



# Broiler Production: Considerations for Potential Growers

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In 2015, broiler production was the third largest agricultural revenue generator in Oklahoma, only trailing income from cattle/calves and hogs/pigs. Broiler receipts have grown dramatically in the past 20 years to \$771 million in 2015 compared to \$240 million in 1993.

Contract broiler production is concentrated in the eastern tier of Oklahoma counties. The success of contract broiler production in eastern Oklahoma is directly related to the success of poultry companies (integrators) located in Arkansas. Eastern Oklahoma has benefited from the integrators' expansion to capitalize on increased consumer demand for poultry products.

This fact sheet discusses factors that someone evaluating broiler production as an alternative and/or complementary farm enterprise should consider. Factors to consider range from the availability of an integrator to waste management and environmental considerations.

## Availability of an Integrator

Commercial broiler production tends to be concentrated in a relatively small radius around an integrator's feed mill and other facilities. Because of the high costs of building a hatchery, feed mill and processing facilities, integrators will not likely build facilities in new areas unless a dramatic growth in demand for their product is expected. If integrators choose to expand, the profitability of both the grower and the integrator favors established growing areas. The poultry company will, if possible, operate multiple shifts and maximize use of their existing plant capacity. Since the integrator's facilities tend to be centrally located, an expansion of the grower territory means higher transportation costs for the delivery of chicks and feed and for hauling broilers from the grower to the processing facilities.

## Contract Production

Nearly all broilers grown in Oklahoma are produced with some type of contract between an integrator and the grower. The poultry company furnishes chicks and feed, supervises growth of the broilers through a field service representative

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and may also provide a fuel allowance during winter months and an allowance for facility upgrades. The grower provides the land, broiler house, equipment, labor and normal operating expenditures. The grower agrees to use the processor's chicks and feed and return a product (e.g. broilers) that meets certain standards.

The producer is paid per pound of usable broilers produced. An additional payment incentive is usually included in the agreement between the integrator and the grower. The incentive payment may be based on feed conversion and/or cost of production. Often, the grower's compensation is adjusted based on a comparative ranking among growers in the same area, using the same set of processor supplied inputs, during the same period of production. For an individual, the variation in production compared to average performance will be a result of the grower's facilities and management. Thus, the grower accepts that this management and production risk will affect revenues through variations in yields as well as the base price per the Net Pound Value formula agreed to in the contract:

$$\text{Net Pound Value} = \text{Cost of Production} \div \text{Pounds of Live Bird Delivered to the Processing Plant}$$

where:

$$\text{Cost of Production} = \text{Cost of Birds} + \text{Cost of Feed}$$

The cost of the birds equals the number of chicks delivered times the price of each chick as stipulated in the contract and the cost of the feed equals pounds of feed delivered times the cost of the feed as stipulated in the contract.

In current Oklahoma contracts, a \$0.0001 decrease in the Net Pound Value (cost per pound) below the average for the flocks delivered during the same week by all other growers will result in a higher price per pound (likewise, an increase in the Net Pound Value above other growers will result in a lower price). Thus, the integrator transfers the entire reward for efficiency (or inefficiency) to the pool of growers. This is an incentive for producers to maximize the pounds delivered to the integrator. This enables the integrator to maximize their asset turnover ratio and maintain a rate of return on assets that invites investment. Note, however, that a producer with superior management skills relative to the population of broiler producers may not benefit from a relatively low Net Pound Value if he/she markets birds in the same week as other superior managers.

Before agreeing to produce broilers under contract, the grower should thoroughly examine the contract and be familiar with its terms. Contracts are for the protection of both the producer and the integrator and should clearly spell out all important details. These details should include terms of grower payments, production practice requirements, incentive clauses, production items to be furnished by each party and those to be jointly furnished and upgrade requirements. A potential grower should be aware of the details and responsibilities while considering such events as a tornado destroying a broiler house, an integrator deciding to reduce broiler production, rapid increases in energy costs or declines in poultry demand. Firm written answers to any question about the integrator's role or expectations should be obtained prior to signing.

