

Enterprise Budgets as a Tool for Commercial Vineyard Management in Texas

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Introduction

The estimated economic impact of wine and grapes in the state of Texas in 2007 was \$1.35 billion with approximately 280 commercial growers operating 2,900 bearing acres. Vineyard acreage in Texas has been consistently hovering around 3,000 bearing acres since 2001 and in the same period, the number of wineries in Texas had increased by over 250%. These data suggest that demand for winegrapes in Texas is markedly outpacing the supply grown within the state. In 2007, approximately 72% of wine produced in Texas was derived from grapes from outside the state (MKF Research LLC, 2007).

Current and prospective growers are seeking comprehensive cost of establishment and production budgets to aid in improved vineyard planning and management. Enterprise budgets allow the user to better understand the economic nature of their operation as well as refine viticulture practices to meet their business goals as a manager. This study developed enterprise budgets for each of the four geographical areas corresponding to the Texas Viticulture and Enology Extension regions: West Texas, North Texas, Hill Country, and Gulf Coast. These budgets provide an estimation of the economic costs and returns associated with commercial winegrape production, an estimation of the cash flows required to establish a new vineyard, and an estimation of returns per acre for a range of price and yield combinations in a mature vineyard.

Procedures

In developing the enterprise budgets, a representative panel of growers was interviewed from each of the four geographical areas. These growers provided input concerning common practices, labor requirements, labor rates, machinery needed, and costs of custom activities for a commercial vineyard. Estimates for operating costs, capital costs, and cost allocation of a multi-year enterprise were formulated using techniques and methods from the Commodity Cost and Return Handbook (Agricultural & Applied Economics Association Task Force on Commodity Costs and Returns, 1998). This handbook was also used as a guideline for formatting reports. Equipment and machinery efficiencies were established using economic engineering recommendations (American Society of Agricultural Engineers, 2000). Regarding winegrape varieties produced, the Texas High Plains, Texas Hill Country, North Texas regions were all assumed to have produced Cabernet Sauvignon, Viognier, and Cabernet Sauvignon, respectively. The Texas Gulf Coast was assumed to have produced a hybrid grape varietal that is tolerant to Pierce's disease, Blanc Du Bois. All values provided in the study were on a per acre basis and full production yield per acre was assumed to be 5 tons.

Methods of calculating costs and returns comply with recommendations of the Commodity Costs and Returns Handbook. Prices of material inputs are representative of the 2008 period. Fuel cost has been updated to reflect Fall 2008 prices.

Results and Discussion

The Texas High Plains and Texas Hill Country budgets assumed 20-acre vineyards; a positive residual return to management of \$3,429 and \$1,025, respectively was found for these regions. North Texas and the Gulf Coast regions, both with assumed vineyard size of 5 acres, had a negative residual return to management and were unable to recover fixed costs, but did cover operating costs. North Texas had a residual return of – \$397 and the Gulf Coast had a return of – \$3,969. Full production variable costs for all four regions were relatively consistent and only varied by \$937 across all four regions. However, there was a dramatic difference in full production fixed costs between the 20-acre and 5-acre sites, which varied by \$2,961 across all four regions. The Texas High Plains had the lowest costs, both variable (\$2,890) and fixed (\$2,681) of all four regions. The Texas Gulf Coast had the highest variable cost of \$3,827, and fixed cost of \$5,642. (Table 1) All information and results provided in the study were representative regional averages with regards to the current industry.

It should be noted that the full production fixed costs include the total amortized establishment cost, which is the annualized pre-productive costs and was calculated as the periodic payment for an annuity (Agricultural & Applied Economics Association Task Force on Commodity Costs and Returns, 1998). This figure was the sum of the total establishment investment per acre for the vine and trellis system and the pre-production net return, which was the total cash costs minus gross revenue for Establishment Years 0, 1, 2, and 3. This value was then included as a non-cash capital expense in Years 4 through 25.

Because the Texas High Plains had the lowest costs of all four regions, it suggests that a 20-acre vineyard on a good site with superior management could produce the highest returns of all four regions. A similar opportunity exists for a 20-acre vineyard in the Texas Hill Country, although higher production costs reduces returns compared to the High Plains. Vineyards in the Hill Country also have the opportunity to expand their operations to include a winery with tasting-room sales, but the economics of a combined vineyard/winery operation was not a part of this study.

