



2002
KY Grape Production Budgets
Estimated Costs and Returns
European Hybrid Wine Varieties



Matthew Ernst
Tim Woods
Department of Agricultural Economics

John Strang
Department of Horticulture

WINE GRAPES, Kentucky, 2002

European Hybrids

Soil Buildup Year Summary

	Quantity	Unit	\$/Unit	Total	Your Estimate
GROSS RETURNS					
VARIABLE COSTS					
PRODUCTION					
Soil Test	2	assays	\$ 10.00	\$ 20.00	<input type="text"/>
Lime	3	tons	\$ 12.12	\$ 36.36	<input type="text"/>
Herbicide	2	quarts	\$ 15.22	\$ 30.44	<input type="text"/>
Grass Seed	50	lbs	\$ 0.70	\$ 35.00	<input type="text"/>
Variable Machinery Costs	1	acre	\$ 9.40	\$ 9.40	<input type="text"/>
Interest				\$ 5.48	<input type="text"/>
TOTAL PRODUCTION COST				\$ 136.68	<input type="text"/>
RETURN ABOVE VARIABLE COSTS				\$(136.68)	<input type="text"/>
FIXED COSTS					
Fixed Machinery & Equipment Costs	1	acre	\$ 25.45	\$ 25.45	<input type="text"/>
TOTAL FIXED COST				\$ 25.45	<input type="text"/>
TOTAL EXPENSES				\$ 162.13	<input type="text"/>
RETURN TO OPERATOR LABOR, LAND, CAPITAL, AND MGT.				\$(162.13)	<input type="text"/>
Operator and Unpaid Family Labor	2.00	hrs	\$ 9.00	\$ 18.00	<input type="text"/>
	0.1	hrs	\$ 12.00	\$ 1.20	<input type="text"/>
TOTAL OPERATOR AND UNPAID FAMILY LABOR				\$ 19.20	<input type="text"/>
RETURN TO LAND, CAPITAL, AND MANAGEMENT				\$(181.33)	<input type="text"/>

WINE GRAPES, Kentucky 2002

European Hybrids
Planting Year Summary

	Quantity	Unit	\$/Unit	Total	Your Estimate
GROSS RETURNS					
VARIABLE COSTS					
PRODUCTION					
Herbicide (Burndown)	1.5 quarts		\$ 15.22	\$ 22.83	<input type="text"/>
Herbicide	2 quarts		\$ 38.47	\$ 76.93	<input type="text"/>
Vines	600 vines		\$ 4.00	\$ 2,400.00	<input type="text"/>
Fertilizer	150 lbs		\$ 0.07	\$ 10.50	<input type="text"/>
Grow Tubes	600 tubes		\$ 1.20	\$ 720.00	<input type="text"/>
Bamboo Stakes	600 stakes		\$ 0.20	\$ 120.00	<input type="text"/>
Trellis Materials					
4" Posts	190 posts		\$ 4.55	\$ 864.50	<input type="text"/>
6" End Posts	20 posts		\$ 8.25	\$ 165.00	<input type="text"/>
Wire	13,000 feet		\$ 0.02	\$ 276.25	<input type="text"/>
Miscellaneous Trellis Materials	1 acre		\$ 253.75	\$ 253.75	<input type="text"/>
Hired Labor					
Planting	90 hours		\$ 9.00		<input type="text"/>
Build Trellis	60 hours		\$ 9.00		<input type="text"/>
<i>TOTAL HIRED LABOR</i>	<i>150 hours</i>		<i>\$ 9.00</i>	<i>\$ 1,350.00</i>	<input type="text"/>
Herbicides	3 quarts		\$ 10.15	\$ 30.44	<input type="text"/>
Fungicides	3 applications		\$ 36.57	\$ 109.72	<input type="text"/>
Insecticides	4 applications		\$ 14.80	\$ 59.20	<input type="text"/>
Irrigation	5 months		\$ 15.00	\$ 75.00	<input type="text"/>
Variable Machinery Costs	1 acre		\$ 35.26	\$ 35.26	<input type="text"/>
Interest	1 acre		\$ 225.53	\$ 225.53	<input type="text"/>
TOTAL PRODUCTION COST				\$ 6,794.91	<input type="text"/>
RETURN ABOVE VARIABLE COSTS				\$ (6,794.91)	<input type="text"/>
FIXED COSTS					
Fixed Machinery Costs	1 acre		\$ 77.44	\$ 77.44	<input type="text"/>
Fixed Costs on Irrigation System	1 year		\$ 177.70	\$ 177.70	<input type="text"/>
TOTAL FIXED COST				\$ 255.14	<input type="text"/>
TOTAL EXPENSES				\$ 7,050.05	<input type="text"/>
RETURN TO OPERATOR LABOR, LAND, CAPITAL, AND MGT.				\$ (7,050.05)	<input type="text"/>
Operator and Unpaid Family Labor	20.00 hrs		\$ 9.00	\$ 180.00	<input type="text"/>
	5.00 hrs		\$ 12.00	\$ 60.00	<input type="text"/>
TOTAL OPERATOR AND UNPAID FAMILY LABOR				\$ 240.00	<input type="text"/>
RETURN TO LAND, CAPITAL, AND MANAGEMENT				\$ (7,290.05)	<input type="text"/>