A well written contract that is understood by both parties is an essential beginning for successful long-term broiler production. These contracts are almost always written by legal counsel for the integrator, thus the grower must review the contract for any items that are unclear or that require modification. Given the significant potential investment by the grower, engaging an attorney for a complete analysis of the contract may be prudent. Further, growers should spend some time exploring "what if" scenarios to see what their options under the contract will be if problems are encountered. Growers should be wary of simply thinking "everything will be OK" – rather, they should evaluate a wide range of operating scenarios and their potential outcomes.

Most, if not all grower contracts, contain a clause that limits the contract to the terms included in the written document; in other words, this clause means that agreements reached through oral discussions (and in some cases, even agreements documented in writing) will not be held legally enforceable if they are not made a part of the "master" contract document. Thus, as growers review their contracts and discuss clarifications or modifications with the integrator, they must remember to memorialize the results of these discussions in writings that are signed by both the grower and an authorized representative of the integrator. These additional writings should also be recognized in the master contract document.

While every aspect of the contract is important and should be carefully scrutinized, a handful of areas should receive even more attention, as they have the greatest potential to affect the cash flows of the operation through adjusting the risks of contract production. These areas are discussed in the paragraphs that follow.

**Duration/termination of the agreement:** Since entering a contract may require significant investments in structures, equipment and other assets, a primary concern is whether the contract will last long enough to allow the grower some assurance that they will be able to recover the costs of those investments. Some contracts are on a flock-to-flock basis, meaning that each contract lasts only while the current flock is placed with the grower and then can be terminated. While these arrangements provide a great deal of flexibility for the integrator and grower, they do not provide the assurance for continued revenue to support the grower's investment. Other contracts are defined by a specific time period, with some lasting up to ten or fifteen years. These contracts provide more stability for the grower, but may also be difficult for the grower to terminate should they desire to do so.

While it is important to understand the duration of a contract, it is equally important to understand how the contract

can be terminated. Growers must recognize that in many contracts, the integrator will have more discretion to terminate the agreement than the grower will. Thus, growers should evaluate the circumstances that can trigger automatic termination of the agreement, as well as those that would permit the integrator and/or the grower to terminate. Is there a way to objectively determine when these circumstances have occurred, or is it left to the discretion of one of the parties? In many contracts, the party seeking termination may have to provide written notice of their intent to terminate and must give the other party an opportunity to "cure" the problem leading to the termination. How much notice (if any) must the integrator provide the grower and vice versa? If the termination occurs in the middle of a flock's grow-out, will the grower be paid for the time and resources invested in that flock to date?

**Facilities and equipment:** As shown in the budget that follows, the cost associated with facilities and equipment is one of the largest factors in the overall expense of the broiler operation. The grower should determine whether the type and configuration of the facilities and equipment required are standard for the industry. This is important should the contract under consideration be terminated for some reason. If the specified facilities and equipment can be used under other integrators' contracts, this reduces the risk that the grower's investment will be "stranded" – otherwise, a grower could be left still making payments on these investments without any revenue to support them.

**Production issues:** Broiler production contracts frequently contain highly detailed production practices and procedures and the grower must understand the implications these provisions have for both their broiler operations and the rest of their farm. For example, many contracts contain provisions prohibiting keeping any other fowl (and in some cases, any other animals) on the farm while an integrator's flock is placed there. This can constructively prohibit growing flocks for multiple integrators at any one time and may prohibit any other animal enterprises altogether.

In some cases, the integrator may have a production practices manual or some other set of procedures. Growers should examine these practices carefully (and if there is not a manual or other documentation of the integrator's required practices, how will these practices be established?). What are the consequences if these procedures are not followed and who judges whether they are indeed being followed? Who is responsible for securing feed and medications and who bears the risk if those materials do not perform adequately?

Another critical element of production is the placement and collection of the flock. Does the contract guarantee a minimum occupancy for the facility in terms of birds per flock and/or the timing of flock placements? Does the contract require the use of certified scales for weigh-in and weigh-out and who will supervise those operations? When the flock is collected, will there be standards for the condemnation of unhealthy or underperforming birds and will the grower be provided with an explanation of condemnations in their settlement sheet?

