



Kentucky Farm Business Management Program

Annual Summary Data Pennyroyal Area Farms - 2015

September 2016

By:
Amanda R. Jenkins
Rush H. Midkiff

University of Kentucky
Department of Agricultural Economics
400 Charles E. Barnhart Building
Lexington, Kentucky 40546-0276

Phone: 859-257-5762

Fax: 859-323-1913

<http://agecon.ca.uky.edu>

Contents

Map of Cooperator’s Locations by Area and County, 2015	ii
Acknowledgements	v
Kentucky Farm Business Management Program	vi
Source of Data	
Uses for This Report	
Definitions of Terms and Accounting Methods	vii
Sampling Technique	
Type of Farm	
Accrual Accounting	
Expense/Cost Items	
Revenue Items	
Financial Efficiency Ratios	
Other Terms Used in This Report	
Farm Size and Ownership	1
Farm Costs	2
Production	4
Crop Returns	5
Management Returns and Net Farm Income (NFI)	6
Description of Tables	
Figure 1A. Pennyroyal Grain Farms	1
Figure 1B. Pennyroyal Grain Hi 1/3	1
Figure 2. Percentage Non-Feed Costs	2
Figure 3. Percentage Power and Equipment Costs.....	2
Figure 4. Labor Costs	3
Figure 5A. Pennyroyal 2015 Grain Yields	4
Figure 5B. Pennyroyal 2015 Tobacco Yields	5
Figure 6. Crop Returns	5
Figure 7. Pennyroyal Crop Prices.....	6
Figure 8. Pennyroyal Area Management Returns and Net Farm Income	7
Figure 9. Pennyroyal Grain Farms Hi 1/3 vs Low 1/3: Gross Returns, Cost Differences, & Management Returns.....	8
Table 1. Income Statement Summary of Pennyroyal Farms 2015	9
Table 1A. Economic Management Analysis per Operator Acre: Pennyroyal Farms – 2015 Farm Returns and Costs.....	10
Table 1B. Economic Management Analysis per Operator Acre: Pennyroyal Farms – 2015 Agronomic Data.....	11

Table 2.	Income Statement Summary of Pennyroyal Grain Farms by Management - 2015.....	12
Table 2A.	Economic Management Analysis per Operator Acre: Pennyroyal Farms by Management – 2015 Farm Returns and Costs	13
Table 2B.	Economic Management Analysis per Operator Acre: Pennyroyal Grain Farms by Management – 2015 Agronomic Data	14
Table 3.	Income Statement Summary: Pennyroyal Grain Farms by Size - 2015.....	15
Table 3A.	Economic Management Analysis per Operator Acre: Pennyroyal Grain Farms by Size – 2015 Farm Returns and Costs.....	16
Table 3B.	Economic Management Analysis per Operator Acre: Pennyroyal Grain Farms by Size – 2015 Agronomic Data	17
Table 4.	Pennyroyal Area Crop Yield Data	18
Table 5.	Pennyroyal Crop Price History (\$)	18
Table 6.	Pennyroyal Management Returns and Net Farm Income	19

Acknowledgments

Special credit should be given to the farm business management specialists who supplied data used in this report. Their attention to details and accuracy of records are what make these results so valuable to farmers and to those working with farmers throughout the state. Specialists who served in 2015 and provided summary data are:

Jonathan D. Shepherd	Lincoln Trail Farm Analysis Group, Inc.	(270) 737-4799 JDSHEPHERD@uky.edu
Tarrah M. Hardin	Lincoln Trail Farm Analysis Group, Inc.	(270) 737-4799 tarrah.hardin@uky.edu
Lauren O. Turley	Ohio Valley Farm Analysis Group, Inc.	(270) 827-1395 lauren.o.turley@uky.edu
Suzy L. Martin	Ohio Valley Farm Analysis Group, Inc.	(270) 685-8480 slmartin@uky.edu
Amanda R. Jenkins	Pennyroyal Farm Analysis Group, Inc.	(270) 886-5281 amanda.r.jenkins@uky.edu
Laura Powers	Pennyroyal Farm Analysis Group, Inc.	(270) 886-5281 lpowers@uky.edu
Rush H. Midkiff	Pennyroyal Farm Analysis Group, Inc.	(270) 842-5823 rmidkiff@uky.edu
Michael C. Forsythe	Pennyroyal Farm Analysis Group, Inc.	(270) 886-5281 Michael.Forsythe@uky.edu
Jennifer L. Rogers	Purchase Farm Analysis Group, Inc.	(270) 562-2022 Jennifer.Rogers@uky.edu
Jerry S. Pierce	KFBM State Coordinator	(270) 737-4799 Jerry.Pierce@uky.edu
KFBM Website	http://www.uky.edu/Ag/KFBM/	

A Special Note to Our Readers

The data for this study are drawn from the detailed financial and production records of producers cooperating with the Kentucky Farm Business Management Program. The data are not drawn from a random sample of farms in the state. However, these data are the most accurate and detailed farm financial data available to researchers and educators. Every attempt has been made to select a set of farms for these research studies which are “typical” operations and have complete financial information available for analysis. These data are carefully cross-checked by our farm management specialists before inclusion in this analysis. It should be noted that farms included in this study are representative of commercial farms producing major commodities and livestock, but not of all farms in Kentucky.

Source of Data

This report presents the summarized 2015 performance data, both financial and physical, on 363 Kentucky farm businesses. Some data are presented for previous years so that trends and changes can be studied. This is the 49th annual summary of records obtained from farmers participating in the Kentucky Farm Business Management (KFBM) program. The program is a cooperative effort between the Department of Agricultural Economics of the University of Kentucky and four incorporated Farm Analysis Groups. This program was initiated to improve Kentucky farm management in general and specifically to:

- Provide farmers with an individual farm analysis and comparative analysis of farm business records emphasizing information necessary for sound decision making and wise financial planning;
- Provide farmers with objective counseling in developing priorities and alternative plans;
- Provide the public with basic information about business conditions as well as costs and returns on Kentucky farms under current conditions.
- Provide Kentucky farmers, teachers, researchers and lending agencies actual on-farm information about Kentucky farm businesses.

In 2015, 665 farmers on 373 farms were members of the Kentucky Farm Business Management program keeping records under the direction of 9 Farm Business Management Specialists. The program serves farmers in 55 counties.

Uses for This Report

This annual summary is meant to be used as a reference for obtaining information about Kentucky farms. The results are therefore presented without interpretation. Throughout the year, Extension specialists and researchers will develop programs and publications that try to interpret the results and their implications. For more information, see <http://www.uky.edu/Ag/KFBM> for these Agricultural Economics - Extension Publications.

Managing a farm business is almost impossible without a complete set of farm records. Records such as those underlying the KFBM program provide the essential information required by lenders and tax preparers, and also provide the means for farmers to fully analyze their businesses. Analyzing this complete record gives an accurate evaluation of how profitable and efficient the business is, indicates the business' weak points and strong points, and provides reliable data (particularly physical production data) for use in planning.

The farm business summaries in this report are used by individual farmers to analyze their business operations and to develop future plans for their farming operations. This report summarizes information so that specialists in agricultural extension, teaching, and research can use the data to enhance their programs. The definition of terms and income and expense measures below will be of assistance in using the data.

Farmers must be able to evaluate changes in their financial position. They must look at the interrelationships of the cash flow, income statement, and balance sheet to evaluate financial progress. For "real" progress to be made, the business must generate an increase in net worth as measured by a reconciled set of financial statements.

To thoroughly evaluate performance –to learn how the business is progressing– farmers need a record summary that includes considerable detail (i.e., production per person, yields per acre or head, feed conversion rates, etc.), and they must make trend and comparative analysis.

Trend analysis compares the farm's current year record summary with summaries from previous years. It allows farmers to identify trends and changes in their business over time and thereby detect improvements and deteriorations in various parts of the business.

Comparative analysis allows farmers to examine the similarities and differences in business performance between their farm and that of other similar farms. Comparative analysis is an important part of the work that Farm Business Management Specialists do with farmers in the program. The data presented here, however, can be useful to any farmer in Kentucky as a benchmark for performance.

Definition of Terms and Accounting Methods

Sampling Technique

Data from all farm business records certified to be usable for comparative analysis by field staff were aggregated by area, type of farm, size (i.e., tillable acres, number of animal production units, etc.), and management. Illinois Farm Business Farm Management Association's Farm Business Farm Management software was used to compile and summarize the data.

Type of Farm

Farm type is based on the percent feed fed. To determine percent feed fed, the total value of feed fed to all livestock enterprises is divided by the value of crop returns. However, tobacco revenue is excluded from crop returns for this calculation. Values for percent feed fed can range from zero to infinity. Large values are possible if a farm has limited grain production and thus purchases much of its feed.

Note that any farm type may include farms with other enterprises, such as grain, livestock, and tobacco.

Grain farms are defined as farms on which the value of feed fed was less than 40 percent of the crop returns and the value of feed fed to dairy was less than one-sixth of the crop returns.

Tobacco farms are defined as farms on which the value of feed fed was less than 40 percent of the crop returns, the value of feed fed to dairy was less than one-sixth of the crop returns, and the gross revenue from tobacco was 40 percent or more of total gross revenue.

Accrual Accounting

Accrual accounting matches the year's cost and returns to the farm's physical production. It differs from cash accounting, which records payments as made and income as received. For KFBM purposes, cash records are adjusted to approximate accrual accounting. Changes in inventories of commodities and livestock, accounts receivable, prepaid expenses, and accounts payable are added to or subtracted from cash income and expense records for the calendar or fiscal year. Accrual accounting provides a more realistic reflection of net farm income for the period as well as more accurate income statements and balance sheets in accordance with Farm Financial Standards Council recommendations.

