

2008 Kentucky Blackberry Cost and Return Estimates

FOR THORNY, THORNLESS ERECT, AND THORNLESS SEMI-ERECT BLACKBERRIES

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Yield and Returns

Blackberry returns are based on moderate, 1-acre yield estimates for each blackberry type. *Yields may vary considerably due to production location and production practices.* The yields used in this budget are based on the following planting assumptions:

Table 1. Planting assumptions by variety.

Variety	Planting	Yield
Thorny	1,815 root pieces; 2' x 12' spacing	Year 1—0 qt Year 2—800 qt Year 3—2,000 qt Year 4—3,000 qt Year 5—3,300 qt
Thornless Erect	1,210 plants; 3' x 12' spacing	Year 1—0 qt Year 2—800 qt Year 3—2,000 qt Year 4—3,000 qt Year 5—3,300 qt
Thornless Semi-Erect	454 plants; 8' x 12' spacing	Year 1—0 qt Year 2—2,000 qt Year 3—4,000 qt Year 4—6,000 qt Year 5—7,000 qt

Blackberry returns are calculated based on a price of \$3.25 per quart. This price falls in the low to mid-range of prices reported throughout Kentucky at produce auctions, farmers' markets, and on-farm stands during 2008.

Establishment Costs

Blackberry enterprise cash flow will be negative until the crop has matured and generates returns to cover the cost of establishing the crop. Establishment costs will begin to be recovered in Year 3, with total payback occurring in Year 5. Although the return to land, labor, and management is greater for fully producing thornless erect and thornless semi-erect blackberries, the cost of establishment is greater because of the trellising systems

necessary to produce thornless varieties and the subsequent yields.

Potential producers should realize that, while thornless semi-erect varieties produce superior economic returns, thorny and thornless erect varieties may hold some marketing advantages that can command superior prices and result in better returns than those estimated using these standard assumptions. Thorny varieties are the earliest producers with the smaller seeds. In addition, both thorny and thornless erect varieties are generally sweeter to taste and produce smaller seeds than most thornless semi-erect varieties. Producers may wish to combine plantings to cater to their buyers' preferences or marketing window.

Table 2. Estimated returns by variety.

Variety	3-Yr. Establishment Costs	Return to Management	5-Year Return Full Fruiting (Year 5)
Thorny	\$5,338	\$3,893	\$1,730
Thornless Erect	\$7,617	\$3,821	\$1,737
Thornless Semi-Erect	\$9,858	\$13,911	\$27,203

Economically speaking, the thornless semi-erect varieties offer the most potential for profits. This is primarily due to higher yields occurring in the fruiting years. *The initial cash outlays for an irrigation system and an 8' x 8' x 8' refrigeration unit (\$5,200 to \$9,200) in Year 3 must also be considered.* Most operations considering blackberries as a cropping alternative may be able to utilize these investments for other crops to spread the fixed costs over more than one enterprise.

Pre-Harvest Costs

The following costs were assumed in the preparation of the 2008 Kentucky Blackberry Production Budgets.

Soil Tests. Assumed assay cost of \$10 per sample.

Fertilizer, Lime, Seed. Costs assigned using recommended rates and 2008 Kentucky input costs.

Machinery and Equipment. Costs are calculated using an Iowa State machinery cost generator adjusted to appropriate fuel costs and equipment standards for Kentucky. Time assigned to each machinery operation comes from historical budget data and engineering standards for labor utilization by operation.

Hired Labor. Labor charge of \$8.50 per hour for hired labor and \$15 per hour for operator labor is assumed in these estimates. Labor times are calculated combining equipment standards with horticultural production estimates for given operations.

Pesticides. Herbicide, insecticide, and fungicide costs are calculated using recommended rates and 2007-08 Kentucky input prices. These do not constitute recommendations for application method or products. Naming of pesticide products does not constitute an endorsement by the University of Kentucky or its Cooperative Extension Service.

Trellis. Trellising is required for erect and semi-erect blackberry varieties. A standard trellis utilizing metal wire, wooden fence posts, and brace posts is assumed for the thornless semi-erect varieties. Erect varieties require a weaker trellis; hence, the assigned costs for metal posts and plastic twine.

Irrigation. An establishment cost of \$1,327 was estimated for a trickle irrigation system. An annual variable cost of \$248 is assigned for irrigation; this variable cost may fluctuate greatly due to availability and cost of water.

Interest. An interest rate of 9% is assumed on preharvest variable costs. Interest expense for establishment costs is accounted for in the fixed costs (see below).

Harvest Costs

Containers. Containers are assumed to be 1-quart, ventilated, plastic clamshells with absorbent padding in the bottom. A cost of \$0.15 per container, based on current retail prices, is assigned.

Refrigeration. Refrigeration is essential for berry production. An 8' x 8' x 8' cooling unit will require about \$1.22 per day in electricity use.

Marketing. A 10% marketing charge is assumed for this system. This expense may vary depending on where and how blackberries are marketed. Producers may incur this expense through a marketing alliance, such as a co-op, or they may incur a marketing expense by advertising or maintaining a roadside stand.

Fixed Costs

Machinery and Equipment. Fixed costs for machinery and equipment are calculated using average repair and maintenance standards generated using the Iowa State standards adjusted for Kentucky.

Irrigation. An annual fixed cost of \$248 per use is assigned to this 1-acre system.

Refrigeration. Refrigeration is essential for berry production. An 8' x 8' x 8' cooling unit is assumed in these budgets, with a fixed cost depreciation value of \$1,100 per year. This is based on a \$7,700 cost for purchase and installation as well as annual maintenance costs for the system. All these costs are assigned to the blackberry enterprise. Production of other berries or vegetables whose harvest times fall outside the blackberry harvest window can help a producer more efficiently utilize such a system.

Interest on Previous Years' Expense. Interest is calculated for establishment costs not yet able to be repaid at a 9% annual rate.

Land. A rental rate of \$100 per acre and real estate taxes of \$10 per acre for the land used in blackberry production is assumed.

Table 3. Soil buildup year in preparation for planting thorny blackberries, Kentucky, 2008.

Grass Seeding																
Operation	Labor			Machinery & Equipment					Materials					Total Var. Cost	Total Cost	
	Labor (hr)	Wage Rate	Cost/Acre	Equipment	Hrs or Acres of Use	Unit Var. Cost	Total Var. Cost	Fixed Unit Cost	Total Fixed Cost	Item	Qty.	Unit	Cost/Unit			Cost/Acre
Soil test	0.6	\$15.00	\$9.00				\$-		\$-	Soil Test	2	assay	10	\$20.00	\$29.00	\$29.00
Lime (applied)	0.2	\$15.00	\$3.00	Disk	1	\$6.01	\$6.01	\$6.55	\$6.55	Lime: Ton	2	ton	20	\$40.00	\$49.01	\$55.56
Weed spray	0.08	\$15.00	\$1.20	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Glyphosate	2	qt	14.81	\$29.62	\$32.29	\$35.29
Chisel plow	0.16	\$15.00	\$2.40	Chisel plow	1	\$5.20	\$5.20	\$3.44	\$3.44					\$-	\$7.60	\$11.04
Disk (2)	0.2	\$15.00	\$3.00	Disk	2	\$6.01	\$12.02	\$6.55	\$13.10					\$-	\$15.02	\$28.12
Seed grass	0.18	\$15.00	\$2.70	Grain drill	1	\$4.08	\$4.08	\$9.85	\$9.85	Seed	10	lb	2.35	\$23.50	\$30.28	\$40.13
Apply fertilizer	0.4	\$15.00	\$6.00	Spreader	2	\$2.21	\$4.42	\$2.66	\$5.32	10-10-10	800	lb	\$0.30	\$240.00	\$250.42	\$255.74
Interest on variable costs (1/2 year)															\$18.61	\$18.61
Totals	1.82		27.3			24.98	33.2		41.26					353.12	\$432.23	\$473.49

Table 4. Planting year for 1 acre of thorny blackberries, Kentucky, 2008.

2' x 12' Spacing

Operation	Labor			Machinery & Equipment						Materials					Total Var. Cost	Total Cost
	Labor (hr)	Wage Rate	Cost/Acre	Equipment	Hrs or Acres of Use	Unit Var. Cost	Total Var. Cost	Fixed Unit Cost	Total Fixed Cost	Item	Qty.	Unit	Cost/Unit	Cost/Acre		
March																
Herbicide burndown	0.8	\$15.00	\$12.00	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Roundup Ultra	1	qt	\$14.81	14.81	\$28.28	\$31.28
Disk harrow (2x)	1.2	\$15.00	\$18.00	Disk	2	\$6.01	\$12.02	\$6.55	\$13.10						\$30.02	\$43.12
Plant	4.0	\$8.50	\$34.00	Transplanter	1	\$50.00	\$50.00	\$-	\$-	1,815 root pieces	1,815	root piece	\$0.20	363.00	\$447.00	\$447.00
Herbicide spray	0.8	\$15.00	\$12.00	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Gallery DF	1	lb	\$148.00	148.00	\$161.47	\$164.47
April																
Cultivation	1.5	\$15.00	\$22.50	Cultivator	1	\$3.02	\$3.02	\$2.81	\$2.81						\$25.52	\$28.33
Hoeing	10	\$8.50	\$85.00				\$-		\$-						\$85.00	\$85.00
Irrigation	0.05	\$15.00	\$0.75	Irrigation	1	\$62.00	\$62.00	\$47.50	\$47.50						\$62.75	\$110.25
May																
Fertilizer	1.5	\$15.00	\$22.50	Spreader	1	\$2.21	\$2.21	\$2.66	\$2.66	Nitrogen	50	lb	\$0.42	21.00	\$45.71	\$48.37
Cultivation	1.5	\$15.00	\$22.50	Cultivator	1	\$3.02	\$3.02	\$2.81	\$2.81						\$25.52	\$28.33
Hoeing	10	\$8.50	\$85.00				\$-		\$-						\$85.00	\$85.00
Irrigation	0.05	\$15.00	\$0.75	Irrigation	1	\$62.00	\$62.00	\$47.50	\$47.50						\$62.75	\$110.25
June																
Cultivation	1.5	\$15.00	\$22.50	Cultivator	1	\$3.02	\$3.02	\$2.81	\$2.81						\$25.52	\$28.33
Hoeing	10	\$8.50	\$85.00				\$-		\$-						\$85.00	\$85.00
Orange rust	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova	5	oz	\$4.55	22.75	\$31.72	\$34.72
Rosette/Double blossom/Anthracnose	0.5	\$15.00	\$7.50	Sprayer	2	\$1.47	\$2.94	\$3.00	\$6.00	Captan	2.5	lb	\$4.53	11.33	\$21.77	\$27.77
Irrigation	0.05	\$15.00	\$0.75	Irrigation	1	\$62.00	\$62.00	\$47.50	\$47.50						\$62.75	\$110.25
July																
Insecticide	4.0	\$15.00	\$60.00	Sprayer	4	\$1.47	\$5.88	\$3.00	\$12.00	Malathion	6	pt	\$12.10	72.60	\$138.48	\$150.48
			\$-				\$-		\$-	Sevin	4	lb	\$6.83	27.32	\$27.32	\$27.32
Cultivation	1.5	\$15.00	\$22.50	Cultivator	1	\$3.02	\$3.02	\$2.81	\$2.81						\$25.52	\$28.33
Hoeing	10	\$8.50	\$85.00				\$-		\$-						\$85.00	\$85.00
Irrigation	0.05	\$15.00	\$0.75	Irrigation	1	\$62.00	\$62.00	\$47.50	\$47.50						\$62.75	\$110.25
August																
Cultivation	1.5	\$15.00	\$22.50	Cultivator	1	\$3.02	\$3.02	\$2.81	\$2.81						\$25.52	\$28.33
Hoeing	10	\$8.50	\$85.00				\$-		\$-						\$85.00	\$85.00
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova	5	oz	\$4.55	22.75	\$31.72	\$34.72
September																
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova	5	oz	\$4.55	22.75	\$31.72	\$34.72
Interest on variable costs (1/2 year)															\$80.95	\$80.95
Totals	72		\$729.00				\$343.50		\$252.81					\$726.31	\$1,879.75	\$2,132.56

