Selecting Alternative Crops -Module 4

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Outline

- Gathering needed information
- Agronomics
 - Practices for optimal yields
- Economics
 - Practices to reduce variable costs
- Putting it all together- the enterprise budget

Agronomics

- Agronomics before economics
- Short list of agronomic considerations on pg 32
- Inputs & timing
- Information supplied by producer or Extension research

Yields

- Determined by soil, climate & irrigation
- Amount and timing of irrigation
- Activity #1
- Previous enterprise budgets area specific
- NASS data on average yields

Variable Costs

- Only incurred if crop produced
 - Seeds, irrigation, fertilizers, insecticides/herbicides, labor
 - Additional variable costs on pg 34
- Can be lowered (or increased) by changing practices
- Irrigation, utilities, fertilizers

Irrigation

- System efficiency distribution
 - Increased yield with distribution uniformity
- Center pivot w/ LEPA
 - 95%-98% gets to crop
 - Chemigation and fertigation
- Drip
- Activity #2

Utilities

- Power source for pump
- Pump efficiency
- System pressure
- Pump horsepower
- Activity #3
 - Diesel \$3.00/gal, electric \$0.11/kwh natural gas \$10.56/MFC, LP \$3.00/gal

Fertilizers

- Use of separate products or a combination product
- Application methods
 - Delivery frequency
 - Delivery type
- Costs per unit of N
- Activity #4

Fixed Costs

- Must be paid whether a crop is produced or not
- Cash overhead costs
 - Land, insurance, taxes
- Non- cash overhead costs
 - Capital recovery
 - Establishment costs, buildings, equipment

Returns

 State –wide average prices usually available at National Agriculture Statistics Services database

Components of an Enterprise Budget

- Investment summary
- Establishment costs
- Costs & Returns
- Monthly Cash Flow

Investment Summary

- What will be needed to conduct this operation?
- Lists all tools & equipment needed
- Cost at time of purchase
- How long it will last

