

Growing Apples for the Cider Industry: Does the Math Add up?



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The University of Vermont

Outline

- Production and prospects in Vermont
- Contracts in the UK cider industry
- Cost study
- Price study



Production and Prospects in Vermont

- Growth of industry is seen as an opportunity for apple growers and cider makers

But

- Adequate apple prices is a threat for growers
- Adequate fruit supply is a threat for cider makers



What the Cider Makers Want

Dessert	Dual-Purpose	Specialty cider
Cortland (1)	Ashmeads Kernel (4)	Ashton Bitter (1)
McIntosh (1)	Calville Blanc (1)	Bittersweet (1)
Organic empire (1)	Cox's Orange Pippin (1)	Chisel Jersey (1)
Pinova (1)	Esopus Spitzenberg (4)	Dabinett (4)
	Golden Russet (4)	Ellis Bitter (2)
	Liberty (1)	Foxwhelp (1)
	Lodi (1)	Kingston Black (5)
	Northern Spy (3)	Major (1)
	Roxbury Russet (1)	Orleans Reinette (1)
		Reine des Reinette (1)
		Somerset Redstreak (1)
		Stoke Red (1)
		Wickson (4)
		Yarlington Mill (2)



What the Growers Would Grow

Dessert	Dual-Purpose	Specialty cider
McIntosh (3)	Baldwin (3)	Bulmer's Norman (1)
Cortland (1)	Northern Spy (3)	Fillbarrel (1)
Empire (1)	Ida Red (2)	Kingston Black (1)
Gala (1)	Hudson's Golden Gem (1)	Medaille D'Or (1)
Jonagold (1)	Liberty (1)	Muscadet Dieppe (1)
Macoun (1)	Roxbury Russet (2)	Orleans Reinette (1)
Mutsu(1)		Wickson (1)
Zestar! (1)		



FACT SHEET

Long-Term Contracts in the UK Cider Industry



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The UVM Apple Program

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Current landscape of the English cider industry

Between 2006 and 2012, cider sales went from representing 1.6% of alcohol sales to 9.4% of alcohol sales in the United Kingdom (UK). In 2013, 70% of the cider produced in Europe was from the UK.

In the UK, apple growers specialize between growing



Initiation of contracts

Contracts are usually initiated informally where an apple grower approaches cider makers inquiring about contracts for trees he is planning to plant.

The period between the first conversation and signature of the contract might take time due to the

Fact sheet available in the cider section of the tree fruit UVM fruit website:
http://www.uvm.edu/~fruit/treefruit/tf_cider/UVM_UK_ciderapplecontracts.pdf



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Terms of UK Contracts

- Planting and managing the orchard
- Sale and purchase of apples
- Price
- Termination of the contract



Cost of Production – Large Operations

	Percent of expenses
Harvest labor	22%
Labor on other activities	22%
Chemicals	13%
Management overhead	11%



Cost of Production – Large Operations

	2015 Production Costs	2015 Production costs per acre	2015 Production costs per bushel
Original total cost	\$773,659.58	\$4,618.86	\$7.10
Reduced chemicals by 25%	\$745,476.20	\$4,450.60	\$6.84
Reduced chemicals by 20%	\$751,112.88	\$4,484.26	\$6.89
Reduced chemicals and labor by 25%	\$697,403.40	\$4,163.60	\$6.40
Reduced chemicals and labor by 20%	\$712,654.64	\$4,254.65	\$6.54

