiency measures.
C. per bushel breakeven measures.
D. repayment capacity measures.

Calculate the 1/1/2019 **market value** net worth for the farm only before adjusting for deferred liabilities and market valuation equity and place the answers, 21 through 25 in the corresponding answer boxes. **Refer to Page R4.**

Item	Value
Answer 21.	**Answer 23.**
Answer 22.	**Answer 24.**
Net Worth (Farm Only)	**Answer 25.**

26. If you have the following items:

1/1/2018 Cash Balance	$88,315
2018 Cash Provided by Operating Activities	$414,346
2018 Cash provided by Investing Activities	-$261,050
2018 Cash provided by Financing Activities	-$176,597

What is the 1/1/2019 cash balance?

27. Since the establishment of the Volkstad Pecan Company, what is the amount of accumulated retained earnings?

28. How much has the change in market value assets contributed to equity of the Volkstad Pecan Company?

How much did items 29 - 30 contribute to the change in retained earnings? **Refer to Page R11.**

Item	Amount
Change in Personal Assets	**Answer 29.**
Family Living Expenses	**Answer 30.**

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 Completion questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice, Completion and True/False questions are one point each. Calculation questions are three points each.

1. Budgets are used in planning to evaluate the impact of future actions. To improve the accuracy of a budget, the operator may use

   A. historical data.
   B. forward contract pricing.
   C. more than one source for estimated data.
   D. All of the above.

2. When an increase in the level of production of one enterprise causes a reduction in the level of production of another enterprise, these two enterprises are said to be

   A. independent.
   B. complimentary.
   C. competitive.
   D. supplementary.

3. An enterprise budget is

   A. a physical and financial plan for the entire farm business for a specified period of time.
   B. a record of past production performance, usually for one production cycle.
   C. the tool used in analyzing only changes in the farm operation and the potential change in net income.
   D. a statement of projected costs and returns associated with one production process, usually for one production cycle.

4. If you are considering a change in the farm business that affects only a few items in the total farm budget, this change could most appropriately be evaluated using

   A. an enterprise budget.
   B. a cash flow budget.
   C. a total farm budget.
   D. a partial budget.

5. Budgeting is not used to

   A. estimate the amount of credit needed.
   B. determine the useful life of assets.
   C. allow for experimentation with possible outcomes before resources are committed.
   D. All of the above.

6. When determining the effect of growing more acres of a crop, the cost most likely to change would be

   A. fixed costs per acre.
   B. operating costs per acre.
   C. rent per acre.
   D. crop insurance per acre.

7. A whole farm schedule of expected returns and expenses is a

   A. balance sheet.
   B. partial budget.
   C. depreciation schedule.
   D. budget.

8. 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

9. A cash flow projection is a form of budgeting that is used to

   A. determine living expenses.
   B. determine year-end asset values.
   C. determine operating credit needs.
   D. calculate total farm equity.

10. Which of the following would be considered a fixed cost?

   A. Depreciation on machinery
   B. Hired seasonal labor
   C. Crop production inputs
   D. Feed purchases

11. The cost of using a resource based on what it could have earned in the next best alternative is

   A. an opportunity cost.
   B. always a variable cost.
   C. always a fixed cost.
   D. an alternative cost.

12. What is the break-even yield per acre for the pecan enterprise **(R12)** to cover total direct and overhead expenses? Calculate to the nearest tenth (x.x) of a pound.

13. What is the largest direct expense for the pecan enterprise?

14. What is the operating interest expense per acre for the pecan enterprise?

15. What is the irrigation energy expense per acre for the pecan enterprise?

16. If total direct and overhead expenses for the pecan enterprise were to increase to $2,000 per acre, what would the break-even price per pound be? Round to the nearest cent.

17. For the Beef Cow Calf Budget on **R22,** What are the projected total operating costs per cow?

18. What is the projected return over all specified costs per cow for the beef cow calf budget?

19. What is the veterinary cost per cow in the beef cow calf budget?

Participant Number ______________ State Abbreviation ________

Part III – Cash Flow Planning

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

1. What are the four factors of production?

2. What impact would there be on total revenue if the highest revenue item fell by 5%? (Round to nearest whole dollar)

For questions 3 through 9, answer **Yes** if the item listed below shows up on a projected cash flow or answer **No** if the items would not be included on a projected cash flow.

3. Depreciation
   A. Yes
   B. No
4. New Loans
   A. Yes
   B. No
5. Farm Equity
   A. Yes
   B. No
6. Payment on Term Debt
   A. Yes
   B. No
7. Land Appreciation
   A. Yes
   B. No
8. Sale of Capital Items
   A. Yes
   B. No
9. Family Living
   A. Yes
   B. No

10. To analyze the health of the farm business, you should use which of the following? (Place the letters of all that apply in the answer box.)

    A. Income Statement
    B. Cash Flow Projection
    C. Depreciation Schedule
    D. Net Worth Statement

11. In 2019, the annual operating loan has to have a limit of at least

    A. $300,000.00
    B. $400,000.00
    C. $500,000.00
    D. $600,000.00

12. What month has the highest income __________?

13. What month has the highest cost (outflow) __________?

14. What are the total dollars needed for intermediate and long-term interest and principal loan payments?

15. At the end of 2019 total assets

    A. do not change.
    B. are lower.
    C. are higher.

16. Based on the 2019 cash flow Executive Summary **(R5)** (for every dollar of income, what is the amount in cents spent for operating expenses?

    A. 40.1
    B. 60.7
    C. 26.2
    D. 17.3

17. In 2019 what is the highest outflow item?

18. In the 2019 cash flow, the minimum checkbook balance maintained is

    A. $10,000.
    B. $15,000.
    C. $20,000.
    D. $25,000.

19. Based on the 2019 cash flow, the cost of production for beef calves is __________ /cwt. (calculate to the nearest cent)

20. In what month are the most dollars being spent for his 2019 crop production?

Participant Number ______________ State Abbreviation ________

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 Completion questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice, Completion and True/False questions are one point each. Calculation questions are three points each.

1. A tariff assessed on imports is similar to a duty or a tax.

   A. True
   B. False

USDA uses a milk pricing formula for each of the 4 categories based on end use. For questions 2 and 3, match the product category to the corresponding milk price class.

2. Which product category is associated with the Class I milk price?

   A. Butter and dry products (e.g., non-fat dry milk)
   B. Fluid/beverage milk
   C. Soft/manufactured dairy products (e.g., ice cream, yogurt)
   D. Hard cheeses

3. Which product category is associated with the Class III milk price?

   A. Butter and dry products (e.g., non-fat dry milk)
   B. Fluid/beverage milk
   C. Soft/manufactured dairy products (e.g., ice cream, yogurt)
   D. Hard cheeses

4. Produce is shipped Free On Board (FOB) Shipping Point from South America to the U.S. Upon arrival in the U.S., the buyer pays the full price for the shipment but determines there is a deterioration in produce quality. Who is liable for the damaged produce?

   A. Shipping company
   B. Seller
   C. Buyer

5. How many pounds are in a beef feeder cattle futures contract?

   A. 30,000
   B 50,000
   C. 40,000
   D. 10,000

6. In the event of a suspected food contamination event, which of the following agencies will respond to the situation? (Place the letters of all that apply in the answer box.)

   A. Centers for Disease Control and Prevention (CDC)
   B. State and county health departments
   C. Federal agencies including Food and Drug Administration (FDA)
   D. Environmental Protection Agency (EPA)

7. Products labeled "organic" must meet specific USDA requirements regarding which practices?

   A. Production
   B. Handling
   C. Labeling
   D. A and B
   E. A, B and C

8. USDA certified organic produce must be grown on soil free of prohibited substances for ___ years.

   A. 2
   B. 3
   C. 4
   D. 5

9. A hedge-to-arrive (futures) contract has three components, two of which are known at the time the contract is purchased. The known components include _____ and _____. The third component, _____, is unknown until a later date.

   A. delivery month, futures price, premium
   B. futures price, basis, and delivery month
   C. margin, basis, delivery month
   D. futures price, delivery month, basis

10. All other factors held equal, large carryover stocks will tend to have what effect on a commodity's price?

    A. Increase price
    B. Decrease price
    C. Increase storage costs
    D. B and C

11. Which of the following factors will cause a movement along the demand curve?

    A. Own price change
    B. Change in consumer tastes/preferences
    C. Prices of other goods/services
    D. Consumer incomes

12. A producer who suspects that pecan markets will be bearish in the coming year thinks pecan prices will

    A. increase.
    B. decrease.
    C. exceed a three-year average.
    D. A and C

13. Federal marketing orders are intended to promote agricultural products by collectively influencing

    A. product demand.
    B. product supply.
    C. product price.
    D. All of the above

14. A producer using the futures market to hedge the price of a commodity sold in the fall would take what action in May?

    A. Buy futures contracts expecting to buy more contracts when the commodity is sold.
    B. Buy futures contracts expecting to sell those contracts when the commodity is sold.
    C. Sell futures contracts expecting to buy them back when the commodity is sold.
    D. Sell futures contracts expecting to sell more contracts when the commodity is sold.

15. When the cash price falls relative to the futures price, this is known as

    A. strengthening basis.
    B. weakening basis.
    C. under basis.
    D. basis risk.

16. A producer buys 5,000 units of a product for $3.00 per unit in Market A. She simultaneously sells all 5,000 units for $4.00 per unit in Market B. The producer's ability to profit from price discrepancies in different markets is called

    A. arbitrage.
    B. marginal value.
    C. margin.
    D. None of the above

17. An increase in the U.S. exchange rate causes domestic goods to become

    A. less expensive for consumers abroad.
    B. more expensive for consumers abroad.
    C. less expensive for U.S. consumers.
    D. more expensive for U.S. consumers.

18. Which of the following considerations would factor into storing pecans but not cotton?

    A. Price
    B. Quality
    C. Perishability
    D. Location

19. If the Volkstads expand into feeder cattle and wish to hedge against future corn price increases, which of these actions would accomplish that goal?

    A. Sell a corn futures contract
    B. Buy a corn futures contract
    C. Buy a corn put option
    D. Sell a corn call option

20. The difference between the cash price and the futures price is called the

    A. strike price.
    B. premium.
    C. basis.
    D. spread.

21. Marketing margin is calculated as the per unit sale price less the per unit

    A. labor cost.
    B. production cost.
    C. marginal cost.

22. If Volkstad Pecan Company were to add online sales to their operation, this would be an example of ______ integration.

    A. vertical
    B. horizontal

23. Organic pecans are attractive because they command a higher sale price than non-organic pecans. Under the current conditions, which of the following factors would the Volkstads need to consider before planting an organic pecan orchard?

    A. Labor requirements
    B. Equipment needs
    C. Pest control costs
    D. All of the above

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 Completion questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice, Completion and True/False questions are one point each. Calculation questions are three points each.

Answers in this section will be based upon the 2018 Farmer's Tax Guide.

Over the next several years the Volkstad Pecan Company may purchase a number of depreciable assets. When using the Modified Accelerated Cost Recovery System (MACRS), General Depreciation System (GDS), farm property falls into different Recovery Periods. For questions 1 through 4, how many years would be required to depreciate the listed properties?

1. Used tractor

2. New pecan harvester

3. Water well

4. Refrigerated storage (single use)

5. The main thing to keep in mind with regard to income tax management is to

   A. minimize the tax obligation.
   B. have zero taxes due.
   C. maximize after tax income.
   D. defer income taxes to the future.

6. Effective tax planning requires

   A. knowing personal financial goals.
   B. up-to-date records.
   C. reliable long-range projections.
   D. All the above

7. The most common accounting method used by farmers for taxes.

   A. Accrual
   B. Cash
   C. Cash with accrual adjustments
   D. None of the above

8. Assets, other than land and some livestock, used in farming that have a useful life of more than one year are

   A. ordinary expenses.
   B. not deductible for taxes.
   C. considered lease expenses.
   D. depreciable.

9. Place the letters in the box of all the items that would increase a farm's taxable income.

   A. Prepay seed for next year
   B. Defer crop sales to next year
   C. Purchase and pay for diesel fuel
   D. Sell two semi loads of soybeans
   E. Use section 179 on capital purchases
   F. Use straight line depreciation versus MACRS depreciation
   G. Pay interest on loans even if it is not due
   H. Delay paying open accounts
   I. Pay operating loan principal

10. Which person below is required to pay social security taxes?

    A. Spouse who works with the other spouse
    B. Parent who works for his child who receives payment in-kind
    C. Parent who works for his child's corporation
    D. Child under 18 who works for his parent

11. The taxes that may be due when a person dies.

    A. Asset taxes
    B. Estate taxes
    C. Property taxes
    D. Real Estate taxes

12. A producer must send form _____ to each independent contractor earning over $600.

13. A producer must send each employee a form _____ at the end of the year showing earnings and all withholdings.

14. The standard deduction for a married couple in 2018 is

A. $12,000.
B. $24,000.
C. $34,000.
D. $44,000.

15. The personal exemption in 2018 is

A. $0.00.
B. $1,000.00.
C. $2,500.00.
D. $5,000.00.

16. Farmers that do not pay income tax quarterly or file an estimate must file and pay by

A. Jan 30.
B. Feb 15.
C. Mar 1.
D. Mar 15.

17. When a farmer trades in a piece of equipment, it is

A. treated as a sale.
B. added to the purchase price of the new item.
C. left on the depreciation schedule.
D. considered tax free income.