WINE GRAPES, Kentucky 2002

European Hybrids

Growth Year Summary

	Quantity	Unit	\$/Unit	Total	Your Estimate
GROSS RETURNS				0	
VARIABLE COSTS					
PRODUCTION					
Herbicide	2 quarts		\$ 19.23	\$ 38.47	
Fertilizer	300 lbs		\$ 0.07	\$ 21.00	
Plants (Replant 2% Original Planting)	12 plants		\$ 1.80	\$ 21.60	
Hired Labor					
1/2 Pruning Time	16 hours		\$ 9.00		
1/2 Additional Shoot Maintenance	20 hours		\$ 9.00		
Weed Control (Hoeing)	24 hours		\$ 9.00		
<i>Total Hired Labor Cost</i>	60 hours		\$ 9.00	\$ 540.00	
Fungicides	3 applications		\$ 33.86	\$ 101.58	
Insecticides	4 applications		\$ 14.80	\$ 59.20	
Irrigation	5 months		\$ 15.00	\$ 75.00	
Variable Machinery Costs	1 acre		\$ 24.53	\$ 24.53	
Interest	1 acre		\$ 58.68	\$ 58.68	
TOTAL PRODUCTION COST				\$ 940.06	
RETURN ABOVE VARIABLE COSTS				\$ (940.06)	
FIXED COSTS					
Fixed Machinery & Equipment Costs	1 acre		\$ 48.08	\$ 48.08	
Fixed Costs on Irrigation System	1 year		\$ 177.70	\$ 177.70	
TOTAL FIXED COST				\$ 225.78	
TOTAL EXPENSES				\$ 1,165.83	
RETURN TO OPERATOR LABOR, LAND, CAPITAL, AND MGT.				\$(1,165.83)	
Operator and Unpaid Family Labor	44.00 hrs		\$ 9.00	\$ 396.00	
	4.00 hrs		\$ 12.00	\$ 48.00	
TOTAL OPERATOR AND UNPAID FAMILY LABOR				\$ 444.00	
RETURN TO LAND, CAPITAL, AND MANAGEMENT				\$(1,609.83)	