Yet another important aspect of the production contract is its handling of production risks, especially death loss. Many contracts contain a clause dealing with "Acts of God" (this may also be called a *force majeure* clause). Growers must understand how an "Act of God" is defined and how risk for such events is allocated between the grower and integrator. For example, who bears the risk of loss if, despite proper maintenance and care,

there is a failure in the ventilation, heating, cooling, watering, or other systems? What if there is a significant weather event such as a heat wave, flood, or tornado?

**Payment terms:** Perhaps the most complex element of the production contract is the discussion of payments for the grower. The industry uses many different tools to compensate growers and growers must work diligently to both understand how these tools work and to properly incorporate these calculations in their budget analysis. First, the grower should understand the basic payment mechanism for grow-out, which will often be based on a “settlement sheet” when the flock is collected and weighed (although payment may come sometime after this). What is the payment per pound or per bird? Next, many agreements include incentive payments for reaching targets for certain measures such as death loss, feed efficiency, etc. If this is the case, what must be done to receive these payments and when will they be received? Additionally, many contracts include a payment based on a “tournament” system in which growers are placed into groups; the growers’ performance is compared to the rest of the group and adjustments to grower payments are made based on their performance relative to the group. If this is the case, the grower should evaluate how much of their compensation is based on factors that they can control and how much is based on factors that they cannot control.

## Advantages and Disadvantages of Contract Production

A well written contract that is understood by both parties is an essential beginning for successful long-term broiler production.

Advantages and disadvantages of contract production can be evaluated from several different perspectives: the producer (contract grower), the producer’s lender and the integrator (contractor). Among the advantages for the producer are that market price risk (for chickens and feed) is reduced, management assistance is provided and a predictable cash flow can be estimated based on average management. Possible disadvantages for the producer include the elimination of extra profit opportunities, sharing or giving up some control of management decisions and no equity in the birds. When an integrator’s profit margins are being eroded, legitimate concerns may include: 1. will the company continue to supply birds? 2. how many birds will be supplied per flock? and 3. how many flocks will be supplied per year? These are especially important concerns while payments are still required on the broiler house. Other possible disadvantages for the producer include assuming sole responsibility for waste management and environmental practices that are subject to state and federal regulations.

The grower’s lender may perceive as positive the decrease in market risk and management assistance. The negative aspects of contract broiler production from the lender’s perspective include the lack of equity in livestock and the dependence on contract continuation for loan repayment and potentially, a lack of knowledge and experience in poultry production.

From the integrator’s viewpoint, contract production provides security with respect to production capacity, reduces risks such as a disease outbreak, allows fast expansion of the company, requires less capital for growth (reduced land,

building or equipment investments) and may make growers more productive since company representatives provide management assistance and high quality birds and feed. It allows the company to maximize the use of plants and mills (thus reducing overhead costs per unit of production) by keeping all phases of the operation running at full capacity. The disadvantages for the integrator may include taking all the short-term risk of low market prices and growers who may or may not be highly productive. Integrators are also being pressured to assume increasing responsibility for waste management, environmental, animal welfare and biosecurity issues.

## Financing for Broiler Buildings and Equipment

Lenders prefer to make broiler facility loans to a diversified farm operator who has been successful in other enterprises. Such an operator has other income to rely on in the event an integrator decides to reduce the number of flocks per year or does not renew the grower’s contract. A reliable source of farm or off-farm income may be necessary to assure a lender of the ability to repay the broiler facility loan, as the returns from broiler production may not be sufficient in the early years to cover both the family living expenses and debt retirement.

The cost of a broiler house will vary with size and specifications. An estimate for fully equipped houses currently being constructed is approximately \$9 to \$10 per square foot. This figure does not include the cost of the land and may vary with different building designs, equipment and location with reference to water and roads. Unless integrators agree to help resell buildings and equipment, broiler facilities may have little value as collateral since their use is so specific.

## Building and Equipment Requirements

Each integrator will have specific building design, equipment specifications and location requirements. Buildings generally run east and west, are built on a level pad above ground level, have a smooth level area at the end of the building for a mechanical loader and must be accessed by a well graveled roadway with turnaround for large tractors and trailers. Houses must be sufficiently insulated to prevent heat loss in winter and minimize heat buildup in summer. They must also have sufficient ventilation (natural and mechanical) for cooling the birds in summer.