Table 5. Fruiting year for 1 acre of established thorny blackberries, Kentucky, 2008.

Operation	Labor			Machinery & Equipment						Materials					Total Var. Cost	Total Cost
	Labor (hr)	Wage Rate	Cost/Acre	Equipment	Hrs or Acres of Use	Unit Var. Cost	Total Var. Cost	Fixed Unit Cost	Total Fixed Cost	Item	Qty.	Unit	Cost/Unit	Cost/Acre		
March																
Pruning	20.0	\$8.50	\$170.00	Pruner	20	\$0.20	\$4.00	\$0.10	\$2.00						\$174.00	\$176.00
Nitrogen	0.3	\$15.00	\$3.75	Spreader	1	\$2.21	\$2.21	\$2.66	\$2.66	Amm. nitrate	300	lb	\$0.40	\$120.00	\$125.96	\$128.62
Brush removal	4.0	\$8.50	\$34.00	Wagon	1	\$3.88	\$3.88	\$4.43	\$4.43					\$-	\$37.88	\$42.31
Herbicide	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Princep 90DF	3	lb	4.53	\$13.59	\$22.56	\$25.56
April																
Anthracoese spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Liquid lime sulfur	20	gal	\$17.00	\$340.00	\$348.97	\$351.97
Anthracoese spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Captan 80WG	2.5	lb	\$4.53	\$11.33	\$20.30	\$23.30
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
May																
Anthracoese spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Captan 80WG	2.5	lb	\$4.53	\$11.33	\$20.30	\$23.30
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Anthracoese/Rosette spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Captan 80WG	2.5	lb	\$4.53	\$11.33	\$20.30	\$23.30
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Hoeing	8.0	\$8.50	\$68.00											\$-	\$68.00	\$68.00
June																
Anthracoese/Rosette spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Captan 80WG	2.5	lb	\$4.53	\$11.33	\$20.30	\$23.30
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Hoeing	8.0	\$8.50	\$68.00											\$-	\$68.00	\$68.00
Irrigation	0.05	\$15.00	\$0.75	Irrigation	1	\$82.67	\$82.67	\$63.33	\$63.33					\$-	\$83.42	\$146.75
July																
Insecticide	4.0	\$15.00	\$60.00	Sprayer	4	\$1.47	\$5.88	\$3.00	\$12.00	Malathion	6	pt	\$12.10	\$72.60	\$138.48	\$150.48
										Sevin	4	lb	\$6.83	\$27.32	\$27.32	\$27.32
Mowing	1.2	\$15.00	\$18.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$23.13	\$28.63
Hoeing	8.0	\$8.50	\$68.00											\$-	\$68.00	\$68.00
Irrigation	0.05	\$15.00	\$0.75	Irrigation	1	\$82.67	\$82.67	\$63.33	\$63.33					\$-	\$83.42	\$146.75
August																
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Irrigation	0.05	\$15.00	\$0.75	Irrigation	1	\$82.67	\$82.67	\$63.33	\$63.33					\$-	\$83.42	\$146.75
September																
Fertilizer cover	0.3	\$15.00	\$4.50	Spreader	1	\$2.21	\$2.21	\$2.66	\$2.66	N	20	lb	\$0.42	\$8.40	\$15.11	\$17.77
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Interest on variable costs (1/2 year)															\$74.88	\$74.88
Pre-Harvest Totals	61.8		\$615.00						\$274.25						\$1,738.84	\$2,013.09
HARVESTING																
Total quantity harvested				800	qt	\$-										
Picking	100.0	\$8.50	\$850.00												\$850.00	\$850.00
Clamshells											800	clamshell	\$0.15	\$120.00	\$120.00	\$120.00
Refrigeration					1	\$1.22	\$36.60	1,100.00	\$1,100.00						\$36.60	\$1,136.60
Marketing											800	qt	\$-	\$-	\$36.60	\$36.60
Harvest Totals	100.0		\$850.00				\$36.60		1,374.25						\$1,043.20	\$2,143.20
Totals	161.8		\$1,465.00				\$36.60		\$1,648.50						\$2,782.04	\$4,156.29

Table 6. Second fruiting year for 1 acre of established thorny blackberries, Kentucky, 2008.

Operation	Labor			Machinery & Equipment						Materials					Total Var. Cost	Total Cost
	Labor (hr)	Wage Rate	Cost/Acre	Equipment	Hrs or Acres of Use	Unit Var. Cost	Total Var. Cost	Fixed Unit Cost	Total Fixed Cost	Item	Qty.	Unit	Cost/Unit	Cost/Acre		
February																
Nitrogen	0.25	\$15.00	\$3.75	Spreader	1	\$2.21	\$2.21	\$2.66	\$2.66	Amm. nitrate	300	lb	\$0.40	\$120.00	\$125.96	\$128.62
March																
Pruning	20	\$8.50	\$170.00	Pruner	20	\$0.20	\$4.00	\$0.10	\$2.00					\$-	\$174.00	\$176.00
Brush removal	0.6	\$15.00	\$9.00											\$-	\$9.00	\$9.00
Herbicide	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Princep 90DF	3	lb	2.089	\$6.27	\$15.24	\$18.24
April																
Anthracoese spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Liquid lime sulfur	20	gal	\$17.00	\$340.00	\$348.97	\$351.97
Anthracoese spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Captan 80WG	2.5	lb	\$4.53	\$11.33	\$20.30	\$23.30
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
May																
Anthracoese spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Captan 80WG	2.5	lb	\$4.53	\$11.33	\$20.30	\$23.30
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Anthracoese/Rosette spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Captan 80WG	2.5	lb	\$4.53	\$11.33	\$20.30	\$23.30
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Hoeing	8.0	\$8.50	\$68.00											\$-	\$68.00	\$68.00
June																
Anthracoese/Rosette spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Captan 80WG	2.5	lb	\$4.53	\$11.33	\$20.30	\$23.30
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Hoeing	8.0	\$8.50	\$68.00											\$-	\$68.00	\$68.00
Irrigation	0.05	\$15.00	\$0.75	Irrigation	1	\$82.67	\$82.67	\$63.33	\$63.33					\$-	\$83.42	\$146.75
July																
Insecticide	4.0	\$15.00	\$60.00	Sprayer	4	\$1.47	\$5.88	\$3.00	\$12.00	Malathion	6	pt	\$12.10	\$72.60	\$138.48	\$150.48
										Sevin	4	lb	\$6.83	\$27.32	\$27.32	\$27.32
Mowing	1.2	\$15.00	\$18.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$23.13	\$28.63
Hoeing	8.0	\$8.50	\$68.00											\$-	\$68.00	\$68.00
Irrigation	0.05	\$15.00	\$0.75	Irrigation	1	\$82.67	\$82.67	\$63.33	\$63.33					\$-	\$83.42	\$146.75
August																
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Irrigation	0.05	\$15.00	\$0.75	Irrigation	1	\$82.67	\$82.67	\$63.33	\$63.33					\$-	\$83.42	\$146.75
September																
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
November																
Fertilizer cover	0.3	\$15.00	\$4.50	Spreader	1	\$2.21	\$2.21	\$2.66	\$2.66	N	20	lb	\$0.42	\$8.40	\$15.11	\$17.77
Interest on variable costs (1/2 year)															\$73.25	\$73.25
Pre-Harvest Totals	58.4		\$590.00						\$269.82						\$1,701.01	\$1,970.83
HARVESTING																
Total quantity harvested				2000	qt	\$-										
Picking	200.0	\$8.50	\$1,700.00												\$1,700.00	\$1,700.00
Clamshells											2000	clamshell	\$0.15	\$300.00	\$300.00	\$300.00
Refrigeration					1	\$1.22	\$36.60	\$1,100.00	\$1,100.00						\$36.60	\$1,136.60
Marketing											2000	qt	\$-	\$-	\$36.60	\$36.60
Harvest Totals	200.0		\$1,700.00				\$36.60		\$1,100.00						\$2,073.20	\$3,173.20
Totals	258.4		\$2,290.00				\$36.60		\$1,369.82						\$3,774.21	\$5,144.03

Table 7. Third fruiting year for 1 acre of established thorny blackberries, Kentucky, 2008.