Negative residual returns for North Texas and the Texas Gulf Coast indicate that the economies of scale work against small vineyard size. The typically smaller size of vineyards in these regions may indicate that many of these operations are relatively new and have not yet achieved the full acreage planned. Some vineyards are probably small by design, reflecting a lifestyle choice or the expectation of a limited supplemental income in which profit maximization is not the principal motivation. Many producers in these regions, specifically the Gulf Coast, also rely on themselves for labor and/or employ volunteer labor for activities such as harvest, which would significantly decrease cash expenses. The high amortized pre-productive costs and equipment ownership costs were the driving factors that made up the substantially higher fixed costs, and in turn, the result of negative residual returns in these two regions.

Regardless of region location, current producers have shown that commercial vineyards can be profitable. Efficient economies of scale appear to be highly correlated with residual returns to management in this study. This implies that profitable commercial winegrape production is possible in all four regions of Texas if producers can correctly match the cost of their equipment to the size of their operation.

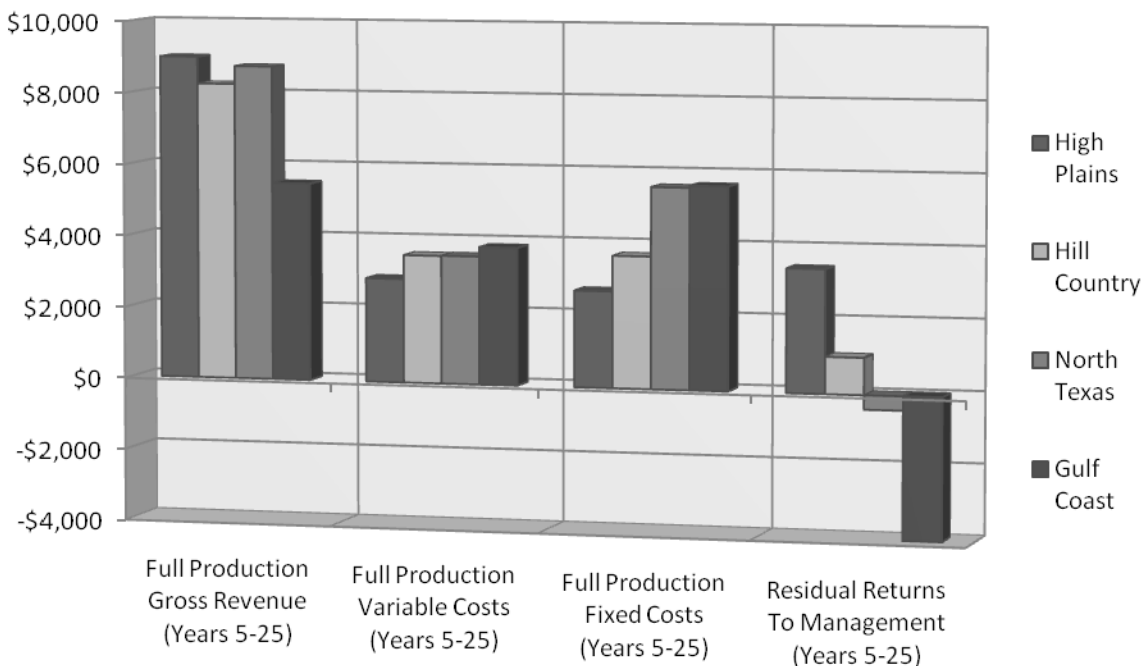
Application of Research

- ◆ Potential vineyard owners will use enterprise budgets to develop prospective business plans.
- ◆ Current vineyard owners will use enterprise budgets to refine annual budgeting and planning.
- ◆ Current vineyard owners will use enterprise budgets to assist in marketing and financing.

Table 1: Costs of Production for Commercial Vineyards in Four Growing Regions of Texas

Economic Measure	Region			
	High Plains	Hill Country	North Texas	Gulf Coast
Full Production Gross Revenue (Years 5-25)	\$9,000	\$8,250	\$8,750	\$5,500
Full Production Variable Costs (Years 5-25)	\$2,890	\$3,557	\$3,563	\$3,827
Full Production Fixed Costs (Years 5-25)	\$2,681	\$3,668	\$5,584	\$5,642
Residual Returns To Management (Years 5-25)	\$3,429	\$1,025	-\$397	-\$3,969

Figure 1: Four Economic Measures of Vineyard Costs and Returns in Texas.



References

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