

A decorative graphic on the left side of the slide consists of several vertical stripes of varying widths and shades of brown and tan. To the right of these stripes are several solid maroon circles of different sizes, arranged in a roughly vertical line that tapers towards the bottom.

WINERY ECONOMICS

By

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OUTLINE

- World, US and PNW Wine Industry
- Economics of investing in and operating smaller premium wineries in the Pacific Northwest
- Pricing, product mix, and investment alternatives



WORLD SUPPLY AND DEMAND SITUATION

- World wine production in 2010
 - 263,900,000 hl
- World wine consumption in 2010
 - 238,000,000 hl
- Supply > Demand?



TOP WINE PRODUCING COUNTRIES

Country	% of World Production
Italy	18.4%
France	17.3%
Spain	13.7%
USA	7.4%
Argentina	6.0%
China	4.9%



TOP WINE CONSUMING COUNTRIES

Country	% of World Consumption
France	12.4%
USA	11.4%
Italy	10.3%
Germany	8.5%
China	6.0%
UK	5.5%



WINE SALES IN THE U.S.- 2002 TO 2012

IN MILLIONS OF GALLONS

Year	Table Wine	Dessert Wine	Champagne/ Sparkling Wine	Total Wine	Total Retail Value (billion)
2012 (Est.)	749	65	42	856	\$34.6
2011	724	71	41	836	\$32.9
2010	681	66	37	784	\$30.0
2009	666	64	33	764	\$28.7
2008	650	65	32	746	\$30.0
2007	647	62	33	742	\$30.4
2006	627	57	32	717	\$27.8
2005	609	52	31	692	\$25.8
2004	589	45	31	665	\$24.0
2003	570	40	29	639	\$22.3
2002	552	37	28	617	\$21.8



TABLE WINE VOLUME BY COLOR IN U.S. SUPERMARKETS

COLOR	1991	1995	2008	2009
Red	17%	25%	44%	47%
White	49%	41%	42%	40%
Blush	34%	34%	14%	13%
TOTAL	100%	100%	100%	100%

Source: Based on U.S. supermarket data from ACNielsen.



CURRENT WINE SALES SITUATION

- 2012 wine sales in U.S.
 - 856 million gallons
 - \$34.6 billion value
- Since 2000 sales growth value has been 80%
- Premium table wines priced at \$7 or more per 750 ml account for:
 - Fastest growing market segment in sales, most profitable



NUMBER OF WINERIES

Bonded

U.S.

