# Kentucky Agricultural Experiment Station University of Kentucky

# FARM MANAGEMENT AND INCOMES OF FARM FAMILIES IN LAUREL COUNTY, KENTUCKY

# **BULLETIN NO. 305**



Agricultural Experiment Station of the University of Kentucky and

Lexington, Ky.

# EXPERIMENT STATION STAFF

# BOARD OF CONTROL

Richard C. Stoll, Chairman, Lexington, Ky. H. M. Froman, Lexington, Ky. R. G. Gordon, Louisville, Ky. James Park, Lexington, Ky. J. B. Andrews, Newport, Ky.

Frank L. McVey, President

Thomas P. Cooper, Dean and Director

# ADMINISTRATION

T. P. Cooper, Director D. H. Peak, Business Agent O. L. Ginocchio, Secretary

## AGRONOMY

George Roberts, Head George Roberts, Head

J. Kinney, Associate Agronomist
P. E. Karraker, Asst. Agronomist
J. Freeman, Asst. Agronomist
W. D. Valleau, Plant Pathologist
E. N. Fergus, Asst. Agronomist
J. B. Kelley, Agricultural Engineer
E. M. Johnson, Asst. Plant Path.
R. E. Culbertson, Asst. in Agronomy

FEED CONTROL
H. D. Spears, Chemist
W. G. Terrell, Inspector
Fred Fitschen, Inspector
L. V. Amburgey, Microscopist
Encil Deen, Inspector

# ANIMAL HUSBANDRY GROUP

E. S. Good, Chairman
W. S. Anderson, Horges
E. J. Wiltord, Swine, Meats
W. J. Harris, Beef Catile
J. Holmes Martin, Poultry
C. J. Maupin, Poultry Improvement
Fordyce Eiy, Dairy Husbandry
W. C. Eskew, Cream Grading
Wesley Brooks, Cream Grading
J. W. Nutter, Dairyman
Amenda Harms, Asst. Path Bact. Amanda Harms, Asst. Path. Bact, G. D. Buckner, Animal Nutrition W. M. Insko, Jr., Animal Nutrition Harold Barber, Head Herdsman

ANIMAL PATHOLOGY
W. W. Dimock, Head
Philip R. Edwards, Bacteriologist
F. E. Hull, Asst. Veterinarian
D. J. Healy, Bacteriologist
Genevieve Farwell, Technician

CHEMISTRY J. S. McHargue, Acting Head S. D. Averitt, Chemist O. M. Shedd, Chemist W. R. Roy, Asst. Chemist Robert K. Calfee, Asst. Chemist Winfield H. Likely, Asst. Chemist

CREAMERY LICENSE SECTION J. D. Foster, Inspector, in Charge N. J. Howard, Inspector

ENTOMOLOGY AND BOTANY W. A. Price, Head Mary L. Didlake, Asst. Entomologist H. H. Jewett, Research Asst. Entgst. Jessie Taylor, Seed Analyst Lucille Dobbins, Seed Analyst Eugene Simpson, Inspector

# FARM ECONOMICS

W. D. Nicholis, Head W. G. Finn, Farm Management W. L. Rouse, Farm Management Z. L. Galloway, Farm Organization Merton Oyier, Rural Life Studies

# FERTILIZER CONTROL

H. E. Curtis, Head Harry Allen, Chemist Lelah Gault, Asst. Chemist Robert Mathews, Inspector

# HOME ECONOMICS

Statie Erikson, Head Ruth Boyden, Assistant

# HORTICULTURE

A. J. Olney, Head C. S. Waltman, Assistant E. M. Emmert, Assistant

MARKETS AND RURAL FINANCE H. B. Price, Head Dana G. Card, Markets Clifton J. Bradley, Markets Olin M. Farrington, Markets C. D. Phillips, Markets

PUBLIC SERVICE LABORATORY

L. A. Brown, Head A. L. Meader, Asst. Chemist James H. Martin, Asst. Chemist E. K. Borman, Bacteriologist W. B. Hamilton, Asst. Bacteriologist Harvey Cunov, Asst. Bacteriologist

> ROBINSON SUBSTATION (Quicksand, Ky.)

R. W. Jones, Superintendent

WESTERN KY, SUBSTATION (Princeton, Ky.)