Operation	Labor			Machinery & Equipment						Materials					Total Var. Cost	Total Cost
	Labor (hr)	Wage Rate	Cost/Acre	Equipment	Hrs or Acres of Use	Unit Var. Cost	Total Var. Cost	Fixed Unit Cost	Total Fixed Cost	Item	Qty.	Unit	Cost/Unit	Cost/Acre		
February																
Nitrogen	0.25	\$15.00	\$3.75	Spreader	1	\$2.21	\$2.21	\$2.66	\$2.66	Amm. nitrate	300	lb	\$0.40	\$120.00	\$125.96	\$128.62
March																
Pruning	30	\$8.50	\$255.00	Pruner	30	\$0.20	\$6.00	\$0.10	\$3.00					\$-	\$261.00	\$264.00
Brush removal	1	\$15.00	\$15.00											\$-	\$15.00	\$15.00
Herbicide	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Princep 90DF	3	lb	2.089	\$6.27	\$15.24	\$18.24
April																
Anthracoese spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Liquid lime sulfur	20	gal	\$17.00	\$340.00	\$348.97	\$351.97
Anthracoese spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Captan 80WG	2.5	lb	\$4.53	\$11.33	\$20.30	\$23.30
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
May																
Anthracoese spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Captan 80WG	2.5	lb	\$4.53	\$11.33	\$20.30	\$23.30
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Anthracoese/Rosette spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Captan 80WG	2.5	lb	\$4.53	\$11.33	\$20.30	\$23.30
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Hoeing	8.0	\$8.50	\$68.00											\$-	\$68.00	\$68.00
June																
Anthracoese/Rosette spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Captan 80WG	2.5	lb	\$4.53	\$11.33	\$20.30	\$23.30
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Hoeing	8.0	\$8.50	\$68.00											\$-	\$68.00	\$68.00
Irrigation	0.05	\$15.00	\$0.75	Irrigation	1	\$82.67	\$82.67	\$63.33	\$63.33					\$-	\$83.42	\$146.75
July																
Insecticide	4.0	\$15.00	\$60.00	Sprayer	4	\$1.47	\$5.88	\$3.00	\$12.00	Malathion	6	pt	\$12.10	\$72.60	\$138.48	\$150.48
										Sevin	4	lb	\$6.83	\$27.32	\$27.32	\$27.32
Mowing	1.2	\$15.00	\$18.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$23.13	\$28.63
Hoeing	8.0	\$8.50	\$68.00											\$-	\$68.00	\$68.00
Irrigation	0.05	\$15.00	\$0.75	Irrigation	1	\$82.67	\$82.67	\$63.33	\$63.33					\$-	\$83.42	\$146.75
August																
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Irrigation	0.05	\$15.00	\$0.75	Irrigation	1	\$82.67	\$82.67	\$63.33	\$63.33					\$-	\$83.42	\$146.75
September																
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
November																
Fertilizer cover	0.3	\$15.00	\$4.50	Spreader	1	\$2.21	\$2.21	\$2.66	\$2.66	N	20	lb	\$0.42	\$8.40	\$15.11	\$17.77
Interest on variable costs (1/2 year)															\$77.43	\$77.43
Pre-Harvest Totals	68.8		\$681.00						\$270.82						\$1,798.19	\$2,069.01
HARVESTING																
Total quantity harvested				3000	qt	\$-										
Picking	225.0	\$8.50	\$1,912.50												\$1,912.50	\$1,912.50
Clamshells											3000	clamshell	\$0.15	\$450.00	\$450.00	\$450.00
Refrigeration					1	\$1.22	\$36.60	\$1,100.00	\$1,100.00						\$36.60	\$1,136.60
Marketing											3000	qt	\$-	\$-	\$36.60	\$36.60
Harvest Totals	225.0		\$1,912.50				\$36.60		\$1,100.00						\$2,435.70	\$3,535.70
Totals	293.8		\$2,593.50						\$1,370.82						\$4,233.89	\$5,604.71

Table 8. Fourth fruiting year for 1 acre of established thorny blackberries, Kentucky, 2008.

Operation	Labor			Machinery & Equipment						Materials					Total Var. Cost	Total Cost
	Labor (hr)	Wage Rate	Cost/Acre	Equipment	Hrs or Acres of Use	Unit Var. Cost	Total Var. Cost	Fixed Unit Cost	Total Fixed Cost	Item	Qty.	Unit	Cost/Unit	Cost/Acre		
February																
Nitrogen	0.25	\$15.00	\$3.75	Spreader	1	\$2.21	\$2.21	\$2.66	\$2.66	Amm. nitrate	300	lb	\$0.40	\$120.00	\$125.96	\$128.62
March																
Pruning	30	\$8.50	\$255.00	Pruner	30	\$0.20	\$6.00	\$0.10	\$3.00					\$-	\$261.00	\$264.00
Brush removal	1	\$15.00	\$15.00											\$-	\$15.00	\$15.00
Herbicide	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Princep 90DF	3	lb	2.089	\$6.27	\$15.24	\$18.24
April																
Anthracoese spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Liquid lime sulfur	20	gal	\$17.00	\$340.00	\$348.97	\$351.97
Anthracoese spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Captan 80WG	2.5	lb	\$4.53	\$11.33	\$20.30	\$23.30
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
May																
Anthracoese spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Captan 80WG	2.5	lb	\$4.53	\$11.33	\$20.30	\$23.30
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Anthracoese/Rosette spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Captan 80WG	2.5	lb	\$4.53	\$11.33	\$20.30	\$23.30
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Hoeing	8.0	\$8.50	\$68.00											\$-	\$68.00	\$68.00
June																
Anthracoese/Rosette spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Captan 80WG	2.5	lb	\$4.53	\$11.33	\$20.30	\$23.30
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Hoeing	8.0	\$8.50	\$68.00											\$-	\$68.00	\$68.00
Irrigation	0.05	\$15.00	\$0.75	Irrigation	1	\$82.67	\$82.67	\$63.33	\$63.33					\$-	\$83.42	\$146.75
July																
Insecticide	4.0	\$15.00	\$60.00	Sprayer	4	\$1.47	\$5.88	\$3.00	\$12.00	Malathion	6	pt	\$12.10	\$72.60	\$138.48	\$150.48
										Sevin	4	lb	\$6.83	\$27.32	\$27.32	\$27.32
Mowing	1.2	\$15.00	\$18.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$23.13	\$28.63
Hoeing	8.0	\$8.50	\$68.00											\$-	\$68.00	\$68.00
Irrigation	0.05	\$15.00	\$0.75	Irrigation	1	\$82.67	\$82.67	\$63.33	\$63.33					\$-	\$83.42	\$146.75
August																
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Irrigation	0.05	\$15.00	\$0.75	Irrigation	1	\$82.67	\$82.67	\$63.33	\$63.33					\$-	\$83.42	\$146.75
September																
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
November																
Fertilizer cover	0.3	\$15.00	\$4.50	Spreader	1	\$2.21	\$2.21	\$2.66	\$2.66	N	20	lb	\$0.42	\$8.40	\$15.11	\$17.77
Interest on variable costs (1/2 year)															\$77.43	\$77.43
Pre-Harvest Totals	68.8		\$681.00						\$270.82						\$1,798.19	\$2,069.01
HARVESTING																
Total quantity harvested				3300	qt	\$-										
Picking	225.0	\$8.50	\$1,912.50												\$1,912.50	\$1,912.50
Clamshells											3300	clamshell	\$0.15	\$495.00	\$495.00	\$495.00
Refrigeration					1	\$1.22	\$36.60	\$1,100.00	\$1,100.00						\$36.60	\$1,136.60
Marketing											3300	qt	\$-	\$-	\$36.60	\$36.60
Harvest Totals	225.0		\$1,912.50				\$36.60		\$1,100.00						\$2,480.70	\$3,580.70
Totals	293.8		\$2,593.50						\$1,370.82						\$4,278.89	\$5,649.71

Table 9. Establishment cost for 1 acre of thorny blackberries, Kentucky, 2008.

Soil Buildup Year		Cost/Acre	First Fruiting Year		Cost/Acre	Third Fruiting Year		Cost/Acre
Variable costs		\$432.23	Variable costs		\$2,782.04	Variable costs		\$4,233.89
Fixed costs		\$41.26	Fixed costs		\$1,648.50	Fixed costs		\$1,370.82
Cost of land and taxes		\$110.00	Cost of land and taxes		\$110.00	Cost of land and taxes		\$110.00
Total soil buildup year		\$583.49	Interest on accrued establishment costs (9%)		\$259.07	Total costs, third fruiting year		\$5,714.71
Accrued establishment costs		\$583.49	Total costs, first fruiting year		\$4,799.61	Total revenue, third fruiting year		\$-
Planting Year		Cost/Acre	Total revenue, first fruiting year		\$-	Total return, third fruiting year		\$(5,714.71)
Variable costs		\$1,879.75	Total return, first fruiting year		\$(4,799.61)	Accrued establishment costs through third fruiting		\$19,337.95
Fixed costs		\$252.81	Accrued establishment costs through first fruiting		\$7,678.18	Fourth Fruiting Year (breakeven)		Cost/Acre
Cost of land and taxes		\$110.00	Total establishment cost (less year 3 revenue)		\$7,678.18	Variable costs		\$4,278.89
Interest on soil buildup year costs (9%)		\$52.51	Second Fruiting Year		Cost/Acre	Fixed costs		\$1,370.82
Total planting year		\$2,295.08	Variable costs		\$3,774.21	Cost of land and taxes		\$110.00
Accrued establishment costs through planting		\$2,878.57	Fixed costs		\$1,369.82	Total costs, fourth fruiting year		\$5,759.71
			Cost of land and taxes		\$110.00	Total revenue, fourth fruiting year		\$-
			Interest on accrued establishment costs (9%)		\$691.04	Total return, fourth fruiting year		\$(5,759.71)
			Total costs, second fruiting year		\$5,945.06	Five-year return to management		\$(25,097.66)
			Total revenue, second fruiting year		\$-			
			Total return, second fruiting year		\$(5,945.06)			
			Accrued establishment costs through second fruiting		\$13,623.24			

Table 10. Soil buildup year in preparation for planting thornless erect blackberries, Kentucky, 2008.