Investment Summary for	or Alfalfa Esta	blishment		4, 7	THE WAY	1 30 35	14 1 4	
Annual Equipment Costs		E MANAGE						
Description	Purchase Price	Useful Life (Yrs)	Salvage Value	Annual Capital Recovery	Annual Insurance	Annual Taxes	Annual Repairs	Annual Fuel & Lube
	119 11 13		See Laboration		14 1753	7.00	12000	
Buildings, Improvements, and Ed			1 2 1 1 1 1 1 1 1 1					
Ow ner House	\$ 200,000.00	50.00	\$ 200,000.00	\$ -	\$ 1,332.00	\$ 2,000.00	\$ 4,000.00	
Shop (30X40) & Tools	\$ 46,000.00	25.00	\$ 4,600.00	\$ 1,656.00	\$ 168.50	\$ 253.00	\$ 506.00	
Land	\$4,623,000.00	150.00	\$ 4,623,000.00	\$ -	\$ -	\$46,230.00	\$ -	E 1
Metal Equipment Shed (40x60)	\$ 55,000.00	25.00	\$ 5,500.00	\$ 1,980.00	\$ 201.47	\$ 302.50	\$ 605.00	
Implements	\$ 72,499.00	15.00	\$ 7,249.90	\$ 4,349.94	\$ 265.56	\$ 398.74	\$ 797.49	19-11 10-11
Alfalfa Establishment	\$ 334,737.16	6.00		\$ 55,789.53	23 - 1	202	3 1 1	
Sub Total Pre-Establishment	\$4,996,499.00	NA	\$ 4,840,349.90	\$ 7,985.94	\$ 1,967.53	\$49,184.24	\$ 5,908.49	
Sub Total Post-Establishment	\$5,331,236.16	NA	\$ 4,840,349.90	\$ 63,775.47	\$ 1,967.53	\$49,184.24	\$ 5,908.49	
Machinery and Vehicles	3 3 3 3 3			70-0-0	19 7 7	AL TON		
150 HP Tractor	\$ 123,965.00	15.00	\$ 12,396.50	\$ 7,437.90	\$ 454.08	\$ 681.81	\$ 1,363.62	\$ 5,454.46
95 HP 4WD Tractor	\$ 60,699.00	15.00	\$ 6,069.90	\$ 3,641.94	\$ 222.34	\$ 333.84	\$ 667.69	\$ 2,670.76
74 HP Tractor w / loader	\$ 24,999.00	15.00	\$ 2,499.90	\$ 1,499.94	\$ 91.57	\$ 137.49	\$ 274.99	\$ 1,099.96
Sickle Sw ather w / 14 foot header	\$ 69,800.00	10.00	\$ 6,980.00	\$ 6,282.00	\$ 255.68	\$ 383.90	\$ 767.80	\$ 3,071.20
Balew agon	\$ 146,499.00	10.00	\$ 14,649.90	\$ 13,184.91	\$ 536.63	\$ 805.74	\$ 1,611.49	\$ 6,445.96
Baler (large)	\$ 119,723.00	10.00	\$ 11,972.30	\$ 10,775.07	\$ 438.55	\$ 658.48	\$ 1,316.95	\$ 5,267.81
Baler (small)	\$ 25,187.00	10.00	\$ 2,518.70	\$ 2,266.83	\$ 92.26	\$ 138.53	\$ 277.06	\$ 1,108.23
Hydraulic Rake	\$ 13,670.00	15.00	\$ 1,367.00	\$ 820.20	\$ 50.07	\$ 75.19	\$ 150.37	\$ 601.48
4-Wheeler	\$ 10,000.00	5.00	\$ 1,000.00	\$ 1,800.00	\$ 36.63	\$ 55.00	\$ 110.00	\$ 440.00
1 Ton Pickup	\$ 50,000.00	8.00	\$ 5,000.00	\$ 5,625.00	\$ 183.15	\$ 275.00	\$ 550.00	\$ 2,200.00
Sub Total	\$ 644,542.00	NA	\$ 64,454.20	\$ 53,333.79	\$ 2,360.96	\$ 3,544.98	\$ 7,089.96	\$ 28,359.85
The second second		2 3 3						
Total	\$ 5,975,778.16	NA	\$ 4,904,804.10	\$117,109.26	\$ 4,328.48	\$52,729.23	\$ 12,998.45	\$ 28,359.85

Establishment Costs

- What will need to be done the first year of planting the crop?
- First year of perennial
- Higher costs / less returns
- 'Bottom line' capitalized over life of crop