7,600+

Washington

780+

Oregon

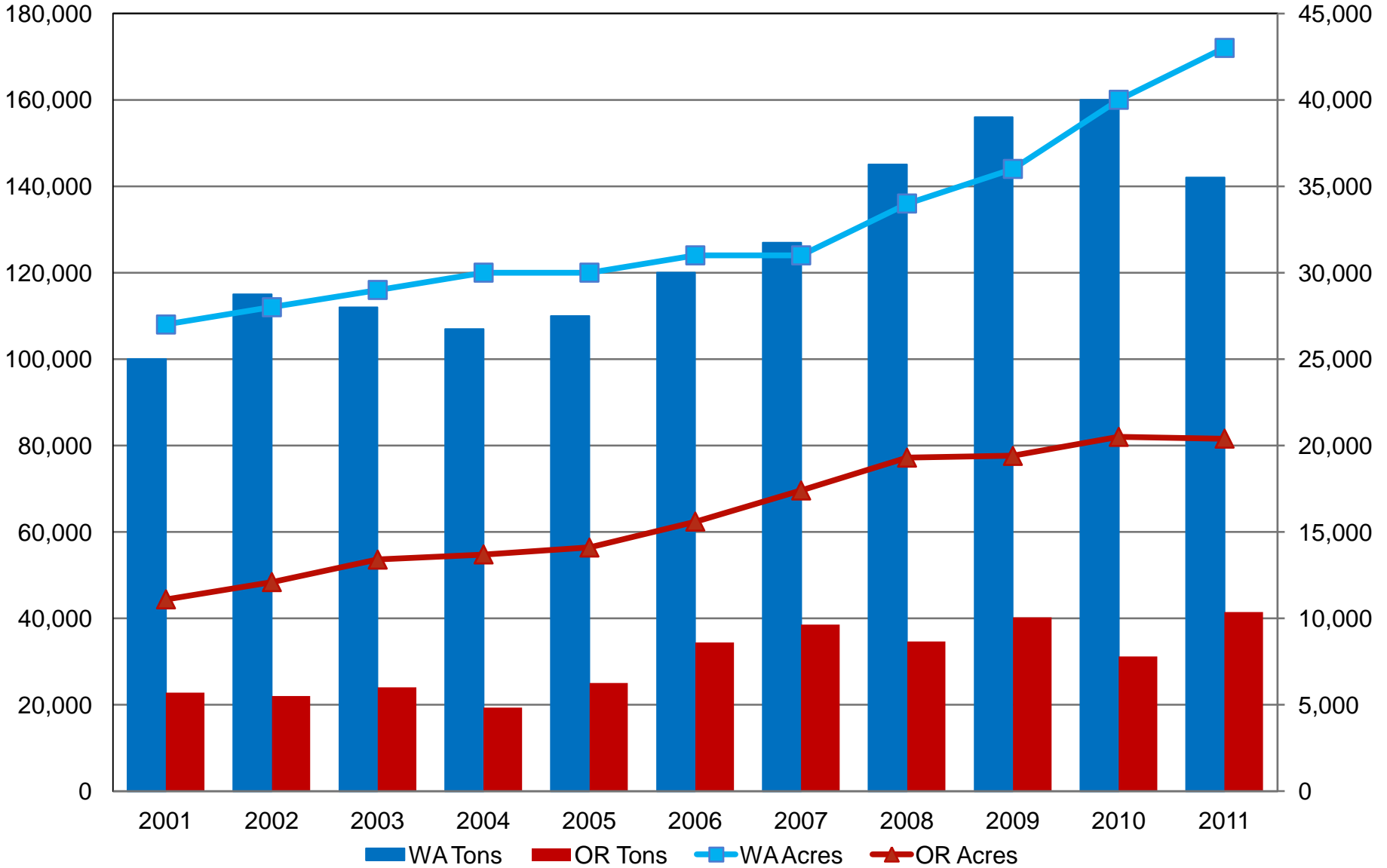
460+



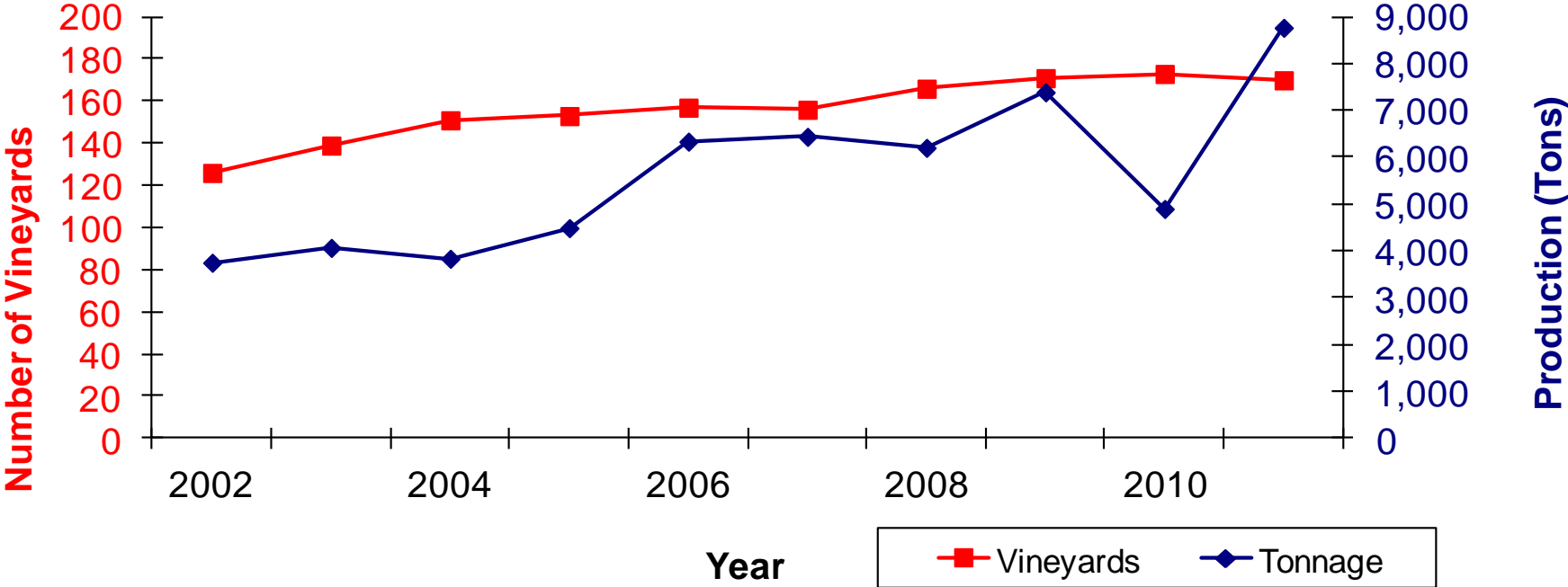
Washington and Oregon Production and Acreage 2001-2011