Multiple house operations are preferred so that feed and chick delivery costs and broiler transportation costs can be minimized. Integrators attempt to fill all broiler houses with chicks of the same age so the integrator can deliver one kind of feed, make a minimum number of deliveries or pickups and once again minimize transportation costs.

Approximately two-thirds to four-fifths of a square foot of floor space per chick is required depending on the type of bird (finishing weight). Most buildings currently being built are 40 or more feet in width with sufficient length to give the desired broiler capacity. Two common sizes are 66 feet by 600 feet, accommodating approximately 46,600 birds and 43 feet by 510 feet for 24,100 birds. It is not uncommon for an integrator to overfill a building with chicks to allow for normal mortality. Additionally, an integrator may place more birds per

square foot in the winter months as compared to the summer months, due to bird heat production.

The integrator will provide information on how many feeders, water founts/nipples, brooders, misters, fans and lights will be required per building. Specific recommendations may be made on equipment brands and types of brooders (natural gas, LP gas, electric).

## Labor and Management Requirements

The success of a broiler grower will depend to a great extent upon how well an integrator's management program is carried out by the grower. Management of the broiler house is the responsibility of the producer with the assistance of the field service representative provided by the integrator. Some contracts include details on management related to feed, water, house temperature, vaccination and disease control. The service person may assist the grower on decisions not specifically covered in the contract, such as ventilation, litter management, rodent and fly control and dead bird disposal.

Broilers need daily attention and new producers may need to work closely with their field service representative to develop an appropriate care schedule. It may be appropriate to have several family members familiar with the poultry operation so that they can substitute for the primary caretaker if necessary. Extra labor may be required at different points throughout the production period.

Daily chores for the broiler grower include checking mechanical equipment to insure correct operation, adjusting ventilation, monitoring feed bins, removing dead birds and keeping records. Other routine chores include cleaning and repairing equipment, cleaning out houses, rodent control, ordering feed, preparing for chick arrival and preparing for shipment to the processing plant.

## Waste Management Regulations

Waste management is an important component of poultry production. Unlike many of the equipment and inventory management issues, waste management is the sole responsibility of the grower. Current state regulations require growers to manage all waste materials, including litter and dead birds, to assure beneficial use of the waste and also to prevent adverse effects to the environment. Waste management costs are a part of the production expenses that may not be recognized in standard production budgets.

In some cases, poultry waste may be a valuable by-product, but in other cases it is a net cost. In the spring of 1998, the Oklahoma legislature passed the Oklahoma Registered Poultry Feeding Operations Act, pertaining to poultry farmers producing more than 10 tons of poultry waste per year and confining birds for 45 days or more in any 12 month period. Additionally, the Oklahoma Poultry Waste Applicators Certification Act was passed affecting individuals land-applying more than 10 tons of poultry waste or litter per year.

The Oklahoma Department of Agriculture, Food and Forestry (ODAFF), Agricultural Environmental Management Services (AEMS) is responsible for developing rules and enforcing these acts.

## Registration/Certification

Poultry producers are required by law to register their operation while commercial and private poultry waste applicators must apply for an applicator's certificate, both through the State Board of Agriculture.

Annual renewals are required for producer registration and commercial applicator certificates. Private waste applicators are required to renew their license every five years. Only certified private or commercial waste applicators can apply poultry waste to land. Certified applicators are required to submit an official applicator's annual report by December 31 of each year to the AEMS Division of ODAFF for poultry waste land-applied from July 1 of the previous year through June 30 of the current year. For example, applicators who apply poultry litter between July 1, 2011 and June 30, 2012, are required to submit an annual report no later than December 31, 2012.

## Education

Both registered operators of poultry feeding operations and poultry waste applicators are required to attend poultry waste management training classes conducted by the Oklahoma Cooperative Extension Service. An initial 9-hour training class is required within one year of purchasing or constructing a poultry operation or within one year of obtaining a commercial poultry waste applicator's certificate. Additionally, two hours of annual continuing education is required.