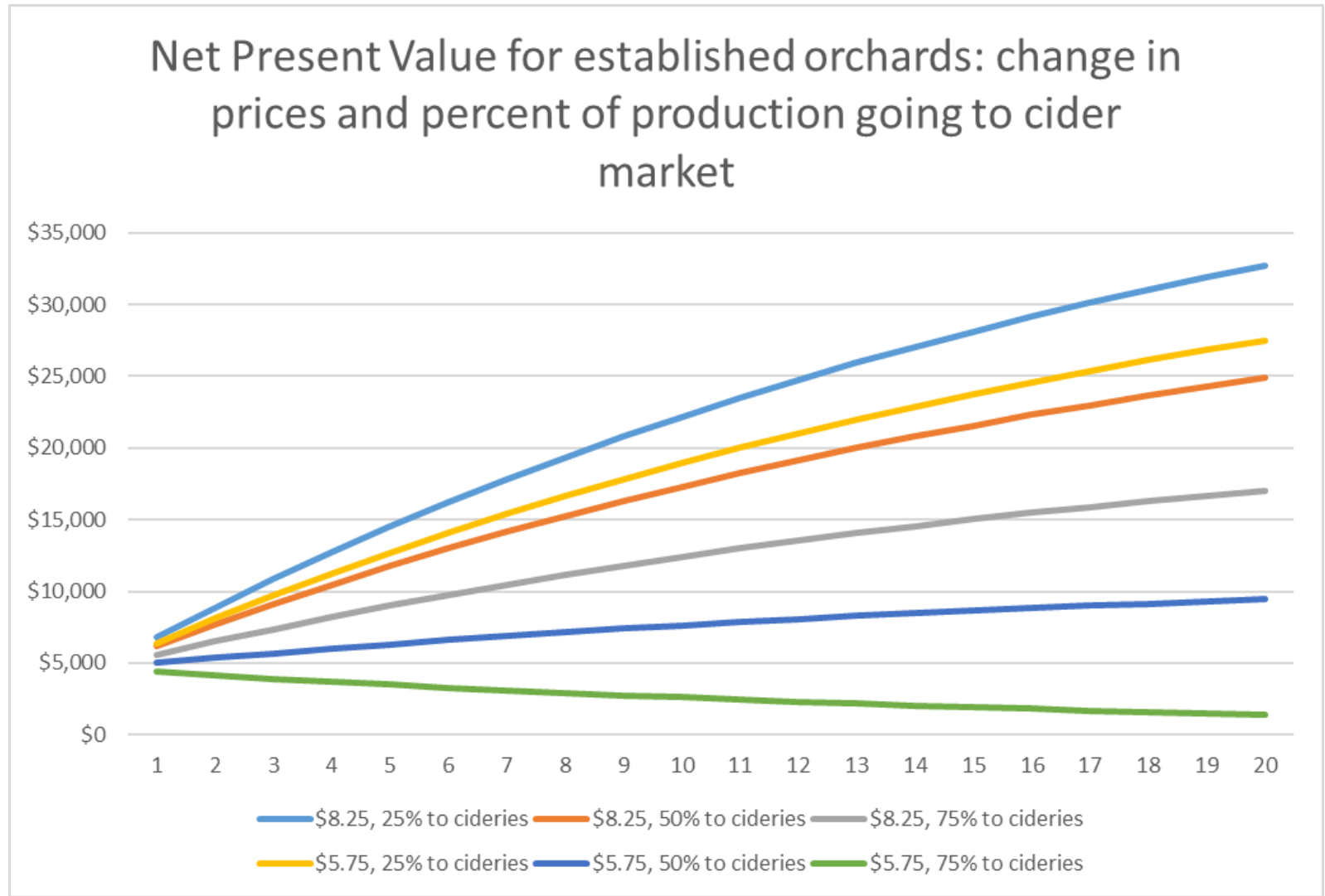
167.5 productive acres

650.7 bushels per acre

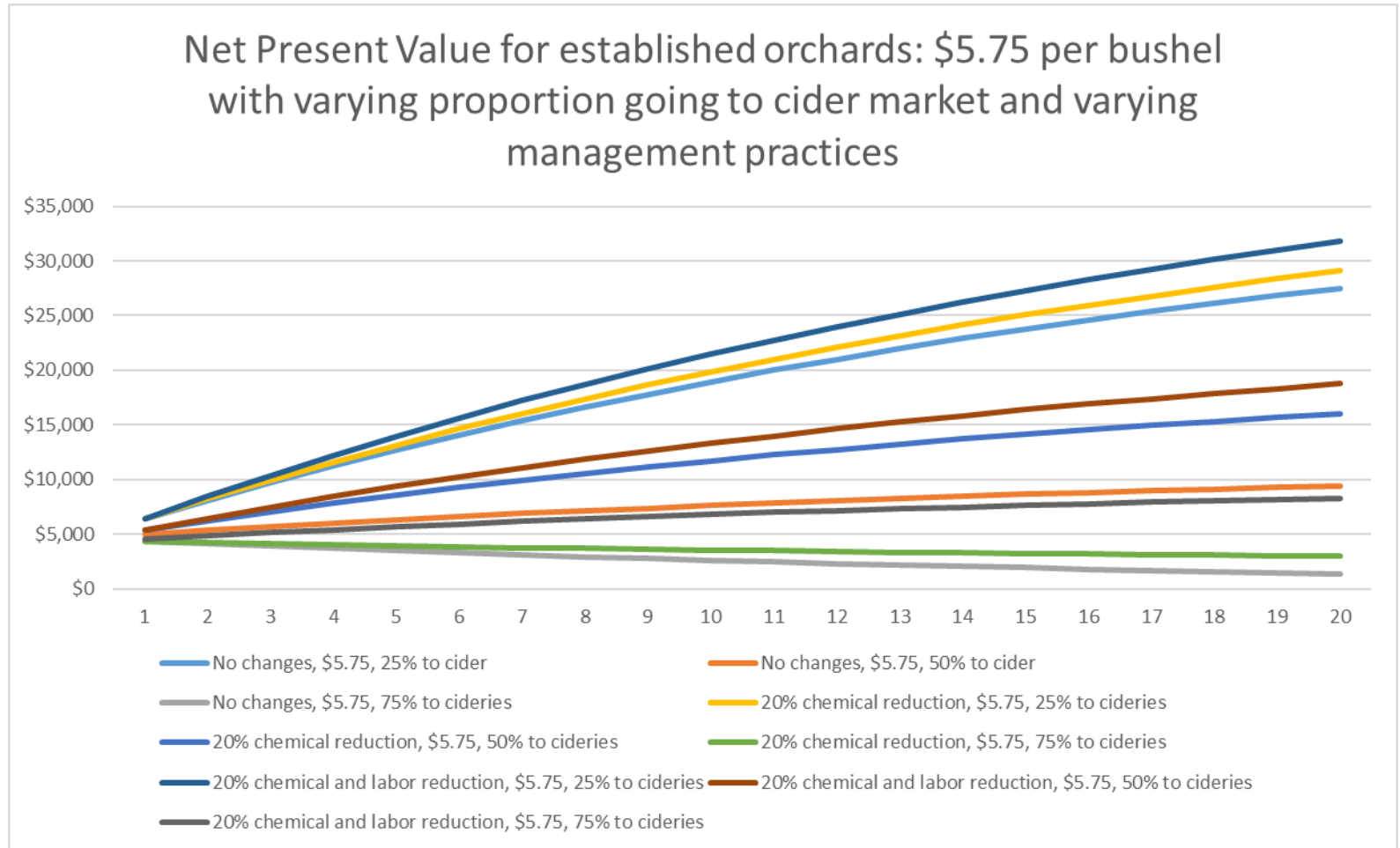


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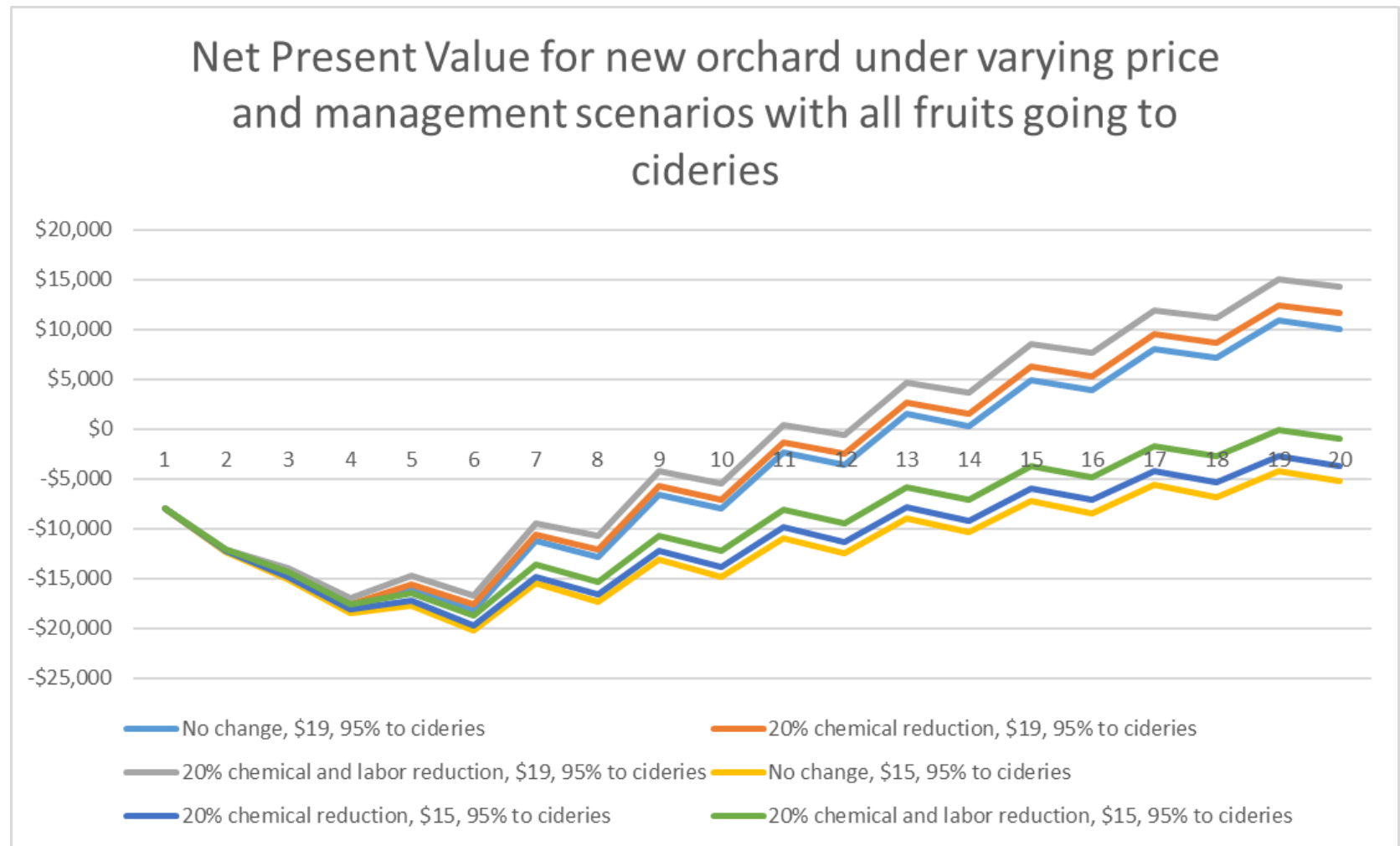
Economic Performance – Large Operations



Economic Performance – Large Operations



Economic Performance – Large Operations



Cost of Production – Small Operations

	Percent of expenses
Labor on other activities	18%
Harvest labor	17%
Chemicals	14%
Management overhead	11%



Cost of Production – Small Operations

	2015 Production Costs	2015 Production costs per acre	2015 Production costs per bushel
Original total cost	\$33,618.00	\$2,923.30	\$8.59
Reduced chemicals by 25%	\$32,042.25	\$2,786.28	\$8.21
Reduced chemicals by 20%	\$32,357.40	\$2,813.69	\$8.28
Reduced chemicals and labor by 25%	\$30,360.38	\$2,640.03	\$7.71
Reduced chemicals and labor by 20%	\$31,011.90	\$2,696.69	\$7.89

