Cash Flow Estimates For Contract Broiler Production In Georgia:

A 20-Year Analysis

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Essentially all of the broilers produced in the United States are grown by contract producers. The raising of poultry via contractual arrangements with integrated companies has been a primary component of the commercial poultry meat industry for more than 50 years and has been a contributing factor in the growth and success of this business for both integrators and growers. While poultry contracts offer benefits to growers such as reduced market risk, reduction of production responsibilities, lower operating capital requirements, and relatively reliable and predictable incomes, poultry production operations require substantial investments for growers. Because poultry houses represent long term investments (30 years or more) it is important for individuals to understand the long term business potential of these commitments before building.

Before investing in a broiler production unit, consider the cash flow potential of that unit. Cash flow refers to the amount of income generated compared to expenses paid from cash accounts over time. Generating a positive cash flow is essential to the success of any business and is particularly important to farmers because it contributes to their livelihood. Broiler production may represent either a primary or a supplemental income for farmers, depending on the size of operation. Cost and return data collected over many years in Georgia suggest that cash flows for broiler production houses are often moderate during the debt retirement period, but generally become more positive after the housing and equipment debt is paid off. As a result, many poultry growers in Georgia have started with smaller production units that have grown over time. It is also important to realize that, during the life of a production facility, additional investments in new equipment will be necessary to maintain production efficiencies. These costs for periodic upgrades usually contribute to increased efficiencies, increases in contracts, or combinations of these two factors.

Through the use of an annual analysis of broiler production costs and returns in Georgia, a historical base of information related to grower investments and contract returns has been collected. These annual evaluations include yearly on-site interviews with poultry integrators, building contractors, bankers and growers. Information obtained from these interviews includes costs of housing and equipment, contract payments, operating costs, flock performance factors, and applicable interest rates. The annual collection of this information has made it possible to estimate cash flow returns for poultry producers over time.

Although incomes from poultry houses are relatively predictable, cash flows fluctuate year to year as a result of changes in flock production factors and economic conditions. To demonstrate this fact, this report uses data collected between 1992 and 2002 to estimate and project cash flows for a 20-year period for a typical tunnel ventilated broiler house placed in operation in 1992. As with any cost and returns analysis, these estimates are not intended to be representative of all growers' situations. Growers may do better or worse than the projections here. These results are particularly helpful to individuals considering investment in new or existing production facilities, but they are also suitable for use by poultry integrators, lending institutions, students, agricultural appraisers and county agents.

Historical Perspective

Economic and performance factors for broiler production facilities in Georgia have changed substantially over the years (Table 1, page 4). From 1980 to 2002, building and equipment costs increased from $3.40 to $7.00/sq. ft. while contract payments for an average grower increased from $0.033 to $0.048/lb of live weight. Significantly, the amount of live weight produced annually in these facilities increased from 25.3 lb/sq. ft. to 34.9 lb/sq. ft. as a result of improved flock performances.

The combined effects of improved flock performance and higher contract payments have increased annual income per square foot from $0.84 to $1.80. More than

Table 1. Performance comparisons for broiler production facilities.

	1980	1992	2002
House size	36' x 352'	40' x 500'	40' x 500'
Building & equipment cost	$43,100	$95,500	$140,000
Building & equipment cost/sq.ft.	$3.40	$4.78	$7.00
House capacity	16,000	27,000	23,880
Finishing weight (lbs)	3.80	4.45	5.65
Livability (%)	96	95	97
Flocks/year	5.5	6.0	5.5
Live weight (lbs)/sq.ft.	25.3	34.2	35.9
Contract payment/lb	$0.033	$0.043	$0.050
Income/sq.ft.	$0.84	$1.47	$1.80

65 percent of this increase in annual income during this period results from improved bird performances, with the remainder coming from increased contract payments. What is also apparent from the results presented here is that achievements in flock performance factors have slowed in recent years (i.e., from 35% increase 1980 to 1992 to 5% increase for 1992 to 2002). It seems unlikely that broiler performances over the coming years can achieve gains comparable to those observed during the 1980s and 1990s. The implication is that poultry integrators will have to increase contract payments at a faster pace in the future than in the past to facilitate new construction and expansion. This should be beneficial to growers with existing production facilities as it would likely increase income without increasing associated expenses. In addition, many producers have helped their bottom line returns by refinancing their loans at lower interest rates during 2001 and 2002.

Net Income Projections

In 1992 the typical broiler production house measured 40' x 500' and housed approximately 27,000 birds with a gross income of $29,400. Cash operating costs (i.e., fuel, electricity, litter, etc.) were $8,232 resulting in an estimated net income of $21,217 (Table 2). Estimated net incomes for an average performance facility as determined from information collected from 1992 to 2002 changed with time (Table 2). Net income for this analysis is defined as gross income minus cash operating costs. Changes in net income occurred as a result of the combined effects of fluctuations in the performance factors of bird weights, livability, placement rates, and contract payments, and cash operating factors such as fuel, litter, electricity, maintenance, repair and miscellaneous costs.