18. When a new or used capital item is purchased and no section 179 is taken, then

A. there is nothing to do.
B. the boot price is put on the depreciation schedule.
C. the entire amount is placed on the depreciation schedule.
D. it depends on the item.

Participant Number _______________ State Abbreviation _________

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 Completion questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice, Completion and True/False questions are one point each. Calculation questions are three points each.

Volkstad Pecan Company purchased a new John Deere 6130 on January 1 to replace their aging tractor. The dealer will provide them a seven-year loan with an interest rate of 4%. The price of the tractor was $149,900 which included the front-end loader attachment. The dealer allowed them $24,900 on their trade in. The payments are due in annual installments. Because they are such great customers, John Deere Financial will carry the note at the lower rate.

Year	Total Payment	Interest	Principal	Balance
0	[redacted]	[redacted]	[redacted]	$125,000.00
1	20,826.20	5,000	15,826.20	109,173.80
2	20,826.20	4,366.95	16,459.25	92,714.55
3	20,826.20	3,708.58	17,117.62	75,596.93
4	20,826.20	3,023.88	17,802.32	57,794.61
5	20,826.20	**Answer 1**	**Answer 2**	**Answer 3**
6	20,826.20	1,571.21	19,254.99	20,025.20
7	20,826.21	801.01	20,025.20	0

Questions 1 – 4: Calculate the amounts in the table above and enter them in the corresponding box on the answer sheet.

1. What is the interest for year 5?

2. What is the principal for year 5?

3. What is the remaining balance for year 5?

4. The total accumulated interest is

5. For an amortized loan, which of the following increases each year?

   A. total payment
   B. interest payment
   C. principal payment
   D. none of the above

6. What is the total cash outlay on this note?

   A. The actual amount of money borrowed less interest
   B. The total amount of money paid to the lender
   C. The present value of the annuity
   D. The amount of money left over

7. If the interest increases to 5%, what would be the amount of interest paid in the first year?

8. What is lender repossession?

   A. Recovering an asset and refunding principal paid
   B. Paying off debt with a varying repayment schedule
   C. Paying off debt with a fixed repayment schedule
   D. Losing the asset for non-payment

9. An annual payment consists of _________. Two points

10. An amortization table and loan documents are what a lender provides the borrower with each loan to disclose the

    A. amount of money borrowed.
    B. amount of principal and interest paid with each payment.
    C. amount and rate paid to the lender for borrowing the money.
    D. unpaid balance due at the end of each year.
    E. All of the above.

11. The principal and interest amounts in each of the payments on this note will always be the same.

    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 Completion questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice, Completion and True/False questions are one point each. Calculation questions are three points each.

1. Which of the following is an example of financial risk that applies to Volkstad Pecan Company?

   A. A change in pecan yield
   B. A change in interest rates
   C. A change in consumers' tastes and preferences
   D. A and C
   E. A, B and C

2. Which of the following is an example of legal risk?

   A. A change in tariff rates and food export regulations
   B. A change in consumers' tastes and preferences
   C. A change in interest rates
   D. A and C
   E. A, B, and C

3. Which of the following best describes risk avoidance?

   A. Paying another party to assume a portion of a risk
   B. A methodology to reduce the severity of a risk
   C. A methodology to reduce the frequency of a risk
   D. Ending an activity to eliminate the possibility of a loss
   E. Setting aside funds to pay for any losses that may occur

4. ____________ is an example of risk transfer.

   A. An insurance policy
   B. A fire suppression system
   C. Testing for food-borne pathogens
   D. B and C

5. A solvency ratio is a measure of ___________ risk.

   A. Market
   B. Legal
   C. Financial
   D. Human
   E. Production

6. Assume that the following debt-to-asset ratios are given for 5 farms. Based solely upon these ratios, which farm is at the greatest financial risk?

   A. 0.2
   B. 0.7
   C. 0.6
   D. 0.9
   E. 0.5

7. Adopting an appropriate integrated pest management system mitigates ___________ risk.

   A. market
   B. legal
   C. financial
   D. human
   E. production

8. Which of the following is an example of market risk that applies to Volkstad Pecan Company?

   A. A change in pecan prices
   B. A change in interest rates
   C. A change in consumers' tastes and preferences for organic products
   D. A and C
   E. A, B, and C

9. A worker's compensation insurance policy is an appropriate treatment for a farm's ______________ risk.

   A. market
   B. legal
   C. financial
   D. human
   E. production

10. A farmer who wants to establish a price floor for corn to be received at harvest would

    A. buy a call option.
    B. buy a futures contract.
    C. buy a put option.
    D. sell a put option.

11. A farmer would use the futures market with the objective to

    A. transfer risk.
    B. increase risk.
    C. participate in government farm programs.
    D. obtain a loan.

12. A farmer decides to use the futures market to hedge the price of soybeans to be sold at harvest. What should the farmer do to hedge the soybeans?

    A. Buy futures contracts expecting to buy more contracts when the soybeans are sold.
    B. Buy futures contracts expecting to sell those contracts when the soybeans are sold.
    C. Sell futures contracts expecting to buy them back when the soybeans are sold.
    D. Sell futures contracts expecting to sell more contracts when the soybeans are sold.

13. After the farmer is hedged in Question #12, 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 change in the basis.
    D. A larger than expected yield.

14. When hedging, it is important that farmers close out both the cash and futures position

    A. prior to selling the crop.
    B. simultaneously when selling the crop.
    C. keep the futures position open to protect against price risk.
    D. at any time.

15. To hedge using commodity futures, a farmer must

    A. use a broker.
    B. create a margin account.
    C. both A and B.
    D. do nothing. A farmer can hedge over the internet without a broker or margin account.

16. A farmer uses revenue protection insurance to protect a corn crop. This type of insurance would protect against

    A. high prices and high yields.
    B. low yields and low prices.
    C. increases in cash rental rates.
    D. failure of a grain buyer to make a payment upon delivery.

17. The yield protection in revenue protection insurance is based on

    A. the farm's actual production history of yields.
    B. the county's actual production history of yields.
    C. the state's actual production history of yields.
    D. whatever yield coverage the farmer wants to buy.

18. The price protection in revenue protection insurance is based upon

    A. the futures market.
    B. the local cash market.
    C. the U.S. Marketing-Year Average price.
    D. a price determined by the USDA.

19. Pecan markets pose an interesting problem for farm price risk management. There is not a futures contract for pecans. In the absence of a futures contract, what is the most appropriate means to manage price risk for pecan operations?

    A. A forward contract
    B. A production contract
    C. Both A and B
    D. Neither A nor B

20. Which of the following is not one of the steps in the risk management process?

    A. Identify
    B. Monitor
    C. Plan
    D. Prioritize
    E. All of the above

21. Which of the following risks should be avoided?

    A. A high frequency and high severity risk
    B. A low frequency and high severity risk
    C. A low frequency and low severity risk
    D. A high frequency and low severity risk

Participant Number ______________ State Abbreviation ________

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 Completion questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice, Completion and True/False questions are one point each. Calculation questions are three points each.

1. If Volkstad Pecan Company decided to join with other pecan growers to start a pecan shelling plant, which type of cooperative should they form?

   A. Processing
   B. Marketing
   C. Credit
   D. Purchasing
   E. Service

2. During their farming career, Bryan and Brianna have grown their operation from nothing to a thriving 210-acre pecan orchard. In the long-term, they are interested in protecting their orchard and ensuring that it stays in their family for many generations to come. Which of the following business organizations would best suit their goal?

   A. A partnership
   B. A sole proprietorship
   C. A cooperative
   D. A trust

3. Which of the following is a benefit of a corporate business structure?

   A. Corporate income can be taxed at a lower rate than personal income.
   B. Ownership is easily divided into shares.
   C. A corporation does not dissolve with the death of an owner.
   D. All of the above

4. The most commonly used type of business organization for US farms and ranches is the _____.

   A. corporation
   B. partnership
   C. sole proprietorship
   D. limited liability company
   E. Cooperative

5. Choosing to organize a business as a(n) __________ provides entrepreneurs with the greatest access to capital.

   A. corporation
   B. partnership
   C. sole proprietorship
   D. limited liability company
   E. cooperative

6. Of the types of business organizations listed below, which would provide the least protection from legal liability to the owners?

   A. Limited Liability Company
   B. S-Corporation
   C. C-Corporation
   D. General Partnership

7. If a farm business owner wishes to organize her business as simply as possible with minimal record keeping requirements, which type of organization should she choose?

   A. C-Corporation
   B. Limited Partnership
   C. Sole Proprietorship
   D. Limited Liability Company
   E. Cooperative

8. An owner of a corporation is also called a(n) _____.

   A. director
   B. stockholder
   C. officer
   D. member
   E. trustor

9. An owner of a Limited Liability Company is also called a(n) _____.

   A. director
   B. stockholder
   C. officer
   D. member
   E. trust

10. Which of the following statements is not a best practice when selecting a business organization structure?

    A. Business owners should select the simplest business organization that still meets their needs and goals.
    B. Partnership agreements should always be signed, written agreements that are reviewed with the help of an attorney or other competent professional.
    C. The business structure that minimizes taxation the most is always the best choice for business owners.
    D. Future plans and aspirations of the business owner should be taken into account when deciding the optimal business structure.

11. According to the IRS code, owners of an S-Corporation must be US citizens.

    A. True
    B. False

12. According to IRS rules, C-Corporations may not have more than 100 stockholders.

    A. True
    B. False

13. Cooperatives are owned and controlled by their member-patrons and the profits earned by the cooperative are returned to the members based on patronage.

    A. True
    B. False

14. Cooperatives allow farmers and ranchers to gain market power by combining their resources.

    A. True
    B. False

15. Trusts are a particularly useful form of business organization for estate planning purposes.

    A. True
    B. False

Part IX – Land Measurement

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

1. Thomas Jefferson authorized a system of land measurements to define locations of properties in the western territory for which of these main reasons?

   A. So that private ownership of property could be easily defined.
   B. So that property could be exchanged to another owner more easily.
   C. A checkerboard system was employed to create more reliable delineations.
   D. All of the above

2. How many sections are in a township?

   A. 12
   B. 24
   C. 36
   D. 48

3. The purpose of a school section was to plan ahead for land settlements so that

   A. children wouldn't have to travel far to school.
   B. the sections would become the property of the state.
   C. Both A and B
   D. Neither A or B

4. When interpreting a legal land description, you

   A. read it backwards.
   B. locate the section in the township.
   C. find the location in the quarter.
   D. All of the above

5. The range refers to columns of townships running north and south (quadrangle).

   A. True
   B. False

6. Some properties in the U.S. do not have a form of legal land description.

   A. True
   B. False

7. An acre is equal to ________ square feet.

8. A tier refers to the townships running east and west in six-mile increments.

   A. True
   B. False

9. The curvature of the earth causes a need to include correctional sections in legal descriptions.

   A. True
   B. False

10. Generally, parcels of land that are located in a city subdivision are legally described by using

   A. metes and bounds.
   B. recorded plats.
   C. rectangular survey.
   D. None of the above

11. Property in most towns and cities on the East coast generally use the metes and bounds survey system.

   A. True
   B. False

12. “Starting at an iron post, 523’ N 10˚” is an excerpt from a legal land description. What system of legal land descriptions does this description conform to?

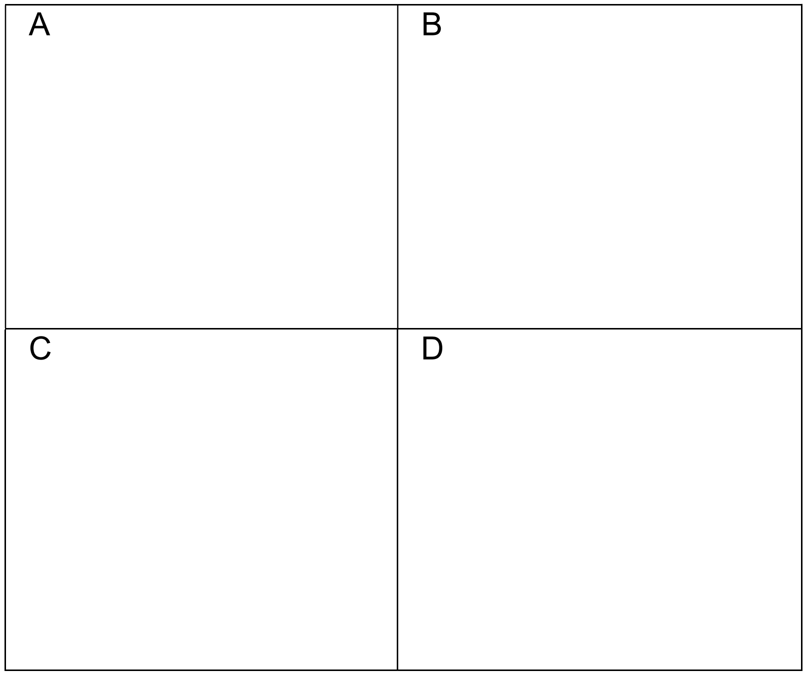
   A. Rectangular Survey
   B. Recorded Plat
   C. Metes and Bounds
   D. None of the above

13. The following excerpt is from a legal description: “W ½, E ½, SE ¼, Section 10”. What system of legal land descriptions does this description conform to?