Expense/Cost Items

Total operating expenses include cash operating expenses plus depreciation plus the net effect on expenses when accounting for the accrual change in accounts payable and prepaid expenses. Cash operating expenses include cash outlays for the following non-depreciable items:

- Fertilizer
- Pesticides
- Seed (including homegrown seed)
- Machinery repairs
- Machinery hire and leases
- Fuel and oil (lubricants)
- Farm share of utilities and light vehicle expenses
- Building repairs
- Drying and storage
- Hired labor
- Livestock expense
- Taxes
- Insurance
- Miscellaneous expenses

Purchased feed, grain and livestock are not included because they are deducted from Gross Revenue to calculate the Value of Farm Production.

Depreciation used here is Economic Depreciation. It is calculated on each item using the Alternative Depreciation System (ADS) under the Modified Accelerated Cost Recovery System of the Internal Revenue Code of 1986. ADS imposes straight line depreciation over a longer cost recovery period than the General Depreciation System and other expense deductions allowed for income tax purposes.

Total interest expense includes cash interest paid on operating and term debt plus the net change in accrued interest on farm business debt.

Interest on equity capital is a charge of 2.85 percent on the current value of land and 4.95 percent on non-land items less total interest expense. It is the opportunity cost of investing in the farm business. The non-land charge is calculated by multiplying 4.95 percent times: 1) the average of the beginning and ending of year value of livestock, economic book value of machinery, and building investment; 2) one-half of the average of the beginning and ending of year balance of inventory items; and 3) one-half of the total year's cash operating expense.

Land Charge Total is the sum of land equity charge, real estate taxes, cash rent, and lease cost. Lease cost is the cost calculated to be paid by the landlord for the operator(s) share of acres paid less costs paid by the operator(s) for the landlord on share crop acres.

Unpaid family and operator labor is the opportunity cost of using the operator's own and unpaid family labor in the farm business. A charge of \$2,900 per month for unpaid operator and family labor is made for each farm. This labor charge is per labor month and is based on unpaid labor of 2,500 hours per year. Part-time family labor is therefore prorated. (Like any other resource, unpaid labor must be accounted for when studying profitability of a farm business).

Revenue Items

Crop returns is the sum of the feed and grain sold, value of all feed fed (except milk), government crop subsidy program payments, and the change in value of feed and grain inventories less the value of crops and feed purchased. Tobacco revenue is excluded from crop returns for this calculation and is reported separately.

Livestock returns above feed is the sum of the sale of livestock and livestock products, value of livestock products consumed, and value of the livestock on hand at the end of the year minus livestock purchases and the value of the livestock on hand at the beginning of the year minus the cost of all feed fed, whether purchased or raised.

Gross farm returns is the sum of cash and accrued value of sales of farm products and services, government payments, and other farm-related revenue less the cost of purchased feed and livestock, plus the change in inventory value for grain and livestock, plus the value of farm products used. Farm products used are products used by the farm business and not sold. Also called *Value of farm production*.

Net Farm Income is the value of farm production less total operating expenses, less total interest expense plus net gain or loss on machinery and buildings sold. Net Farm Income includes returns to the farm for unpaid family and operator labor, the interest on invested capital, and management. It is the net total earnings to the farm operator(s).

Operator(s) labor and management income is Net Farm Income less the interest charge on equity capital, less the opportunity cost of unpaid family labor. It represents the operators' return to their labor and management.

Management return is the residual after a charge for unpaid operator labor is deducted from operator(s) labor and management income.

Operator-only refers to the revenue, costs, production, and returns that accrue to the farmer(s) involved in the farm's management and NOT that of landlords.

Financial Efficiency Ratios

Expense Ratios are measures of how economically farm businesses operate. Each ratio compares some aspect of expense or Net Farm Income to gross farm returns.

Other Terms Used in this Report

Inventory value of crops and livestock is based on average year-end prices reported for the four KFBM areas in the Kentucky Department of Agriculture Market Reports and the USDA Agriculture Marketing Service reports.

Old Crop is any crop that was produced in a prior year, but inventoried and held for sell in the current year.

New Crop is any crop that was produced in the current year.

Hi 1/3 and Lo 1/3 refer to groupings by management returns. Thirds are the net of Gross Farm Returns less Total Non-Feed Cost.

Tillable acres can be used to produce a crop, including hay. Not all acres managed by the farm (Total Acres) are tillable acres, but may include farmstead and non-tillable acres.

Operator Acres is owned and cash rented acres plus the operator's share of tillable acres under crop share leases.

Total Acres Planted – Selected Crops is the total number of acres planted to a particular crop divided by the number of farms that planted that crop for all farms in a particular comparative sort.

This page left intentionally blank.

The Pennyroyal area of Kentucky is in the western part of Kentucky. Counties included in the Pennyroyal area are: Livingston, Crittenden, Lyon, Caldwell, Trigg, Christian, Muhlenberg, Todd, Logan, Simpson, Butler, Warren, Edmonson, Allen, Barren, Metcalfe, and Monroe. The Pennyroyal Farm Analysis Group, Inc. served 189 farms in the area during 2015. Based on Kentucky Farm Business Management (KFBM) data standards, 142 farms were included in the average data and 118 were included in the average grain farm. The majority of the farms were grain farms (corn, wheat, and soybeans). However, there were also tobacco, contract broiler production, contract hog production, dairy farms, and beef cattle farms. Pennyroyal averages were computed for grain farms. Limited data prevents the publication of Pennyroyal specific tobacco, contract broiler, contract hog, dairy, and beef cattle farms.

Farm Size and Ownership

In 2015, the average Pennyroyal grain farm was 3,007 acres, of which 2,786 were tillable acres. Average tillable operator acres, acres from which the farmer receives revenue, were 2,617 acres. The average Pennyroyal grain farm owned 30% of their tillable acres and rented the remainder on a crop share or cash rent agreement. Cash rent continues to be the dominant rental agreement as 52% of the acreage is cash rented and 18% is crop shared (Figure 1A and Table 1).

Figure 1A. Pennyroyal Grain Farms

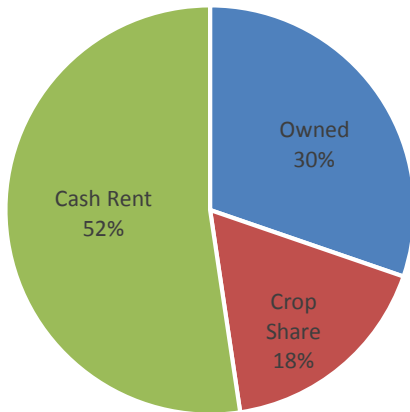
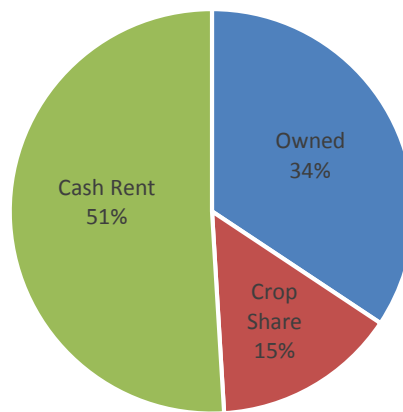


Figure 1B. Pennyroyal Grain Hi 1/3



Pennyroyal farms can also be divided by management returns¹ into high and low third groups. The high third of the farms averaged 3,574 tillable acres, of which 3,393 acres were tillable operator acres. In other words, 95% of their acres are tillable operator acres. Figure 1B. shows this group owned 34% of their land, rented on a crop share 15%, and cash rented the remaining 51%. The low third group averaged 2,145 tillable acres, of which 2,010 acres are tillable operator acres. Tillable operator acres account for 94% of their total tillable acres. The low third owned 27%, crop shared 16%, and cash rented 57% (Table 2).

¹ Management returns are calculated by subtracting a capital investment charge for the operator’s equity and a charge for operator’s labor.

Farm Costs

There are six categories of farm costs that are analyzed. These categories are: crop expense, power and equipment, building expense, labor, other expense, and land charges. Feed costs are deducted from livestock sales as a cost of goods sold rather than a cost of production. Both cash and non-cash costs are analyzed on an accrual basis. Non-cash costs include depreciation, unpaid labor, non-land interest charge, and interest² on owned land. In 2015, Pennyroyal grain farms averaged non-feed costs of \$884.03 per acre. Crop expenses made up one-third of all costs, land charge accounted for 20%, power and equipment 21%, other costs 13%, labor 10%, and building 4% (Figure 2 and Table 1A).

Figure 2. Percentage Non-Feed Costs

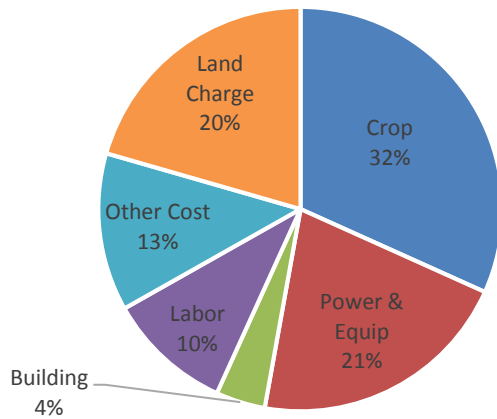
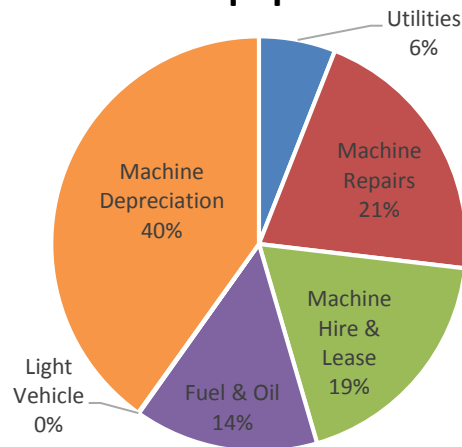


Figure 3. Percentage Power & Equipment Costs



Non-feed expenses decreased about \$22 per acre from 2014 to 2015 for Pennyroyal grain farms. However, the percentage of total non-feed expenses to gross farm returns was slightly lower in 2015 than 2014, 100.5% and 101.1%, respectively. On a per acre basis, land charge was the only expense to increase from 2014 to 2015. Crop expenses, power and equipment, building, and other costs decreased on a per acre basis and labor stayed consistent with 2014 at \$91 per acre. The high third group saw decreases in all categories except land charge. The low third group showed increases for all expenses on a per acre basis, except crop and building expenses decreased from 2014 to 2015.