Gross income increased from $29,448 in 1992 to nearly $36,000 in 2002, an equivalent of 2.21 percent per year average. Cash costs increased from $8,231 to $10,400 for an average annual increase of 2.38 percent during this same period. Net income increased at a slightly lower rate (2.06%) due primarily to the increased cost for fuel and electricity in the late 1990s and early 2000s.

Table 2. Changes in net income for an average performance broiler operation, 1992-2002.

Year	Gross Income	Cash Costs*	Net Income**
1992	$29,448	$8,231	$21,217
1993	$30,687	$8,850	$21,837
1994	$30,105	$8,880	$21,225
1995	$32,570	$8,770	$23,800
1996	$32,085	$9,250	$22,835
1997	$30,153	$9,400	$20,753
1998	$33,710	$9,840	$23,870
1999	$34,668	$9,970	$24,698
2000	$35,640	$10,100	$25,540
2001	$32,842	$10,250	$22,592
2002	$35,992	$10,400	$25,592
Annual change (%)	2.21	2.38	2.06

* Cash costs include expenses for litter, electricity, fuel, repairs and miscellaneous, dead bird disposal, and insurance and property taxes.

** Gross income minus cash costs.

Cash Flow Estimates (After Tax)

Cash flow generated from a poultry house will change over time as debt is retired and as net income changes. Cash flow budgets can be set up in many ways depending on interest rates, payback periods, depreciation schedules and tax rates used. Thus, any cash flow

projection is only an estimate of what may be reasonably expected to occur given the input factors available at that time. For the projections used here, information collected from 1992 to 2002 for after tax cash flow factors for a typical 20,000 sq. ft. tunnel ventilated production house was applied. Cash flow estimates for years beyond 2002 were based on cost and income projections utilizing the historical information in Table 1 (i.e., net incomes for 2003-2011 were computed using a 2.06% annual rate of increase). In addition, the following criteria and assumptions were employed.

Initial Investment – A single 40' x 500' broiler house equipped with a total cost of $95,500. One hundred percent financed for 15 years at 9.5 percent.

Replacement Equipment – Installed after 12 years with a cost of $18,000. 100% financed for 7 years at 9.5%.

Annual Net Income – Derived by subtracting annual cash expenses from gross income.

Depreciation – Uses the Modified Accelerated Cost Recovery System (MARCS) for 10 years on buildings and 7 years on equipment. Depreciation used only to determine taxable income.

Taxable Income – Net operating income minus depreciation and mortgage interest.

Taxes – Federal and state income and social security taxes combined at 35%.

Labor – Assumes use of family labor without the need for hired labor. Some larger operations use hired labor which could add an additional $2,500 to $3,500 to annual operating expenses per house.

Land – Assumes land owned by grower with no associated cash cost. Land requirements for poultry houses are relatively small (e.g. four houses may be placed on as few as 20-30 acres).

Value of Litter – The value of used litter at clean-out is assumed to be at least equal to the cost of clean-out and is not counted as an income factor for this analysis. However, for some growers, used litter can result in additional net income ranging from $1,000 to $2,000 per house per year.

Net Cash Flow – Net to grower's land, labor and management (i.e., cost for land labor and management not included). Obtained by subtracting interests, taxes and debt retirement from net income.

Adjusted Cash Flow – Net cash flow adjusted for annual inflation rate based on the CPI (1992 = base year).

Results and Discussion

Three different income scenarios were used to demonstrate potential cash flows over time for this broiler production facility. Table 3 (page 7) demonstrates annual cash flow projections for this facility using average performance values (Table 1) for live bird weights, livability and contract payments. Above average cash flow projections were demonstrated by adjusting net incomes based on bird weights of 0.2/lb, livability of 0.005 percent and contract payments of $0.002/lb above the average values used for these factors (Table 4, page 8). Below average projections were determined by subtracting these factors from the average values (Table 5, page 9).

Results from these examples demonstrate that cash flow for a broiler house is generally moderate until the house is paid off (15 years for this example). Although cash flow is positive for all three scenarios, it declines substantially during the later years of debt retirement (years 2002-2006). These declines in cash flow toward the end of the mortgage period are a result of the combined effects of loss of depreciation deductions, lower interest payment deductions and the associated increases in taxable income and taxes paid. Cash flow then increases substantially in 2006 after the initial building and equipment debt is paid off and increases again in 2011 when the debt for upgrading the facility is retired. As a result, most of the income generated from a broiler house occurs during the second half of its productive life (i.e., years 15-30), even though additional upgrades will likely be necessary prior to full retirement of this facility. This is true because additional upgrades, when economically feasible, will always cost less than new construction. Proper maintenance and prudent upgrades of a broiler house should, therefore, provide continued positive cash flow for as long as the facility is operational.