   A. Rectangular Survey
   B. Recorded Plat
   C. Metes and Bounds
   D. None of the above

Participant Number _______________ State Abbreviation ________

The illustration below is for a one-mile square section of land.



14. In the section above, which is the southwest quarter?

    A. A
    B. B
    C. C
    D. D

15. How many acres are in parcel B?

    A. 25
    B. 80
    C. 100
    D. 160

Participant Number ______________ State Abbreviation ________

Part X - 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 Completion questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice, Completion and True/False questions are one point each. Calculation questions are three points each.

Use the Executive Summary on **Page R9** in the Resource Information for the Volkstad Pecan Company and the Executive Summary for Average Data on **Page R17** to answer questions 1 through 9.

1. Compare the beginning and ending values on the first 5 Financial Standards Measures listed. Which measure(s) were worse at the end of the year?

   A. Debt to Asset Ratio
   B. Debt to Equity Ratio
   C. Current Ratio
   D. Both A and B
   E. None of the above

2. The Operating Expense Ratio is a financial factor that represents

   A. Operating expense in comparison to Operating Income.
   B. Operating expense in comparison to Gross Farm Income.
   C. Total Farm Expense compared to Operating Expense.
   D. Operating Expense in comparison to Net Farm Income.

3. What is the Operating Expense Ratio for Volkstad Pecan Company?

4. Is their Operating Expense Ratio better or worse than the average?

   A. Better
   B. Worse

5. If the Operating Expense Ratio for a given farm is 63%, with a total operating expense of $250,000, what is the dollar amount of Gross Farm Income? Round to the nearest cent.

Participant Number _______________ State Abbreviation _________

In the Efficiency section of the Financial Standards Measures, there are four ratios. The Depreciation Expense Ratio, the Interest Expense Ratio, and the Operating Expense Ratio are all part of the Total Farm Expenses. The Net Farm Income Ratio is an indicator of the percentage of Net Farm Income in comparison to Gross Farm Income.

6. What is the percentage of Total Expenses compared to Gross Farm Income for the Volkstad Pecan Company? Round to the nearest hundredth of a percent x.xx.

7. What is the percentage of Total Expenses compared to Gross Farm Income for the Average Farm? Round to the nearest hundredth of a percent x.xx.

Using the information in questions 6 and 7, calculate the Net Farm Income Ratio for each. Round to the nearest hundredth of a percent x.xx.

8. Volkstad's

9. Average

10. Is the Volkstad Net Farm Income Ratio better or worse than the average?

    A. Better
    B. Worse

11. The Volkstads have projected the value of the business for a future sale using the Market Balance Sheet. If they would have sold out completely on 1/1/19, what would be the difference between their Market Net Worth and the Retained Earnings?

12. If the Average Farm would have sold out completely on 1/1/19, what would be the difference between their Market Net Worth and the Retained Earnings if the retained earnings are $969,683?

13. What is the term used to describe the difference in question 11?

Participant Number _______________ State Abbreviation _________

Use the Income Statement on **Page R10** and the Contributions to Overhead Expenses on **Page R14** in the Resource Information for the Volkstad Pecan Company to answer questions 14 and 15.

What percent of Gross Income from pecans and beef cattle is available for Overhead Expenses? Round to the nearest hundredth of a percent x.xx.

14. Pecans

15. Beef Cattle

16. Using the percentages from question 14 and 15, if planning to invest more in one of these enterprises, which would provide you the highest percent Return to Overhead?

    A. Beef Cattle
    B. Pecans

Answer the following questions that relate to the Pecan enterprise, found on **Pages R12 and R21** in the Resource information.

17. What is the primary reason that the net return per acre for Volkstad's pecans is greater than the average of all farms?

    A. Price
    B. Yield
    C. Direct Cost
    D. Overhead

18. Of the Overhead Expenses on the Volkstad farm, which expense is the greatest amount **above** the average for that expense?

19. What is the difference in the value per unit in the pecan enterprise for the Area Average compared to the Volkstad farm? (Indicate + or – to show the dollar amount compared to the Volkstad value) Round answers to the nearest cent.

20. What is the change in income per acre if the Volkstads would have sold their pecans for the same value as the average farm? (Indicate + or – to show the amount compared to the Volkstad value) Round answers to the nearest cent.

Participant Number ______________ State Abbreviation ________

Using the “Average weight per beef calf sold” and the “Average price per Cwt” from the Other Information on the Beef Cow Calf tables for the Volkstads and the Area Average, calculate the amount received for each calf sold. Round answers to the nearest cent.

21. Volkstads

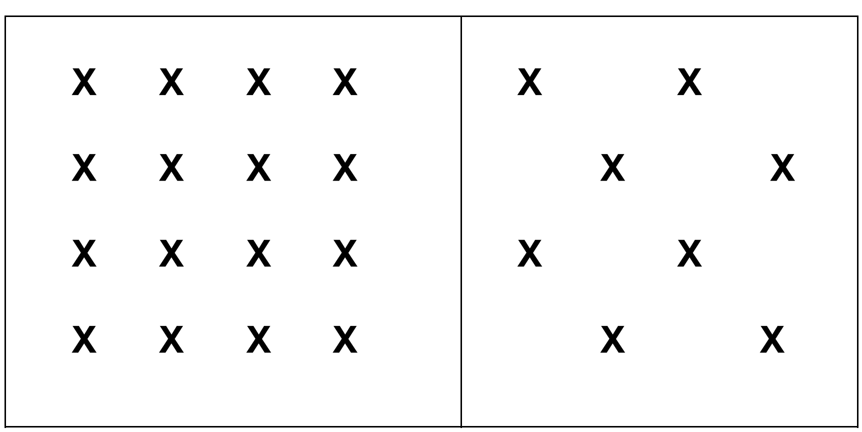
22. Area Average

23. In the information listed in questions 21 and 22, which had a greater impact on gross income, weight or price per cwt.

Pecan production can be a profitable business over the long term if the pecan tree is managed with effective production practices. A key aspect of effective management is the spacing between pecan trees in an orchard. One rule of thumb states that the distance between trees should range from 30 to 50 feet apart, depending on individual situations. After 12 – 18 years, thinning may be needed in order to allow the trees to produce for a longer time period and at an increased level.

24. If the Volkstads planted the majority of their acres with a tree spacing of 35 feet between trees in a row and 35 feet between rows, how many trees were planted per acre? Round to the nearest whole number.

25. In the current year, Volkstads are planning to thin the orchard by removing 50% of the trees leaving every other tree in a staggered pattern for each row. That will change the layout of the orchard from a rectangular pattern to a diagonal pattern. See the chart below. How many trees will remain per acre after removing 50%?



26. Based on the number of square feet in one acre and the number of trees remaining in question 25 after thinning, calculated the spacing between each tree and each row. (Round up to the nearest whole number)

27. With that reduction in the number of trees, which of the following would most likely occur on the thinned acres?

A. Production per acre would increase naturally.
B. Irrigation would be reduced to save costs.
C. Fertilizer applied per acre would be reduced.
D. None of the above
E. All of the above

Part XI – 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 Completion questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice, Completion and True/False questions are one point each. Calculation questions are three points each.

Review the **Family Living Expenses, Page R14,** and **Area Average, Page R20** to answer the following questions.

1. In which category does the Volkstad family spend less per person than the area average?

   A. Medical care
   B. Clothing
   C. Education
   D. Utilities
   E. Household repairs

2. What is the total cash family living expense per person for the Volkstad family? Round answer to whole dollar.

3. What is the largest family living expenditure item for the Volkstad family?

   A. Education
   B. Income taxes
   C. Nonfarm real estate purchases
   D. Nonfarm vehicle purchases
   E. Clothing

4. Which expense listed below would be the easiest to reduce?

   A. Utilities
   B. Life insurance payments
   C. Income taxes
   D. Disability/long term care insurance
   E. Recreation

5. The Volkstad family spends more than seven percent of total cash family living on which expense category(ies)?

   A. Personal care
   B. Recreation
   C. Medical care
   D. Household repairs
   E. Both A and B

6. What is the area average amount spent per person on life insurance payments? Round answer to whole dollar.

7. What percent of total cash family living expense does the Volkstad family spend on health insurance? Round to the nearest whole percent.

8. The Volkstad family spends how much per person on medical care?

9. The area average spends at least seven percent of the total cash family living expense on which category?

   A. Life insurance payments
   B. Cash donations
   C. Medical care
   D. Recreation
   E. Personal care

10. Which expense item listed below would be the most difficult to reduce?

    A. Recreation
    B. Nonfarm vehicle purchases
    C. Gifts
    D. Clothing
    E. Income taxes

Participant Number ______________ State Abbreviation ________

Part XII - 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 Completion questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice, Completion and True/False questions are one point each. Calculation questions are three points each.

1. The production function decision rule for moving from stage one to stage two.

   A. Maximum Marginal Product.
   B. Marginal Product = Average Product.
   C. Minimum Average Product.
   D. Marginal Product = 0.
   E. Minimum Marginal Product.

2. The production function is the

   A. economic relationship between firms and consumers.
   B. production relationship between consumers and producers.
   C. economic relationship between costs and prices.
   D. cost relationship between consumers and producers.
   E. physical relationship between inputs and output.

3. The term output divided by input is known as

   A. Total Product.
   B. Marginal Product.
   C. Average Product.
   D. Marginal Cost.
   E. Marginal Revenue.

4. If the Volkstad family has a fixed cost of $100 per acre when pecan output yields 1,400 pounds per acre, what is the fixed cost per acre when pecan output falls to 1,050 pounds per acre?

   A. $75 per acre
   B. $125 per acre
   C. $0 per acre
   D. $100 per acre
   E. There is not enough information to determine fixed cost.

5. To mathematically determine the least cost combination of two inputs, you will find where

   A. the marginal rate of substitution equals the price ratio.
   B. the marginal cost equals the average cost.
   C. the marginal rate of substitution equals total revenue.
   D. the price ratio equals the marginal product.
   E. the price ratio equals the cost ratio.

6. Maximum profit will be obtained when variable input is added until

   A. total production is maximized.
   B. value of marginal product equals cost ratio.
   C. value of marginal product equals input price.
   D. marginal revenue equals output price.
   E. total revenue is minimized.

7. Diminishing returns begin to develop in

   A. stage one of the production function.
   B. stage two of the production function.
   C. stage three of the production function.
   D. stage four of the production function.
   E. None of the above

8. For the Volkstad Pecan Company, the cost of fertilizer can best be described as a(an)

   A. variable cost.
   B. fixed cost.
   C. total cost.
   D. marginal cost.
   E. average cost.

9. With current production, the Volkstads estimate total direct and overhead expenses of $1,800 per acre for pecans and predict $2.85 per pound sales price, how many pounds per acre do they need to produce to break even? Round to the nearest whole pound.

10. Recent storms have the Volkstad family concerned about pecan productivity. If production drops to 500 pounds per acre with an estimated total direct and overhead expense of $1,800 per acre, what price per pound do they need to receive to break even? Round to the nearest cent (i.e., $x.xx per pound).

Participant Number _______________ State Abbreviation _________

The Volkstads plan to feed out their steers and supplement with a cottonseed meal and corn feed ration to yield constant pounds of gain. They are trying to compute the least cost feed ration. Use the table below to answer questions 11 - 15.

Ration Number	X_1 Cottonseed Meal (lb.)	X_2 Corn (lb.)	Marginal Rate of Substitution
1	10	325.0	xxxxxxxxxxxxxxxxxx
			14.32
2	15	253.4	
			7.34
3	20	216.7	
			4.90
4	25	192.2	
			3.50
5	30	174.7	
			2.82
6	35	160.6	
			2.26
7	40	149.3	
			Answer 11
8	45	140.1	
			Answer 12
9	50	132.6	xxxxxxxxxxxxxxxxxx

11. What is the marginal rate of substitution moving from ration 7 to 8? Round to nearest hundredths x.xx.

12. What is the marginal rate of substitution moving from ration 8 to 9? Round to nearest hundredths x.xx.

13. If they can buy cottonseed meal for $0.28/lb and corn for $0.08/lb, the least cost combination will be found when moving from

A. ration 2 to ration 3.
B. ration 3 to ration 4.
C. ration 4 to ration 5.
D. ration 5 to ration 6.
E. ration 6 to ration 7.

14. If the cost of cottonseed meal decreases to \$0.12/lb. and the cost of corn stays the same at \$0.08/lb., the Volkstads should

    A. add cottonseed meal and reduce corn.
    B. add corn and reduce cottonseed meal.
    C. increase both corn and cottonseed meal.
    D. decrease both corn and cottonseed meal.
    E. keep the ration the same.

15. What is the marginal rate of substitution when moving from feed ration 2 (15 lbs. of cottonseed meal and 253.4 lbs. of corn) to ration 3 (20 lbs. of cottonseed meal and 216.7 lbs. of corn)?

16. When an increase in the level of production of one enterprise causes a reduction in the level of production of another enterprise, these two enterprises are said to be

    A. complimentary.
    B. competitive.
    C. supplementary.
    D. independent.

Participant Number ______________ State Abbreviation ________

Participant's Name (please print clearly) ___________KEY___________________

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***.