S. J. Lowry, Superintendent L. M. Caldwell, Assistant

# CONTENTS.

	Page
Introduction	
Income and Outgo of Farm Families	
Family Living from the Farm	225
Income and Outgo	
Income and Outgo As Influenced by Size of Family	
Income and Outgo As Influenced by Number of Crop Acres	231
The Farm Business	
Land Tenure Status of Operators	233
Farms Classified According to Sources of Income	
Scale and Type of Farming	
Capital Investment	
Profits Made by Operators	
Farm Receipts	239
Perquisites Furnished by the Farm to the Family Living	240
Farm Expenses	241
Factors Affecting the Profits of Farming	241
Factors of Efficiency On the Most Profitable Farms Compared With	
Those of the Average and the Least Profitable Farms	
Type of Farming	
Size of Farm	
Labor Accomplishment Per Man	
Efficiency of Labor	
Volume of Sales	
Crop Yields	
Livestock Returns Per Animal	
Soil Improvement and Fertility Maintenance	
Cover Crops, Hay and Pastures	
Livestock	255
Control of Expenses	
A Well-Balanced Business	
Dependence Upon Farming for a Living Versus Supplementing Farming With Outside Work	258
Organization and Management Used by Four Successful Farmers	
Successful 197-Acre Crop and Livestock Farm	
Outstanding 83-Acre Livestock and Crop Farm	
Successful Truck, Dairy and Poultry Farm	
Successful Tobacco, Dairy and Poultry Farm	
Proposed Farm Budgets	265
Summary	
Appendix	

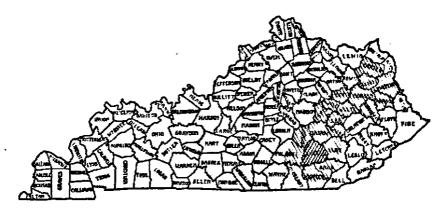


Fig. 1. Position of Laurel County and other eastern Kentucky counties with farm conditions generally similar to those of the area included in this study. Heavily shaded area is Laurel County and light shaded area is that with similar farm conditions.

# APPENDIX.

# BUDGET NO. 2.

FOUR-YEAR ROTATION—36 ACRES IN FIELD CROPS, 12 ACRES IN PERMANENT PASTURE.

Budget No. 2, shown in Table 24, provides for a 4-year rotation. With the crops and the livestock shown a net return of \$1,093 to the operator is indicated.

There are four 9-acre rotation fields and 12 acres of permanent pasture. In the first year of the rotation there are 8 acres of corn and 1 acre of tobacco, these crops being followed by 4½ acres each of wheat and spring oats the second year. The oats and wheat are seeded to a mixture of clover and grass (red and alsike clover, timothy, redtop and Japan). A hay crop is harvested the third year, and the same area pastured the fourth year, the sod being broken again for corn and tobacco the fifth year.

The 12-acre permanent pasture is to be reseeded every fourth year, this being equivalent to seeding 3 acres each year. An application of 1,000 pounds of fine ground limestone and 300 pounds of 16 percent superphosphate is made at the time the pasture mixture is seeded.

The crops and pasture grown in this plan provide the principal part of the feed required for 6 dairy cows and young stock, 2 head of work stock, 125 chickens and 3 hogs. The hogs are bought as pigs and fattened for home use. The plan provides an excellent balance between the stock kept and feeds grown. Feed to the value of only \$60 has to be purchased. The poultry flock gets the greater part of the skim-milk.

The largest single source of eash revenue are the 6 dairy cows. These return a gross income of \$539. Poultry and eggs from the 125 hens provide for eash sales of \$348. The acre of tobacco provides an income of \$180. Wheat brings in \$61. Total eash sales amount to \$1,191. Garden, orchard and crop products are furnished by the farm for the family living to a total value of \$134; pork, poultry and eggs and dairy products to a total value of \$219.

TABLE 24.
Budget No. 2.
SECTION A.

	1 1	Seeds		Fertilizer and	ials	
Сгор	Acres	Amount	Value	Kind	Amount	Value
Tobacco	1			Fertilizer 4-10-4 16% super- phosphate Canvas	500 lbs. 300 lbs. 30 yds.	\$10 1
Cora	8	1 bu.	Parm	16% super- phosphate	4,800 lbs.	53
Oats	41%	7 bus.	Farm	Twine Threshing	9 lbs. 135 bus.	14
Wheat	45%	6 bus.	Parm	Twine Threshing	9 lbe. 54 bus.	2
Mixed clover hay	9	36 lbs. red clover 18 lbs. alsike 27 lbs. timothy 18 lbs. redtop 36 lbs. lespedeza	11 4 2 3 5	Fine-ground limestone	9,000 lbs.	32
Permanent pasture	Ave. 3 A. each year	15 lbs. sweet cl. 9 lbs. lespedeza 15 lbs. orchard grass 9 lbs. redtop 6 lbs. timothy	31	Fine-ground limestons 16% super- phosphate	3,000 lbs. 900 lbs.	10 10
Total	· ·	* 5419 E16 E25 548 907 0 921 5 0000 4 90 94 64 64 25 77	\$34	**************************************		\$145