## Environmental Considerations

Poultry producers must develop an approved Animal Waste Management Plan (AWMP) and maintain records of poultry waste removed from the premises or land applied on-site. The amount of poultry waste or litter that may be land applied on the property of the poultry feeding operation is limited according to nutrient management guidelines established in the AWMP. These guidelines only allow litter use as a beneficial fertilizer to pasture or cropland, not as a disposal system. If poultry waste or litter cannot be used according to nutrient management guidelines, the producer must see that it is removed to a location where it can be used properly. In some cases, the producer may sell the by-product to other individuals for land application or to commercial composting, chemical production or energy production facilities. A website is available to promote the marketing of poultry litter and can be found at: [www.ok-littermarket.org](http://www.ok-littermarket.org). This website allows for those individuals or companies interested in purchasing, selling or hauling poultry litter to advertise their contact information and services without cost.

Prior to any land application of poultry waste or litter in the state of Oklahoma, a certified applicator must obtain recent soil tests for each land application site and recent poultry waste or litter analyses. Land application rates must follow current USDA Natural Resources Conservation Service (NRCS) Waste Utilization Standards. For more information on soil and litter testing, contact your local County Extension Office.

The AWMP required under the Registered Poultry Feeding Operations Act also imposes restrictions on the disposal of poultry carcasses to prevent environmental and health problems. Under the law, acceptable disposal methods include approved composting, incineration, on-farm burial, landfill burial and disposal in a rendering plant. For more information, refer to OSU Fact Sheet BAE-1748.



The ODAFF inspects poultry operations routinely to determine whether there are any violations. They may also visit when investigating pollution complaints alleging that a waste disposal problem exists. If a poultry operation is found to be disposing of wastes in such a manner that surface or ground water contamination is occurring, that operation will be required to implement waste management practices to correct the problem. Failure to comply could result in a fine to the grower. If a poultry operation seeks classification as a permitted Concentrated Animal Feeding Operation (CAFO), then it is not subject to the rules of the Oklahoma Registered Poultry Feeding Operations Act; however, it is subject to the rules of the Oklahoma Concentrated Animal Feeding Operations Act. This act requires producers to obtain an Oklahoma CAFO license and develop and implement a Pollution Prevention Plan.

If you have questions determining whether your operation is classified as a CAFO or questions pertaining to the Oklahoma Concentrated Animal Feeding Operations Act, the Oklahoma Registered Poultry Feeding Operations Act or the Oklahoma Poultry Waste Applicators Certification Act, please contact the AEMS Division of ODAFF at (405) 522 4659. The Environmental Protection Agency (EPA) also provides useful information concerning CAFOs on their website <http://www.epa.gov/>.

## Profitability and Cash Flow

Simplified broiler budgets are presented in Tables 1 and 2. The budget in Table 1 represents production from a 24,100 bird capacity house, while Table 2 represents a 46,600 bird house. These numbers represent only an example as house size, type and equipment, type of birds and levels of management vary considerably and will affect one or all of the numbers. Growers must carefully study information provided by the integrators and modify the budget based on their own operation to determine potential returns.

The budget presented is to be considered a tool for potential growers to use in analyzing expected receipts and costs. The budget, given stated assumptions, suggests that during the loan repayment period, cash flow may be a problem. The returns to land, labor, overhead, risk and management are modest. No charge for land was made in the budgets. Costs in a given area and for a given producer will vary from the estimated values listed in the budgets.

The cash flow associated with the broiler enterprise is likely to differ from the economic returns because some of the associated costs, such as depreciation, do not require an annual outlay of cash. In Tables 1 and 2, a column labeled "Your Values" is included to enable you to calculate either net returns or cash flows using the appropriate amounts based on your research.

## Income

Broiler producers are paid based on the pounds of usable broilers. Estimates of receipts are frequently based on performance relative to the average Net Pound Value of other growers. The price per pound the grower receives will be lower or higher than the average based upon their Net Pound Value relative to the other growers. Most grower contracts have a stated floor price that the grower is guaranteed regardless of production efficiency. The contract price is only paid on

usable broilers; thus, a high death loss or high percentage of condemnation can substantially affect a grower's income. The middle grower contract price used here is \$0.0585 per pound.