2019 NATIONAL FFA
FARM AND AGRIBUSINESS MANAGEMENT
CAREER DEVELOPMENT EVENT

Page Number	Part	Area	Possible Points
3	I	Financial Statements	34
8	II	Budgeting	25
11	III	Cash Flow Planning	24
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18	V	Income Tax	18
21	VI	Investment Analysis	22
23	VII	Risk Management	21
27	VIII	Business Organization	15
30	IX	Land Measurement	15
33	X	Analyzing the Agricultural Business	59
38	XI	Family Living	18
40	XII	Economic Principles	26
		TOTAL POSSIBLE POINTS	**300**

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Participant Number _______________ State Abbreviation _________

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 Completion questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice, Completion and True/False questions are one point each. Calculation questions are three points each.

1. How is the net farm income reported on the 2018 Income Statement calculated?

   A. Gross Cash Income – Total Cash Expense
   B. Gross Cash Income – Total Cash Expense + Total inventory change + Depreciation
   C. Gross Cash Income – Total Cash Expense ± Total Inventory Change ± Depreciation
   D. Gross Cash Income – Total Cash Expense – Depreciation

2. The statement summarizing the value of business assets and liabilities is often referred to as a balance sheet because

   A. Assets = Liabilities + Owner Equity or Net Worth
   B. Assets + Liabilities = Owner Equity
   C. Assets + Owner Equity or Net Worth = Liabilities
   D. Owner Equity or Net Worth = Assets + Liabilities

3. The purpose of the balance sheet is to show at a point in time

   A. the change in owner equity.
   B. the change in cash balances.
   C. the value of assets, liabilities and owner equity.
   D. if the business made a profit.

4. If the Statement of Cash Flow indicates an increase in the cash balance, this means

   A. total farm revenues were larger than total farm expenses.
   B. total cash received was larger than total cash used.
   C. there was an additional cash contribution made to the business.
   D. net farm income was positive.

5. Net farm income will influence all of the following except

   A. the change in retained earnings.
   B. owner equity.
   C. total cash expenses.
   D. the rate of return on assets.

6. Which of the following is a source of farm revenue? Place the letter of the correct item(s) in the answer sheet box.

   A. Customer payment of accounts receivable.
   B. Interest payments during the accounting period.
   C. Sale of grain produced during the accounting period.
   D. Cash received from a new noncurrent loan to purchase a new tractor.

   A & C

7. Which of the following is likely found in a revenue ledger tracking sources of cash revenue?

   A. Date of sale
   B. Buyer
   C. Quantity sold
   D. Unit price and total revenue received
   E. All of the above

8. In an accrual adjusted income statement, accrual adjustments are made for which of the following? Place the letter of the correct item(s) in the answer sheet box.

   A. Changes to the value of 2017 and 2018 pecan inventory
   B. Changes to the value of 2017 and 2018 prepaid supplies on hand
   C. Changes in the amount of 2017 and 2018 cash pecan sales
   D. Changes in the amount of 2017 and 2018 cash

   A & B

9. The chart of accounts normally includes

   A. income and expense accounts.
   B. accounts for current assets and liabilities.
   C. depreciable business asset accounts.
   D. other accounts necessary to create reports needed for good management.
   E. All the above

10. When using cash accounting records, a business will recognize

   A. income and expense transactions at the time of actual cash transactions.
   B. income and expense transactions regardless of when they are incurred.
   C. income when it is produced.
   D. expenses when the item is used in the production process.

11. Which of the following financial statements lists the cash and non-cash receipts and expenses of a business during a specified period of time?

    A. Balance sheet
    B. Income Statement
    C. Statement of Cash Flows
    D. Statement of Owner Equity

12. Which of the following financial statements explains the change in net worth for an accounting period?

    A. Balance sheet
    B. Income Statement
    C. Statement of Cash Flows
    D. Statement of Owner Equity

13. Which of the following financial statements explains the change in cash balance for an accounting period?

    A. Balance sheet
    B. Income Statement
    C. Statement of Cash Flows
    D. Statement of Owner Equity

14. Which of the following is not included in the calculation of accrual adjusted gross farm income?

    A. Crop sales
    B. Crop inventory change
    C. Change in prepaid supplies (expense adjustment – in the key)
    D. Livestock sales

15. A major advantage of cash accounting when compared to accrual accounting is it

    A. provides a more accurate calculation of profit.
    B. provides more flexibility in managing taxable income.
    C. provides a more realistic approach to measuring profits because it more closely matches cash flows.
    D. does not require maintaining revenues and expenses.

16. The original cost basis of a capital asset, plus improvements, less accumulated depreciation is referred to as the

    A. net cost value of the asset.
    B. net market value of the asset.
    C. adjusted basis of the asset.
    D. total amortization value of the asset.

17. A method of prorating the cost of a capital asset over its useful life is

    A. depreciation.
    B. amortization.
    C. remaining value.
    D. capitalized value.

18. The reason for making accrual adjustments to a cash income is to allow

    A. a better match of cash receipts and expenses to the actual cash flows.
    B. a better match of production with the expenses associated with the timing of production.
    C. an easier explanation of the change in net worth.
    D. a better match of revenue and expenses reported to the Internal Revenue Service for income tax purposes.

19. Contributed (or paid in) capital, plus retained earnings, plus valuation equity is equal to

    A. total assets plus total liabilities.
    B. total assets minus total liabilities.
    C. net farm income from operations minus cash withdrawals from the business.
    D. total assets plus total liabilities minus equity.

20. A complete set of financial statements will allow Bryan to calculate each of the following financial measures except

    A. profitability measures.
    B. efficiency measures.
    C. per bushel breakeven measures.
    D. repayment capacity measures.

Calculate the 1/1/2019 **market value** net worth for the farm only before adjusting for deferred liabilities and market valuation equity and place the answers, 21 through 25 in the corresponding answer boxes. **Refer to Page R4.**

Item	Value
21. Total Farm Assets	**23. $2,082,489**
22. Total Farm Liabilities	**24. $414,287**
Net Worth (Farm Only)	**25. $1,668,202**

26. If you have the following items:

1/1/2018 Cash Balance	$88,315
2018 Cash Provided by Operating Activities	$414,346
2018 Cash provided by Investing Activities	-$261,050
2018 Cash provided by Financing Activities	-$176,597

What is the 1/1/2019 cash balance?

$88,315 + $414,346 - $261,050 - $176,597= $65,014

27. Since the establishment of the Volkstad Pecan Company, what is the amount of accumulated retained earnings?

$1,685,917

28. How much has the change in market value assets contributed to equity of the Volkstad Pecan Company?

$429,560

How much did items 29 - 30 contribute to the change in retained earnings? **Refer to Page R11.**

Item	Amount
Change in Personal Assets	**29. -$2,350**
Family Living Expenses	**30. $92,300**

Participant Number ______________ State Abbreviation ________

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 Completion questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice, Completion and True/False questions are one point each. Calculation questions are three points each.

1. Budgets are used in planning to evaluate the impact of future actions. To improve the accuracy of a budget, the operator may use

   A. historical data.
   B. forward contract pricing.
   C. more than one source for estimated data.
   D. All of the above.

2. When an increase in the level of production of one enterprise causes a reduction in the level of production of another enterprise, these two enterprises are said to be

   A. independent.
   B. complimentary.
   C. competitive.
   D. supplementary.

3. An enterprise budget is

   A. a physical and financial plan for the entire farm business for a specified period of time.
   B. a record of past production performance, usually for one production cycle.
   C. the tool used in analyzing only changes in the farm operation and the potential change in net income.
   D. a statement of projected costs and returns associated with one production process, usually for one production cycle.

4. If you are considering a change in the farm business that affects only a few items in the total farm budget, this change could most appropriately be evaluated using

   A. an enterprise budget.
   B. a cash flow budget.
   C. a total farm budget.
   D. a partial budget.

5. Budgeting is not used to

   A. estimate the amount of credit needed.
   B. determine the useful life of assets.
   C. allow for experimentation with possible outcomes before resources are committed.
   D. All of the above.

6. When determining the effect of growing more acres of a crop, the cost most likely to change would be

   A. fixed costs per acre.
   B. operating costs per acre.
   C. rent per acre.
   D. crop insurance per acre.

7. A whole farm schedule of expected returns and expenses is a

   A. balance sheet.
   B. partial budget.
   C. depreciation schedule.
   D. budget.

8. 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

9. A cash flow projection is a form of budgeting that is used to

   A. determine living expenses.
   B. determine year-end asset values.
   C. determine operating credit needs.
   D. calculate total farm equity.

10. Which of the following would be considered a fixed cost?

    A. Depreciation on machinery
    B. Hired seasonal labor
    C. Crop production inputs
    D. Feed purchases

11. The cost of using a resource based on what it could have earned in the next best alternative is

    A. an opportunity cost.
    B. always a variable cost.
    C. always a fixed cost.
    D. an alternative cost.

12. What is the break-even yield per acre for the pecan enterprise **(R12)** to cover total direct and overhead expenses? Calculate to the nearest tenth (x.x) of a pound.

713.1 lbs

$1,825.60 divided by $2.56

Participant Number _______________ State Abbreviation _________

13. What is the largest direct expense for the pecan enterprise?

Hired Labor

14. What is the operating interest expense per acre for the pecan enterprise?

$81.21

15. What is the irrigation energy expense per acre for the pecan enterprise?

$107.41

16. If total direct and overhead expenses for the pecan enterprise were to increase to $2,000 per acre, what would the break-even price per pound be? Round to the nearest cent.

$1.53

$2,000 divided by 1,309.52

17. For the Beef Cow Calf Budget on **R22,** What are the projected total operating costs per cow?

$602.16

18. What is the projected return over all specified costs per cow for the beef cow calf budget?

$94.66

19. What is the veterinary cost per cow in the beef cow calf budget?

$14,00 + $7.00 = $21.00

Participant Number _______________ State Abbreviation _________

Part III – Cash Flow Planning

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

1. What are the four factors of production?

   Land, Labor, Capital, Management

2. What impact would there be on total revenue if the highest revenue item fell by 5%? (Round to nearest whole dollar)

   $36,146

For questions 3 through 9, answer **Yes** if the item listed below shows up on a projected cash flow or answer **No** if the items would not be included on a projected cash flow.

3. Depreciation

   A. Yes
   B. No

4. New Loans

   A. Yes
   B. No

5. Farm Equity

   A. Yes
   B. No

6. Payment on Term Debt

   A. Yes
   B. No

7. Land Appreciation

   A. Yes
   B. No

8. Sale of Capital Items

   A. Yes
   B. No

9. Family Living

   A. Yes
   B. No

10. To analyze the health of the farm business, you should use which of the following? (Place the letters of all that apply in the answer box.)

    A. Income Statement
    B. Cash Flow Projection
    C. Depreciation Schedule
    D. Net Worth Statement

A, B and D

11. In 2019, the annual operating loan has to have a limit of at least

    A. $300,000.00
    B. $400,000.00
    C. $500,000.00
    D. $600,000.00

12. What month has the highest income __________?

November

13. What month has the highest cost (outflow) __________?

May

14. What are the total dollars needed for intermediate and long-term interest and principal loan payments?

$65,002

15. At the end of 2019 total assets

    A. do not change.
    B. are lower.
    C. are higher.

16. Based on the 2019 cash flow Executive Summary **(R5)** (for every dollar of income, what is the amount in cents spent for operating expenses?

    A. 40.1
    B. 60.7
    C. 26.2
    D. 17.3

17. In 2019 what is the highest outflow item?

Family Living or Living/Draw

18. In the 2019 cash flow, the minimum checkbook balance maintained is

A. $10,000.
B. $15,000.
C. $20,000.
D. $25,000.

19. Based on the 2019 cash flow, the cost of production for beef calves is _________ /cwt. (calculate to the nearest cent)

$136.15 / cwt.

20. In what month are the most dollars being spent for his 2019 crop production?

May

Participant Number _______________ State Abbreviation _________

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 Completion questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice, Completion and True/False questions are one point each. Calculation questions are three points each.

1. A tariff assessed on imports is similar to a duty or a tax.

   A. True
   B. False

USDA uses a milk pricing formula for each of the 4 categories based on end use. For questions 2 and 3, match the product category to the corresponding milk price class.

2. Which product category is associated with the Class I milk price?

   A. Butter and dry products (e.g., non-fat dry milk)
   B. Fluid/beverage milk
   C. Soft/manufactured dairy products (e.g., ice cream, yogurt)
   D. Hard cheeses

3. Which product category is associated with the Class III milk price?

   A. Butter and dry products (e.g., non-fat dry milk)
   B. Fluid/beverage milk
   C. Soft/manufactured dairy products (e.g., ice cream, yogurt)
   D. Hard cheeses

4. Produce is shipped Free On Board (FOB) Shipping Point from South America to the U.S. Upon arrival in the U.S., the buyer pays the full price for the shipment but determines there is a deterioration in produce quality. Who is liable for the damaged produce?

   A. Shipping company
   B. Seller
   C. Buyer

5. How many pounds are in a beef feeder cattle futures contract?

   A. 30,000
   B 50,000
   C. 40,000
   D. 10,000

6. In the event of a suspected food contamination event, which of the following agencies will respond to the situation? (Place the letters of all that apply in the answer box.)

   A. Centers for Disease Control and Prevention (CDC)
   B. State and county health departments
   C. Federal agencies including Food and Drug Administration (FDA)
   D. Environmental Protection Agency (EPA)

A, B and C

7. Products labeled "organic" must meet specific USDA requirements regarding which practices?

   A. Production
   B. Handling
   C. Labeling
   D. A and B
   E. A, B and C

8. USDA certified organic produce must be grown on soil free of prohibited substances for ___ years.

   A. 2
   B. 3
   C. 4
   D. 5

9. A hedge-to-arrive (futures) contract has three components, two of which are known at the time the contract is purchased. The known components include _____ and _____. The third component, _____, is unknown until a later date.