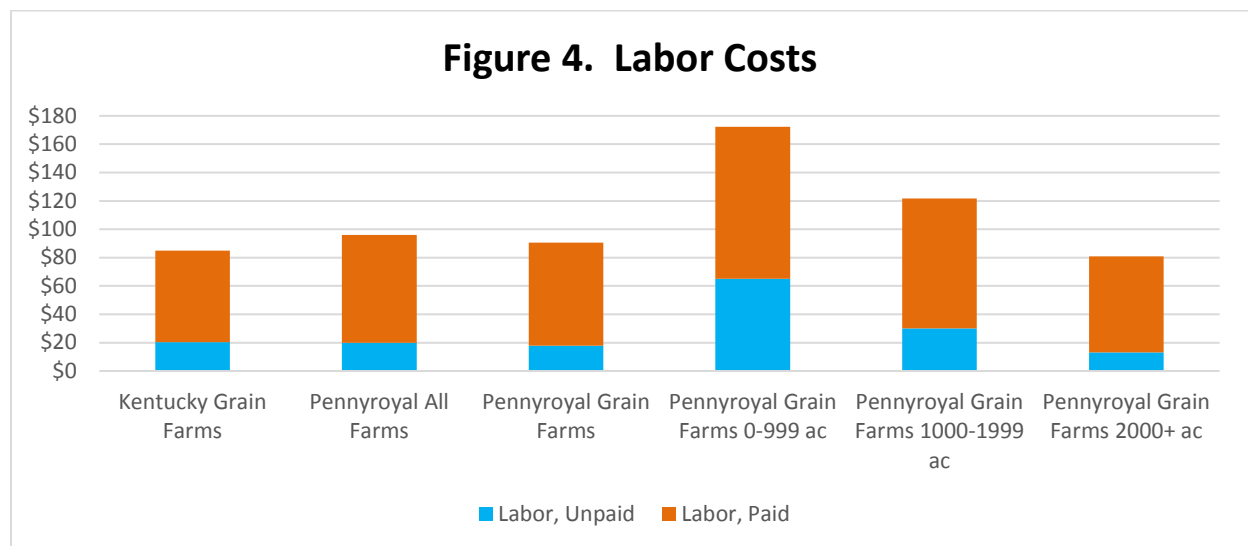
Crop expenses account for the majority of the costs, thus it is essential to manage these costs efficiently to maintain profitability. Even a change in a single crop input can have a significant impact on the budget. With falling grain prices, there has been some relief in input costs following suit. In 2015, Pennyroyal grain farms spent \$277.88 per acre on crop expenses. The average Pennyroyal grain farm spent \$128.76 on fertilizer, \$64.73 on pesticides, and \$84.39 on seed (Table 2A). The high third group had crop expense costs of \$275.42 per acre and the low third group had crop expenses of \$272.99 per acre (Table 2A).

² It is the opportunity cost of investing in the farm business.

Power and Equipment costs can vary largely from one operation to another depending on the desire for new paint and how efficiently the equipment is used in the operation. If the farm upgrades equipment on a regular basis, the repair costs will likely be lower, but depreciation will be higher. The farms with older equipment and a smaller labor force will have higher repair costs and more machine hire, but the machinery depreciation will be lower. The number of acres farmed greatly affects the power and equipment costs as well, since the fixed costs are spread over more acres. In 2015, the average power and equipment cost for Pennyroyal grain farms was \$183.92 per acre, with depreciation accounting for \$73, or 40%, of the cost (Figure 3 and Table 1A).

Building costs averaged \$33.84 per acre for Pennyroyal grain farms. Building costs consist of drying, storage, building repair and rent, and building depreciation (Table 1A).

Labor is essential to all operations and thus, it is always an item of concern. Good labor is costly and hard to find. When high-quality employees are found, employers like to retain them, regardless of the cost. The average cost of labor for Pennyroyal grain farms was \$90.51 per acre, which includes paid and unpaid labor. Unpaid labor is the opportunity cost of using operator’s own and unpaid family labor in the farm business. Unpaid labor is higher for the group with less than 1000 acres because they have fewer acres to spread the cost over. The average Kentucky grain farm had labor costs of \$84.84 per acre which is 2.3% lower than it was in 2014 (Figure 4 and Table 1A).



Other costs include insurance, miscellaneous, non-land interest, and a combination of vet, medicine, and livestock supplies. Non-land interest accounts for a major portion of this category, but insurance costs have been rising. Non-land interest is calculated by charging 4.95% interest on the average investment for the year in capital (livestock, machinery, and buildings) and cash operating expenses for each farm. If the money was not invested in the farm, it would most likely be earning a return elsewhere. The average Pennyroyal grain farm averaged other costs of \$111.35 per acre, with \$60.31 of this being non-land interest. Insurance costs were \$37.57 per acre; which includes crop, liability, and property insurance on farm assets (Table 1A). Of this, \$23.72 per acre was the average cost of crop insurance for Pennyroyal grain farms.

Land costs include charges for rent, property taxes, and non-cash interest on owned tillable acres. The interest charge on land is essentially the opportunity cost of having money invested in land for farming rather than investing elsewhere to earn a return. In 2015, the interest charge was 2.85%. The average Pennyroyal grain farm averaged land charges of \$186.55 per acre. Total non-feed costs averaged \$884.03 per acre for Pennyroyal grain farms. The average Kentucky grain farm averaged \$845.91 in total non-feed costs per acre (Table 1A).

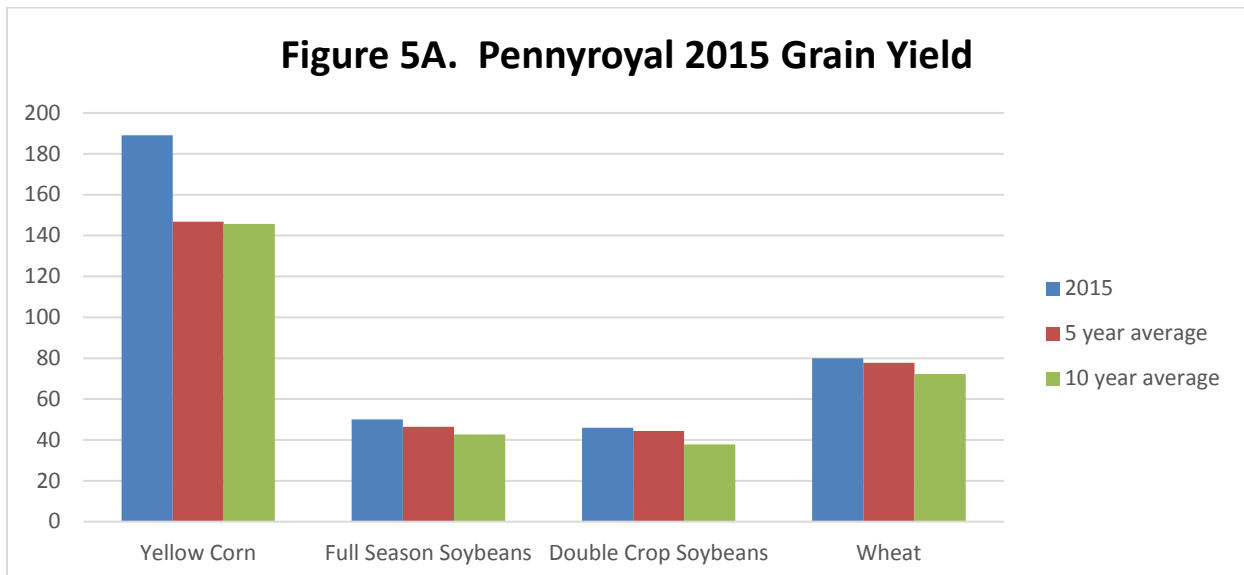
Production

Weather conditions were more favorable to Pennyroyal grain farmers in 2015 than they were in 2014. All grain crops except wheat, saw an increase in yield with yellow corn and white corn seeing the largest increase. All tobacco yields decreased from 2014 to 2015.

After a drop in corn yields in 2014, Pennyroyal area farmers were happy to see an increase in both yellow and white corn yields. Yellow corn yield in 2015 was 189 bu/acre; a 31% increase from 2014's yield of 144 bu/ac (Figure 5A and Table 4).