Grass Seeding																
Operation	Labor			Equipment	Machinery & Equipment					Materials					Total Var. Cost	Total Cost
	Labor (hr)	Wage Rate	Cost/Acre		Hrs or Acres of Use	Unit Var. Cost	Total Var. Cost	Fixed Unit Cost	Total Fixed Cost	Item	Qty.	Unit	Cost/Unit	Cost/Acre		
Soil test	0.6	\$15.00	\$9.00					\$-	\$-	Soil test	2	assay	10	\$20.00	\$29.00	\$29.00
Lime (applied)	0.2	\$15.00	\$3.00	Disk	1	\$6.01	\$6.01	\$6.55	\$6.55	Lime: Ton	2	ton	20	\$40.00	\$49.01	\$55.56
Weed spray	0.08	\$15.00	\$1.20	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Glyphosate	2	qt	14.81	\$29.62	\$32.29	\$35.29
Chisel plow	0.16	\$15.00	\$2.40	Chisel plow	1	\$5.20	\$5.20	\$3.44	\$3.44					\$-	\$7.60	\$11.04
Disk (2)	0.2	\$15.00	\$3.00	Disk	2	\$6.01	\$12.02	\$6.55	\$13.10					\$-	\$15.02	\$28.12
Seed grass	0.18	\$15.00	\$2.70	Grain drill	1	\$4.08	\$4.08	\$9.85	\$9.85	Seed	10	lb	2.35	\$23.50	\$30.28	\$40.13
Apply fertilizer	0.4	\$15.00	\$6.00	Spreader	2	\$2.21	\$4.42	\$2.66	\$5.32	10-10-10	800	lb	\$0.30	\$240.00	\$250.42	\$255.74
Interest on variable costs (1/2 year)															\$18.61	\$18.61
Totals	1.82		27.3			24.98	33.2		41.26					353.12	\$432.23	454.88

Table 11. Planting year for 1 acre of thornless erect blackberries, Kentucky, 2008.

3'x12' Spacing

Operation	Labor			Machinery & Equipment					Materials					Total Var. Cost	Total Cost	
	Labor (hr)	Wage Rate	Cost/Acre	Equipment	Hrs or Acres of Use	Unit Var. Cost	Total Var. Cost	Fixed Unit Cost	Total Fixed Cost	Item	Qty.	Unit	Cost/Unit			Cost/Acre
March																
Herbicide burndown	0.8	\$15.00	\$12.00	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Glyphosate	1	qt	\$14.81	\$14.81	\$28.28	\$31.28
Disk harrow (2x)	1.2	\$15.00	\$18.00	Disk	2	\$6.01	\$12.02	\$6.55	\$13.10					\$-	\$30.02	\$43.12
Plant	4.0	\$8.50	\$34.00	Transplanter	1	\$50.00	\$50.00	\$-	\$-	Blackberry plants	1,210	plant	\$1.25	\$1,512.50	\$1,596.50	\$1,596.50
Herbicide spray	0.8	\$15.00	\$12.00	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Gallery	1	lb	\$148.00	\$148.00	\$161.47	\$164.47
April																
Cultivation	1.5	\$15.00	\$22.50	Cultivator	1	\$3.02	\$3.02	\$2.81	\$2.81						\$25.52	\$28.33
Hoeing	10	\$8.50	\$85.00												\$85.00	\$85.00
Irrigation	0.05	\$15.00	\$0.75	Irrigation	1	\$62.00	\$62.00	\$47.50	\$47.50						\$62.75	\$110.25
May																
Fertilizer	1.5	\$15.00	\$22.50	Spreader	1	\$2.21	\$2.21	\$2.66	\$2.66	Nitrogen	50	lb	0.42	\$21.00	\$45.71	\$48.37
Cultivation	1.5	\$15.00	\$22.50	Cultivator	1	\$3.02	\$3.02	\$2.81	\$2.81						\$25.52	\$28.33
Hoeing	10	\$8.50	\$85.00												\$85.00	\$85.00
Irrigation	0.05	\$15.00	\$0.75	Irrigation	1	\$62.00	\$62.00	\$47.50	\$47.50						\$62.75	\$110.25
Orange rust	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Rosette/Double blossom/Anthracnose	0.5	\$15.00	\$7.50	Sprayer	2	\$1.47	\$2.94	\$3.00	\$6.00	Captan 80WG	2.5	lb	\$4.53	\$11.33	\$21.77	\$27.77
June																
Cultivation	1.5	\$15.00	\$22.50	Cultivator	1	\$3.02	\$3.02	\$2.81	\$2.81					\$-	\$25.52	\$28.33
Hoeing	10	\$8.50	\$85.00											\$-	\$85.00	\$85.00
Orange rust	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Rosette/Double blossom/Anthracnose	0.5	\$15.00	\$7.50	Sprayer	2	\$1.47	\$2.94	\$3.00	\$6.00	Captan 80WG	2.5	lb	\$4.53	\$11.33	\$21.77	\$27.77
Irrigation	0.05	\$15.00	\$0.75	Irrigation	1	\$62.00	\$62.00	\$47.50	\$47.50					\$-	\$62.75	\$110.25
July																
Insecticide	4.0	\$15.00	\$60.00	Sprayer	4	\$1.47	\$5.88	\$3.00	\$12.00	Malathion	6	pt	\$12.10	\$72.60	\$138.48	\$150.48
			\$-							Sevin	4	lb	\$6.83	\$27.32	\$27.32	\$27.32
Cultivation	1.5	\$15.00	\$22.50	Cultivator	1	\$3.02	\$3.02	\$2.81	\$2.81					\$-	\$25.52	\$28.33
Hoeing	10	\$8.50	\$85.00											\$-	\$85.00	\$85.00
Irrigation	0.05	\$15.00	\$0.75	Irrigation	1	\$62.00	\$62.00	\$47.50	\$47.50					\$-	\$62.75	\$110.25
August																
Cultivation	1.5	\$15.00	\$22.50	Cultivator	1	\$3.02	\$3.02	\$2.81	\$2.81					\$-	\$25.52	\$28.33
Hoeing	10	\$8.50	\$85.00											\$-	\$85.00	\$85.00
Orange rust	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
September																
Orange rust	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Interest on variable costs (1/2 year)															\$60.61	\$60.61
Totals	67		\$680.00				\$284.42		\$245.71					\$382.57	\$1,407.60	\$1,653.31

Table 12. First fruiting year for 1 acre of established thornless erect blackberries, Kentucky, 2008.

Operation	Labor			Machinery & Equipment						Materials					Total Var. Cost	Total Cost
	Labor (hr)	Wage Rate	Cost/ Acre	Equipment	Hrs or Acres of Use	Unit Var. Cost	Total Var. Cost	Fixed Unit Cost	Total Fixed Cost	Item	Qty.	Unit	Cost/ Unit	Cost/ Acre		
March																
Pruning	20.0	\$8.50	\$170.00	Pruner	20	\$0.20	\$4.00	\$0.10	\$2.00						\$174.00	\$176.00
Nitrogen	0.3	\$15.00	\$3.75	Spreader	1	\$2.21	\$2.21	\$2.66	\$2.66	Amm. nitrate	300	lb	\$0.40	\$120.00	\$125.96	\$128.62
Brush removal	4.0	\$8.50	\$34.00	Wagon	1	\$3.88	\$3.88	\$4.43	\$4.43					\$-	\$37.88	\$42.31
Herbicide	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Princep 90DF	3	lb	4.53	\$13.59	\$22.56	\$25.56
April																
Anthraxnose spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Liquid lime sulfur	20	gal	\$17.00	\$340.00	\$348.97	\$351.97
Anthraxnose spray	1.5	\$15.00	\$22.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Captan 80WG	2.5	lb	\$4.53	\$11.33	\$35.30	\$38.30
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50	Nova 40W	5	oz	\$4.55	\$22.75	\$36.88	\$42.38
May																
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Captan 80WG	2.5	lb	\$4.53	\$11.33	\$20.30	\$23.30
Anthraxnose/Rosette spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Captan 80WG	2.5	lb	\$4.53	\$11.33	\$20.30	\$23.30
Anthraxnose/Rosette spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$0.24	\$1.22	\$10.19	\$13.19
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00					\$-	\$8.97	\$11.97
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Hoeing	8.0	\$8.50	\$68.00											\$-	\$68.00	\$68.00
Trellising	20	\$8.50	\$170.00	Posthole Digger	1	\$5.71	\$5.71	\$5.03	\$5.03	Metal fence posts	200	post	\$3.50	\$700.00	\$875.71	\$880.74
										Brace posts	24	post	\$4.75	\$114.00	\$114.00	\$114.00
										Plastic twine	1	roll	\$32.00	\$32.00	\$32.00	\$32.00
June																
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Hoeing	8.0	\$8.50	\$68.00											\$-	\$68.00	\$68.00
Irrigation	0.05	\$15.00	\$0.75	Irrigation	1	\$82.67	\$82.67	\$63.33	\$63.33					\$-	\$83.42	\$146.75
Topping	5	\$15.00	\$75.00											\$-	\$75.00	\$75.00
July																
Insecticide	4.0	\$15.00	\$60.00	Sprayer	4	\$1.47	\$5.88	\$3.00	\$12.00	Malathion	6	pt	\$12.10	\$72.60	\$138.48	\$150.48
										Sevin	4	lb	\$6.83	\$27.32	\$27.32	\$27.32
Mowing	1.2	\$15.00	\$18.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$23.13	\$28.63
Hoeing	8.0	\$8.50	\$68.00											\$-	\$68.00	\$68.00
Irrigation	0.05	\$15.00	\$0.75	Irrigation	1	\$82.67	\$82.67	\$63.33	\$63.33					\$-	\$83.42	\$146.75
August																
Topping	5	\$15.00	\$75.00											\$-	\$75.00	\$75.00
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
September																
Irrigation	0.05	\$15.00	\$0.75	Irrigation	1	\$82.67	\$82.67	\$63.33	\$63.33					\$-	\$83.42	\$146.75
Fertilizer cover	0.3	\$15.00	\$4.50	Spreader	1	\$2.21	\$2.21	\$2.66	\$2.66	N	20	lb	\$0.42	\$8.40	\$15.11	\$17.77
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Interest on variable costs (1/2 year)															\$92.66	\$92.66
Pre-Harvest Totals	67.6		\$727.25						\$264.19						\$2,223.85	\$2,488.04
HARVESTING																
Total quantity harvested				800	qt	\$-										
Picking	100.0	\$8.50	\$850.00												\$850.00	\$850.00
Clamshells										800	clamshell	\$0.15	\$120.00	\$120.00	\$120.00	\$120.00
Refrigeration					1	\$1.22	\$36.60	\$1,100.00	\$1,100.00						\$36.60	\$1,136.60
Marketing										800	qt	\$-	\$-	\$36.60	\$36.60	\$36.60
Harvest Totals	100.0		\$850.00				\$36.60	\$1,100.00							\$1,043.20	\$2,143.20
Totals	167.6		\$850.00				\$36.60	\$1,364.19							\$3,267.05	\$4,631.24

Table 13. Second fruiting year for 1 acre of established thornless erect blackberries, Kentucky, 2008.