   A. delivery month, futures price, premium
   B. futures price, basis, and delivery month
   C. margin, basis, delivery month
   D. futures price, delivery month, basis

10. All other factors held equal, large carryover stocks will tend to have what effect on a commodity's price?

    A. Increase price
    B. Decrease price
    C. Increase storage costs
    D. B and C

11. Which of the following factors will cause a movement along the demand curve?

    A. Own price change
    B. Change in consumer tastes/preferences
    C. Prices of other goods/services
    D. Consumer incomes

12. A producer who suspects that pecan markets will be bearish in the coming year thinks pecan prices will

    A. increase.
    B. decrease.
    C. exceed a three-year average.
    D. A and C

13. Federal marketing orders are intended to promote agricultural products by collectively influencing

    A. product demand.
    B. product supply.
    C. product price.
    D. All of the above

14. A producer using the futures market to hedge the price of a commodity sold in the fall would take what action in May?

    A. Buy futures contracts expecting to buy more contracts when the commodity is sold.
    B. Buy futures contracts expecting to sell those contracts when the commodity is sold.
    C. Sell futures contracts expecting to buy them back when the commodity is sold.
    D. Sell futures contracts expecting to sell more contracts when the commodity is sold.

15. When the cash price falls relative to the futures price, this is known as

    A. strengthening basis.
    B. weakening basis.
    C. under basis.
    D. basis risk.

16. A producer buys 5,000 units of a product for $3.00 per unit in Market A. She simultaneously sells all 5,000 units for $4.00 per unit in Market B. The producer's ability to profit from price discrepancies in different markets is called

    A. arbitrage.
    B. marginal value.
    C. margin.
    D. None of the above

17. An increase in the U.S. exchange rate causes domestic goods to become

    A. less expensive for consumers abroad.
    B. more expensive for consumers abroad.
    C. less expensive for U.S. consumers.
    D. more expensive for U.S. consumers.

18. Which of the following considerations would factor into storing pecans but not cotton?

    A. Price
    B. Quality
    C. Perishability
    D. Location

19. If the Volkstads expand into feeder cattle and wish to hedge against future corn price increases, which of these actions would accomplish that goal?

    A. Sell a corn futures contract
    B. Buy a corn futures contract
    C. Buy a corn put option
    D. Sell a corn call option

20. The difference between the cash price and the futures price is called the

    A. strike price.
    B. premium.
    C. basis.
    D. spread.

21. Marketing margin is calculated as the per unit sale price less the per unit

    A. labor cost.
    B. production cost.
    C. marginal cost.

22. If Volkstad Pecan Company were to add online sales to their operation, this would be an example of ______ integration.

    A. vertical
    B. horizontal

23. Organic pecans are attractive because they command a higher sale price than non-organic pecans. Under the current conditions, which of the following factors would the Volkstads need to consider before planting an organic pecan orchard?

    A. Labor requirements
    B. Equipment needs
    C. Pest control costs
    D. All of the above

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 Completion questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice, Completion and True/False questions are one point each. Calculation questions are three points each.

Answers in this section will be based upon the 2018 Farmer's Tax Guide.

Over the next several years the Volkstad Pecan Company may purchase a number of depreciable assets. When using the Modified Accelerated Cost Recovery System (MACRS), General Depreciation System (GDS), farm property falls into different Recovery Periods. For questions 1 through 4, how many years would be required to depreciate the listed properties?

1. Used tractor

   7 years

2. New pecan harvester

   5 years

3. Water well

   15 years

4. Refrigerated storage (single use)

   10 years

5. The main thing to keep in mind with regard to income tax management is to

   A. minimize the tax obligation.
   B. have zero taxes due.
   C. maximize after tax income.
   D. defer income taxes to the future.

6. Effective tax planning requires

   A. knowing personal financial goals.
   B. up-to-date records.
   C. reliable long-range projections.
   D. All the above

7. The most common accounting method used by farmers for taxes.

   A. Accrual
   B. Cash
   C. Cash with accrual adjustments
   D. None of the above

8. Assets, other than land and some livestock, used in farming that have a useful life of more than one year are

   A. ordinary expenses.
   B. not deductible for taxes.
   C. considered lease expenses.
   D. depreciable.

9. Place the letters in the box of all the items that would increase a farm's taxable income.

   A. Prepay seed for next year
   B. Defer crop sales to next year
   C. Purchase and pay for diesel fuel
   D. Sell two semi loads of soybeans
   E. Use section 179 on capital purchases
   F. Use straight line depreciation versus MACRS depreciation
   G. Pay interest on loans even if it is not due
   H. Delay paying open accounts
   I. Pay operating loan principal

D, F and H

10. Which person below is required to pay social security taxes?

    A. Spouse who works with the other spouse
    B. Parent who works for his child who receives payment in-kind
    C. Parent who works for his child's corporation
    D. Child under 18 who works for his parent

11. The taxes that may be due when a person dies.

    A. Asset taxes
    B. Estate taxes
    C. Property taxes
    D. Real Estate taxes

12. A producer must send form _____ to each independent contractor earning over $600.

1099

13. A producer must send each employee a form _____ at the end of the year showing earnings and all withholdings.

W2

14. The standard deduction for a married couple in 2018 is

A. $12,000.
B. $24,000.
C. $34,000.
D. $44,000.

15. The personal exemption in 2018 is

A. $0.00.
B. $1,000.00.
C. $2,500.00.
D. $5,000.00.

16. Farmers that do not pay income tax quarterly or file an estimate must file and pay by

A. Jan 30.
B. Feb 15.
C. Mar 1.
D. Mar 15.

17. When a farmer trades in a piece of equipment, it is

A. treated as a sale.
B. added to the purchase price of the new item.
C. left on the depreciation schedule.
D. considered tax free income.

18. When a new or used capital item is purchased and no section 179 is taken, then

A. there is nothing to do.
B. the boot price is put on the depreciation schedule.
C. the entire amount is placed on the depreciation schedule.
D. it depends on the item.

Participant Number _______________ State Abbreviation _________

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 Completion questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice, Completion and True/False questions are one point each. Calculation questions are three points each.

Volkstad Pecan Company purchased a new John Deere 6130 on January 1 to replace their aging tractor. The dealer will provide them a seven-year loan with an interest rate of 4%. The price of the tractor was $149,900 which included the front-end loader attachment. The dealer allowed them $24,900 on their trade in. The payments are due in annual installments. Because they are such great customers, John Deere Financial will carry the note at the lower rate.

Year	Total Payment	Interest	Principal	Balance
0	[redacted]	[redacted]	[redacted]	$125,000.00
1	20,826.20	5,000	15,826.20	109,173.80
2	20,826.20	4,366.95	16,459.25	92,714.55
3	20,826.20	3,708.58	17,117.62	75,596.93
4	20,826.20	3,023.88	17,802.32	57,794.61
5	20,826.20	**2,311.78**	**18,514.42**	**39,280.19**
6	20,826.20	1,571.21	19,254.99	20,025.20
7	20,826.21	801.01	20,025.20	0

Questions 1 – 4: Calculate the amounts in the table above and enter them in the corresponding box on the answer sheet.

1. What is the interest for year 5?

   $2,311.78

2. What is the principal for year 5?

   $18,514.42

3. What is the remaining balance for year 5?

   $39,280.19

4. The total accumulated interest is

   $20,783.41

5. For an amortized loan, which of the following increases each year?

   A. total payment
   B. interest payment
   C. principal payment
   D. none of the above

6. What is the total cash outlay on this note?

   A. The actual amount of money borrowed less interest
   B. The total amount of money paid to the lender
   C. The present value of the annuity
   D. The amount of money left over

7. If the interest increases to 5%, what would be the amount of interest paid in the first year?

   $6,250

8. What is lender repossession?

   A. Recovering an asset and refunding principal paid
   B. Paying off debt with a varying repayment schedule
   C. Paying off debt with a fixed repayment schedule
   D. Losing the asset for non-payment

9. An annual payment consists of __________. Two points

   Interest and principal

10. An amortization table and loan documents are what a lender provides the borrower with each loan to disclose the

    A. amount of money borrowed.
    B. amount of principal and interest paid with each payment.
    C. amount and rate paid to the lender for borrowing the money.
    D. unpaid balance due at the end of each year.
    E. All of the above.

11. The principal and interest amounts in each of the payments on this note will always be the same.

    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 Completion questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice, Completion and True/False questions are one point each. Calculation questions are three points each.

1. Which of the following is an example of financial risk that applies to Volkstad Pecan Company?

   A. A change in pecan yield
   B. A change in interest rates
   C. A change in consumers' tastes and preferences
   D. A and C
   E. A, B and C

2. Which of the following is an example of legal risk?

   A. A change in tariff rates and food export regulations
   B. A change in consumers' tastes and preferences
   C. A change in interest rates
   D. A and C
   E. A, B, and C

3. Which of the following best describes risk avoidance?

   A. Paying another party to assume a portion of a risk
   B. A methodology to reduce the severity of a risk
   C. A methodology to reduce the frequency of a risk
   D. Ending an activity to eliminate the possibility of a loss
   E. Setting aside funds to pay for any losses that may occur

4. ___________ is an example of risk transfer.

   A. An insurance policy
   B. A fire suppression system
   C. Testing for food-borne pathogens
   D. B and C

5. A solvency ratio is a measure of __________ risk.

   A. Market
   B. Legal
   C. Financial
   D. Human
   E. Production

6. Assume that the following debt-to-asset ratios are given for 5 farms. Based solely upon these ratios, which farm is at the greatest financial risk?

   A. 0.2
   B. 0.7
   C. 0.6
   D. 0.9
   E. 0.5

7. Adopting an appropriate integrated pest management system mitigates ___________ risk.

   A. market
   B. legal
   C. financial
   D. human
   E. production

8. Which of the following is an example of market risk that applies to Volkstad Pecan Company?

   A. A change in pecan prices
   B. A change in interest rates
   C. A change in consumers' tastes and preferences for organic products
   D. A and C
   E. A, B, and C

9. A worker's compensation insurance policy is an appropriate treatment for a farm's ______________ risk.

   A. market
   B. legal
   C. financial
   D. human
   E. production

10. A farmer who wants to establish a price floor for corn to be received at harvest would

    A. buy a call option.
    B. buy a futures contract.
    C. buy a put option.
    D. sell a put option.

11. A farmer would use the futures market with the objective to

    A. transfer risk.
    B. increase risk.
    C. participate in government farm programs.
    D. obtain a loan.

12. A farmer decides to use the futures market to hedge the price of soybeans to be sold at harvest. What should the farmer do to hedge the soybeans?

    A. Buy futures contracts expecting to buy more contracts when the soybeans are sold.
    B. Buy futures contracts expecting to sell those contracts when the soybeans are sold.
    C. Sell futures contracts expecting to buy them back when the soybeans are sold.
    D. Sell futures contracts expecting to sell more contracts when the soybeans are sold.

13. After the farmer is hedged in Question #12, 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 change in the basis.
    D. A larger than expected yield.

14. When hedging, it is important that farmers close out both the cash and futures position

    A. prior to selling the crop.
    B. simultaneously when selling the crop.
    C. keep the futures position open to protect against price risk.
    D. at any time.

15. To hedge using commodity futures, a farmer must

    A. use a broker.
    B. create a margin account.
    C. both A and B.
    D. do nothing. A farmer can hedge over the internet without a broker or margin account.

16. A farmer uses revenue protection insurance to protect a corn crop. This type of insurance would protect against

    A. high prices and high yields.
    B. low yields and low prices.
    C. increases in cash rental rates.
    D. failure of a grain buyer to make a payment upon delivery.

17. The yield protection in revenue protection insurance is based on

    A. the farm's actual production history of yields.
    B. the county's actual production history of yields.
    C. the state's actual production history of yields.
    D. whatever yield coverage the farmer wants to buy.

18. The price protection in revenue protection insurance is based upon

    A. the futures market.
    B. the local cash market.
    C. the U.S. Marketing-Year Average price.
    D. a price determined by the USDA.

19. Pecan markets pose an interesting problem for farm price risk management. There is not a futures contract for pecans. In the absence of a futures contract, what is the most appropriate means to manage price risk for pecan operations?

    A. A forward contract
    B. A production contract
    C. Both A and B
    D. Neither A nor B

20. Which of the following is not one of the steps in the risk management process?

    A. Identify
    B. Monitor
    C. Plan
    D. Prioritize
    E. All of the above

21. Which of the following risks should be avoided?

    A. A high frequency and high severity risk
    B. A low frequency and high severity risk
    C. A low frequency and low severity risk
    D. A high frequency and low severity risk

Participant Number ______________ State Abbreviation ________

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 Completion questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice, Completion and True/False questions are one point each. Calculation questions are three points each.

1. If Volkstad Pecan Company decided to join with other pecan growers to start a pecan shelling plant, which type of cooperative should they form?

   A. Processing
   B. Marketing
   C. Credit
   D. Purchasing
   E. Service

2. During their farming career, Bryan and Brianna have grown their operation from nothing to a thriving 210-acre pecan orchard. In the long-term, they are interested in protecting their orchard and ensuring that it stays in their family for many generations to come. Which of the following business organizations would best suit their goal?