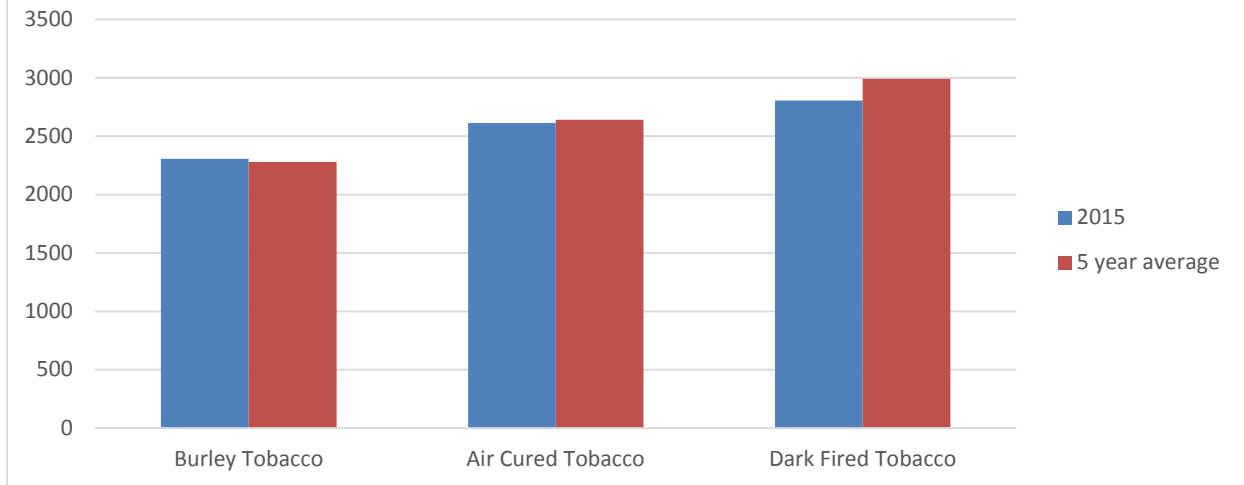
Soybean yields in the Pennyroyal area have been fairly consistent over the past ten years. Full season soybeans averaged 50 bu/acre. This is 4 bu/acre higher than the five-year average and 7 bu/acre higher than the ten-year average. In 2015, double crop soybeans were 46 bu/acre, 2 bushels above the five-year average and 8 bushels above the ten-year average (Table 4).

Wheat remained a popular commodity in the Pennyroyal area even with prices on the decline. Wheat yields were below 2014's average by 1 bushel and were above average. Producers averaged 80 bu/acre, higher than the five and ten-year average of 78 bu/acre and 72 bu/acre, respectively (Table 4 and Figure 5A).



With the wetter weather in 2015 versus 2014 all tobacco yields decreased in 2015. Burley tobacco averaged 2,307 lb/acre. Air cured tobacco averaged 2,614 lb/acre in 2015. Dark Fired tobacco averaged 2,806 lb/acre in 2015. Burley tobacco yield was the only variety to be higher than the five-year average (Table 4 and Figure 5B).

Figure 5B. Pennyroyal 2015 Tobacco Yields



Crop Returns

After the drop in 2014’s crop returns³, 2015’s crop returns per acre leveled off. Crop returns in 2015 were still lower than the five-year average and higher than the ten-year average. As seen in Figure 6, 2015’s crop returns of \$752.09 was in the top 4 for the last 14 years, even with prices on the decline from the prior years. The five-year average was \$840.77 per acre and the ten-year average was \$718.16. Kentucky grain farms averaged crop returns of \$702.74 per acre (Table 1A). Pennyroyal farms had a much higher percentage of double crop acres than the other areas of the state which added to the higher crop returns.

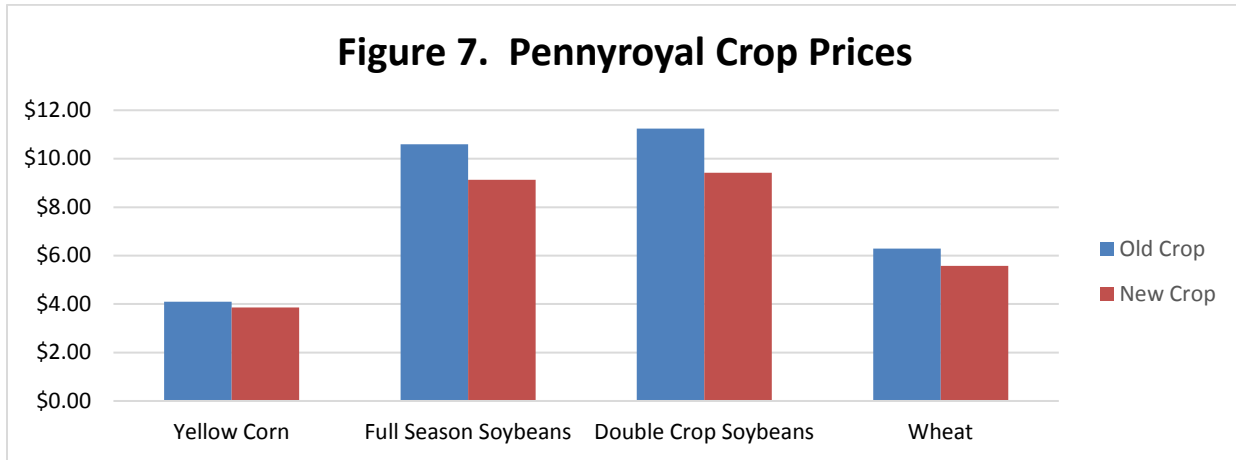
Figure 6. Crop Returns



In terms of crop price assessment, both new crop and old crop prices are examined. Old crop price is the price received for the 2014 crop sold in 2015, while the new crop price is the price

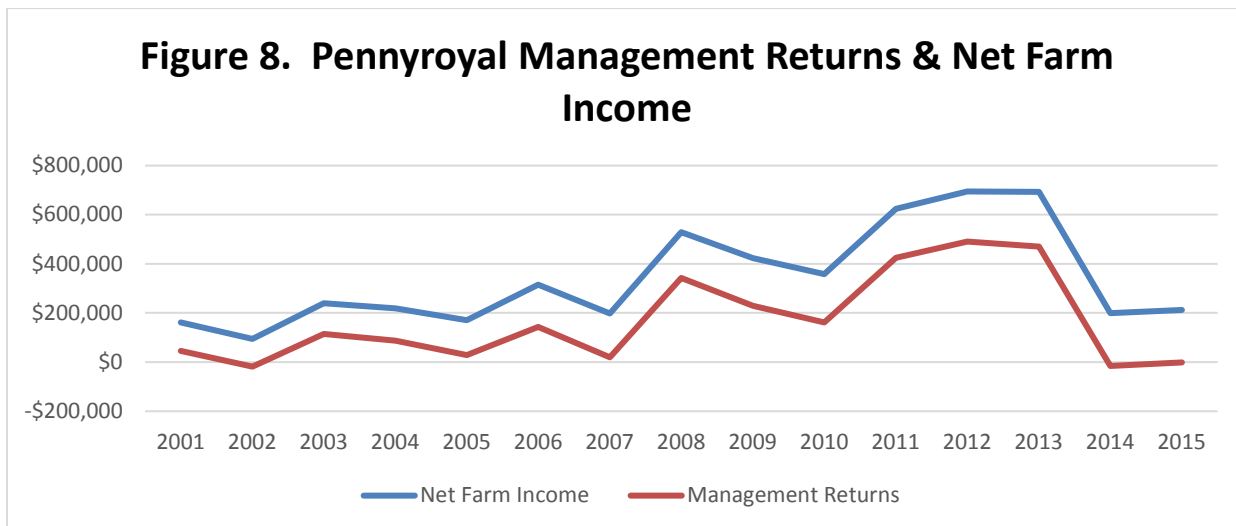
³ Crop returns include crop insurance payments and FSA payments.

received for the 2015 crop sold in 2015. Prices continued to be on the decline as we moved into 2015. As with 2014, 2015's old crop prices were higher than new crop prices (Table 5 and Figure 7). Looking forward into the 2016 crop, market prices have continued to drop off the highs seen in previous years and soybeans have seemed to level off.



Management Returns and Net Farm Income

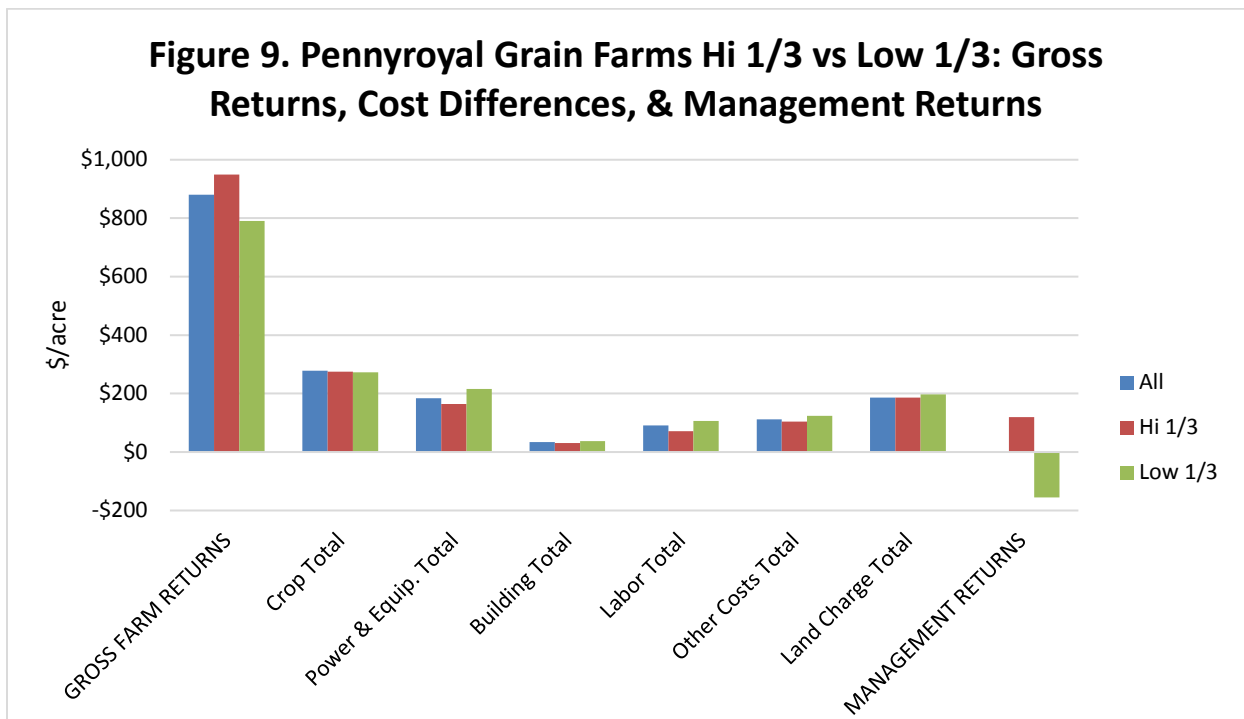
Pennyroyal was the only area where grain farms saw an increase in net farm income (NFI)⁴ and management returns in 2015. NFI averaged \$212,471, which was well below the five-year and ten-year average. As seen in Figure 8, it dropped back to levels not seen since 2007. It was an increase of 7% from 2014's low. Management Returns averaged -\$1,891, an increase of 88% over the low of 2014. As with NFI, management returns were well below the five and ten-year averages. The chart below demonstrates the trend over the past years for all Pennyroyal grain farms (Table 1 & 6 and Figure 8).