Tonnage

Acres




NUMBER OF VINEYARDS AND TONNAGE IN SOUTHERN OREGON, 2002-2011



WINERY ECONOMIC RESOURCES

- Winery & Vineyard Workbooks

- http://www.agmrc.org/commodities_products/fruits/wine/winery_and_vineyard_feasibility_workbooks.cfm
- <http://www.wawgg.org/>
- Industry info  Starting a Winery or Vineyard

- Online Calculator

- <http://www.nwgrapecalculators.org/>
- <http://www.nwwinerycalculators.org/>



ECONOMICS OF SMALL WASHINGTON WINERIES

- 500 to 10,000 cases of premium wines
- Economic-engineering approach
- Estimate the initial investment, operating costs, and financial returns



NO STANDARD WINERY

- Juice yield
- Quality of wine
- Temperatures and length of time of the fermentation process
- Length of aging process
- Use of oak cooperage
- Labor and capital intensity
- Bottling dates
- Marketing methods
- Access to grapes
- Etc.



INFORMATION GENERATED IN THE ANALYSIS

- Identify the personnel and capital assets required to construct & operate 6 wineries of various sizes between 500 and 10K annual case production
- Calculate the total dollar investment required to construct each winery
- Estimate annual operating costs for each winery
- Calculate annual cash flow for each winery
- Calculate net present value (NPV), internal rate of return (IRR), equity payback, and debt recovery for each size winery



INTRODUCTORY QUESTIONS

- 2,000 case winery
- Product Mix
 - 25% White
 - 75% Red
- Inflation cost of 2% annually
- No bulk wine
- 150 gallons/ton juice recovery
- Cooperage
 - 100% of reds and 50% whites
 - 30% new purchased annually



CAPITAL ASSETS- RECEIVING EQUIPMENT

<u>Receiving Equipment</u>	Units	Cost	Ship/ Install	Total
Tons of grapes required based on winery size and juice recovery				34.3
Picking Bins	20	\$300.00	\$15.00	\$6,300.00
Hopper	1	\$11,000.00	\$550.00	\$11,550.00
3-4 tons/hr Stemmer/Crusher	1	\$6,495.00	\$324.75	\$6,819.75
900 lb Membrane Press	1	\$18,500.00	\$925.00	\$19,425.00
1.5-30 gpm, 2" TC Must Pump	1	\$5,873.00	\$293.65	\$6,166.65
5,000 lb, 42in. x 42in. Platform Scale	1	\$1,200.00	\$60.00	\$1,260.00
Must Lines, 3" plastic flex (feet)	0	\$6.21	\$0.31	\$0.00
Other	0	\$0.00	\$0.00	\$0.00
Other	0	\$0.00	\$0.00	\$0.00
TOTAL				\$51,521.40



TOTAL INVESTMENT COSTS BY EQUIPMENT CATEGORY (\$)

Cost Category	2000 Case Winery
Receiving Equipment	\$51,521.40
Bottling Equipment	\$0.00
Cellar Equipment	\$14,769.11
Materials Handling	\$54,631.50
Refrigeration	\$14,700.00
Fermentation/Storage	\$48,783.00
Cooperage	\$50,137.50
Tasting Room	\$7,490.70
Plant and Office	<u>\$510,000.00</u>
Total Investment Costs	\$752,133.21



TOTAL INVESTMENT & PER UNIT COSTS (\$)

Cost Category	
<u>Per Unit</u>	<u>Cost</u>
\$/Case	\$376.07
\$/Gallon	\$158.17
\$/750 ml	\$31.34



OPERATING COSTS

- Equipment, land and operating financing
- Grape costs
 - \$1,000/ton whites and \$2,000/ton reds
- Bottling timeline and mobile bottling costs
- Packaging
- Labor
- Other variable and fixed costs



VARIABLE (OPERATING) COSTS BY WINERY SIZE

Variable Cost	10 Year Avg	\$/Case
Grapes	\$65,726	\$32.86
Packaging	\$39,112	\$19.56
Mobile Bottling	\$8,856	\$4.43
Taxes and Dues	\$14,940	\$7.47
Full Time Labor	\$38,631	\$19.32
Part Time Labor	\$12,811	\$6.41
Marketing	\$14,235	\$7.12
Utilities &Supplies	\$2,497	\$1.25
Cellar Supplies	\$3,920	\$1.96
Other	\$12,127	\$6.06
Total Avg. VC	\$212,855	\$106.43