The effects of inflation over time are demonstrated by the adjusted cash flow values. The results here indicate that returns to growers over time either keep pace with or do slightly better than the annual rate of inflation (i.e., the purchasing power of the dollars generated at the end of the 20-year period are either equal to or greater than the purchasing power generated in the early years of the investment).

The results presented here help to emphasize some important facts regarding investment in broiler production houses:

Broiler growing is not a get rich quick enterprise, but it can provide positive cash flows ranging from only a few thousand dollars a house for a below average performer to more than $10,000 per house for above average performances. In some cases, cash flow may be negative for a period of time, but over the long term will generally be positive for many growers.

Broiler production is not labor intensive (approximately 440 hours/house/year). In addition, the labor required for broiler production is not generally considered to be hard labor due to the development and use of mechanization within the houses. Assuming an average annual cash flow of $8,000, that equates to an income for the owner's labor and management of more than $18.00 per hour. Thus many broilers are grown as part-time or supplemental incomes for the owner using primarily family labor.

Relatively small amounts of land are required to grow broilers, depending on the method of litter utilization. As many as four houses may be placed on as few as 20-30 acres of land if the manure can be properly disposed of on other properties. Four broiler houses can realistically result in annual cash flows of $24,000 to more than $40,000 for a grower's land, labor and management. As a result, many small landowners and family farm operators have successfully participated in this business.

Because of the nature of contracts, incomes from broiler houses are relatively reliable. In these examples, growers' after-tax cash flow was positive in every year, even though poultry processors lost money in years 1996, 1997, 1999, 2000 and 2002 (Table 6, page 10). Growers may also suffer with reduced incomes in down market years; their contracts and placement schedules, however, usually provide them enough income to retire debt and cover operating costs. **As a result, defaults on poultry loans are essentially non-existent in Georgia** and lending agencies are generally willing to finance houses.

Summary

The factors discussed here are the primary reasons why broiler production has been attractive to many as a way of increasing income and diversifying farm operations on land that may have had relatively few other options. Cash flows from broiler production houses vary from year to year, but for most poultry producers, they are generally positive over time. Growing broilers represents a good way for many farmers to diversity their operations and provide for relatively stable incomes. Producing broilers may be a part-time enterprise for smaller operators, or it can easily represent the primary source of income for larger operators. The flexibility associated with size of operations and labor requirements have combined to make broiler production an attractive enterprise for many farm operators. Growing broilers is not, however, a business suitable for everyone, and individuals should thoroughly investigate before investing. Nevertheless, it has been a rewarding and positive experience for many Georgia farmers.

For more information regarding contract broiler production, contact your local county extension office or the Department of Poultry Science at the University of Georgia.

Table 3. Cash flow estimates for average performance broiler operation.

Year	Net Income*	Depr.	Int. on Debt	Tax. Income	Taxes	Debt Ret.	Net Cash Flow**	Adj. Cash Flow***
1992	21,217	8,383	8,943	3,891	1,361	3,024	7,889	7,889
1993	21,837	15,250	8,642	0	0	3,324	9,871	9,575
1994	21,225	12,490	8,313	422	148	3,654	9,110	8,609
1995	23,800	10,417	7,950	5,433	1,902	4,016	9,932	9,097
1996	22,835	9,681	7,552	5,602	1,961	4,415	8,907	7,900
1997	20,753	9,681	7,114	3,958	1,385	4,853	7,401	6,394
1998	23,870	9,681	6,632	7,557	2,645	5,335	9,258	7,851
1999	24,698	7,355	6,103	11,240	3,934	5,864	8,797	7,266
2000	25,540	5,026	5,521	14,993	5,248	6,446	8,325	5,496
2001	22,592	5,026	4,881	12,685	4,440	7,086	6,185	4,725
2002	25,592	2,513	4,178	18,901	6,615	7,789	7,010	5,168
2003	26,137	0	3,404	22,733	7,957	8,562	6,214	4,416
2004	26,700	1,928	4,184	20,588	7,205	11,314	3,997	3,112
2005	27,271	3,443	3,061	20,767	7,268	12,437	4,505	2,758
2006	27,855	2,705	1,826	23,324	8,163	13,671	4,195	2,046
2007	28,451	2,205	1,004	25,242	8,835	2,526	16,086	9,721
2008	29,060	2,205	754	26,101	9,135	2,777	16,394	9,649
2009	29,682	2,205	478	26,999	9,449	3,052	16,703	9,205
2010	30,317	2,205	175	27,937	9,778	3,355	17,009	8,921
2011	30,965	1,103	0	29,862	10,452	0	20,513	10,213

*Gross annual income minus cash operating costs.
**Net income minus interest, taxes, and debt retirement.
***Net cash flow adjusted for inflation.