It is interesting to analyze the upper and lower third of Pennyroyal grain farms as well. The upper third had Management Returns of \$404,548, or \$119.22 per acre and NFI of \$693,669, or

⁴ Net farm income includes returns to the farm for unpaid family and operator labor, the interest on invested capital, and management.

\$204.44 per acre. In 2015, the high third group had higher crop yields on all crops than the low third group following suit with the last few years. Marketing strategies were similar between both groups as seen by similar prices on 2015 crops except the low third group was better marketer of soybeans. Old crop prices were similar between the two management groups, as well. The low third averaged management returns of -\$311,896, or -\$155.15 per acre and NFI of -\$163,412, or -\$81.30 per acre. The lower third owns 27 percent of their land base, while the high third farms own 34 percent of their land base. The high third was much more efficient in operating expense, as shown with the operating expense ratio of 68.13% versus 90.47% for the low third. That translates to nearly a 31% advantage in the NFI from operations ratio for the high third group (Tables 2A & 2B).



This page left intentionally blank.

Table 1 - Income Statement Summary of Pennyroyal Farms - 2015						
	Kentucky	Pennyroyal	Pennyroyal	Pennyroyal	Pennyroyal	Pennyroyal
	Grain		Grain	Grain	Grain	Grain
Range in Size (Acres)	All	All	All	0-999	1000-1999	2000+
Management Returns	All	All	All	All	All	All
Number of Farms	222	142	118	28	28	62
Total Acres in Farm	2,611	2,655	3,007	686	1,653	4,666
Tillable Acres in Farm	2,440	2,426	2,786	591	1,458	4,377
Operator Tillable Acres	2,242	2,281	2,617	560	1,332	4,127
Percent Land Owned	27.5%	31.5%	30.3%	45.9%	33.1%	28.9%
Percent Land Crop Share	23.4%	17.0%	17.4%	18.6%	25.0%	16.2%
Percent Land Cash Rent	49.1%	51.5%	52.4%	35.5%	42.0%	54.9%
Months of Hired Labor	53.2	63.8	68.9	25.1	51.3	96.7
Months of Unpaid Labor	17.2	16.8	17.3	13.2	15.1	20.2
Total Months Labor	70.4	80.5	86.3	38.3	66.3	117.0
FARM RETURNS						
Total Cash Operating	2,055,320	2,333,858	2,592,722	610,776	1,257,440	4,090,826
Inventory Change	(6,949)	30,357	38,349	(10,650)	31,505	63,568
Accounts Receivable Change	(31,677)	(53,948)	(64,953)	(4,533)	(5,328)	(119,166)
Farm Products Used	0	0	0	0	0	0
Less Purchased Feed & Grain	81,190	129,579	102,264	26,868	44,684	162,317
Less Purchased Livestock	26,974	44,355	37,050	18,483	7,036	58,991
GROSS FARM RETURNS	1,908,530	2,136,333	2,426,804	550,242	1,231,899	3,813,919
FARM COSTS						
Total Cash Operating	1,525,907	1,687,594	1,909,848	429,160	972,236	3,001,985
Farm Products Used	0	0	0	0	0	0
Prepaid Expense Change	36,626	39,137	43,394	4,637	8,654	76,586
Accounts Payable Change	8,621	9,856	11,316	14,074	1,677	14,424
TOTAL OPERATING EXPENSE	1,571,154	1,736,588	1,964,558	447,871	982,567	3,092,996
INCOME BEFORE DEPRECIATION	337,377	399,746	462,246	102,371	249,332	720,926
Less Depreciation	218,197	228,046	257,306	75,162	147,390	389,204
FARM OPERATING INCOME	119,180	171,701	204,940	27,209	101,942	331,722
Capital Account Adjustment	9,455	6,511	7,531	1,762	6,676	10,521
NET FARM INCOME (NFI)	128,635	178,211	212,471	28,971	108,618	342,243
Less Unpaid Family Labor	666	837	713	1,657	0	608
RETURNS TO OPERATOR LABOR						
CAPITAL, & MANAGEMENT	127,969	177,374	211,758	27,314	108,618	341,635
Less Unpaid Operator Labor	49,236	47,748	49,570	36,561	43,707	58,094
RETURNS TO EQUITY CAPITAL						
& MANAGEMENT	78,733	129,626	162,188	(9,247)	64,911	283,542
Less Equity Capital Charge	133,577	149,694	164,079	52,804	96,913	244,665
MANAGEMENT RETURNS	(54,844)	(20,068)	(1,891)	(62,050)	(32,002)	38,876
FINANCIAL EFFICIENCY RATIOS						
Operating Expense Ratio (%)	78.19%	77.26%	76.98%	77.07%	75.84%	77.14%
Depreciation Expense Ratio (%)	11.43%	10.67%	10.60%	13.66%	11.96%	10.20%
Interest Expense Ratio (%)	4.13%	4.03%	3.98%	4.33%	3.92%	3.96%
NFI from Operations Ratio (%)	6.24%	8.04%	8.44%	4.94%	8.28%	8.70%

**Table 1A - Economic Management Analysis per Operator Acre:
Pennyroyal Farms - 2015 Farm Returns and Costs**

	Kentucky Grain	Pennyroyal	Pennyroyal Grain	Pennyroyal Grain	Pennyroyal Grain	Pennyroyal Grain
Range in Size (Acres)	All	All	All	0-999	1000-1999	2000+
Management Returns	All	All	All	All	All	All
Number of Farms	222	142	118	28	28	62
Total Acres in Farm	2,611	2,655	3,007	686	1,653	4,666
Tillable Acres in Farm	2,440	2,426	2,786	591	1,458	4,377
Operator Tillable Acres	2,242	2,281	2,617	560	1,332	4,127
Percent Land Owned	27.5%	31.5%	30.3%	45.9%	33.1%	28.9%
Percent Land Crop Share	23.4%	17.0%	17.4%	18.6%	25.0%	16.2%
Percent Land Cash Rent	49.1%	51.5%	52.4%	35.5%	42.0%	54.9%
Months of Hired Labor	53.2	63.8	68.9	25.1	51.3	96.7
Months of Unpaid Labor	17.2	16.8	17.3	13.2	15.1	20.2
Total Months Labor	70.4	80.5	86.3	38.3	66.3	117.0
FARM RETURNS						
Crop Returns	702.74	737.68	752.09	655.05	682.16	768.23
Livestock Return Above Feed	15.63	34.92	7.28	25.59	4.96	6.50
Custom Work	9.30	9.68	9.84	13.62	7.65	9.92
Other Farm Receipts	35.51	45.72	46.10	45.82	48.86	45.72
Tobacco Returns	54.05	62.52	65.12	204.05	148.61	44.44
GROSS FARM RETURNS	817.23	890.52	880.43	944.13	892.25	874.81
FARM COSTS						
Soil Fertility	122.36	126.81	128.76	123.51	123.49	129.84
Pesticides	62.10	63.00	64.73	71.85	72.84	63.12
Seed	83.92	82.83	84.39	85.88	74.67	85.71
Crop Total	268.38	272.63	277.88	281.24	270.99	278.67
Utilities	10.66	12.64	10.48	20.51	12.60	9.56
Machine Repairs	37.34	40.42	38.39	60.05	50.99	35.22
Machine Hire & Lease	33.24	39.34	34.08	38.20	32.36	34.07
Fuel & Oil	25.62	28.78	28.02	28.41	28.88	27.87
Light Vehicle	0.11	0.09	0.08	0.66	0.00	0.05
Machine Depreciation	71.64	74.04	72.88	102.73	85.63	69.19
Power & Equip. Total	178.60	195.31	183.92	250.57	210.47	175.96
Drying	3.81	3.91	4.09	5.00	3.77	4.08
Storage	1.39	1.42	1.29	2.87	2.48	1.02
Building Repair & Rent	8.69	8.27	7.64	12.70	8.71	7.18
Building Depreciation	19.53	21.48	20.81	25.64	16.84	21.10
Building Total	33.42	35.07	33.84	46.20	31.80	33.38
Labor, Unpaid	20.26	19.98	17.86	65.01	29.97	13.21
Labor, Paid	64.58	75.93	72.65	107.29	91.81	67.73
Labor Total	84.84	95.90	90.51	172.30	121.78	80.94
Vet, Med, Livestock Supply	2.31	8.76	2.35	2.88	1.62	2.43
Insurance	34.84	37.12	37.57	48.39	39.33	36.65
Miscellaneous	10.92	11.16	11.12	14.73	10.99	10.91
Interest Charge - Non land	58.79	62.68	60.31	73.69	65.32	58.76
Other Costs Total	106.85	119.71	111.35	139.69	117.25	108.75
Land Charge Total	173.81	183.55	186.55	168.15	168.99	190.24
TOTAL NON-FEED COSTS	845.91	902.17	884.03	1,058.15	921.27	867.94
Gain/loss Capital Sales	4.22	2.85	2.88	3.15	5.01	2.55
MANAGEMENT RETURNS	(24.46)	(8.80)	(0.72)	(110.87)	(24.02)	9.42