Operation	Labor			Machinery & Equipment						Materials					Total Var. Cost	Total Cost
	Labor (hr)	Wage Rate	Cost/Acre	Equipment	Hrs or Acres of Use	Unit Var. Cost	Total Var. Cost	Fixed Unit Cost	Total Fixed Cost	Item	Qty.	Unit	Cost/Unit	Cost/Acre		
February																
Nitrogen	0.25	\$15.00	\$3.75	Spreader	1	\$2.21	\$2.21	\$2.66	\$2.66	Amm. nitrate	300	lb	\$0.40	\$120.00	\$125.96	\$128.62
March																
Pruning	20	\$8.50	\$170.00	Pruner	20	\$0.20	\$4.00	\$0.10	\$2.00					\$-	\$174.00	\$176.00
Brush removal	0.6	\$15.00	\$9.00											\$-	\$9.00	\$9.00
Herbicide	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Princep 90DF	3	lb	2.089	\$6.27	\$15.24	\$18.24
April																
Anthracoese spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Liquid lime sulfur	20	gal	\$17.00	\$340.00	\$348.97	\$351.97
Anthracoese spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Captan 80WG	2.5	lb	\$4.53	\$11.33	\$20.30	\$23.30
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
May																
Anthracoese/Rosette spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Captan 80WG	2.5	lb	\$4.53	\$11.33	\$20.30	\$23.30
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$0.24	\$1.22	\$10.19	\$13.19
Anthracoese/Rosette spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Captan 80WG	2.5	lb	\$4.53	\$11.33	\$20.30	\$23.30
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Hoeing	8	\$8.50	\$68.00											\$-	\$68.00	\$68.00
June																
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Hoeing	8	\$8.50	\$68.00											\$-	\$68.00	\$68.00
Irrigation	0.05	\$15.00	\$0.75	Irrigation	1	\$82.67	\$82.67	\$63.33	\$63.33					\$-	\$83.42	\$146.75
July																
Insecticide	4.0	\$15.00	\$60.00	Sprayer	4	\$1.47	\$5.88	\$3.00	\$12.00	Malathion	6	pt	\$12.10	\$72.60	\$138.48	\$150.48
Brush removal/Mowing	1.2	\$15.00	\$18.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50	Sevin	4	lb	\$6.83	\$27.32	\$50.45	\$55.95
Hoeing	8	\$8.50	\$68.00											\$-	\$68.00	\$68.00
Irrigation	0.05	\$15.00	\$0.75	Irrigation	1	\$82.67	\$82.67	\$63.33	\$63.33					\$-	\$83.42	\$146.75
August																
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Irrigation	0.05	\$15.00	\$0.75	Irrigation	1	\$82.67	\$82.67	\$63.33	\$63.33					\$-	\$83.42	\$146.75
September																
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
November																
Fertilizer cover	0.3	\$15.00	\$4.50	Spreader	1	\$2.21	\$2.21	\$2.66	\$2.66	N	20	lb	\$0.42	\$8.40	\$15.11	\$17.77
Interest on variable costs (1/2 year)															\$71.37	\$71.37
Pre-Harvest Totals	57.9		\$582.50						\$266.82						\$1,657.30	\$1,924.12
HARVESTING																
Total quantity harvested				2000	qt	\$-										
Picking	200.0	\$8.50	\$1,700.00												\$1,700.00	\$1,700.00
Clamshells										2000	clamshell	\$0.15	\$300.00	\$300.00	\$300.00	\$300.00
Refrigeration					1	\$1.22	\$36.60	\$1,100.00	\$1,100.00						\$36.60	\$1,136.60
Marketing										2000	qt	\$-	\$-	\$36.60	\$36.60	\$36.60
Harvest Totals	200.0		\$1,700.00				\$36.60		\$1,100.00						\$2,073.20	\$3,173.20
Totals	257.9		\$2,282.50				\$36.60		\$1,366.82						\$3,730.50	\$5,097.32

Table 14. Third fruiting year for 1 acre of established thornless erect blackberries, Kentucky, 2008.

Operation	Labor			Machinery & Equipment						Materials					Total Var. Cost	Total Cost
	Labor (hr)	Wage Rate	Cost/Acre	Equipment	Hrs or Acres of Use	Unit Var. Cost	Total Var. Cost	Fixed Unit Cost	Total Fixed Cost	Item	Qty.	Unit	Cost/Unit	Cost/Acre		
February																
Nitrogen	0.25	\$15.00	\$3.75	Spreader	1	\$2.21	\$2.21	\$2.66	\$2.66	Amm. nitrate	300	lb	\$0.40	\$120.00	\$125.96	\$128.62
March																
Pruning	30	\$8.50	\$255.00	Pruner	30	\$0.20	\$6.00	\$0.10	\$3.00					\$-	\$261.00	\$264.00
Brush removal	1	\$15.00	\$15.00											\$-	\$15.00	\$15.00
Herbicide	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Princep 90DF	3	lb	4.53	\$13.59	\$22.56	\$25.56
April																
Anthracoese spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Liquid lime sulfur	20	gal	\$17.00	\$340.00	\$348.97	\$351.97
Anthracoese spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Captan 80WG	2.5	lb	\$4.53	\$11.33	\$20.30	\$23.30
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
May																
Anthracoese/Rosette spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Captan 80WG	2.5	lb	\$4.53	\$11.33	\$20.30	\$23.30
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Anthracoese/Rosette spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Captan 80WG	2.5	lb	\$4.53	\$11.33	\$20.30	\$23.30
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Hoeing	8	\$8.50	\$68.00											\$-	\$68.00	\$68.00
June																
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Hoeing	8	\$8.50	\$68.00											\$-	\$68.00	\$68.00
Irrigation	0.05	\$15.00	\$0.75	Irrigation	1	\$82.67	\$82.67	\$63.33	\$63.33					\$-	\$83.42	\$146.75
July																
Insecticide	4.0	\$10.00	\$40.00	Sprayer	4	\$1.47	\$5.88	\$3.00	\$12.00	Malathion	6	pt	\$12.10	\$72.60	\$118.48	\$130.48
Irrigation	0.05	\$10.00	\$0.50	Irrigation	1	\$82.67	\$82.67	\$63.33	\$63.33	Sevin	4	lb	\$6.83	\$27.32	\$110.49	\$173.82
August																
Mowing	0.6	\$7.00	\$4.20	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$9.33	\$14.83
Orange rust spray	0.5	\$10.00	\$5.00	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$29.22	\$32.22
Irrigation	0.05	\$10.00	\$0.50	Irrigation	1	\$82.67	\$82.67	\$63.33	\$63.33					\$-	\$83.17	\$146.50
September																
Orange rust spray	0.5	\$10.00	\$5.00	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$29.22	\$32.22
November																
Fertilizer cover	0.3	\$7.00	\$2.10	Spreader	1	\$2.21	\$2.21	\$2.66	\$2.66	N	20	lb	\$0.42	\$8.40	\$12.71	\$15.37
Interest on variable costs (1/2 year)															\$72.71	\$72.71
Pre-Harvest Totals	59.6		\$562.30						\$265.32						\$1,688.38	\$1,953.70
HARVESTING																
Total quantity harvested				3000	qt	\$-										
Picking	225.0	\$8.50	\$1,912.50												\$1,912.50	\$1,912.50
Clamshells										3000	clamshell	\$0.15	\$450.00	\$450.00	\$450.00	\$450.00
Refrigeration					1	\$1.22	\$36.60	\$1,100.00	\$1,100.00						\$36.60	\$1,136.60
Marketing										3000	qt	\$-	\$-	\$36.60	\$36.60	\$36.60
Harvest Totals	225.0		\$1,912.50				\$36.60		\$1,100.00						\$2,435.70	\$3,535.70
Totals	284.6		\$2,474.80						\$1,365.32						\$4,124.08	\$5,489.40

Table 15. Fourth fruiting year for 1 acre of established thornless erect blackberries, Kentucky, 2008.