WINE GRAPES, Kentucky 2002

European Hybrids

First Production (Year 3) Summary

	Quantity	Unit	\$/Unit	Total	Your Estimate
GROSS RETURNS					
Grapes	2 tons		\$ 1,150.00	\$ 2,300.00	<input type="text"/>
Total Gross Returns				\$ 2,300.00	
VARIABLE COSTS					
PRODUCTION					
Herbicide (Spring Apply)	2 quarts		\$ 19.23	\$ 38.47	<input type="text"/>
Herbicide (Spot Spray)	1.5 quarts		\$ 15.22	\$ 22.83	<input type="text"/>
Fertilizer	600 lbs		\$ 0.07	\$ 42.00	<input type="text"/>
Tissue Sampling and Analysis	1 analysis		\$ 25.00	\$ 25.00	<input type="text"/>
Fungicides	13 applications		\$ 40.79	\$ 530.27	<input type="text"/>
Insecticides	13 applications		\$ 20.08	\$ 261.04	<input type="text"/>
Hired Labor					
1/2 Pruning Time	40 hours		\$ 9.00		<input type="text"/>
1/2 Training, Thinning, Tying	24 hours		\$ 9.00		<input type="text"/>
Weed Control (Hoeing)	24 hours		\$ 9.00		<input type="text"/>
<i>Total Preharvest Hired Labor</i>	88 hours		\$ 9.00	\$ 792.00	<input type="text"/>
Variable Machinery Costs	1 acre		\$ 36.77	\$ 36.77	<input type="text"/>
TOTAL PREHARVEST COST				\$ 1,748.38	<input type="text"/>
HARVESTING AND MARKETING					
Harvest	40 hours		\$ 9.00	\$ 360.00	<input type="text"/>
Harvest Lugs	80 lugs		\$ 5.75	\$ 460.00	<input type="text"/>
Total Harvest and Marketing Cost				\$ 820.00	<input type="text"/>
Interest (9 months)	1 acre		\$ 153.97	\$ 153.97	<input type="text"/>
TOTAL VARIABLE COST				\$ 2,722.35	<input type="text"/>
RETURN ABOVE VARIABLE COSTS				\$ (422.35)	<input type="text"/>
FIXED COSTS					
Fixed Machinery Costs	1 acre		\$ 60.03	\$ 60.03	<input type="text"/>
Pest Control	1 year		\$ 220.00	\$ 220.00	<input type="text"/>
TOTAL FIXED COST				\$ 280.03	<input type="text"/>
TOTAL EXPENSES				\$ 3,002.38	<input type="text"/>
RETURN TO OPERATOR LABOR, LAND, CAPITAL, AND MGT.				\$ (702.38)	<input type="text"/>
Operator and Unpaid Family Labor					
	80 hrs		\$ 8.00	\$ 640.00	<input type="text"/>
	10 hrs		\$ 10.00	\$ 100.00	<input type="text"/>
TOTAL OPERATOR AND UNPAID FAMILY LABOR				\$ 740.00	<input type="text"/>
RETURN TO LAND, CAPITAL, AND MANAGEMENT				\$ (1,442.38)	<input type="text"/>

WINE GRAPES, Kentucky 2002

European Hybrids

First Full Production (Year 4) Summary

	Quantity	Unit	\$/Unit	Total	Your Estimate
GROSS RETURNS					
Grapes	4 tons		\$ 1,150.00	\$ 4,600.00	<input type="text"/>
Total Gross Returns				\$ 4,600.00	
VARIABLE COSTS					
PRODUCTION					
Herbicide (Spring)	1 applications		\$ 44.73	\$ 44.73	<input type="text"/>
Herbicide (Spot Spray)	1.5 quarts		\$ 15.22	\$ 22.83	<input type="text"/>
Fertilizer	1200 lbs		\$ 0.07	\$ 84.00	<input type="text"/>
Fungicides	13 applications		\$ 40.79	\$ 530.27	<input type="text"/>
Insecticides	13 applications		\$ 20.08	\$ 261.04	<input type="text"/>
Hired Labor					
1/2 Pruning Time	40 hours		\$ 9.00		<input type="text"/>
1/2 Shoot Positioning, Thinning, etc.	24 hours		\$ 9.00		<input type="text"/>
Hoeing	24 hours		\$ 9.00		<input type="text"/>
<i>Total Hired Labor</i>	88 hours		\$ 9.00	\$ 792.00	<input type="text"/>
Variable Machinery Costs	1 acre		\$ 34.64	\$ 34.64	<input type="text"/>
TOTAL PREHARVEST COST				\$ 1,769.51	<input type="text"/>
HARVESTING AND MARKETING					
Harvest	70 hours		\$ 9.00	\$ 630.00	<input type="text"/>
Harvest Lugs	60 lugs		\$ 5.75	\$ 345.00	<input type="text"/>
Total Harvest and Marketing Cost				\$ 975.00	<input type="text"/>
<u>Interest (9 months)</u>	1 acre		\$ 164.13	\$ 164.13	<input type="text"/>
TOTAL VARIABLE COST				\$ 2,908.64	<input type="text"/>
RETURN ABOVE VARIABLE COSTS				\$ 1,691.36	<input type="text"/>
FIXED COSTS					
Fixed Machinery Costs	1 acre		\$ 55.14	\$ 55.14	<input type="text"/>
Pest Control	1 year		\$ 220.00	\$ 220.00	<input type="text"/>
TOTAL FIXED COST				\$ 275.14	<input type="text"/>
TOTAL EXPENSES				\$ 3,183.79	<input type="text"/>
RETURN TO OPERATOR LABOR, LAND, CAPITAL, AND MGT.				\$ 1,416.21	<input type="text"/>
Operator and Unpaid Family Labor					
	84 hrs		\$ 9.00	\$ 756.00	<input type="text"/>
	10 hrs		\$ 12.00	\$ 120.00	<input type="text"/>
TOTAL OPERATOR AND UNPAID FAMILY LABOR				\$ 876.00	<input type="text"/>
RETURN TO LAND, CAPITAL, AND MANAGEMENT				\$ 540.21	<input type="text"/>