   A. A partnership
   B. A sole proprietorship
   C. A cooperative
   D. A trust

3. Which of the following is a benefit of a corporate business structure?

   A. Corporate income can be taxed at a lower rate than personal income.
   B. Ownership is easily divided into shares.
   C. A corporation does not dissolve with the death of an owner.
   D. All of the above

4. The most commonly used type of business organization for US farms and ranches is the _____.

   A. corporation
   B. partnership
   C. sole proprietorship
   D. limited liability company
   E. Cooperative

5. Choosing to organize a business as a(n) __________ provides entrepreneurs with the greatest access to capital.

   A. corporation
   B. partnership
   C. sole proprietorship
   D. limited liability company
   E. cooperative

6. Of the types of business organizations listed below, which would provide the least protection from legal liability to the owners?

   A. Limited Liability Company
   B. S-Corporation
   C. C-Corporation
   D. General Partnership

7. If a farm business owner wishes to organize her business as simply as possible with minimal record keeping requirements, which type of organization should she choose?

   A. C-Corporation
   B. Limited Partnership
   C. Sole Proprietorship
   D. Limited Liability Company
   E. Cooperative

8. An owner of a corporation is also called a(n) _____.

   A. director
   B. stockholder
   C. officer
   D. member
   E. trustor

9. An owner of a Limited Liability Company is also called a(n) _____.

   A. director
   B. stockholder
   C. officer
   D. member
   E. trust

10. Which of the following statements is not a best practice when selecting a business organization structure?

    A. Business owners should select the simplest business organization that still meets their needs and goals.
    B. Partnership agreements should always be signed, written agreements that are reviewed with the help of an attorney or other competent professional.
    C. The business structure that minimizes taxation the most is always the best choice for business owners.
    D. Future plans and aspirations of the business owner should be taken into account when deciding the optimal business structure.

11. According to the IRS code, owners of an S-Corporation must be US citizens.

    A. True
    B. False

12. According to IRS rules, C-Corporations may not have more than 100 stockholders.

    A. True
    B. False

13. Cooperatives are owned and controlled by their member-patrons and the profits earned by the cooperative are returned to the members based on patronage.

    A. True
    B. False

14. Cooperatives allow farmers and ranchers to gain market power by combining their resources.

    A. True
    B. False

15. Trusts are a particularly useful form of business organization for estate planning purposes.

    A. True
    B. False

Part IX – Land Measurement

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

1. Thomas Jefferson authorized a system of land measurements to define locations of properties in the western territory for which of these main reasons?

   A. So that private ownership of property could be easily defined.
   B. So that property could be exchanged to another owner more easily.
   C. A checkerboard system was employed to create more reliable delineations.
   D. All of the above

2. How many sections are in a township?

   A. 12
   B. 24
   C. 36
   D. 48

3. The purpose of a school section was to plan ahead for land settlements so that

   A. children wouldn't have to travel far to school.
   B. the sections would become the property of the state.
   C. Both A and B
   D. Neither A or B

4. When interpreting a legal land description, you

   A. read it backwards.
   B. locate the section in the township.
   C. find the location in the quarter.
   D. All of the above

5. The range refers to columns of townships running north and south (quadrangle).

   A. True
   B. False

6. Some properties in the U.S. do not have a form of legal land description.

   A. True
   B. False

7. An acre is equal to ________ square feet.

   43,560

8. A tier refers to the townships running east and west in six-mile increments.

   A. True
   B. False

9. The curvature of the earth causes a need to include correctional sections in legal descriptions.

   A. True
   B. False

10. Generally, parcels of land that are located in a city subdivision are legally described by using

    A. metes and bounds.
    B. recorded plats.
    C. rectangular survey.
    D. None of the above

11. Property in most towns and cities on the East coast generally use the metes and bounds survey system.

    A. True
    B. False

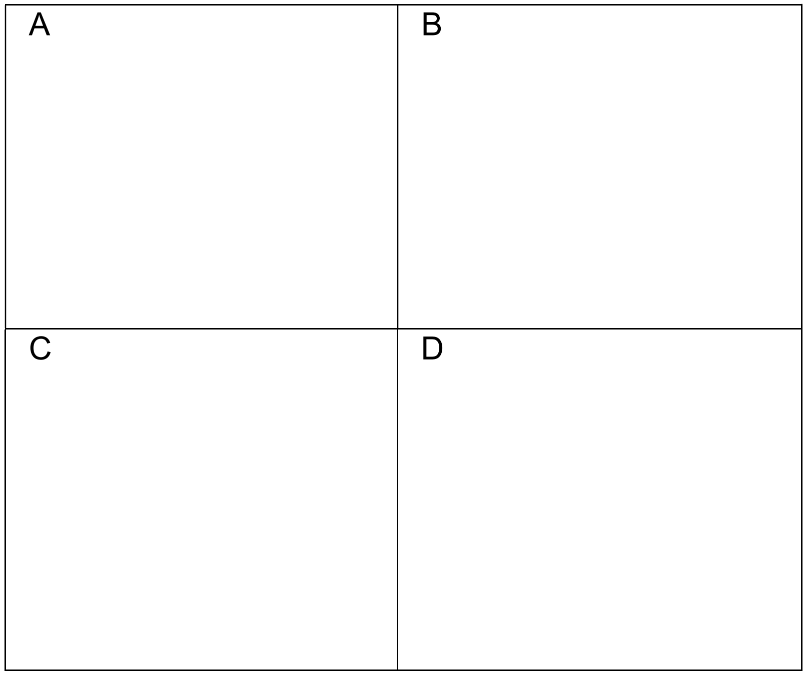
12. "Starting at an iron post, 523' N 10˚" is an excerpt from a legal land description. What system of legal land descriptions does this description conform to?

    A. Rectangular Survey
    B. Recorded Plat
    C. Metes and Bounds
    D. None of the above

13. The following excerpt is from a legal description: "W ½, E ½, SE ¼, Section 10". What system of legal land descriptions does this description conform to?

    A. Rectangular Survey
    B. Recorded Plat
    C. Metes and Bounds
    D. None of the above

The illustration below is for a one-mile square section of land.



14. In the section above, which is the southwest quarter?

    A. A
    B. B
    C. C
    D. D

15. How many acres are in parcel B?

    A. 25
    B. 80
    C. 100
    D. 160

Participant Number ______________ State Abbreviation ________

Part X - 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 Completion questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice, Completion and True/False questions are one point each. Calculation questions are three points each.

Use the Executive Summary on **Page R9** in the Resource Information for the Volkstad Pecan Company and the Executive Summary for Average Data on **Page R17** to answer questions 1 through 9.

1. Compare the beginning and ending values on the first 5 Financial Standards Measures listed. Which measure(s) were worse at the end of the year?

   A. Debt to Asset Ratio
   B. Debt to Equity Ratio
   C. Current Ratio
   D. Both A and B
   E. None of the above

2. The Operating Expense Ratio is a financial factor that represents

   A. Operating expense in comparison to Operating Income.
   B. Operating expense in comparison to Gross Farm Income.
   C. Total Farm Expense compared to Operating Expense.
   D. Operating Expense in comparison to Net Farm Income.

3. What is the Operating Expense Ratio for Volkstad Pecan Company?

   46% or .46

4. Is their Operating Expense Ratio better or worse than the average?

   A. Better
   B. Worse

5. If the Operating Expense Ratio for a given farm is 63%, with a total operating expense of $250,000, what is the dollar amount of Gross Farm Income? Round to the nearest cent.

   ($250,000 / .63) **$396,825.40**

Participant Number _______________ State Abbreviation _________

In the Efficiency section of the Financial Standards Measures, there are four ratios. The Depreciation Expense Ratio, the Interest Expense Ratio, and the Operating Expense Ratio are all part of the Total Farm Expenses. The Net Farm Income Ratio is an indicator of the percentage of Net Farm Income in comparison to Gross Farm Income.

6. What is the percentage of Total Expenses compared to Gross Farm Income for the Volkstad Pecan Company? Round to the nearest hundredth of a percent x.xx.

($458,302 / $798,451) **57.40%**

7. What is the percentage of Total Expenses compared to Gross Farm Income for the Average Farm? Round to the nearest hundredth of a percent x.xx.

($355,320 / $471,286) **75.39%**

Using the information in questions 6 and 7, calculate the Net Farm Income Ratio for each. Round to the nearest hundredth of a percent x.xx.

8. Volkstad's **(100% - 57.40%)** **42.60%**

9. Average **(100% - 75.39%)** **24.61%**

10. Is the Volkstad Net Farm Income Ratio better or worse than the average?

A. Better
B. Worse

11. The Volkstads have projected the value of the business for a future sale using the Market Balance Sheet. If they would have sold out completely on 1/1/19, what would be the difference between their Market Net Worth and the Retained Earnings?

($2,115,477 - $1,685,917) **$429,560**

12. If the Average Farm would have sold out completely on 1/1/19, what would be the difference between their Market Net Worth and the Retained Earnings if the retained earnings are $969,683?

$267,417

($1,237,100 - $969,683)

13. What is the term used to describe the difference in question 11?

Market Valuation Equity

Participant Number _______________ State Abbreviation _________

Use the Income Statement on **Page R10** and the Contributions to Overhead Expenses on **Page R14** in the Resource Information for the Volkstad Pecan Company to answer questions 14 and 15.

What percent of Gross Income from pecans and beef cattle is available for Overhead Expenses? Round to the nearest hundredth of a percent x.xx.

14. Pecans **($411,821 / $705,275)** **58.39%**

15. Beef Cattle **($29,691 / $85,925)** **34.55%**

16. Using the percentages from question 14 and 15, if planning to invest more in one of these enterprises, which would provide you the highest percent Return to Overhead?

    A. Beef Cattle
    B. Pecans

Answer the following questions that relate to the Pecan enterprise, found on **Pages R12 and R21** in the Resource information.

17. What is the primary reason that the net return per acre for Volkstad's pecans is greater than the average of all farms?

    A. Price
    B. Yield
    C. Direct Cost
    D. Overhead

18. Of the Overhead Expenses on the Volkstad farm, which expense is the greatest amount **above** the average for that expense?

    Mach & Bldg Depreciation

19. What is the difference in the value per unit in the pecan enterprise for the Area Average compared to the Volkstad farm? (Indicate + or – to show the dollar amount compared to the Volkstad value) Round answers to the nearest cent.

    ($2.72 – $2.56) **+ $.16**

20. What is the change in income per acre if the Volkstads would have sold their pecans for the same value as the average farm? (Indicate + or – to show the amount compared to the Volkstad value) Round answers to the nearest cent.

    (1309.52 X .16) **+ $209.52**

Participant Number ______________ State Abbreviation ________

Using the “Average weight per beef calf sold” and the “Average price per Cwt” from the Other Information on the Beef Cow Calf tables for the Volkstads and the Area Average, calculate the amount received for each calf sold. Round answers to the nearest cent.

21. Volkstads **(5.85 cwt X $153.00)** **$895.05**

22. Area Average **(6.36 cwt X $147.81)** **$940.07**

23. In the information listed in questions 21 and 22, which had a greater impact on gross income, weight or price per cwt.

Weight

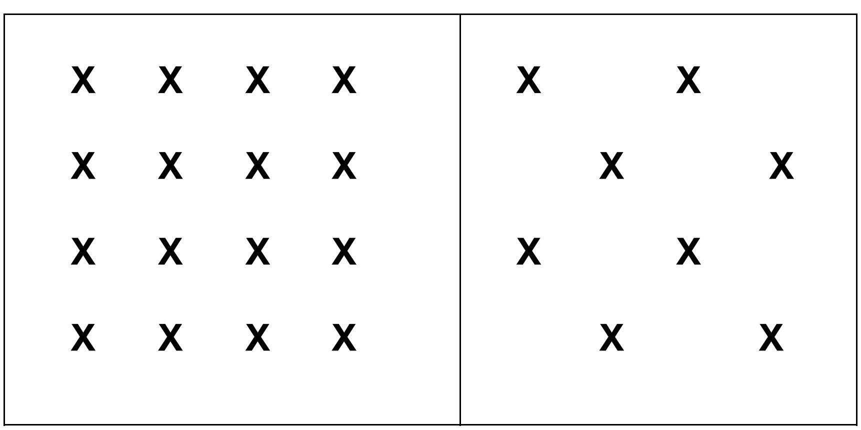
Pecan production can be a profitable business over the long term if the pecan tree is managed with effective production practices. A key aspect of effective management is the spacing between pecan trees in an orchard. One rule of thumb states that the distance between trees should range from 30 to 50 feet apart, depending on individual situations. After 12 – 18 years, thinning may be needed in order to allow the trees to produce for a longer time period and at an increased level.

24. If the Volkstads planted the majority of their acres with a tree spacing of 35 feet between trees in a row and 35 feet between rows, how many trees were planted per acre? Round to the nearest whole number.

(43,560 / (35’ X 35’)) **36 (35.56)**

25. In the current year, Volkstads are planning to thin the orchard by removing 50% of the trees leaving every other tree in a staggered pattern for each row. That will change the layout of the orchard from a rectangular pattern to a diagonal pattern. See the chart below. How many trees will remain per acre after removing 50%?