Operating Establishment Costs	STALL STALL			100		" TOTAL		10E	
W 1 2 6 1 1 2 W 1 2 0		6 TR ES			THE RESERVE			Total	
	9 E 90	a Part	P	rice/Cost		Total	Со	st/Value	Your
and D. State of St.	Total Units	Unit	- 1	Per Unit	C	cost/Value	P	er Acre	Farm
	31-25-50	13000	100		Æ	1 127-4		100 10	1300
OPERATING COSTS	9/19/8 51/4	Smile To		3 Jan 18	1.7		177		2000
Rodent Control	400.00	Acre	\$	1.50	\$	600.00		1.50	100
Insecticide	400.00	Acre	\$	-	\$		\$	100 100	122
Herbicide	400.00	Acre	\$	55.00	\$	22,000.00		55.00	200
Fertilizer	400.00	Acre	\$	52.00	\$	20,800.00		52.00	
Irrigation	400.00	Acre	\$	102.50	\$	41,000.00	\$	102.50	
Alfalfa Seed	20.00	Lbs/Acre	\$	2.60	\$	20,800.00	_	52.00	311
Roundup	2.00	Quarts/Acre	\$	14.50	\$	11,600.00	\$	29.00	174
Operator Labor	1.00	Annual	\$	30,000.00	\$	30,000.00	\$	75.00	
Accounting & Legal	1.00	Annual	\$	2,000.00	\$	2,000.00	\$	5.00	1 155
Fuel & Lube	1.25	Annual	\$	28,359.85	\$	35,449.81	\$	88.62	1371
Maintenance	1.00	Annual	\$	12,998.45	\$	12,998.45	\$	32.50	200
Utilities	1.00	Annual	\$	7,000.00	\$	7,000.00	\$	17.50	
Miscellaneous	400.00	Acre	\$	5.00	\$	2,000.00	\$	5.00	22 2
Interest Operating Capital	\$ 164,998.61	\$	\$	0.065	\$	5,362.45	\$	13.41	1800
				1000		1/20 1 10 5			
TOTAL OPERATING COSTS	7 7 7			4311	\$	211,610.72	\$	529.03	FIGT BILL
ET OFFICE VESTON IN SELV.	4	16 10 25		13.00	1	1	1	WE ST	58 7
OWNERSHIP COSTS	6 10 5	and a	-					17 17	2006
CASH OVERHEAD COSTS	A CONTRACTOR OF THE PARTY OF TH	Monte D		7 15 76	-		-	27	
Liability Insurance	THE PARTY	7 -77			\$	1,749.00	\$	4.37	17 -
Office & Travel	12 12 1	× 5 1 1 1	- 7		\$	3,000.00	\$	7.50	20 -
Annual Investment Insurance	Maria Carolina	7 4 7 7			\$	4,328.48	\$	10.82	
Annual Investment Taxes		7 7 4		16 15 15	\$	52,729.23	\$	131.82	1017 (1)
TO STATE OF THE PARTY OF THE PA	15 TES 15	71 15 2		1997 -	111	6316 1 1 1 TE		1-60	1
TOTAL CASH OVERHEAD COST	S	The Party		F VINE	\$	61,806.71	\$	154.52	The way
	1 0 2 0			32500		To Handy	W _{ab}	200	118-51
NONCASH OVERHEAD COSTS (Capital Recovery	')			34				195
Buildings, Improvements, & Equiprovements	ment	1-11-12 12			\$	7,985.94	\$	19.96	7.5
Machinery & Vehicles		1000	9	50 70	\$	53,333.79	\$	133.33	
CONTRACTOR OF THE PARTY OF THE		100		150		1000		102 25	
TOTAL NONCASH OVERHEAD C	OSTS	3 4 6		750	\$	61,319.73	\$	153.30	3364 4
The state of the s		W1000		5 16 16		The state of the state of		5 330 3	100000
TOTAL OWNERSHIP COSTS	4 6 4	J. J. W. W. W.	30	20129	\$	123,126.44	\$	307.82	100 pt 100 pt
(A 19) 5 (SA) (SA)	mil Control	F 19 30	99	100 60		231690		20 20 10	92000
TOTAL COSTS				- 70 11 100	\$	334,737.16	\$	836.84	201 111
The state of the s	STEEL WES	BARRE		1000				100000	F 176
YEAR ONE INCOME	100 16 1	11 100					100	31	17 TO 12 1
Alfalfa Hay	0.00	Tons	\$	134.00	\$	10 TO 1 1 TO 1	\$	1 -2	15%
TOTAL GROSS INCOME		- W. W.		1000	\$		\$	123-19	
			12						
TOTAL ESTABLISHMENT INVES	TMENT			a hite	\$	334,737.16	\$	836.84	

Costs & Returns

- How much can be expected in returns?
- What costs need to be incurred?
- Gives the 'bottom line'
- Bottom line will change with scale of operation