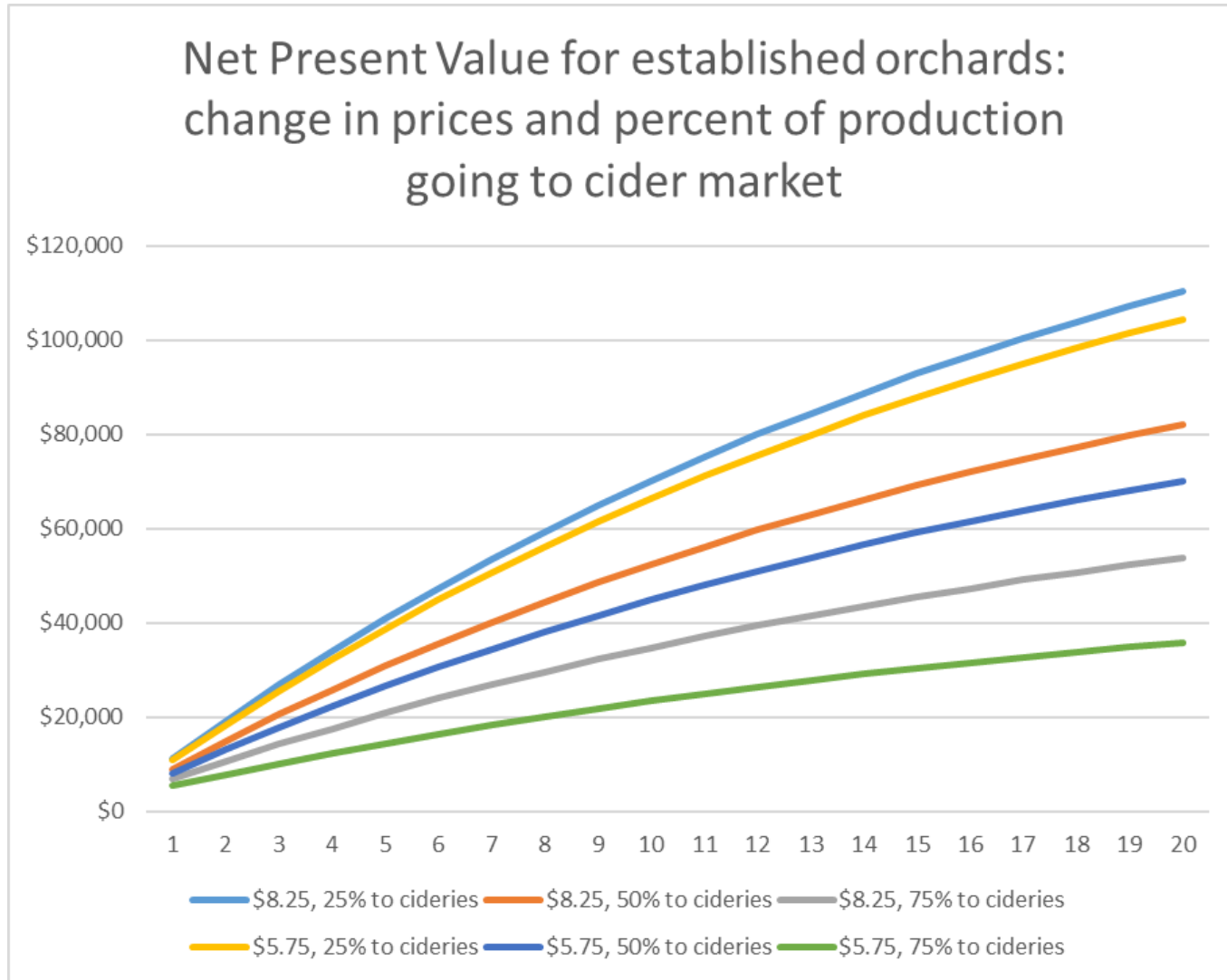
11.5 productive acres

340.9 bushels per acre

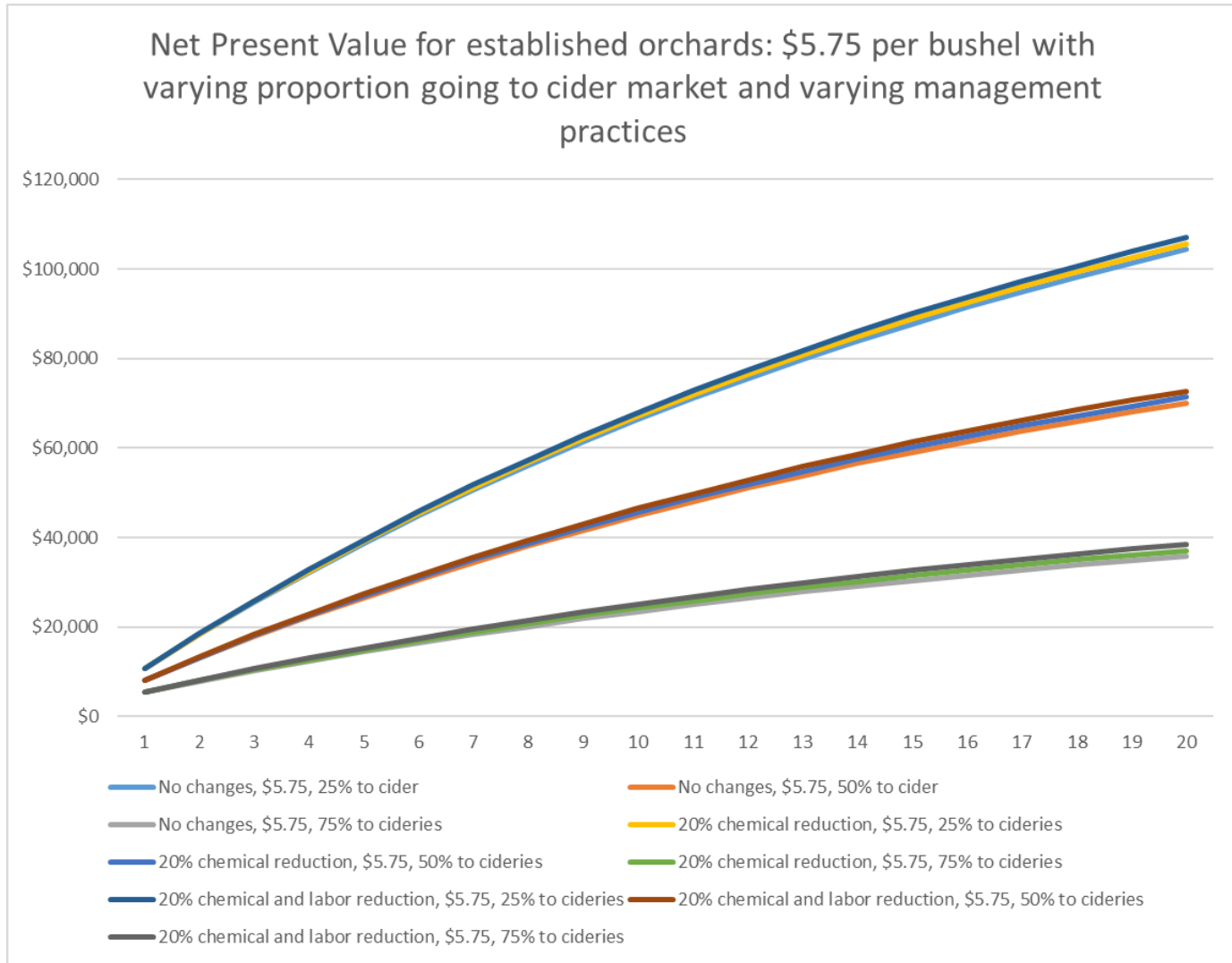