TABLE 24—Continued. SECTION B

		Total		Disposition	of products	
Crop	Астев		Fari	m Use	Sal	ce
		Production	Seed	Feed	Amount	Value
Tobacco Corn	1 8	900 lbs. 320 bus.	1 bu.	305 bus.	900 lbs.	\$180
Oats Wheat Clover hay Rotation past. Perm. pasture Orch. and truck Lots Waste Woodland	4% 4% 9 9 12 1% 234 3	135 bus. 54 bus. 22,500 lbs. Pasture Pasture	7 bus. 6 bus.	128 bus. 22,500 lbs. Pasture Pasture	48 bus.	62
Total	70				-	\$24Z

TABLE 24—Continued. SECTION C.

i		Home gro	wn feeds	Purchased feed and other expenses			
Live- stock	No.	Kind	Amounts	Kind	Amount	Value	
Dairy cows	6	Corn Clover hay Corn stover	96 bus. 15,000 lbs. 6,000 lbs.	Bran Cottonseed meal Miscellaneous costs	1,200 lbs. 600 lbs.	\$24 15 1.	
Veals	3	Whole milk	1,800 lbs.				
Dairy calves	2	Whole milk Skim-milk Clover hay	100 lbs. 2,400 lbs. 400 lbs.				
Dairy heifers	2	Corn Clover hay Corn stover	4 bus. 1,200 lbs. 2,000 lbs.	Bran Miscellaneous costs	Septembritz Sessacionajoso	Í	
Pigs	3	Corn Skim-milk	39 bus.   1,650 lbs.	Original cost Miscellaneous costs	#<4*22,4*********************************	12 1	
Poultry	125	Corn Skim-milk Oats	125 bus. 16,250 lbs. 62 bus.	Chick feed Oyster shell Miscellaneous costs	250 Ibs. 500 Ibs.	1	
Work stock	2	Corn Oats Clover hay Corn stover	40 bus. 80 bus. 6,000 lbs. 2,000 lbs.	Miscellaneous costs	<b>46</b> 813 624124 W46		
Totals		Corn Oats Whole milk Skim-milk Clover hay Corn stover	304 bus. 142 bus. 1,900 lbs. 20,300 lbs. 22,600 lbs. 10,000 lbs.	Feeds Miscellaneous costs	Wraczbodoldka . Wkiska dladaji ba	60	

TABLE 24—Continued. SECTION D.

	1	Disposition of products						
Kind of livestock	Total	Fed to	Used in	home	Sales			
and product	Production	Livestock	Amount	Value	Amount	Value		
Dairy cows Milk 4½ % Veals Cull cows	30,000 lbs. 420 lbs. 2	1,900 lbg.	4,500 lbs. 202 lbs. fat	\$81	1,062 lbs. 420 lbs. 2 cows	\$425 34 80		
Pork	700 lbs.		700 lbs.	63				
Poultry eggs Fryers Hens	1,125 doz. 500 lbs. 500 lbs.	62 set	160 doz. 100 lbs. 50 lbs.	40 26 9	903 doz. 400 lbs. 450 lbs.	226 104 81		
Totals				\$219		\$950		

TABLE 24—Continued.
SECTION E.

Incomes	Expenses		
Crops (Section B) Livestock and livestock products	\$242	Crops (Section A)	\$34
(Section D) Orchard and crop products used	950	Fertilizer and other materials	145
in home  Livestock products used in home	134	Livestock (Section C) Feeds purchased	60
(Section D)	219	Miscellaneous costs	34
Total	\$1,545	General farm Machinery—new and upkeep Buildings—new and upkeep	30 80
		Fence—new and upkeep Miscellaneous: taxes \$15, in- surance \$15, telephone \$3	40 53
Net Income	\$1,099	Total	\$446

# BUDGET NO. 3.

# FIVE-YEAR ROTATION—271/2 ACRES OF FIELD CROPS, 19 ACRES IN ROTATION PASTURE.

The plan shown in Budget No. 3, Table 25, provides a net cash income of \$657 and farm products for the family living worth \$353. The plan is adapted to farms on which all the land except the woodland can be cultivated. Rotation pastures rather than permanent pastures are used.

There are 5 nine and a half acre fields. The first year there are 1 acre of tobacco and 8½ acres of corn, rye being seeded as a cover crop on the corn and tobacco stubble land. Red, alsike and Japan clover, timothy, redtop and orchard grass are seeded on the rye, that crop serving as a winter cover for the corn and tobacco stubble land. The rye may be pastured or clipped or allowed to ripen and fall down, thus materially benefiting the land by mulching and adding to its content of organic matter. The third year 9½ acres of hay is cut, the same land during the fourth and fifth years being used for pasture.