Operation	Labor			Equipment	Machinery & Equipment					Materials					Total Var. Cost	Total Cost
	Labor (hr)	Wage Rate	Cost/Acre		Hrs or Acres of Use	Unit Var. Cost	Total Var. Cost	Fixed Unit Cost	Total Fixed Cost	Item	Qty.	Unit	Cost/Unit	Cost/Acre		
February																
Nitrogen	0.25	\$15.00	\$3.75	Spreader	1	\$2.21	\$2.21	\$2.66	\$2.66	Amm. nitrate	300	lb	\$0.40	\$120.00	\$125.96	\$128.62
March																
Pruning	30	\$8.50	\$255.00	Pruner	30	\$0.20	\$6.00	\$0.10	\$3.00					\$-	\$261.00	\$264.00
Brush removal	1	\$15.00	\$15.00											\$-	\$15.00	\$15.00
Herbicide	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Princep 90DF	3	lb	4.53	\$13.59	\$22.56	\$25.56
April																
Anthraco nose spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Liquid lime sulfur	20	gal	\$17.00	\$340.00	\$348.97	\$351.97
Anthraco nose spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Captan 80WG	2.5	lb	\$4.53	\$11.33	\$20.30	\$23.30
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
May																
Anthraco nose/Rosette spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Captan 80WG	2.5	lb	\$4.53	\$11.33	\$20.30	\$23.30
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Anthraco nose/Rosette spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Captan 80WG	2.5	lb	\$4.53	\$11.33	\$20.30	\$23.30
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Hoeing	8	\$8.50	\$68.00											\$-	\$68.00	\$68.00
June																
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Hoeing	8	\$8.50	\$68.00											\$-	\$68.00	\$68.00
Irrigation	0.05	\$15.00	\$0.75	Irrigation	1	\$82.67	\$82.67	\$63.33	\$63.33					\$-	\$83.42	\$146.75
July																
Insecticide	4.0	\$10.00	\$40.00	Sprayer	4	\$1.47	\$5.88	\$3.00	\$12.00	Malathion	6	pt	\$12.10	\$72.60	\$118.48	\$130.48
Irrigation	0.05	\$10.00	\$0.50	Irrigation	1	\$82.67	\$82.67	\$63.33	\$63.33	Sevin	4	lb	\$6.83	\$27.32	\$110.49	\$173.82
August																
Mowing	0.6	\$7.00	\$4.20	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$9.33	\$14.83
Orange rust spray	0.5	\$10.00	\$5.00	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$29.22	\$32.22
Irrigation	0.05	\$10.00	\$0.50	Irrigation	1	\$82.67	\$82.67	\$63.33	\$63.33					\$-	\$83.17	\$146.50
September																
Orange rust spray	0.5	\$10.00	\$5.00	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$29.22	\$32.22
November																
Fertilizer cover	0.3	\$7.00	\$2.10	Spreader	1	\$2.21	\$2.21	\$2.66	\$2.66	N	20	lb	\$0.42	\$8.40	\$12.71	\$15.37
Interest on variable costs (1/2 year)															\$72.71	\$72.71
Pre-Harvest Totals	59.6		\$562.30						\$265.32						\$1,688.38	\$1,953.70
HARVESTING																
Total quantity harvested				3300	qt	\$-										
Picking	225.0	\$8.50	\$1,912.50												\$1,912.50	\$1,912.50
Clamshells										3300	clamshell	\$0.15	\$495.00	\$495.00	\$495.00	\$495.00
Refrigeration				1	\$1.22	\$36.60	\$1,100.00	\$1,100.00							\$36.60	\$1,136.60
Marketing										3300	qt	\$-	\$-	\$36.60	\$36.60	
Harvest Totals	225.0		\$1,912.50				\$36.60		\$1,100.00						\$2,480.70	\$3,580.70
Totals	284.6		\$2,474.80						\$1,365.32						\$4,169.08	\$5,534.40

Table 16. Establishment cost for 1 acre of thornless erect blackberries, Kentucky, 2008.

Soil Buildup Year		Cost/Acre	First Fruiting Year		Cost/Acre	Third Fruiting Year		Cost/Acre
Variable costs		\$432.23	Variable costs		\$3,267.05	Variable costs		\$4,124.08
Fixed costs		\$41.26	Fixed costs		\$1,364.19	Fixed costs		\$1,365.32
Cost of land and taxes		\$110.00	Cost of land and taxes		\$110.00	Cost of land and taxes		\$110.00
Total soil buildup year		\$583.49	Interest on accrued establishment costs (9%)		\$215.94	Interest on accrued establishment costs (9%)		\$1,190.33
Accrued establishment costs		\$583.49	Total costs, first fruiting year		\$4,957.18	Total costs, third fruiting year		\$6,789.73
			Total revenue, first fruiting year		\$-	Total revenue, third fruiting year		\$-
			Total return, first fruiting year		\$(4,957.18)	Total return, third fruiting year		\$(6,789.73)
			Accrued establishment costs through first fruiting		\$7,356.50	Accrued establishment costs through third fruiting		\$20,015.63
			Total establishment cost (less year 3 revenue)					
Planting Year		Cost/Acre	Second Fruiting Year		Cost/Acre	Fourth Fruiting Year (breakeven)		Cost/Acre
Variable costs		\$1,407.60	Variable costs		\$3,730.50	Variable costs		\$4,169.08
Fixed costs		\$245.71	Fixed costs		\$1,366.82	Fixed costs		\$1,365.32
Cost of land and taxes		\$110.00	Cost of land and taxes		\$110.00	Cost of land and taxes		\$110.00
Interest on soil buildup year costs (9%)		\$52.51	Interest on accrued establishment costs (9%)		\$662.09	Interest on accrued establishment costs (9%)		\$1,801.41
Total planting year		\$1,815.83	Total costs, second fruiting year		\$5,869.40	Total costs, fourth fruiting year		\$7,445.81
Accrued establishment costs through planting		\$2,399.32	Total revenue, second fruiting year		\$-	Total revenue, fourth fruiting year		\$-
			Total return, second fruiting year		\$(5,869.40)	Total return, fourth fruiting year		\$(7,445.81)
			Accrued establishment costs through second fruiting		\$13,225.90	Five-year return to management		\$(27,461.44)

Table 17. Soil buildup year in preparation for planting thornless semi-erect blackberries, Kentucky, 2008.

Grass Seeding																
Operation	Labor			Machinery & Equipment						Materials					Total Var. Cost	Total Cost
	Labor (hr)	Wage Rate	Cost/Acre	Equipment	Hrs or Acres of Use	Unit Var. Cost	Total Var. Cost	Fixed Unit Cost	Total Fixed Cost	Item	Qty.	Unit	Cost/Unit	Cost/Acre		
Soil test	0.6	\$15.00	\$9.00				\$-		\$-	Soil test	2	assay	10	\$20.00	\$29.00	\$29.00
Lime (applied)	0.2	\$15.00	\$3.00	Disk	1	\$6.01	\$6.01	\$6.55	\$6.55	Lime: Ton	2	ton	20	\$40.00	\$49.01	\$55.56
Weed spray	0.08	\$15.00	\$1.20	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Glyphosate	2	qt	14.81	\$29.62	\$32.29	\$35.29
Chisel plow	0.16	\$15.00	\$2.40	Chisel plow	1	\$5.20	\$5.20	\$3.44	\$3.44					\$-	\$7.60	\$11.04
Disk (2)	0.2	\$15.00	\$3.00	Disk	2	\$6.01	\$12.02	\$6.55	\$13.10					\$-	\$15.02	\$28.12
Seed grass	0.18	\$15.00	\$2.70	Grain drill	1	\$4.08	\$4.08	\$9.85	\$9.85	Seed	10	lb	2.35	\$23.50	\$30.28	\$40.13
Apply fertilizer	0.4	\$15.00	\$6.00	Spreader	2	\$2.21	\$4.42	\$2.66	\$5.32	10-10-10	800	lb	\$0.30	\$240.00	\$250.42	\$255.74
Interest on variable costs (1/2 year)															\$18.61	\$18.61
Totals	1.82		27.3			24.98	33.2		41.26					353.12	\$432.23	454.88

Table 18. Planting year for 1 acre of thornless semi-erect blackberries, Kentucky, 2008.

8' x 12' Spacing

Operation	Labor			Machinery & Equipment					Materials					Total Var. Cost	Total Cost	
	Labor (hr)	Wage Rate	Cost/ Acre	Equipment	Hrs or Acres of Use	Unit Var. Cost	Total Var. Cost	Fixed Unit Cost	Total Fixed Cost	Item	Qty.	Unit	Cost/ Unit			Cost/ Acre
March																
Herbicide burndown	0.8	\$15.00	\$12.00	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Glyphosate	1	qt	\$14.81	\$14.81	\$28.28	\$31.28
Disk harrow (2x)	1.2	\$15.00	\$18.00	Disk	2	\$6.01	\$12.02	\$6.55	\$13.10					\$-	\$30.02	\$43.12
Plant	4.0	\$8.50	\$34.00	Transplanter	1	\$50.00	\$50.00	\$-	\$-	Blackberry plants	454	plant	1.25	\$567.50	\$651.50	\$651.50
Herbicide spray	0.8	\$15.00	\$12.00	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Gallery	1	lb	148	\$148.00	\$161.47	\$164.47
April																
Cultivation	1.5	\$15.00	\$22.50	Cultivator	1	\$3.02	\$3.02	\$2.81	\$2.81						\$25.52	\$28.33
Hoeing	10	\$8.50	\$85.00												\$85.00	\$85.00
Irrigation	0.05	\$15.00	\$0.75	Irrigation	1	\$62.00	\$62.00	\$47.50	\$47.50						\$62.75	\$110.25
May																
Fertilizer	1.5	\$15.00	\$22.50	Spreader	1	\$2.21	\$2.21	\$2.66	\$2.66	Nitrogen	50	lb	0.42	\$21.00	\$45.71	\$48.37
Cultivation	1.5	\$15.00	\$22.50	Cultivator	1	\$3.02	\$3.02	\$2.81	\$2.81						\$25.52	\$28.33
Hoeing	10	\$8.50	\$85.00												\$85.00	\$85.00
Irrigation	0.05	\$15.00	\$0.75	Irrigation	1	\$62.00	\$62.00	\$47.50	\$47.50						\$62.75	\$110.25
Orange rust	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Rosette/Double blossom/ Anthracnose	0.5	\$15.00	\$7.50	Sprayer	2	\$1.47	\$2.94	\$3.00	\$6.00	Captan 80WG	2.5	lb	\$4.53	\$11.33	\$21.77	\$27.77
June																
Cultivation	1.5	\$15.00	\$22.50	Cultivator	1	\$3.02	\$3.02	\$2.81	\$2.81					\$-	\$25.52	\$28.33
Hoeing	10	\$8.50	\$85.00											\$-	\$85.00	\$85.00
Orange rust	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Rosette/Double blossom/ Anthracnose	0.5	\$15.00	\$7.50	Sprayer	2	\$1.47	\$2.94	\$3.00	\$6.00	Captan 80WG	2.5	lb	\$4.53	\$11.33	\$21.77	\$27.77
Irrigation	0.05	\$15.00	\$0.75	Irrigation	1	\$62.00	\$62.00	\$47.50	\$47.50					\$-	\$62.75	\$110.25
July																
Insecticide	4.0	\$15.00	\$60.00	Sprayer	4	\$1.47	\$5.88	\$3.00	\$12.00	Malathion	6	pt	\$12.10	\$72.60	\$138.48	\$150.48
			\$-							Sevin	4	lb	\$6.83	\$27.32	\$27.32	\$27.32
Cultivation	1.5	\$15.00	\$22.50	Cultivator	1	\$3.02	\$3.02	\$2.81	\$2.81					\$-	\$25.52	\$28.33
Hoeing	10	\$8.50	\$85.00											\$-	\$85.00	\$85.00
Irrigation	0.05	\$15.00	\$0.75	Irrigation	1	\$62.00	\$62.00	\$47.50	\$47.50					\$-	\$62.75	\$110.25
August																
Cultivation	1.5	\$15.00	\$22.50	Cultivator	1	\$3.02	\$3.02	\$2.81	\$2.81					\$-	\$25.52	\$28.33
Hoeing	10	\$8.50	\$85.00											\$-	\$85.00	\$85.00
Orange rust	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
September																
Orange rust	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Interest on variable costs (1/2 year)															\$60.61	\$60.61
Totals	67		\$680.00				\$284.42		\$245.71					\$382.57	\$1,407.60	\$1,653.31