Depending on the size of bird raised, five to six flocks of broilers can be grown per year on average. If 5 flocks per year are produced, broilers weigh 7.5 pounds, the contract price per pound is \$0.063 per pound and 94 percent of the broilers are usable, gross receipts from broiler sales will average \$53,520 from a 24,600 bird building. In the larger house, if five flocks per year are produced, broilers weigh 7.0 pounds, the contract price per pound is 0.0625 and 95 percent of the birds are usable, gross receipts would be \$96,841 per house.

If litter has no value within the operation and must be transported some distance for land application as a fertilizer, it can be a net cost rather than a source of income.

## Costs

Costs in the budget are grouped into operating costs and fixed costs. Operating (or variable) costs change with the level of output (number of birds produced) and do not occur unless the producer attempts to grow broilers. Variable costs include the money outlays for purchased inputs that are used in a production period, e.g. bedding, electricity, gas, fuel, labor. Fixed costs, on the other hand, do not change with the level of production. In fact, fixed costs remain the same whether or not any birds are produced. Fixed costs include depreciation on buildings and equipment, taxes, insurance and principal and interest payments on building and equipment loans.

Labor is valued at \$15 per hour in the budget. If the operator hires all labor for tending the birds and maintaining the building and equipment, expected cash outlays will be approximately \$10,395. Fuel is the largest expected cash outlay if the operator provides labor for the operation. Growers outside established areas may have higher L.P. gas costs. Some integrators purchase gas in bulk for their growers in order to benefit from discounts from bulk purchases; others may provide a fuel bonus.

The broiler house is assumed to have a life of 15 years and equipment (feeders, waterers, brooders, etc.) is assumed to last seven years. A grower can expect to replace one-quarter to one-third of the equipment after seven years. If housing repairs, modifications, or improvements are needed or required, additional expenses will be incurred over time. If current roadways on the farm are not well graveled, additional expenses may be incurred to upgrade and maintain these improvements.

Insurance against many potential losses can be purchased. Ice damage insurance, however, is expensive and not included in all policies.

## Profitability Factors

The factors most likely to affect a broiler producer's profitability are:

1. The grower's management skills, which impact the broiler growth rate and death losses. From a management standpoint, an operator can increase profits by watching for feed waste and making the necessary adjustments to reduce it, observing for overflow of waterers, keeping the litter dry and clean, staying alert to fan breakdowns and paying attention to signs of stress and disease.