Table 4. Cash flow estimates for above average performance broiler operation.

Year	Net Income*	Depr.	Int. on Debt	Tax. Income	Taxes	Debt Ret.	Net Cash Flow**	Adj. Cash Flow***
1992	24,141	8,383	8,943	6,815	2,385	3,024	9,789	9,789
1993	24,681	15,250	8,642	789	276	3,324	12,439	12,065
1994	24,032	12,490	8,313	3,229	1,130	3,654	10,935	10,333
1995	26,795	10,417	7,950	8,428	2,950	4,016	11,879	10,881
1996	25,756	9,681	7,552	8,523	2,983	4,415	10,806	9,585
1997	23,494	9,681	7,114	6,703	2,346	4,853	9,181	7,932
1998	26,818	9,681	6,632	10,505	3,677	5,335	11,174	9,476
1999	27,683	7,355	6,103	14,225	4,979	5,864	10,737	8,869
2000	29,245	5,026	5,521	18,698	6,544	6,446	10,737	8,514
2001	25,426	5,026	4,881	15,519	5,432	7,086	8,027	6,133
2002	28,630	2,513	4,178	21,939	7,679	7,789	8,984	6,623
2003	29,501	0	3,404	26,097	9,134	8,562	8,401	5,965
2004	30,140	1,928	4,184	24,028	8,410	11,314	6,232	4,263
2005	30,782	3,443	3,061	24,278	8,497	12,437	6,787	4,462
2006	31,449	2,705	1,826	26,918	9,421	13,671	6,531	4,120
2007	32,124	2,205	1,004	28,915	10,120	2,526	18,474	11,163
2008	32,815	2,205	754	29,856	10,450	2,777	18,834	10,880
2009	33,520	2,205	478	30,837	10,793	3,052	19,197	10,580
2010	34,240	2,205	175	31,860	11,151	3,355	19,559	10,259
2011	34,974	1,103	0	33,871	11,855	0	23,119	11,510

*Gross annual income minus cash operating costs.
**Net income minus interest, taxes, and debt retirement.
***Net cash flow adjusted for inflation.

Table 5. Cash flow estimates for below average performance broiler operation.

Year	Net Income*	Depr.	Int. on Debt	Tax. Income	Taxes	Debt Ret.	Net Cash Flow**	Adj. Cash Flow***
1992	18,444	8,383	8,943	1,118	391	3,024	6,086	6,086
1993	19,133	15,250	8,642	0	0	3,324	7,167	6,952
1994	18,556	12,490	8,313	0	0	3,654	6,589	6,227
1995	20,950	10,417	7,950	2,583	904	4,016	8,080	7,401
1996	20,212	9,681	7,552	2,979	1,042	4,415	7,203	6,389
1997	18,143	9,681	7,114	1,348	472	4,853	5,674	4,902
1998	21,059	9,681	6,632	4,746	1,661	5,335	7,431	6,301
1999	21,849	7,355	6,103	8,391	2,937	5,864	6,945	5,737
2000	23,303	5,026	5,521	12,756	4,465	6,446	6,871	5,449
2001	19,888	5,026	4,881	9,983	3,494	7,086	4,427	3,382
2002	22,689	2,513	4,178	15,998	5,599	7,789	5,123	3,777
2003	23,434	0	3,404	20,030	7,011	8,562	4,458	3,168
2004	23,997	1,928	4,184	17,885	6,260	11,314	2,239	1,532
2005	24,568	3,443	3,061	18,064	6,322	12,437	2,748	1,807
2006	25,152	2,705	1,826	20,621	7,217	13,671	2,438	1,538
2007	25,748	2,205	1,004	22,539	7,888	2,526	14,330	8,659
2008	26,357	2,205	754	23,398	8,189	2,777	14,637	8,456
2009	26,979	2,205	478	24,296	8,503	3,052	14,946	8,237
2010	27,614	2,205	175	25,234	8,832	3,355	15,252	8,000
2011	28,262	1,103	0	27,159	9,506	0	18,756	9,339

*Gross annual income minus cash operating costs.
**Net income minus interest, taxes, and debt retirement.
***Net cash flow adjusted for inflation.

Table 6. Average chicken processor returns 990-2002.

Year	Income ¢/lb
1990	4.6
1991	0.5
1992	1.0
1993	1.7
1994	2.7
1995	3.6
1996	-3.1
1997	-4.0
1998	5.5
1999	-2.1
2000	-5.8
2001	2.0
2002	-5.5

Source: *Feedstuffs*, November 2002.

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