TABLE 25, Budget No. 3, SECTION A,

·	} ,	Seeds		Fertilizer and other materials		
Crop	Acres	Amount	Value	Kind	Amount	Value
Товассо	-		,	Fertilizer 4-10-4 16% super- phosphate Canvas	500 lbs. 300 lbs. 30 yds.	\$10 3 1
Corn	83%	í Bu.		16% super- phosphate	5,100 lbs.	56
Mixed clover hay	935	38 lbs. red cl. 19 lbs. alsike 28½ lbs. timothy 19 lbs. redtop 36 lbs. orchard grass 28½ lbs, lespedeza	# 5°85 884	Fine-ground limestone	9,500 lbs.	33
Rye	91/2	14 bus.	20		•	
Total			<b>\$</b> 53	**************************************	********	\$103

The system provides most of the feed needed for 6 dairy cows and the accompanying young stock, 3 hogs, 125 chickens and 2 head of work stock. Somewhat less grain is grown than in Systems 1 and 2, and the deficiency is made up by the purchase of 30 bushels of corn.

TABLE 25—Continued. SECTION B

				Disposition	of products	1
Crop	Acres	Total Production	Far	m Use	l Sales	
	<u>                                     </u>	Production	Seed	Feed !	Amoust	Value
Tobacco Corn Mixed clover hay Rye Rotation pasture Orchard and truck Lots Waste Woodland	1 8 1/4 9 1/4 9 1/4 1 1/4 3 1/4 3 15	900 lbs. 340 bus. 23,750 lbs. Pasture and cover crop Pasture	1 bu.	325 bus. 23,750 lbs.	900 lbs.	\$180
Total	70			1		\$180

TABLE 25—Continued. SECTION C.

		Home grown feeds		Purchased feed and other expenses			
Live- stock	No.	Kind	Amounts	Kind	Amoust	Value	
Dairy cows	6	Corn Legume hay Corn stover	96 bus. 15,000 lbs. 6,000 lbs.	Bran Cottonseed meal Miscellaneous costs	1,200 lbs. 600 lbs.	\$24 15 15	
Veals	3	Whole milk	1,800 lbs.				
Dairy calves	2	Whole milk Skim-milk Legume hay	100 lbs. 2,400 lbs. 400 lbs.				
Dairy heifers	2	Corn Legume hay	4 bus. 2,000 lbs.	Bran Miscellaneous costs	200 lbs.	1	
Pigs	3	Corn Skim-mille	39 bus. 1,650 lbs.	Original cost Miscellaneous costs	### ##################################	12 1	
Poultry	125	Corn Skim-milk	126 bus. 16,250 lbs.	Corn Chick feed Oyster shell Miscellaneous costs	30 bus. 250 lbs. 500 lbs.	30 12 5 1	
Work stock	2	Corn Mixed hay Corn stover	60 bus. 6,000 lbs. 2,000 lbs.	Corn Miscellaneous costs	Septions of the State of the St	20 4	
Totals		Corn Whole milk Skim-milk Legume hay Corn stover	326 bus. 1,900 lbs. 20,300 lbs. 23,400 lbs. 8,000 lbs.	Peeds Miscellaneous costs	We proposed none Definite print Defin	\$110 34	

TABLE 25-Continued. SECTION D.

		Disposition of products					
Kind of livestock	Total	Fed to	Used in	home	Sales		
and product	Production	Livestock	Amount	Value	Amount	Value	
Dairy cows Milk 4½ % Veals Cull cows	30,800 lbs. 420 lbs. 2	] 1,900 lbs.	4,500 lbs. 202 lbs. fat	<b>\$81</b>	1,062 lbs. 420 lbs. 2 cows	\$425 34 80	
Pork	700 lbs.		700 lbs.	63			
Poultry egga Fryers Hens	1,125 dog. 500 lbs. 500 lbs.	62 <b>ș</b> et	160 doz. 100 lbs. 50 lbs.	40 26 9	903 doz. 400 lbs. 450 lbs.	226 104 81	
Totals		<u>.</u>		\$219		\$950	

TABLE 25—Continued. SECTION E.

Incomes		Expenses		
Crops (Section B) Livestock and livestock products	\$180	Crops (Section A) Seeds	e<1	
(Section D) Orchard and crop products used	950		\$53 103	
in home	134	Livestock (Section C)		
Livestock products used in home	ĺ	Feeds purchased	110	
(Section D)	219	Miscellaneous costs	34	
Total	\$1,483	General farm		
	1``	Machinery-new and upkeep	30 50 <b>40</b>	
	i	Buildings—new and upkeep	50	
		Fence—new and upkerp Miscellaneous: taxes \$35, in-	40	
		surance \$15, telephone \$3	53	
Net Income	\$1,010		\$473	