WINE GRAPES, Kentucky 2002

European Hybrids

Full Production (Year 5) Summary

	Quantity	Unit	\$/Unit	Total	Your Estimate
GROSS RETURNS					
Grapes	4 tons		\$ 950.00	\$ 3,800.00	<input type="text"/>
Total Gross Returns				\$ 3,800.00	
VARIABLE COSTS					
PRODUCTION					
Herbicide (Spring)	1 applications		\$ 44.73	\$ 44.73	<input type="text"/>
Herbicide (Spot Spray)	1.5 quarts		\$ 15.22	\$ 22.83	<input type="text"/>
Fertilizer	1200 lbs		\$ 0.07	\$ 84.00	<input type="text"/>
Fungicides	13 applications		\$ 40.79	\$ 530.27	<input type="text"/>
Insecticides	13 applications		\$ 20.08	\$ 261.04	<input type="text"/>
Hired Labor					<input type="text"/>
1/2 Pruning Time	40 hours		\$ 9.00		<input type="text"/>
1/2 Shoot Positioning, Thinning, etc.	24 hours		\$ 9.00		<input type="text"/>
Hoeing	24 hours		\$ 9.00		<input type="text"/>
<i>Total Hired Labor</i>	88 hours		\$ 9.00	\$ 792.00	<input type="text"/>
Variable Machinery Costs	1 acre		\$ 34.64	\$ 34.64	<input type="text"/>
TOTAL PREHARVEST COST				\$ 1,769.51	<input type="text"/>
HARVESTING AND MARKETING					
Harvest	70 hours		\$ 9.00	\$ 630.00	<input type="text"/>
Total Harvest and Marketing Cost				\$ 630.00	<input type="text"/>
Interest (9 months)	1 acre		\$ 164.13	\$ 164.13	<input type="text"/>
TOTAL VARIABLE COST				\$ 2,563.64	<input type="text"/>
RETURN ABOVE VARIABLE COSTS				\$ 1,236.36	<input type="text"/>
FIXED COSTS					
Fixed Machinery Costs	1 acre		\$ 55.14	\$ 55.14	<input type="text"/>
Pest Control	1 year		\$ 220.00	\$ 220.00	<input type="text"/>
TOTAL FIXED COST				\$ 275.14	<input type="text"/>
TOTAL EXPENSES				\$ 2,838.79	<input type="text"/>
RETURN TO OPERATOR LABOR, LAND, CAPITAL, AND MGT.				\$ 961.21	<input type="text"/>
Operator and Unpaid Family Labor	84 hrs		\$ 9.00	\$ 756.00	<input type="text"/>
	10 hrs		\$ 12.00	\$ 120.00	<input type="text"/>
TOTAL OPERATOR AND UNPAID FAMILY LABOR				\$ 876.00	<input type="text"/>
RETURN TO LAND, CAPITAL, AND MANAGEMENT				\$ 85.21	<input type="text"/>

Labor Summary For 1 Acre of Wine Grapes, Kentucky, 2002

Soil Buildup Year

All Operations 2.1 hours

Soil Buildup Year Labor Requirement 2.1 hours

Planting Year

Dig Holes 60 hours

Plant Vines 25 hours

Set Trellis 50 hours

Train/Thin/Position Vines 20 hours

All Other Operations 20 hours

Planting Year Labor Requirement 175 hours

Growing Year

Pruning 32 hours

Train/Thin/Position Vines 20 hours

Weed Control (Hoeing) 24 hours

All Other Operations 32 hours

Growing Year Labor Requirement 108 hours

First Harvest Year

Pruning 80 hours

Harvest 40 hours

Train/Thin/Position Vines 48 hours

Hoeing 24 hours

Pest Control 10 hours

All Other Operations 16 hours

First Harvest Year Labor Requirement 218 hours

Full Production Year

Pruning 80 hours

Harvest 70 hours

Train/Thin/Position Vines 48 hours

Hoeing 24 hours

Pest Control 10 hours

All Other Operations 20 hours

Full Production Year Labor Requirement 252 hours