**Table 1B - Economic Management Analysis per Operator Acre:
Pennyroyal Farms - 2015 Agronomic Data**

	Kentucky Grain	Pennyroyal	Pennyroyal Grain	Pennyroyal Grain	Pennyroyal Grain	Pennyroyal Grain
Range in Size (Acres)	All	All	All	0-999	1000-1999	2000+
Management Returns	All	All	All	All	All	All
Number of Farms	222	142	118	28	28	62
Crop Yields						
Yellow Corn	187	189	190	187	188	190
Full Season Soybeans	53	50	50	52	53	49
Wheat	79	80	80	77	79	81
Double Crop Soybeans	46	46	46	42	46	46
Milo	98	89	89			
White Corn	182	182	182			182
Barley	87	87	87			86
Tobacco - Burley	2,082	2,307	2,323	2,614	2,190	2,372
Tobacco - Dark Air Cured	2,545	2,614	2,614		2,762	2,525
Tobacco - Dark Fire Cured	2,802	2,806	2,807	2,551	3,002	2,843
Total Acres Planted-Selected Crops						
Yellow Corn	1,040	1,071	1,197	270	585	1,776
Full Season Soybeans	678	466	483	215	291	645
Wheat	886	1,127	1,148	254	476	1,790
Double Crop Soybeans	944	1,151	1,207	258	536	1,832
Milo	182	166	166			
White Corn	791	1,057	1,057			1,494
Barley	231	231	231			267
Tobacco - Burley	58	49	52	19	69	60
Tobacco - Dark Air Cured	17	20	20		15	25
Tobacco - Dark Fire Cured	42	41	43	55	24	52
Land Use %						
Yellow Corn	40.6%	37.8%	39.2%	32.0%	38.2%	39.8%
Full Season Soybeans	26.1%	15.2%	15.2%	25.5%	16.2%	14.5%
Wheat	25.6%	33.8%	35.5%	31.7%	28.8%	36.7%
Double Crop Soybeans	26.6%	35.2%	36.9%	32.2%	29.8%	38.3%
Milo	0.6%	0.3%	0.3%			
White Corn	2.9%	4.1%	4.3%			4.5%
Barley	0.4%	0.7%	0.7%			0.7%
Tobacco - Burley	0.6%	0.5%	0.5%	0.9%	1.5%	0.3%
Tobacco - Dark Air Cured	0.1%	0.2%	0.2%		0.3%	0.1%
Tobacco - Dark Fire Cured	0.3%	0.4%	0.5%	2.1%	0.7%	0.3%
Crop Value Per Acre						
Yellow Corn	714	727	729	721	715	732
Full Season Soybeans	478	455	458	461	477	455
Wheat	423	429	430	369	393	437
Double Crop Soybeans	438	441	441	383	428	446
Milo	454	384	384			
White Corn	847	851	851			873
Barley	198	198	198			195
Tobacco - Burley	4,161	4,568	4,599	5,271	4,329	4,683
Tobacco - Dark Air Cured	6,101	6,285	6,274		6,400	6,174
Tobacco - Dark Fire Cured	7,107	7,102	7,103	6,595	7,866	7,047
Price Received - Old Crop						
Yellow Corn	4.06	4.10	4.10	4.01	3.86	4.14
Soybeans	10.48	10.59	10.61	10.68	10.29	10.69
Wheat	6.28	6.29	6.29	6.04	5.80	6.34
Milo	4.00					
White Corn	4.96	4.96	4.96			5.01
Barley	3.47	3.47	3.47			3.47
Tobacco - Burley	2.01	2.02	2.02	2.00	2.00	2.04
Tobacco - Dark Air Cured	2.39	2.36	2.36		2.37	2.35
Tobacco - Dark Fire Cured	2.48	2.47	2.47	2.26	2.60	2.48
Price Received - New Crop						
Yellow Corn	3.84	3.86	3.86	3.81	3.90	3.85
Soybeans	9.23	9.12	9.13	9.45	9.01	9.13
Wheat	5.57	5.57	5.58	5.03	5.39	5.64
Milo	3.89	3.83	3.83			
White Corn	4.88	4.96	4.96			4.96
Barley	2.53	2.53	2.53			2.62
Tobacco - Burley	1.98	1.98	1.98	1.95	1.98	1.99
Tobacco - Dark Air Cured	2.36	2.36	2.36		2.32	2.39
Tobacco - Dark Fire Cured	2.59	2.58	2.58	2.49	2.62	2.63

Table 2 - Income Statement Summary of Pennyroyal Grain Farms by Management - 2015

	Pennyroyal	Pennyroyal	Pennyroyal
	Grain	Grain	Grain
Range in Size (Acres)	All	All	All
Management Returns	All	Hi 1/3	Lo 1/3
Number of Farms	118	39	39
Total Acres in Farm	3,007	3,736	2,373
Tillable Acres in Farm	2,786	3,574	2,145
Operator Tillable Acres	2,617	3,393	2,010
Percent Land Owned	30.3%	34.3%	27.1%
Percent Land Crop Share	17.4%	14.7%	16.4%
Percent Land Cash Rent	52.4%	51.0%	56.5%
Months of Hired Labor	68.9	68.5	66.1
Months of Unpaid Labor	17.3	17.4	15.1
Total Months Labor	86.3	85.9	81.2
FARM RETURNS			
Total Cash Operating	2,592,722	3,378,033	2,023,361
Inventory Change	38,349	234,183	(161,187)
Accounts Receivable Change	(64,953)	(126,245)	(21,011)
Farm Products Used	0	0	0
Less Purchased Feed & Grain	102,264	79,057	55,896
Less Purchased Livestock	37,050	21,798	61,736
GROSS FARM RETURNS	2,426,804	3,385,117	1,723,530
FARM COSTS			
Total Cash Operating	1,909,848	2,416,844	1,592,247
Farm Products Used	0	0	0
Prepaid Expense Change	43,394	22,430	28,267
Accounts Payable Change	11,316	(33,764)	41,639
TOTAL OPERATING EXPENSE	1,964,558	2,405,509	1,662,153
INCOME BEFORE DEPRECIATION	462,246	979,607	61,377
Less Depreciation	257,306	288,795	241,257
FARM OPERATING INCOME	204,940	690,812	(179,880)
Capital Account Adjustment	7,531	2,857	16,468
NET FARM INCOME (NFI)	212,471	693,669	(163,412)
Less Unpaid Family Labor	713	967	223
RETURNS TO OPERATOR LABOR			
CAPITAL, & MANAGEMENT	211,758	692,703	(163,635)
Less Unpaid Operator Labor	49,570	49,523	43,574
RETURNS TO EQUITY CAPITAL			
& MANAGEMENT	162,188	643,180	(207,209)
Less Equity Capital Charge	164,079	238,632	104,687
MANAGEMENT RETURNS	(1,891)	404,548	(311,896)
FINANCIAL EFFICIENCY RATIOS			
Operating Expense Ratio (%)	76.98%	68.13%	90.47%
Depreciation Expense Ratio (%)	10.60%	8.53%	14.00%
Interest Expense Ratio (%)	3.98%	2.93%	5.97%
NFI from Operations Ratio (%)	8.44%	20.41%	-10.44%

Table 2A - Economic Management Analysis per Operator Acre: Pennyroyal Grain Farms by Management - 2015 Farm Returns and Costs			
	Pennyroyal Grain	Pennyroyal Grain	Pennyroyal Grain
Range in Size (Acres)	All	All	All
Management Returns	All	Hi 1/3	Lo 1/3
Number of Farms	118	39	39
Total Acres in Farm	3,007	3,736	2,373
Tillable Acres in Farm	2,786	3,574	2,145
Operator Tillable Acres	2,617	3,393	2,010
Percent Land Owned	30.3%	34.3%	27.1%
Percent Land Crop Share	17.4%	14.7%	16.4%
Percent Land Cash Rent	52.4%	51.0%	56.5%
Months of Hired Labor	68.9	68.5	66.1
Months of Unpaid Labor	17.3	17.4	15.1
Total Months Labor	86.3	85.9	81.2
FARM RETURNS			
Crop Returns	752.09	829.75	667.79
Livestock Return Above Feed	7.28	1.50	11.49
Custom Work	9.84	13.67	7.41
Other Farm Receipts	46.10	54.19	32.63
Tobacco Returns	65.12	50.72	70.97
GROSS FARM RETURNS	880.43	949.83	790.29
FARM COSTS			
Soil Fertility	128.76	127.70	125.60
Pesticides	64.73	65.76	61.05
Seed	84.39	81.96	86.35
Crop Total	277.88	275.42	272.99
Utilities	10.48	8.45	11.56
Machine Repairs	38.39	30.36	48.37
Machine Hire & Lease	34.08	34.98	34.35
Fuel & Oil	28.02	26.49	33.27
Light Vehicle	0.08	0.03	0.00
Machine Depreciation	72.88	63.88	88.79
Power & Equip. Total	183.92	164.20	216.34
Drying	4.09	4.52	3.00
Storage	1.29	1.46	0.60
Building Repair & Rent	7.64	7.22	7.13
Building Depreciation	20.81	17.64	26.29
Building Total	33.84	30.85	37.02
Labor, Unpaid	17.86	13.84	20.40
Labor, Paid	72.65	56.96	86.44
Labor Total	90.51	70.79	106.84
Vet, Med, Livestock Supply	2.35	1.56	4.28
Insurance	37.57	35.04	40.82
Miscellaneous	11.12	11.06	10.58
Interest Charge - Non land	60.31	56.09	68.10
Other Costs Total	111.35	103.76	123.78
Land Charge Total	186.55	186.42	196.66
TOTAL NON-FEED COSTS	884.03	831.45	953.63
Gain/loss Capital Sales	2.88	0.84	8.19
MANAGEMENT RETURNS	(0.72)	119.22	(155.15)