Northwestern Nevada Alfalfa Hay Production Costs and Returns, 400 acres, 2008											
	Total Units Unit		Price/Cost Per Unit	Total Cost/Value	Total Cost/Value Per Acre	Your Farm					
2531 6 520 530		A FOUN	100000000								
GROSS INCOME	377779	dan'i	4	a Program		12 40					
Alfalfa Hay	6.00	Tons	\$ 134.00	\$321,600.00	\$ 804.00	0.00					
Aftermath Grazing	4.00	head	\$ 22.50	\$ 36,000.00	\$ 90.00	179 3					
TOTAL GROSS INCOME			A DESTRUCTION	\$357,600.00	\$ 894.00	-					
ODEDATING COOTS	Control of the		10000								
OPERATING COSTS	400.00	A	. 4.50	.	A 50						
Rodent Control	400.00	Acre	\$ 1.50	\$ 600.00		-					
Insecticide	400.00	Acre	\$ 30.00	\$ 12,000.00							
Herbicide	400.00	Acre	\$ 55.00	\$ 22,000.00							
Fertilizer	400.00		\$ 42.00								
Irrigation	400.00	Acre	\$ 111.00	\$ 44,400.00		100					
Operator Labor	1.00		\$30,000.00	\$ 30,000.00							
Accounting & Legal	1.00		\$ 2,000.00	\$ 2,000.00		1					
Fuel & Lube	1.00		\$28,359.85	\$ 28,359.85		The state of					
Maintenance	1.00		\$12,998.45	\$ 12,998.45							
Utilities	1.00	Annual	\$ 7,000.00	\$ 7,000.00							
Miscellaneous	400.00	Acre	\$ 5.00	\$ 2,000.00							
Operating Capital Interest	\$142,526.64	\$	\$ 0.065	\$ 4,632.12	\$ 11.58	- Add					
TOTAL OPERATING COSTS				\$182,790.41	\$ 456.98						
INCOME ABOVE OPERATIN	G COSTS			\$174,809.59	\$ 437.02						
INCOMIL ADOVE OFERATIN	0 00313	The state of	100	ψ 174,009.39	ψ 437.02						
OWNERSHIP COSTS			* 3-4- 0-0-	All Indiana							
CASH OVERHEAD COSTS				527.7	5. 382						
Liability Insurance			70 (4 1.00)	\$ 1,749.00	\$ 4.37						
Office & Travel				\$ 1,749.00							
Annual Investment Insurance				\$ 4,328.48	\$ 10.82						
Annual Investment Taxes				\$ 4,326.46	\$ 131.82	-					
Annual investinent raxes	200		No.	ψ 52,729.23	ψ 131.02						
TOTAL CASH OVERHEAD C	OSTS	2 10 100	10 PO A .	\$ 61,806.71	\$ 154.52	Esta .					
TO THE ONOT OVERTILAD O	3310	20, 17, 17		Ψ 01,000.71	J 104.02	77 65					
NONCASH OVERHEAD COS	STS (Capital Red	covery)	The same of	100000000000000000000000000000000000000	200						
Buildings, Improvements, & E	_ ` '	-	Taranta	\$ 63,775.47	\$ 159.44						
Machinery & Vehicles	1-14-75-0			\$ 53,333.79		10000					
2011 - 5 1/2 1/4		the state of the	77 - 100	Section of the second	是 沙 定	ET de					
TOTAL NONCASH OVERHEA	AD COSTS	+1011	They make	\$117,109.26	\$ 292.77	11 -					
-1-11-14-15			Ber Total		55.56-31						
TOTAL OWNERSHIP COSTS		STORE AND		\$178,915.97	\$ 447.29	- 63					
		E	1 2		100 May 100	7. 10.					
TOTAL COSTS				\$361,706.38	\$ 904.27						
trained to the second second				the state of	E S CELL	- 20-0					
NET PROJECTED RETURNS		CC		\$ (4,106.38)	\$ (10.27)	HILL					

Monthly Cash Flow

- Shows income and expenditures by month
- Just for operation costs
- Useful for knowing when operating loans will be needed and when they can be paid back
- Usually required to obtain loan