(36/2) **18**



26. Based on the number of square feet in one acre and the number of trees remaining in question 25 after thinning, calculated the spacing between each tree and each row. (Round up to the nearest whole number)

43,560/18 = 2,420 so the sq root would be 49.2

50

OR

$$A^2 + B^2 = C^2$$
$$(35)^2 + (35)^2 = C^2$$
$$1225 + 1225 = 2450$$

Square root of 2450 = 49.5

Rounds to 50

27. With that reduction in the number of trees, which of the following would most likely occur on the thinned acres?

A. Production per acre would increase naturally.
B. Irrigation would be reduced to save costs.
C. Fertilizer applied per acre would be reduced.
D. None of the above
E. All of the above

Part XI – 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 Completion questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice, Completion and True/False questions are one point each. Calculation questions are three points each.

Review the **Family Living Expenses, Page R14,** and **Area Average, Page R20** to answer the following questions.

1. In which category does the Volkstad family spend less per person than the area average?

   A. Medical care
   B. Clothing
   C. Education
   D. Utilities
   E. Household repairs

2. What is the total cash family living expense per person for the Volkstad family? Round answer to whole dollar.

   $92,300 / 3 = $30,767 per person

$30,767

3. What is the largest family living expenditure item for the Volkstad family?

   A. Education
   B. Income taxes
   C. Nonfarm real estate purchases
   D. Nonfarm vehicle purchases
   E. Clothing

4. Which expense listed below would be the easiest to reduce?

   A. Utilities
   B. Life insurance payments
   C. Income taxes
   D. Disability/long term care insurance
   E. Recreation

5. The Volkstad family spends more than seven percent of total cash family living on which expense category(ies)?

   A. Personal care
   B. Recreation
   C. Medical care
   D. Household repairs
   E. Both A and B

6. What is the area average amount spent per person on life insurance payments? Round answer to whole dollar.

   $1,476 / 3.6 = $410 per person

$410

7. What percent of total cash family living expense does the Volkstad family spend on health insurance? Round to the nearest whole percent.

   ($17,655 / $92,300) x 100 = 19%

19%

8. The Volkstad family spends how much per person on medical care?

   $4,851 / 3 = $1,617

$1,617

9. The area average spends at least seven percent of the total cash family living expense on which category?

   A. Life insurance payments
   B. Cash donations
   C. Medical care
   D. Recreation
   E. Personal care

10. Which expense item listed below would be the most difficult to reduce?

    A. Recreation
    B. Nonfarm vehicle purchases
    C. Gifts
    D. Clothing
    E. Income taxes

Part XII - 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 Completion questions, write the answer in the box in the Answer column. Do not make any marks in the C/I column. Multiple Choice, Completion and True/False questions are one point each. Calculation questions are three points each.

1. The production function decision rule for moving from stage one to stage two.

   A. Maximum Marginal Product.
   B. Marginal Product = Average Product.
   C. Minimum Average Product.
   D. Marginal Product = 0.
   E. Minimum Marginal Product.

2. The production function is the

   A. economic relationship between firms and consumers.
   B. production relationship between consumers and producers.
   C. economic relationship between costs and prices.
   D. cost relationship between consumers and producers.
   E. physical relationship between inputs and output.

3. The term output divided by input is known as

   A. Total Product.
   B. Marginal Product.
   C. Average Product.
   D. Marginal Cost.
   E. Marginal Revenue.

4. If the Volkstad family has a fixed cost of $100 per acre when pecan output yields 1,400 pounds per acre, what is the fixed cost per acre when pecan output falls to 1,050 pounds per acre?

   A. $75 per acre
   B. $125 per acre
   C. $0 per acre
   D. $100 per acre
   E. There is not enough information to determine fixed cost.

5. To mathematically determine the least cost combination of two inputs, you will find where

   A. the marginal rate of substitution equals the price ratio.
   B. the marginal cost equals the average cost.
   C. the marginal rate of substitution equals total revenue.
   D. the price ratio equals the marginal product.
   E. the price ratio equals the cost ratio.

6. Maximum profit will be obtained when variable input is added until

   A. total production is maximized.
   B. value of marginal product equals cost ratio.
   C. value of marginal product equals input price.
   D. marginal revenue equals output price.
   E. total revenue is minimized.

7. Diminishing returns begin to develop in

   A. stage one of the production function.
   B. stage two of the production function.
   C. stage three of the production function.
   D. stage four of the production function.
   E. None of the above

8. For the Volkstad Pecan Company, the cost of fertilizer can best be described as a(an)

   A. variable cost.
   B. fixed cost.
   C. total cost.
   D. marginal cost.
   E. average cost.

9. With current production, the Volkstads estimate total direct and overhead expenses of $1,800 per acre for pecans and predict $2.85 per pound sales price, how many pounds per acre do they need to produce to break even? Round to the nearest whole pound.

632

   $1,800/acre divided by $2.85/lb = 632 lbs/ac (rounded from 631.6)

10. Recent storms have the Volkstad family concerned about pecan productivity. If production drops to 500 pounds per acre with an estimated total direct and overhead expense of $1,800 per acre, what price per pound do they need to receive to break even? Round to the nearest cent (i.e., $x.xx per pound).

$3.60

   $1,800/acre divided by 500 lbs/ac = $3.60/lb

Participant Number _______________ State Abbreviation _________

The Volkstads plan to feed out their steers and supplement with a cottonseed meal and corn feed ration to yield constant pounds of gain. They are trying to compute the least cost feed ration. Use the table below to answer questions 11 - 15.

Ration Number	X_1 Cottonseed Meal (lb.)	X_2 Corn (lb.)	Marginal Rate of Substitution
1	10	325.0	xxxxxxxxxxxxxxxxxx
			14.32
2	15	253.4	
			7.34
3	20	216.7	
			4.90
4	25	192.2	
			3.50
5	30	174.7	
			2.82
6	35	160.6	
			2.26
7	40	149.3	
			11. 1.84
8	45	140.1	
			12. 1.50
9	50	132.6	xxxxxxxxxxxxxxxxxx

11. What is the marginal rate of substitution moving from ration 7 to 8? Round to nearest hundredths x.xx.

1.84

12. What is the marginal rate of substitution moving from ration 8 to 9? Round to nearest hundredths x.xx.

1.50

13. If they can buy cottonseed meal for $0.28/lb and corn for $0.08/lb, the least cost combination will be found when moving from

A. ration 2 to ration 3.
B. ration 3 to ration 4.
C. ration 4 to ration 5.
D. ration 5 to ration 6.
E. ration 6 to ration 7.

14. If the cost of cottonseed meal decreases to $0.12/lb. and the cost of corn stays the same at $0.08/lb., the Volkstads should

    A. add cottonseed meal and reduce corn.
    B. add corn and reduce cottonseed meal.
    C. increase both corn and cottonseed meal.
    D. decrease both corn and cottonseed meal.
    E. keep the ration the same.

15. What is the marginal rate of substitution when moving from feed ration 2 (15 lbs. of cottonseed meal and 253.4 lbs. of corn) to ration 3 (20 lbs. of cottonseed meal and 216.7 lbs. of corn)?

    7.34

16. When an increase in the level of production of one enterprise causes a reduction in the level of production of another enterprise, these two enterprises are said to be

    A. complimentary.
    B. competitive.
    C. supplementary.
    D. independent.

Each team will complete and turn in only one copy of these pages.
Other copies can be used to make notes and calculations

2019 National FFA Farm Business 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:

Permanent plantings are a unique sector of the agricultural industry. Pecan trees can produce harvestable pecans for over 80 years when they are managed correctly. When managers of pecan orchards make a decision, there is added importance to ensure that they made the correct one. Orchard design is an important factor to consider. There are over 500 varieties of pecan trees, and choosing the correct type of trees for local situations is of paramount importance.

Pecan trees require intense management and care. For pecans to be maximally productive, they require a strong fertility plan that includes Nitrogen, Phosphorus, Zinc, and other trace minerals. Additionally, lime is often required to amend the soil pH to ensure that the trees can make the best use of the nutrients in the soil. Insects and fungi are also major pests in pecan operations that are often managed by the application of chemical pesticides.

The Volkstad Pecan Company is currently in a state of review, and the family is considering how to best position the farm for the future. In their planning, the family has identified a few key areas of interest to the farm. These include removing some lower-yielding trees and replacing them with newer cultivars, adding additional processing capabilities to their farm, and assessing some additional ways to market their pecans direct to consumers.

The pecan industry as a whole looks very promising. Domestic and global growth are expected well into the future. Presently, 30 percent of the US pecan harvest is exported. Agricultural economists estimate that less than 1 percent of the demand in the overseas pecan market is being met, and there is tremendous potential for the future of the pecan industry. The pecan industry expects that US production will increase from 680 million pounds in 2017 to 1.2 billion pounds by 2027.

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.

Points:	**Question 1:**	**Marketing their product**	**6 points**
	Question 2:	**Business organizations**	**20 points**
	Question 3:	**Replacing trees**	**15 points**
	Question 4:	**Team of specialists**	**12 points**
	Question 5:	**Grazing cattle**	**20 points**
	Question 6:	**Regulatory agencies**	**10 points**
	Question 7:	**Net Income calculation**	**15 points**
	Question 8:	**Marginal revenue**	**4 points**
	Question 9:	**Marginal revenue for fixed costs**	**4 points**
	Question 10:	**Cash needed for fixed costs**	**4 points**
	Question 11:	**Debt needed**	**8 points**
	Question 12:	**Risk factors**	**8 points**
	Question 13:	**Reward factors**	**8 points**
	Question 14:	**Safety hazards**	**10 points**
	Question 15:	**Natural hazards**	**12 points**
	Question 16:	**Man-made hazards**	**12 points**
	Question 17:	**Increasing income**	**8 points**
	Question 18:	**Direct consumer marketing**	**10 points**
	Question 19:	**Social Media promotion**	**4 points**
	Question 20:	**Expand or improve operation**	**10 points**
		Total	**200 points**

1. If the Volkstad's decide to add the processing equipment, what possible outlets can the Volkstad's use to market their products? List 3. 6 pts

2. List two possible business organization types that would be appropriate for the Volkstad Pecan Company. Provide two advantages and two disadvantages for each type of organization. 20 pts

3. One of the most important considerations pecan growers must make is the determination of removing native pecan trees and replacing them with improved tree varieties.

Native pecan trees produce approximately 750 lbs per acre of trees. Improved pecan trees can produce approximately 1,250 lbs per acre. New trees take seven years to begin producing pecans. How many years would it take to recoup or recover an investment in replacing a native orchard with improved trees, assuming an average price of $3 per lb? It costs $3,000 to replace native trees with improved tree varieties. <u>Show your work.</u> 15 points

4. Part of building a successful business is assembling a team of specialists to provide expert knowledge and advice to make the best decisions possible. List 4 specialists Bryan and Brianna should have on their production and management team.
3 pts each for 12 pts total

5. Having the cattle operation along with the pecan orchard, the Volkstads have been reading about some operations that graze cattle in their orchards. When growers do this, they lose about 50 lbs of pecans per acre on average. Over the past 5 years, pecans have brought $3/ lb. at harvest, and calves have been selling for $1.50 / lb. over that same period. Show your work. 20 pts total (3, 3, 3, 3, 4, 4)

If the Volkstads pursue this, what would be the total pecan production loss in pounds?

What would be the income loss to the pecan operation from grazing the cattle?

How much weight in total must the cattle gain from grazing under the pecan trees to offset the losses to the pecan operation?

If the Volkstads can graze 1 steer per acre under the pecan trees, how many pounds must each steer gain while grazing?

What are two <u>advantages</u> of grazing cattle under the pecan trees?

What are two <u>disadvantages</u> of grazing cattle under the pecan trees?

6. List 5 potential regulatory agencies that a pecan producer might interact with while doing business. 2 pts each for 10 pts total

Use the following information to answer questions 7 through 13.

If the Volkstads wanted to increase their profit margin, the company could add processing capabilities to their operation. Bryan and Brianna have considered this option several times in the past. Currently, the Volkstads are projecting to sell their pecans for $3/ lb. and producing 250,000 lbs. of unshelled pecans per year. Recently, they met with their lender and the lender was on board with the idea of further processing their pecans at their own facility. He told them that the bank would offer them a 7-year loan with equal annual payments at 6.5% interest. The annual payment would be $182.37 per $1,000 borrowed. It takes 2 pounds of unshelled pecans to equal 1 pound of shelled pecans.