Table 19. First fruiting year for 1 acre of established thornless semi-erect blackberries, Kentucky, 2008.

Operation	Labor			Machinery & Equipment						Materials					Total Var. Cost	Total Cost
	Labor (hr)	Wage Rate	Cost/ Acre	Equipment	Hrs or Acres of Use	Unit Var. Cost	Total Var. Cost	Fixed Unit Cost	Total Fixed Cost	Item	Qty.	Unit	Cost/ Unit	Cost/ Acre		
March																
Pruning	20.0	\$8.50	\$170.00	Pruner	20	\$0.20	\$4.00	\$0.10	\$2.00						\$174.00	\$176.00
Nitrogen	0.3	\$15.00	\$3.75	Spreader	1	\$2.21	\$2.21	\$2.66	\$2.66	Amm. nitrate	300	lb	\$0.40	\$120.00	\$125.96	\$128.62
Brush removal	4.0	\$8.50	\$34.00	Wagon	1	\$3.88	\$3.88	\$4.43	\$4.43					\$-	\$37.88	\$42.31
Herbicide	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Princep 90DF	3	lb	\$4.53	\$13.59	\$22.56	\$25.56
April																
Liquid lime sulfur	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Liquid lime sulfur	20	gal	\$17.00	\$340.00	\$348.97	\$351.97
Anthracoese spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Captan 80WG	2.5	lb	\$4.53	\$11.33	\$20.30	\$23.30
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
May																
Anthracoese/Rosette spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Captan 80WG	2.5	lb	\$4.53	\$11.33	\$20.30	\$23.30
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Anthracoese/Rosette spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Captan 80WG	2.5	lb	\$4.53	\$11.33	\$20.30	\$23.30
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Hoeing	8.0	\$8.50	\$68.00											\$-	\$68.00	\$68.00
Trellising	67	\$8.50	\$569.50	Posthole digger	1	\$5.71	\$5.71	\$5.03	\$5.03	Wooden fence posts	182	post	\$6.25	\$1,137.50	\$1,712.71	\$1,717.74
			\$-							8700 ft. 11# wire	34	roll	\$10.35	\$351.90	\$351.90	\$351.90
			\$-							Trellis hardware	1	acre	\$254.00	\$254.00	\$254.00	\$254.00
June																
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Hoeing	8.0	\$8.50	\$68.00											\$-	\$68.00	\$68.00
Irrigation	0.05	\$15.00	\$0.75	Irrigation	1	\$82.67	\$82.67	\$63.33	\$63.33					\$-	\$83.42	\$146.75
July																
Insecticide	4.0	\$15.00	\$60.00	Sprayer	4	\$1.47	\$5.88	\$3.00	\$12.00	Malathion	6	pt	\$12.10	\$72.60	\$138.48	\$150.48
			\$-							Sevin	4	lb	\$6.83	\$27.32	\$27.32	\$27.32
Mowing	1.2	\$15.00	\$18.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$23.13	\$28.63
Hoeing	8.0	\$8.50	\$68.00											\$-	\$68.00	\$68.00
Irrigation	0.05	\$15.00	\$0.75	Irrigation	1	\$82.67	\$82.67	\$63.33	\$63.33					\$-	\$83.42	\$146.75
August																
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Irrigation	0.05	\$15.00	\$0.75	Irrigation	1	\$82.67	\$82.67	\$63.33	\$63.33					\$-	\$83.42	\$146.75
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
September																
Fertilizer cover	0.3	\$15.00	\$4.50	Spreader	1	\$2.21	\$2.21	\$2.66	\$2.66	N	20	lb	\$0.42	\$8.40	\$15.11	\$17.77
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Interest on variable costs (1/2 year)															\$147.81	\$147.81
Pre-Harvest Totals	104.6		\$976.75						\$270.19						\$3,803.96	\$4,074.15
HARVESTING																
Total quantity harvested				2000	qt											
Picking	110.0	\$8.50	\$935.00												\$935.00	\$935.00
Clamshells										2000	clamshell	\$0.15	\$300.00	\$300.00	\$300.00	\$300.00
Refrigeration					1	\$1.22	\$36.60	\$1,100.00	\$1,100.00						\$36.60	\$1,136.60
Marketing										2000	qt	\$-	\$-	\$36.60	\$36.60	
Harvest Totals	110.0		\$935.00				\$36.60		\$1,100.00						\$1,308.20	\$2,408.20
Totals	214.6		\$935.00				\$36.60		\$1,370.19						\$5,112.16	\$6,482.35

Table 20. Second fruiting year for 1 acre of established thornless semi-erect blackberries, Kentucky, 2008.

Operation	Labor			Equipment	Machinery & Equipment					Materials					Total Var. Cost	Total Cost
	Labor (hr)	Wage Rate	Cost/Acre		Hrs or Acres of Use	Unit Var. Cost	Total Var. Cost	Fixed Unit Cost	Total Fixed Cost	Item	Qty.	Unit	Cost/Unit	Cost/Acre		
February																
Nitrogen	0.25	\$15.00	\$3.75	Spreader	1	\$2.21	\$2.21	\$2.66	\$2.66	Amm. nitrate	300	lb	\$0.40	\$120.00	\$125.96	\$128.62
March																
Pruning	20	\$8.50	\$170.00	Pruner	20	\$0.20	\$4.00	\$0.10	\$2.00					\$-	\$174.00	\$176.00
Brush removal	0.6	\$15.00	\$9.00											\$-	\$9.00	\$9.00
Herbicide	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Princep 90DF	3	lb	\$4.53	\$13.59	\$22.56	\$25.56
April																
Anthracoese spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Liquid lime sulfur	20	gal	\$17.00	\$340.00	\$348.97	\$351.97
Anthracoese spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Captan 80WG	2.5	lb	\$4.53	\$11.33	\$20.30	\$23.30
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
May																
Anthracoese/Rosette spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Captan 80WG	2.5	lb	\$4.53	\$11.33	\$20.30	\$23.30
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Anthracoese/Rosette spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Captan 80WG	2.5	lb	\$4.53	\$11.33	\$20.30	\$23.30
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W				\$-	\$8.97	\$11.97
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Hoeing	8	\$8.50	\$68.00											\$-	\$68.00	\$68.00
June																
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Hoeing	8	\$8.50	\$68.00											\$-	\$68.00	\$68.00
Irrigation	0.05	\$15.00	\$0.75	Irrigation	1	\$82.67	\$82.67	\$63.33	\$63.33					\$-	\$83.42	\$146.75
July																
Insecticide	4.0	\$15.00	\$60.00	Sprayer	4	\$1.47	\$5.88	\$3.00	\$12.00	Malathion	6	pt	\$12.10	\$72.60	\$138.48	\$150.48
Brush removal/Mowing	1.2	\$15.00	\$18.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50	Sevin	4	lb	\$6.83	\$27.32	\$50.45	\$55.95
Hoeing	8	\$8.50	\$68.00											\$-	\$68.00	\$68.00
Irrigation	0.05	\$15.00	\$0.75	Irrigation	1	\$82.67	\$82.67	\$63.33	\$63.33					\$-	\$83.42	\$146.75
August																
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Irrigation	0.05	\$15.00	\$0.75	Irrigation	1	\$82.67	\$82.67	\$63.33	\$63.33					\$-	\$83.42	\$146.75
September																
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
November																
Fertilizer cover	0.3	\$15.00	\$4.50	Spreader	1	\$2.21	\$2.21	\$2.66	\$2.66	N	20	lb	\$0.42	\$8.40	\$15.11	\$17.77
Interest on variable costs (1/2 year)															\$67.40	\$67.40
Pre-Harvest Totals	58.4		\$590.00						\$269.82						\$1,691.16	\$1,960.98
HARVESTING																
Total quantity harvested				4000	qt											
Picking	240.0	\$8.50	\$2,040.00												\$2,040.00	\$2,040.00
Clamshells											4000	clamshell	\$0.15	\$600.00	\$600.00	\$600.00
Refrigeration					1	\$1.22	\$36.60	\$1,100.00	\$1,100.00						\$36.60	\$1,136.60
Marketing											4000	qt	\$-	\$-	\$36.60	\$36.60
Harvest Totals	240.0		\$2,040.00				\$36.60		\$1,100.00						\$2,713.20	\$3,813.20
Totals	298.4		\$2,040.00				\$36.60		\$1,369.82						\$4,404.36	\$5,774.18

Table 21. Third fruiting year for 1 acre of established thornless semi-erect blackberries, Kentucky, 2008.