Monthly Summary	of Returns a	nd Expenses	C Rest		3		3- 20		676	10000		3 10		10 A 10 A		
Description	January	February	March	April		May		June		July	August		September		October	
Production:		21 5	St. St. St.	E ME	1700 30		- 100		JEHR.	10 5		The State of	1	Show the		A COUNTY
Alfalfa Hay	\$ -	\$ -	\$ -	\$	41.	\$	- 88° -	\$	80,400.00	\$80,400.00	\$8	0,400.00	\$	80,400.00	\$	-
Aftermath Grazing	\$ -	\$ -	\$ -	\$	10 - Va	\$	W. S. Co	\$	THE TO	\$ -	\$	1	\$	to the second	\$3	36,000.00
Total Income	\$ -	\$ -	\$ -	\$	40 310	\$	530p. 1	\$	80,400.00	\$80,400.00	\$8	0,400.00	\$	80,400.00	\$	18-13
Operating Inputs:	5 3 1	2 3 1 3			176 4				TO S	The last of the		Ni s		Beat w		
Rodent Control	\$ -	\$ -	\$ 150.00	\$	150.00	\$	75.00	\$	75.00	\$ 75.00	\$	75.00	\$	15-15-16	\$	47 -3
Insecticide	\$ -	\$ -	\$ 1,714.29	\$	1,714.29	\$	1,714.29	\$	1,714.29	\$ 1,714.29	\$	1,714.29	\$	1,714.29	\$	77
Herbicide	\$ -	\$ -	\$ 3,142.86	\$:	3,142.86	\$	3,142.86	\$	3,142.86	\$ 3,142.86	\$:	3,142.86	\$	3,142.86	\$	100 M
Fertilizer	\$ -	\$ -	\$ 16,800.00	\$	4 F	\$	14 mm	\$	1/5-16	\$ -	\$	13-21	\$	100 - 10	\$	MB-7
Irrigation	\$ -	\$ -	\$ 6,342.86	\$ (6,342.86	\$	6,342.86	\$	6,342.86	\$ 6,342.86	\$	6,342.86	\$	6,342.86	\$	11 100
Operator Labor	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2	2,500.00	\$	2,500.00	\$	2,500.00	\$ 2,500.00	\$:	2,500.00	\$	2,500.00	\$	2,500.00
Accounting & Legal	\$ 166.67	\$ 166.67	\$ 166.67	\$	166.67	\$	166.67	\$	166.67	\$ 166.67	\$	166.67	\$	166.67	\$	166.67
Fuel & Lube	\$ 1,492.62	\$ 1,492.62	\$ 2,985.25	\$ 2	2,985.25	\$	2,985.25	\$	2,985.25	\$ 2,985.25	\$:	2,985.25	\$	2,985.25	\$	1,492.62
Maintenance	\$ 684.13	\$ 684.13	\$ 1,368.26	\$	1,368.26	\$	1,368.26	\$	1,368.26	\$ 1,368.26	\$	1,368.26	\$	1,368.26	\$	684.13
Utilities	\$ 583.33	\$ 583.33	\$ 583.33	\$	583.33	\$	583.33	\$	583.33	\$ 583.33	\$	583.33	\$	583.33	\$	583.33
Miscellaneous	\$ 166.67	\$ 166.67	\$ 166.67	\$	166.67	\$	166.67	\$	166.67	\$ 166.67	\$	166.67	\$	166.67	\$	166.67
Interest OC	\$ 386.01	\$ 386.01	\$ 386.01	\$	386.01	\$	386.01	\$	386.01	\$ 386.01	\$	386.01	\$	386.01	\$	386.01
如此 20 20 3 1 4	49 475	380	38 9 40		19 54		1-53	-	7877	357 183		+ 5 33		7 7 15 3	8	To the
Total Operating Costs	\$ 5,979.43	\$ 5,979.43	\$ 36,306.18	\$ 19	9,506.18	\$	19,431.18	\$	19,431.18	\$19,431.18	\$1	9,431.18	\$	19,356.18	\$	5,979.43
Net Returns	\$ (5,979.43)	\$ (5,979.43)	\$ (36,306.18)	\$ (19	9,506.18)	\$ ((19,431.18)	\$	60,968.82	\$60,968.82	\$6	0,968.82	\$	61,043.82	\$	(5,979.43)

Which Crop?

- Compare 'bottom line' of enterprise budgets
- Economies of scale
- Water availability
- Activity #5

Risk

- Production
 - Producer knowledge
 - Equipment modification
- Market
 - Price fluctuation
- General, financial, legal &human
- Western Risk Management Library

Thank you!

Questions?