FIXED COSTS BY WINERY SIZE (\$)

Fixed Cost	10 Year Avg	\$/Case
Insurance	\$2,234	\$1.12
Maintenance	\$3,285	\$1.64
Property Tax	\$6,833	\$3.42
Depreciation	\$40,527	\$20.26
Interest	\$28,750	\$14.38
Total Fixed Costs	\$81,628	\$40.81



TOTAL, VARIABLE, AND FIXED COSTS BY WINERY SIZE (\$)

Cost Category	10 Year Avg	\$/Case
Total Variable Costs	\$212,855	\$106.43
Total Fixed Costs	\$81,628	\$40.81
TOTAL COSTS	\$294,483	\$147.24



ASSUMPTIONS MADE IN CALCULATING CASH FLOWS

- A 2% inflation rate was used
- Any and all additional injection of capital beyond initial outlays at time 0 are 100% equity financed
- In the first year, Riesling was sold, in second year Merlot and Chardonnay, and in the third year all varieties were sold
- Wine pricing
 - \$20.00/bottle or \$240/case tasting room
 - \$15.00/bottle or \$180/case direct to retail
 - \$11.25/bottle or \$135/case wholesale



WINERY SALES

- Tasting room sales accounted for as % of premium cases sold

	Sales (%)	Price/bottle (\$)
Tasting Room	75%	\$18.00
Direct to Retail	10%	\$15.00
Wholesale	15%	\$11.25



CASH FLOW STATEMENT

Earnings Before Taxes

+ Carryover Loss

Taxable Income

Taxable Income

- Income Tax

Gross Cash Flow

Gross Cash Flow

+ Depreciation

- Principal Payments

Net Cash Flow



FINANCIAL ANALYSIS TO DETERMINE ACCEPTABILITY OF INVESTMENT

- Net Present Value (NPV)
 - 11% discount rate
- Internal Rate of Return (IRR)
- Equity payback period
- Discounted payback period



CASH FLOW PROJECTIONS

Year	Cash Flow	Discounted Cash Flow
1	(\$397,796.89)	(\$397,796.89)
2	(\$239,163.52)	(\$215,462.63)
3	\$88,351.16	\$71,707.78
4	\$91,951.24	\$67,233.95
5	\$95,446.11	\$62,873.31
6	\$143,283.11	\$85,031.55
7	\$119,378.78	\$63,824.77
8	\$107,492.07	\$51,774.46
9	\$104,112.31	\$45,177.09
10	\$105,995.99	\$41,436.46



NET PRESENT VALUE (NPV), INTERNAL RATE OF RETURN (IRR), EQUITY PAYBACK PERIOD, AND DISCOUNTED PAYBACK PERIOD

Winery (Cases)	NPV (\$)	IRR	Equity Payback (yrs)	Discounted Payback (yrs)
2,000	(\$124,200.15)	5.96%	>10	>10



PRODUCT PRICE AND INPUT PRICE CHANGES

- What has a greater impact on returns and NPV
 - Product price change
 - Grape input price change



NPV & IRR FOR A 20% PRODUCT PRICE INCREASE OR GRAPE INPUT PRICE DECREASE, 2000 CASE WINERY

Scenario	NPV	IRR
Product Price Increase (20%)	\$195,930	12.30%
Grape Price Decrease (20%)	(\$58,696)	8.58%



PRODUCT VERSUS GRAPE PRICE

○ Impact on returns

- Product price has greater effect than grape input price
- Bottom line can be dramatically influenced with control of product price



INCUBATOR SCENARIO

- Assume start-up winery will use an existing facility
- No real estate loan
 - Monthly lease payment (\$2,000/mn)
- Keep existing capital loan
 - No equipment provided



SCENARIO COMPARISONS

2,000 Case Winery		
Evaluation	Build Facility	Incubator
NPV	(\$124,200)	\$56,202
IRR	5.96%	13.67%



SUMMARY AND CONCLUSIONS

- Plant and office followed by cooperage were the largest investment costs
- Economies of size exist with the wineries
- The 10,000 case winery had highest IRR and shortest payback periods
- Cooperage has significant impact on operation costs and quality
- Product sales price control has more impact on returns than grape input price
- Incubators can have positive financial benefit



THANKS FOR YOUR TIME!



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