Operation	Labor			Machinery & Equipment						Materials					Total Var. Cost	Total Cost
	Labor (hr)	Wage Rate	Cost/Acre	Equipment	Hrs or Acres of Use	Unit Var. Cost	Total Var. Cost	Fixed Unit Cost	Total Fixed Cost	Item	Qty.	Unit	Cost/Unit	Cost/Acre		
February																
Nitrogen	0.25	\$15.00	\$3.75	Spreader	1	\$2.21	\$2.21	\$2.66	\$2.66	Amm. nitrate	300	lb	\$0.40	\$120.00	\$125.96	\$128.62
March																
Pruning	30	\$8.50	\$255.00	Pruner	20	\$0.20	\$4.00	\$0.10	\$2.00					\$-	\$259.00	\$261.00
Brush removal	0.6	\$15.00	\$9.00											\$-	\$9.00	\$9.00
Herbicide	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Princep 90DF	3	lb	4.53	\$13.59	\$22.56	\$25.56
April																
Anthrachnose spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Liquid lime sulfur	20	gal	\$17.00	\$340.00	\$348.97	\$351.97
Anthrachnose spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Captan 80WG	2.5	lb	\$4.53	\$11.33	\$20.30	\$23.30
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
May																
Anthrachnose/Rosette spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Captan 80WG	2.5	lb	\$4.53	\$11.33	\$20.30	\$23.30
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Anthrachnose/Rosette spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Captan 80WG	2.5	lb	\$4.53	\$11.33	\$20.30	\$23.30
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Hoeing	8	\$8.50	\$68.00											\$-	\$68.00	\$68.00
June																
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Hoeing	8	\$8.50	\$68.00											\$-	\$68.00	\$68.00
Irrigation	0.05	\$15.00	\$0.75	Irrigation	1	\$82.67	\$82.67	\$63.33	\$63.33					\$-	\$83.42	\$146.75
July																
Insecticide	4.0	\$15.00	\$60.00	Sprayer	4	\$1.47	\$5.88	\$3.00	\$12.00	Malathion	6	pt	\$12.10	\$72.60	\$138.48	\$150.48
			\$-							Sevin	4	lb	\$6.83	\$27.32	\$27.32	\$27.32
Irrigation	0.05	\$15.00	\$0.75	Irrigation	1	\$82.67	\$82.67	\$63.33	\$63.33					\$-	\$83.42	\$146.75
August																
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Irrigation	0.05	\$15.00	\$0.75	Irrigation	1	\$82.67	\$82.67	\$63.33	\$63.33					\$-	\$83.42	\$146.75
September																
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
November																
Fertilizer cover	0.3	\$15.00	\$4.50	Spreader	1	\$2.21	\$2.21	\$2.66	\$2.66	N	20	lb	\$0.42	\$8.40	\$15.11	\$17.77
Interest on variable costs (1/2 year)															\$73.82	\$73.82
Pre-Harvest Totals	59.2		\$589.00						\$264.32						\$1,714.19	\$1,978.51
HARVESTING																
Total quantity harvested				6000	qt											
Picking	265.0	\$8.50	\$2,252.50												\$2,252.50	\$2,252.50
Clamshells											6000	clamshell	\$0.15	\$900.00	\$900.00	\$900.00
Refrigeration					1	\$1.22	\$36.60	\$1,100.00	\$1,100.00						\$36.60	\$1,136.60
Marketing											6000	qt	\$-	\$-	\$36.60	\$36.60
Harvest Totals	265.0		\$2,252.50				\$36.60		\$1,100.00						\$3,225.70	\$4,325.70
Totals	324.2		\$2,252.50				\$36.60		\$1,364.32						\$4,939.89	\$6,304.21

Table 22. Fourth fruiting year for 1 acre of established thornless semi-erect blackberries, Kentucky, 2008.

Operation	Labor			Machinery & Equipment						Materials					Total Var. Cost	Total Cost
	Labor (hr)	Wage Rate	Cost/Ac	Equipment	Hrs or Ac of Use	Unit Var. Cost	Total Var. Cost	Fixed Unit Cost	Total Fixed Cost	Item	Qty.	Unit	Cost/Unit	Cost/Ac		
February																
Nitrogen	0.25	\$15.00	\$3.75	Spreader	1	\$2.21	\$2.21	\$2.66	\$2.66	Amm. nitrate	300	lb	\$0.40	\$120.00	\$125.96	\$128.62
March																
Pruning	30	\$8.50	\$255.00	Pruner	20	\$0.20	\$4.00	\$0.10	\$2.00					\$-	\$259.00	\$261.00
Brush removal	0.6	\$15.00	\$9.00											\$-	\$9.00	\$9.00
Herbicide	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Princep 90DF	3	lb	4.53	\$13.59	\$22.56	\$25.56
April																
Anthracoese spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Liquid lime sulfur	20	gal	\$17.00	\$340.00	\$348.97	\$351.97
Anthracoese spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Captan 80WG	2.5	lb	\$4.53	\$11.33	\$20.30	\$23.30
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
May																
Anthracoese/Rosette spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Captan 80WG	2.5	lb	\$4.53	\$11.33	\$20.30	\$23.30
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Anthracoese/Rosette spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Captan 80WG	2.5	lb	\$4.53	\$11.33	\$20.30	\$23.30
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Hoeing	8	\$8.50	\$68.00											\$-	\$68.00	\$68.00
June																
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Hoeing	8	\$8.50	\$68.00											\$-	\$68.00	\$68.00
Irrigation	0.05	\$15.00	\$0.75	Irrigation	1	\$82.67	\$82.67	\$63.33	\$63.33					\$-	\$83.42	\$146.75
July																
Insecticide	4.0	\$15.00	\$60.00	Sprayer	4	\$1.47	\$5.88	\$3.00	\$12.00	Malathion	6	pt	\$12.10	\$72.60	\$138.48	\$150.48
			\$-							Sevin	4	lb	\$6.83	\$27.32	\$27.32	\$27.32
Irrigation	0.05	\$15.00	\$0.75	Irrigation	1	\$82.67	\$82.67	\$63.33	\$63.33					\$-	\$83.42	\$146.75
August																
Mowing	0.6	\$15.00	\$9.00	Mower	1	\$5.13	\$5.13	\$5.50	\$5.50					\$-	\$14.13	\$19.63
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
Irrigation	0.05	\$15.00	\$0.75	Irrigation	1	\$82.67	\$82.67	\$63.33	\$63.33					\$-	\$83.42	\$146.75
September																
Orange rust spray	0.5	\$15.00	\$7.50	Sprayer	1	\$1.47	\$1.47	\$3.00	\$3.00	Nova 40W	5	oz	\$4.55	\$22.75	\$31.72	\$34.72
November																
Fertilizer cover	0.3	\$15.00	\$4.50	Spreader	1	\$2.21	\$2.21	\$2.66	\$2.66	N	20	lb	\$0.42	\$8.40	\$15.11	\$17.77
Interest on variable costs (1/2 year)															\$73.82	\$73.82
Pre-Harvest Totals	59.2		\$589.00						\$264.32						\$1,714.19	\$1,978.51
HARVESTING																
Total quantity harvested				7000	qt											
Picking	265.0	\$8.50	\$2,252.50												\$2,252.50	\$2,252.50
Clamshells										7000	clamshell	\$0.15	\$1,050.00	\$1,050.00	\$1,050.00	\$1,050.00
Refrigeration					1	\$1.22	\$36.60	\$1,100.00	\$1,100.00					\$36.60	\$1,136.60	\$1,136.60
Marketing										7000	qt	\$-	\$-	\$36.60	\$36.60	\$36.60
Harvest Totals	265.0		\$2,252.50				\$36.60		\$1,100.00						\$3,375.70	\$4,475.70
Totals	324.2		\$2,252.50				\$36.60		\$1,364.32						\$5,089.89	\$6,454.21

Table 23. Establishment cost for 1 acre of thornless semi-erect blackberries, Kentucky, 2008.

Soil Buildup Year		Cost/Ac	First Fruiting Year		Cost/Ac	Third Fruiting Year (breakeven)		Cost/Ac
Variable costs		\$432.23	Variable costs		\$5,112.16	Variable costs		\$4,939.89
Fixed costs		\$41.26	Fixed costs		\$1,370.19	Fixed costs		\$1,364.32
Cost of land and taxes		\$110.00	Cost of land and taxes		\$110.00	Cost of land and taxes		\$110.00
Total soil buildup year		\$583.49	Interest on accrued establishment costs (9%)		\$215.94	Interest on accrued establishment costs (9%)		\$-
Accrued establishment costs		\$583.49	Total costs, first fruiting year		\$6,808.29	Total costs, third fruiting year		\$6,414.21
			Total revenue, first fruiting year		\$-	Total revenue, third fruiting year		\$-
			Total return, first fruiting year		\$(6,808.29)	Total return, third fruiting year		\$(6,414.21)
			Accrued establishment costs through first fruiting		\$9,207.61	Four-year return to land, labor, and management		\$(22,334.69)
			Total establishment cost (less year 3 revenue)		\$9,207.61			
Planting Year		Cost/Ac	Second Fruiting Year		Cost/Ac	Fourth Fruiting Year		Cost/Ac
Variable costs		\$1,407.60	Variable costs		\$4,404.36	Variable costs		\$5,089.89
Fixed costs		\$245.71	Fixed costs		\$1,369.82	Fixed costs		\$1,364.32
Cost of land and taxes		\$110.00	Cost of land and taxes		\$110.00	Cost of land and taxes		\$110.00
Interest on soil buildup year costs (9%)		\$52.51	Interest on accrued establishment costs (9%)		\$828.69	Interest on accrued establishment costs (9%)		\$-
Total planting year		\$1,815.83	Total costs, second fruiting year		\$6,712.86	Total costs, fourth fruiting year		\$6,564.21
Accrued establishment costs through year 2		\$2,399.32	Total revenue, second fruiting year		\$-	Total revenue, third fruiting year		\$-
			Total return, second fruiting year		\$(6,712.86)	Total return, third fruiting year		\$(6,564.21)
			Three-year return to land, labor, and management		\$(15,920.47)	Five-year return to management		\$(28,898.90)

Acknowledgments

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