**Table 2B - Economic Management Analysis per Operator Acre:
Pennyroyal Grain Farms by Management - 2015 Agronomic Data**

	Pennyroyal Grain	Pennyroyal Grain	Pennyroyal Grain
Range in Size (Acres)	All	All	All
Management Returns	All	Hi 1/3	Lo 1/3
Number of Farms	118	39	39
Crop Yields			
Yellow Corn	190	199	181
Full Season Soybeans	50	53	48
Wheat	80	82	80
Double Crop Soybeans	46	48	40
White Corn	182		
Barley	87		
Tobacco - Burley	2,323	2,968	1,982
Tobacco - Dark Air Cured	2,614	2,729	2,372
Tobacco - Dark Fire Cured	2,807	3,182	2,471
Total Acres Planted-Selected Crops			
Yellow Corn	1,197	1,682	839
Full Season Soybeans	483	378	535
Wheat	1,148	1,515	786
Double Crop Soybeans	1,207	1,572	841
White Corn	1,057		
Barley	231		
Tobacco - Burley	52	53	40
Tobacco - Dark Air Cured	20	25	15
Tobacco - Dark Fire Cured	43	52	54
Forages	370	134	403
Land Use %			
Yellow Corn	39.2%	46.0%	33.0%
Full Season Soybeans	15.2%	8.7%	21.7%
Wheat	35.5%	41.5%	29.9%
Double Crop Soybeans	36.9%	43.0%	31.0%
White Corn	4.3%		
Barley	0.7%		
Tobacco - Burley	0.5%	0.3%	0.4%
Tobacco - Dark Air Cured	0.2%	0.1%	0.1%
Tobacco - Dark Fire Cured	0.5%	0.3%	0.7%
Forages	3.7%	1.2%	6.3%
Crop Value Per Acre			
Yellow Corn	729	765	679
Full Season Soybeans	458	485	426
Wheat	430	446	408
Double Crop Soybeans	441	464	388
White Corn	851		
Barley	198		
Tobacco - Burley	4,599	5,803	3,966
Tobacco - Dark Air Cured	6,274	6,516	5,272
Tobacco - Dark Fire Cured	7,103	8,315	6,050
Price Received - Old Crop			
Yellow Corn	4.10	4.12	4.00
Soybeans	10.61	10.73	10.46
Wheat	6.29	6.23	5.29
White Corn	4.96		
Barley	3.47		
Tobacco - Burley	2.02	2.03	1.98
Tobacco - Dark Air Cured	2.36	2.28	2.35
Tobacco - Dark Fire Cured	2.47	2.51	2.55
Price Received - New Crop			
Yellow Corn	3.86	3.89	3.81
Soybeans	9.13	8.64	9.25
Wheat	5.58	5.63	5.44
White Corn	4.96		
Barley	2.53		
Tobacco - Burley	1.98	1.98	1.98
Tobacco - Dark Air Cured	2.36	2.40	2.31
Tobacco - Dark Fire Cured	2.58	2.67	2.53

Table 3 - Income Statement Summary: Pennyroyal Grain Farms by Size - 2015						
Range in Size (Acres)	All	0-999	1000-1999	2000-2999	3000-4100	4101+
Management Returns	All	All	All	All	All	All
Number of Farms	118	28	28	22	16	24
Total Acres in Farm	3,007	686	1,653	2,688	3,891	6,997
Tillable Acres in Farm	2,786	591	1,458	2,527	3,514	6,649
Operator Tillable Acres	2,617	560	1,332	2,330	3,276	6,340
Percent Land Owned	30.3%	45.9%	33.1%	24.9%	25.7%	31.4%
Percent Land Crop Share	17.4%	18.6%	25.0%	24.2%	17.3%	13.0%
Percent Land Cash Rent	52.4%	35.5%	42.0%	50.9%	57.0%	55.6%
Months of Hired Labor	68.9	25.1	51.3	87.0	56.2	132.7
Months of Unpaid Labor	17.3	13.2	15.1	17.8	20.1	22.5
Total Months Labor	86.3	38.3	66.3	104.8	76.3	155.2
FARM RETURNS						
Total Cash Operating	2,592,722	610,776	1,257,440	2,272,503	3,084,783	6,428,321
Inventory Change	38,349	(10,650)	31,505	17,993	(18,913)	160,331
Accounts Receivable Change	(64,953)	(4,533)	(5,328)	(59,025)	(26,054)	(236,370)
Farm Products Used	0	0	0	0	0	0
Less Purchased Feed & Grain	102,264	26,868	44,684	86,846	134,084	250,321
Less Purchased Livestock	37,050	18,483	7,036	9,340	104,674	74,048
GROSS FARM RETURNS	2,426,804	550,242	1,231,899	2,135,285	2,801,058	6,027,912
FARM COSTS						
Total Cash Operating	1,909,848	429,160	972,236	1,649,468	2,200,464	4,776,138
Farm Products Used	0	0	0	0	0	0
Prepaid Expense Change	43,394	4,637	8,654	1,356	124,941	113,310
Accounts Payable Change	11,316	14,074	1,677	4,165	(2,576)	35,162
TOTAL OPERATING EXPENSE	1,964,558	447,871	982,567	1,654,989	2,322,830	4,924,609
INCOME BEFORE DEPRECIATION	462,246	102,371	249,332	480,295	478,228	1,103,302
Less Depreciation	257,306	75,162	147,390	234,758	289,829	597,030
FARM OPERATING INCOME	204,940	27,209	101,942	245,537	188,400	506,272
Capital Account Adjustment	7,531	1,762	6,676	3,511	9,330	17,742
NET FARM INCOME (NFI)	212,471	28,971	108,618	249,048	197,730	524,014
Less Unpaid Family Labor	713	1,657	0	395	725	725
RETURNS TO OPERATOR LABOR						
CAPITAL, & MANAGEMENT	211,758	27,314	108,618	248,653	197,005	523,289
Less Unpaid Operator Labor	49,570	36,561	43,707	51,277	57,638	64,646
RETURNS TO EQUITY CAPITAL						
& MANAGEMENT	162,188	(9,247)	64,911	197,375	139,368	458,643
Less Equity Capital Charge	164,079	52,804	96,913	163,564	211,051	341,417
MANAGEMENT RETURNS	(1,891)	(62,050)	(32,002)	33,812	(71,684)	117,226
FINANCIAL EFFICIENCY RATIOS						
Operating Expense Ratio (%)	76.98%	77.07%	75.84%	74.69%	80.36%	76.93%
Depreciation Expense Ratio (%)	10.60%	13.66%	11.96%	10.99%	10.35%	9.90%
Interest Expense Ratio (%)	3.98%	4.33%	3.92%	2.82%	2.57%	4.76%
NFI from Operations Ratio (%)	8.44%	4.94%	8.28%	11.50%	6.73%	8.40%

**Table 3A - Economic Management Analysis per Operator Acre:
Pennyroyal Grain Farms by Size - 2015 Farm Returns and Costs**

Range in Size (Acres)	All	0-999	1000-1999	2000-2999	3000-4100	4101+
Management Returns	All	All	All	All	All	All
Number of Farms	118	28	28	22	16	24
Total Acres in Farm	3,007	686	1,653	2,688	3,891	6,997
Tillable Acres in Farm	2,786	591	1,458	2,527	3,514	6,649
Operator Tillable Acres	2,617	560	1,332	2,330	3,276	6,340
Percent Land Owned	30.3%	45.9%	33.1%	24.9%	25.7%	31.4%
Percent Land Crop Share	17.4%	18.6%	25.0%	24.2%	17.3%	13.0%
Percent Land Cash Rent	52.4%	35.5%	42.0%	50.9%	57.0%	55.6%
Months of Hired Labor	68.9	25.1	51.3	87.0	56.2	132.7
Months of Unpaid Labor	17.3	13.2	15.1	17.8	20.1	22.5
Total Months Labor	86.3	38.3	66.3	104.8	76.3	155.2
FARM RETURNS						
Crop Returns	752.09	655.05	682.16	726.21	710.13	802.40
Livestock Return Above Feed	7.28	25.59	4.96	4.95	4.57	7.69
Custom Work	9.84	13.62	7.65	9.69	1.63	12.86
Other Farm Receipts	46.10	45.82	48.86	46.53	45.35	45.57
Tobacco Returns	65.12	204.05	148.61	108.62	18.21	31.85
GROSS FARM RETURNS	880.43	944.13	892.25	896.01	779.89	900.36
FARM COSTS						
Soil Fertility	128.76	123.51	123.49	137.09	124.85	129.13
Pesticides	64.73	71.85	72.84	56.05	59.03	66.91
Seed	84.39	85.88	74.67	81.58	85.49	87.18
Crop Total	277.88	281.24	270.99	274.71	269.36	283.22
Utilities	10.48	20.51	12.60	10.70	8.71	9.46
Machine Repairs	38.39	60.05	50.99	39.44	28.08	36.26
Machine Hire & Lease	34.08	38.20	32.36	22.93	25.94	40.63
Fuel & Oil	28.02	28.41	28.88	33.59	21.01	28.30
Light Vehicle	0.08	0.66	0.00	0.17	0.02	0.03
Machine Depreciation	72.88	102.73	85.63	75.53	69.23	67.04
Power & Equip. Total	183.92	250.57	210.47	182.36	152.99	181.72
Drying	4.09	5.00	3.77	2.90	3.64	4.63
Storage	1.29	2.87	2.48	0.25	0.82	1.35
Building Repair & Rent	7.64	12.70	8.71	6.47	9.28	6.69
Building Depreciation	20.81	25.64	16.84	19.15	13.47	24.38
Building Total	33.84	46.20	31.80	28.77	27.22	37.05
Labor, Unpaid	17.86	65.01	29.97	20.17	16.43	9.75
Labor, Paid	72.65	107.29	91.81	87.50	50.07	67.15
Labor Total	90.51	172.30	121.78	107.66	66.50	76.91
Vet, Med, Livestock Supply	2.35	2.88	1.62	1.16	2.41	2.86
Insurance	37.57	48.39	39.33	42.13	31.18	36.69
Miscellaneous	11.12	14.73	10.99	9.34	10.21	11.68
Interest Charge - Non land	60.31	73.69	65.32	63.47	54.03	58.80
Other Costs Total	111.35	139.69	117.25	116.10	97.83	110.04
Land Charge Total	186.55	168.15	168.99	173.40	190.72	195.74
TOTAL NON-FEED COSTS	884.03	1,058.15	921.27	883.01	804.62	884.67
Gain/loss Capital Sales	2.88	3.15	5.01	1.51	2.85	2.80
MANAGEMENT RETURNS	(0.72)	(110.87)	(24.02)	14.51	(21.88)	18.49