7. An initial step in evaluating changes in the operation could be to determine the projected income for the enterprise. Use the information above to calculate the projected income. Refer to Page R12 to determine expenses. 15 points possible
What is their projected pecan income? 3 pts.
What are the total direct expenses per acre? 2 pts.
What are the total overhead expenses per acre? 2 pts.
What is the total expense per acre? 2 pts.
What is the total expense for the orchard? 3 pts.
What would be the net income for the orchard? 3 pts

8. Bryan and Brianna think if they are going to make the investment in the processing equipment, they would be able to sell their shelled pecans for $10/ lb. What is the marginal revenue per pound of shelled pecans the farm would receive if they added processing capacity? It takes 2 pounds of unshelled pecans to equal 1 pound of shelled pecans. 4 pts

9. They think that the additional variable costs to the operation for labor and machinery operation would be $1.70 per lb. of shelled pecans. If the farm goes this direction, the Volkstads believe that they should net an additional $1.50 per lb. of shelled pecans for their risks and added labor on their part. How much of the marginal revenue can be contributed to paying for fixed expenses? 4 pts

10. How much cash would the Volkstads need to contribute annually to fixed costs? 4 pts

11. How much debt would the Volkstads be able to support with this income? 8 pts

12. List four risk factors the Volkstads should consider if they were to do this. 8 pts

13. List four reward factors the Volkstads should consider if they were to do this. 8 pts

14. An important aspect of management is ensuring that all employees and persons visiting a farm site are kept safe. List 5 safety hazards that pecan farmers should consider when managing their employees. 10 pts total

15. List 6 possible <u>natural</u> production hazards to pecan operations. 12 pts total

16. List 6 possible <u>man-made</u> production hazards to pecan operations. 12 points

17. What are four possible ways they could potentially increase their income? (2 pts. each = 8 points)

18. If the Volkstads choose to add processing, they might also consider adding a direct to consumer marketing promotion. Social media is an important aspect in developing a loyal customer base for small businesses. List two social media platforms and why they would be effective. 10 points possible

19. If they chose to use social media to promote their brand, what are 2 main attributes of their business they could emphasize in their social media messaging? 4 pts

20. If you were in the Volkstad's place, what would you do to expand or improve the operation going forward? List five. 10 pts possible

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- 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:

Permanent plantings are a unique sector of the agricultural industry. Pecan trees can produce harvestable pecans for over 80 years when they are managed correctly. When managers of pecan orchards make a decision, there is added importance to ensure that they made the correct one. Orchard design is an important factor to consider. There are over 500 varieties of pecan trees, and choosing the correct type of trees for local situations is of paramount importance.

Pecan trees require intense management and care. For pecans to be maximally productive, they require a strong fertility plan that includes Nitrogen, Phosphorus, Zinc, and other trace minerals. Additionally, lime is often required to amend the soil pH to ensure that the trees can make the best use of the nutrients in the soil. Insects and fungi are also major pests in pecan operations that are often managed by the application of chemical pesticides.

The Volkstad Pecan Company is currently in a state of review, and the family is considering how to best position the farm for the future. In their planning, the family has identified a few key areas of interest to the farm. These include removing some lower-yielding trees and replacing them with newer cultivars, adding additional processing capabilities to their farm, and assessing some additional ways to market their pecans direct to consumers.

The pecan industry as a whole looks very promising. Domestic and global growth are expected well into the future. Presently, 30 percent of the US pecan harvest is exported. Agricultural economists estimate that less than 1 percent of the demand in the overseas pecan market is being met, and there is tremendous potential for the future of the pecan industry. The pecan industry expects that US production will increase from 680 million pounds in 2017 to 1.2 billion pounds by 2027.

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.

Points:	**Question 1:**	**Marketing their product**	**6 points**
	Question 2:	**Business organizations**	**20 points**
	Question 3:	**Replacing trees**	**15 points**
	Question 4:	**Team of specialists**	**12 points**
	Question 5:	**Grazing cattle**	**20 points**
	Question 6:	**Regulatory agencies**	**10 points**
	Question 7:	**Net Income calculation**	**15 points**
	Question 8:	**Marginal revenue**	**4 points**
	Question 9:	**Marginal revenue for fixed costs**	**4 points**
	Question 10:	**Cash needed for fixed costs**	**4 points**
	Question 11:	**Debt needed**	**8 points**
	Question 12:	**Risk factors**	**8 points**
	Question 13:	**Reward factors**	**8 points**
	Question 14:	**Safety hazards**	**10 points**
	Question 15:	**Natural hazards**	**12 points**
	Question 16:	**Man-made hazards**	**12 points**
	Question 17:	**Increasing income**	**8 points**
	Question 18:	**Direct consumer marketing**	**10 points**
	Question 19:	**Social Media promotion**	**4 points**
	Question 20:	**Expand or improve operation**	**10 points**
		Total	**200 points**

1. If the Volkstad's decide to add the processing equipment, what possible outlets can the Volkstad's use to market their products? List 3. 6 pts

- Facebook
- Amazon
- eBay
- Farmers' Markets
- Roadside Stands
- Join or market through a Cooperative
- Accumulator
- Market through local venders
- Social media apps

2. List two possible business organization types that would be appropriate for the Volkstad Pecan Company. Provide two advantages and two disadvantages for each type of organization. 20 pts

Corporation

Advantages

Permanent Existence
Liability Limited
Ease Transfer of stock
Multiple Individuals can pool financials
Owners can also be employees
Can separate ownership and management

Disadvantages

Fees for Chartering
Have to have annual meetings
Income is taxed twice
Maybe difficult to obtain credit
Money in corporation cannot be used for personal use
Can be expensive to terminate

Limited Liability Company

Advantages

No personal liability
Show income or loss as a sole proprietor
May separate management
Ease to dissolve

Disadvantages

Management may be in proportion to membership interest
Maybe setup to be taxed as a corporation
Managers do not have be members and
They may have no personal responsibilities

Trust

Advantages

Minimization of income taxes
Avoidance of probate
Minimization of estate taxes
Income for surviving spouse
Management of assets for minors

Disadvantages

Have to transfer assets
Who will manage the trust
If real estate is included must be in writing
May run for 21 year plus life or lives of designated beneficiaries
Grantor may not change distribution plan during the term of trust

3. One of the most important considerations pecan growers must make is the determination of removing native pecan trees and replacing them with improved tree varieties.

Native pecan trees produce approximately 750 lbs per acre of trees. Improved pecan trees can produce approximately 1,250 lbs per acre. New trees take seven years to begin producing pecans. How many years would it take to recoup or recover an investment in replacing a native orchard with improved trees, assuming an average price of $3 per lb? It costs $3,000 to replace native trees with improved tree varieties. **Show your work.**
15 points

Additional pecan yield = 1250 – 750 = 500 lbs per acre 4 pts
Additional revenue = $1500 = $3 x 500 lbs 4 pts
Years to Recover Investment = 3,000 / 1,500 = 2 yrs + 7 yrs of initial growth = 9 yrs 7 points

4. Part of building a successful business is assembling a team of specialists to provide expert knowledge and advice to make the best decisions possible. List 4 specialists Bryan and Brianna should have on their production and management team.
3 pts each for 12 pts total

- **Agronomist**
- **Horticulturalist**
- **Tax Accountant / CPA**
- **Financial Planners**
- **Commercial Applicator/ Crop-duster**
- **Equipment Manufacturer/ Dealer**
- **Banker**
- **Attorney**
- **Marketing Consultant**
- **Management Advisor**
- **Agricultural Educator**
- **Pecan Specialist**
- **Extension Agent or Educator or Specialist**

5. Having the cattle operation along with the pecan orchard, the Volkstads have been reading about some operations that graze cattle in their orchards. When growers do this, they lose about 50 lbs of pecans per acre on average. Over the past 5 years, pecans have brought $3/ lb. at harvest, and calves have been selling for $1.50 / lb. over that same period. Show your work. 20 pts total (3, 3, 3, 3, 4, 4)

If the Volkstads pursue this, what would be the total pecan production loss in pounds?

210 acres X 50 lbs = 10,500 lbs

What would be the income loss to the pecan operation from grazing the cattle?

10,500 x 3 = $ 31,500

How much weight in total must the cattle gain from grazing under the pecan trees to offset the losses to the pecan operation?

$31,500 / $1.50 = 21,000 lbs

If the Volkstads can graze 1 steer per acre under the pecan trees, how many pounds must each steer gain while grazing? 100 lbs

What are two <u>advantages</u> of grazing cattle under the pecan trees?

- **Weed control**
- **Fertilizer**
- **Potential for organic production**
- **Potential for extra revenue streams**
- **Higher profitability**
- **Diversification**
- **Reduces cost of mowing**
- **Improves orchard floor management**

What are two <u>disadvantages</u> of grazing cattle under the pecan trees?

- **Risk of damage to irrigation systems**
- **Risk of damage to trees**
- **Need fencing**
- **More management**
- **More labor**
- **Higher costs**
- **Damage to orchard floor**
- **Watering points for cattle**
- **Cost of chemicals labeled for cattle**
- **Food Safety Modernization Act**

6. List 5 potential regulatory agencies that a pecan producer might interact with while doing business. 2 pts each for 10 pts total
- **EPA** - **USDA** - **FDA** - **Department of Natural Resources, Fish and Game, Wildlife and Fisheries** - **OSHA** - **State Department of Agriculture** - **Department of Labor** - **County Health Board** - **Water Boards or Agencies** - **State Engineer**

Use the following information to answer questions 7 through 13.

If the Volkstads wanted to increase their profit margin, the company could add processing capabilities to their operation. Bryan and Brianna have considered this option several times in the past. Currently, the Volkstads are projecting to sell their pecans for $3/ lb. and producing 250,000 lbs. of unshelled pecans per year. Recently, they met with their lender and the lender was on board with the idea of further processing their pecans at their own facility. He told them that the bank would offer them a 7-year loan with equal annual payments at 6.5% interest. The annual payment would be $182.37 per $1,000 borrowed. It takes 2 pounds of unshelled pecans to equal 1 pound of shelled pecans.

7. An initial step in evaluating changes in the operation could be to determine the projected income for the enterprise. Use the information above to calculate the projected income. Refer to Page R12 to determine expenses. 15 points possible
What is their projected pecan income? $750,000 3 pts.
What are the total direct expenses per acre? $1,391.33 2 pts.
What are the total overhead expenses per acre? $434.27 2 pts.

What is the total expense per acre? $1,825.60 2 pts.
What is the total expense for the orchard? $383,376 = $1,825.60 x 210 3 pts.
What is the net income for the pecan orchard? $366,624 = $750,000 – $383,376 3 pts

8. Bryan and Brianna think if they are going to make the investment in the processing equipment, they would be able to sell their shelled pecans for $10/ lb. What is the marginal revenue per pound of shelled pecans the farm would receive if they added processing capacity? It takes 2 pounds of unshelled pecans to equal 1 pound of shelled pecans. 4 pts
$4 = $10 - $6 ($3 x 2 pounds unshelled pecans)

9. They think that the additional variable costs to the operation for labor and machinery operation would be $1.70 per lb. of shelled pecans. If the farm goes this direction, the Volkstads believe that they should net an additional $1.50 per lb. of shelled pecans for their risks and added labor on their part. How much of the marginal revenue can be contributed to paying for fixed expenses? 4 pts
$0.80 = $4 - $1.70 - $1.50

10. How much cash would the Volkstads need to contribute annually to fixed costs? 4 pts
$0.80 x 125,000 (250,000 / 2) = $100,000

11. How much debt would the Volkstads be able to support with this income? 8 pts

(\$100,000 / \$182.37) x \$1,000 = \$548,335.80

12. List four risk factors the Volkstads should consider if they were to do this. 8 pts

- **Higher costs**
- **Building permits**
- **More volatile market**
- **More labor**
- **More management**
- **Risk of storage**
- **Health department**
- **Additional debt load**
- **Short supply years**

13. List four reward factors the Volkstads should consider if they were to do this. 8 pts

- **Building a brand**
- **Additional income**
- **Potential management spots for family members**
- **Potential to add production from other orchards**
- **Additional revenue streams**
- **Diversification**
- **Better use of labor force**
- **Improves cash flow over full year**

14. An important aspect of management is ensuring that all employees and persons visiting a farm site are kept safe. List 5 safety hazards that pecan farmers should consider when managing their employees. 10 pts total

- **Ear protection**
- **Head protection**
- **Safety glasses**
- **Chemical protection**
- **PTO safety**
- **Roll cages**
- **Cabs on tractors**

15. List 6 possible natural production hazards to pecan operations. 12 pts total

- **Ice Storms**
- **Windstorms**
- **Birds**
- **Rodents**
- **Diseases**
- **Feral hogs**
- **Scab**
- **Tornadoes**
- **Coyotes**
- **Floods**
- **Drought**
- **Freezes**

16. List 6 possible man-made production hazards to pecan operations. 12 points

- Chemical drift
- Water damage from over irrigation
- Tree damage from hedging
- Running over pecans with equipment
- Improper thinning techniques
- Mismanagement of insecticide applications
- Improper tire inflation
-
- Lack of management
- Over fertilization
- Allowing alternate bearing to occur

17. What are four possible ways they could potentially increase their income? (2 pts. Ea. = 8 points)

- Increasing yield
- Reducing cost
- Plant improved varieties
- Find better markets
- Further processing
- Direct sales

18. If the Volkstads choose to add processing, they might also consider adding a direct to consumer marketing promotion. Social media is an important aspect in developing a loyal customer base for small businesses. List two social media platforms and why they would be effective. 10 points possible

- Facebook
- YouTube
- Snapchat
- Instagram
- Twitter

19. If they chose to use social media to promote their brand, what are 2 main attributes of their business they could emphasize in their social media messaging? 4 pts

- **Family owned**
- **Locally grown**
- **Sustainably produced**
- **Preferred varieties**
- **Story of pecans**
- **History of pecans**
- **Only native to North America, a truly American crop**
- **Health benefits**

20. If you were in the Volkstad's place, what would you do to expand or improve the operation going forward? List five. 10 pts possible

- **Alternative livestock**
- **Increase pecan acres**
- **Grazing**
- **Convert to organic production**
- **Expand the beef operation**
- **Replace existing trees with improved varieties**
- **Further processing**
- **Direct to consumer marketing**
- **Alternative sales methods**