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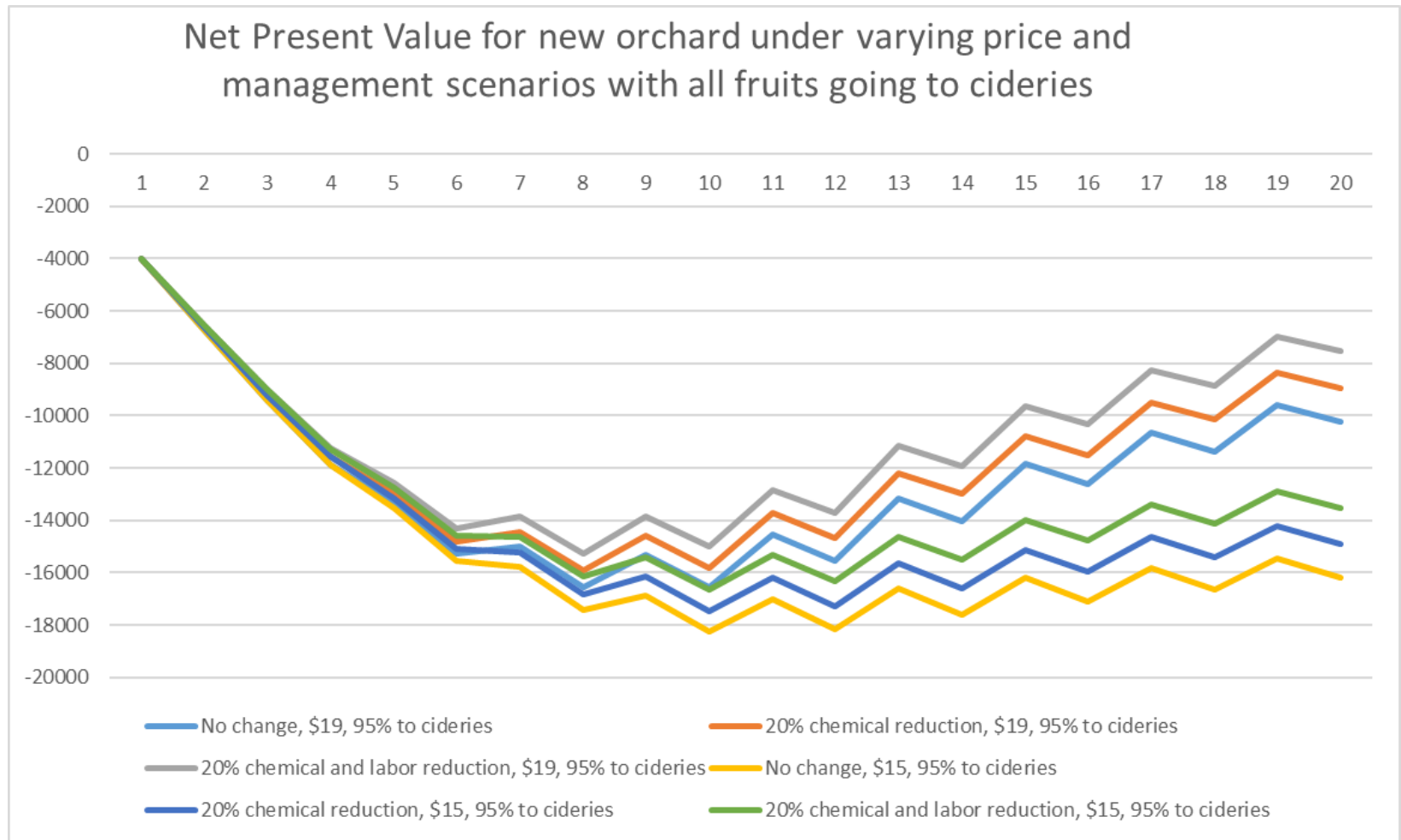
Economic Performance – Small Operations