**Table 3B - Economic Management Analysis per Operator Acre:
Pennyroyal Grain Farms by Size - 2015 Agronomic Data**

Range in Size (Acres)	All	0-999	1000-1999	2000-2999	3000-4100	4101+
Management Returns	All	All	All	All	All	All
Number of Farms	118	28	28	22	16	24
Crop Yields						
Yellow Corn	190	187	188	193	180	193
Full Season Soybeans	50	52	53	50	51	48
Wheat	80	77	79	82	82	80
Double Crop Soybeans	46	42	46	47	47	45
White Corn	182					
Barley	87					
Tobacco - Burley	2,323	2,614	2,190	2,083		
Tobacco - Dark Air Cured	2,614		2,762	2,427		2,567
Tobacco - Dark Fire Cured	2,807	2,551	3,002	2,775		3,000
Total Acres Planted-Selected Crops						
Yellow Corn	1,197	270	585	1,003	1,420	2,774
Full Season Soybeans	483	215	291	519	653	753
Wheat	1,148	254	476	986	1,243	2,716
Double Crop Soybeans	1,207	258	536	1,006	1,284	2,801
White Corn	1,057					
Barley	231					
Tobacco - Burley	52	19	69	52		97
Tobacco - Dark Air Cured	20		15	15		33
Tobacco - Dark Fire Cured	43	55	24	64		45
Land Use %						
Yellow Corn	39.2%	32.0%	38.2%	39.2%	41.8%	39.4%
Full Season Soybeans	15.2%	25.5%	16.2%	20.3%	18.1%	11.2%
Wheat	35.5%	31.7%	28.8%	31.2%	32.1%	40.3%
Double Crop Soybeans	36.9%	32.2%	29.8%	31.8%	35.5%	41.6%
White Corn	4.3%					
Barley	0.7%					
Tobacco - Burley	0.5%	0.9%	1.5%	0.7%		0.3%
Tobacco - Dark Air Cured	0.2%		0.3%	0.2%		0.1%
Tobacco - Dark Fire Cured	0.5%	2.1%	0.7%	1.0%		0.2%
Crop Value Per Acre						
Yellow Corn	729	721	715	734	712	739
Full Season Soybeans	458	461	477	476	467	436
Wheat	430	369	393	428	448	436
Double Crop Soybeans	441	383	428	457	450	442
White Corn	851					
Barley	198					
Tobacco - Burley	4,599	5,271	4,329	4,255		5,096
Tobacco - Dark Air Cured	6,274		6,400	5,531		6,088
Tobacco - Dark Fire Cured	7,103	6,595	7,866	6,742		7,663
Price Received - Old Crop						
Yellow Corn	4.10	4.01	3.86	4.06	4.17	4.16
Soybeans	10.61	10.68	10.29	10.91	10.58	10.45
Wheat	6.29	6.04	5.80	5.98	6.55	6.37
White Corn	4.96					
Barley	3.47					
Tobacco - Burley	2.02	2.00	2.00	2.05		2.01
Tobacco - Dark Air Cured	2.36		2.37	2.36		2.20
Tobacco - Dark Fire Cured	2.47	2.26	2.60	2.58		2.14
Price Received - New Crop						
Yellow Corn	3.86	3.81	3.90	3.93	3.73	3.87
Soybeans	9.13	9.45	9.01	9.56	9.30	8.96
Wheat	5.58	5.03	5.39	5.82	5.43	5.66
White Corn	4.96					
Barley	2.53					
Tobacco - Burley	1.98	1.95	1.98	2.04		1.97
Tobacco - Dark Air Cured	2.36		2.32	2.42		2.39
Tobacco - Dark Fire Cured	2.58	2.49	2.62	2.68		2.58

Table 4 - Pennyroyal Area Crop Yield Data							
	Yellow Corn	Full Season Soybeans	Double Crop Soybeans	Wheat	Burley Tobacco	Air Cured Tobacco	Dark Fired Tobacco
2004	170	49	43	58			
2005	137	49	37	79			
2006	161	50	41	83			
2007	107	21	11	31			
2008	147	41	30	84	2948	3024	3412
2009	182	51	47	66	2152	2419	2933
2010	126	32	27	69	2138	2815	3088
2011	139	37	41	80	2380	2717	2990
2012	72	46	47	66	2176	2765	3138
2013	190	52	52	82	2135	2345	2842
2014	144	47	36	81	2402	2761	3180
2015	189	50	46	80	2307	2614	2806
5 year average	147	46	44	78	2280	2640	2991
10 year average	146	43	38	72			

Table 5 - Pennyroyal Crop Price History (\$)								
	Yellow Corn		Full Season		Double Crop		Wheat	
	Old Crop	New Crop	Old Crop	New Crop	Old Crop	New Crop	Old Crop	New Crop
2008	4.33	4.60	9.85	9.97	9.73	9.39	5.26	5.49
2009	4.23	3.48	10.21	9.67	10.03	9.59	5.28	4.87
2010	3.78	4.13	9.95	10.57	9.79	10.42	5.85	5.73
2011	5.06	5.52	11.47	10.96	11.28	11.24	6.65	6.74
2012	6.25	6.46	12.58	13.98	12.23	14.25	7.33	7.36
2013	6.64	5.04	14.94	12.85	14.80	12.97	7.82	7.16
2014	4.74	4.08	13.16	11.05	13.00	11.95	7.37	5.97
2015	4.1	3.86	10.59	9.12	11.25	9.43	6.29	5.57
5 year average	5.36	4.99	12.55	11.59	12.51	11.97	7.09	6.56

Table 6 - Pennyroyal Management Returns & Net Farm Income								
	Net Farm Income				Management Returns			
YEAR	Kentucky	Pennyroyal	Kentucky Grain	Pennyroyal Grain	Kentucky	Pennyroyal	Kentucky Grain	Pennyroyal Grain
1989		61,785				(15,053)		
1990		39,506				(6,466)		
1991		41,083				(8,677)		
1992		107,823				53,578		
1993		68,956				10,520		
1994		97,986				28,933		
1995		119,564				45,806		
1996		190,374				103,653		
1997		99,765				4,747		
1998	104,084	13,862			(79,999)	(87,570)		
1999	112,623	73,046			(80,987)	(18,916)		
2000	127,357	117,582			35,675	19,919		
2001	112,832	147,171	108,637	161,685	15,557	34,407	22,318	46,021
2002	48,653	75,547	61,336	94,443	(48,294)	(31,247)	(44,832)	(18,358)
2003	152,018	183,897	197,037	239,454	49,032	70,808	82,090	114,644
2004	144,669	179,456	170,471	218,835	41,968	64,754	52,732	87,486
2005	132,867	152,417	152,752	170,965	17,728	19,707	24,099	28,312
2006	193,375	255,685	233,969	314,921	55,984	100,390	79,913	142,852
2007	232,824	159,966	232,933	198,216	35,153	12,519	65,630	19,443
2008	311,469	400,184	417,300	528,491	168,343	241,418	254,653	343,136
2009	307,633	316,750	410,073	422,866	152,237	145,665	235,659	229,231
2010	282,523	292,370	314,375	357,704	127,940	116,979	146,777	161,043
2011	453,681	527,022	521,947	624,354	289,803	345,226	345,124	424,096
2012	433,090	578,688	509,550	694,739	271,299	392,708	336,830	490,760
2013	473,891	597,270	544,448	693,056	298,064	394,470	354,498	470,685
2014	183,762	205,851	173,564	198,851	6,235	6,211	(12,864)	(15,153)
2015	109,451	178,211	128,635	212,471	(62,269)	(20,068)	(54,844)	(1,891)
5 Year Average	330,775	417,409	375,629	484,694	160,626	223,709	193,749	273,699
10 Year Average	298,170	351,200	348,679	424,567	134,279	173,552	175,138	226,420

This page left intentionally blank.