Economic Performance – Small Operations



Economic Performance – Small Operations



Price Study

Table 5. Prices received by apple growers, target prices, and average price difference per bushel for apple cultivar categories sold to cideries.

Apple cultivar category	Respondents (no.)	Price received (\$/bushel) ^a			Target price (\$/bushel)			Avg price difference (\$/bushel)
		Mean	Minimum	Maximum	Mean	Minimum	Maximum	
Specialty cider/bittersweet	2	8.25	4	12.5	13.7	10	17.5	-5.45
Dessert cultivar orchard run	2	5.75	4	7.5	8.0	6.0	10.0	-2.25
Dessert cultivar packing culls ^b	1	7.5	7.5	7.5	7.5	7.5	7.5	0
Dessert cultivar drops	1	-	-	-	7.5	7.5	7.5	-

^a1 bushel = 40 lb = 18.1437 kg; \$1/bushel = \$0.025/lb = \$0.0551/kg.

^bFruit rejected from commercial packing lines for cosmetic blemishes or low fruit color.

Table 9. Prices paid by cideries to growers for categories of Vermont apples based on marketing or juice characteristics.

Prices paid	Respondents (no.)	Mean (\$/bushel) ^a	Median (\$/bushel)	SD
Specialty cider	3	\$19.00	\$20.00	\$1.70
Dessert (orchard run)	2	\$4.30	\$4.30	\$3.80
Dessert cultivar packing cull ^b	1	\$5.00	\$5.00	-

^a1 bushel = 40 lb = 18.1437 kg; \$1/bushel = \$0.025/lb = \$0.0551/kg.

^bFruit rejected from commercial packing lines for cosmetic blemishes or low fruit color.



Price Questionnaire

- 3 price points:
 - Target price: price hope to receive or pay for 2016 harvest
 - Average price: average price received or pay in last 3 years
 - Dignity price: price can receive or pay without losing money



Research Support

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 - Vermont Agricultural Experiment Station
 - Vermont Hard Cider Company
 - Vermont Tree Fruit Growers Association

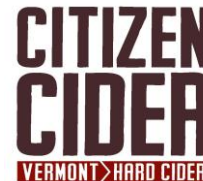


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National Institute of Food and Agriculture

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 - Citizens Cider
 - Champlain Orchards
 - Vermont apple growers



VERMONT HARD CIDER COMPANY
LLC



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