**Table 1. Sample Broiler Budget [100% Financed—46,600 Bird Broiler Building (66 feet x 600 feet)].**

	price	weight (lbs)	birds/ batch	batches/ year	% death & condemnation loss/batch	Average enterprise profitability	Cash flow (Year one of loan)	1,000s of birds/house	Average enterprise profitability per 1,000-bird capacity	Cash Flow per 1,000-bird capacity (Year 1 of loan)	Average enterprise profitability per square foot	Cash flow per square foot	Average profitability for six houses	Cash flow for six houses (Year one of loan)
Production <sup>1</sup>	0.0625	7	46,600	5	5	96,841	96,841	39.6	2,445	2,445	2.45	2.45	581,044	581,044
Litter/manure <sup>2</sup>	0	100	--	--	--	0	0	--	0	0	0.00	0.00	0	0
Gas allowance	0	--	46,600	1	--	0	0	--	0	0	0.00	0.00	0	0
Total receipts						96,841	96,841		2,445	2,445	2.45	2.45	581,044	581,044
<b>Operating Costs</b>														
Car and truck expenses	202					202	202							
Fuel	9,000					9,000	9,000		227	227	0.23	0.23	54,000	54,000
Labor <sup>3</sup>	15	2.25 hours/day		308 days/year		10,395	10,395		263	263	0.26	0.26	62,370	62,370
Litter or shavings	600					600	600		15	15	0.02	0.02	3,600	3,600
Litter clean-out	10	100				1,000	1,000		25	25	0.03	0.03	6,000	6,000
Repairs	6,700					6,700	6,700		169	169	0.17	0.17	40,200	40,200
Supplies	6,200					6,200	6,200		157	157	0.16	0.16	37,200	37,200
Custom hire	1,000					1,000	1,000						6,000	6,000
Insurance	2,000					2,000	2,000						12,000	12,000
Other	1,000					1,000	1,000						6,000	6,000
Taxes (Real estate)	1,800					1,800	1,800						10,800	10,800
Utilities with rural water <sup>4</sup>	1,800					1,800	1,800		45	45	0.05	0.05	10,800	10,800
Interest on operating expenses <sup>5</sup>	6.25% interest rate					1,297	1,297		33	33	0	0	7,780	7,780
<b>Sub-total for operating expenses</b>						<b>42,994</b>	<b>42,994</b>		<b>934</b>	<b>934</b>	<b>1.09</b>	<b>1.09</b>	<b>257,962</b>	<b>257,962</b>
<b>Fixed Costs</b>														
Depreciation <sup>6</sup>														
Equipment	125,000	25 % salv val		7-year life		13,393			338		0.34		80,357	-
Building	375,000	50 % salv val		15-year life		12,500			316		0.32		75,000	-
Interest on average investment <sup>7</sup>														
Equipment	2.00% opportunity cost/interest rate					1,563			39		0.04		9,375	-
Building	2.00% opportunity cost/interest rate					5,625			142		0.14		33,750	-
Insurance	1,000					1,000	1,000		25	25	0.03	0.03	6,000	6,000
Financing <sup>8</sup>														
Principal on building	375,000		15 years			16,111				407		0.41	-	96,666
Principal on equipment	125,000		15 years			5,370				136		0.14	-	32,222
Interest on building	6.00% interest rate					22,500				568		0.57	-	135,000
Interest on equipment	6.00% interest rate					7,500				189		0.19	-	45,000
Property taxes	600					600	600		15	15	0.02	0.02	3,600	3,600
<b>Sub-total for fixed costs</b>						<b>34,680</b>	<b>53,081</b>		<b>876</b>	<b>1,340</b>	<b>0.88</b>	<b>1.34</b>	<b>208,082</b>	<b>318,488</b>
<b>Total Costs</b>						<b>77,674</b>	<b>96,075</b>		<b>1,810</b>	<b>2,275</b>	<b>1.96</b>	<b>2.43</b>	<b>466,044</b>	<b>576,451</b>
Cash Flow Year 1 (including labor costs)							766			171		0.02	-	4,593
Cash Flow Year 1 (excluding labor costs)							11,161			433		0.28	-	66,963
Return to land, overhead, risk and management						19,167 per house			636 per 1,000 birds		0.48 per square foot		114,999 per six houses	
Return to land, labor, overhead, risk and management						29,562 per house			898 per 1,000 birds		0.75 per square foot		177,369 per six houses	
Square feet in house (66 x 600)	39,600													

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<sup>1</sup> Assumes middle pay and average weight and 56 day grow-out

<sup>2</sup> Assumes litter is sold or results in savings in fertilizer costs in other enterprises. Fertilizer value may be higher if use of litter is managed well.

<sup>3</sup> Labor is not a cash expense if supplied by the owner/operator. However, to be sustainable, an enterprise should provide a return to the operator's labor and management.

<sup>4</sup> Utilities include electricity, gas and water.

<sup>5</sup> Interest on operating expenses = (total operating costs before interest<sup>(footnote 2)</sup>) x interest rate.

<sup>6</sup> Economic depreciation, not tax depreciation. Salvage values vary substantially between operations. A lower salvage value would increase the annual depreciation costs. For instance, if the salvage value of the equipment and buildings is zero, depreciation costs would double.

<sup>7</sup> The opportunity cost on average investment is used in profitability calculations where average investment = (the value of the beginning investment + the value of the ending investment)<sup>(footnote 2)</sup>. Here, the ending value is the salvage value

<sup>8</sup> Loan expenses are used in cash flow calculations (but not enterprise profitability calculations which uses interest on average investment). For equal payment loan amortizations, the principal amount increases each year and the interest decreases.

**Table 2. Sample Broiler Budget [100% Financed—24,100 Bird Broiler Building (43 feet x 510 feet)].**

	price	weight (lbs)	birds/ batch	batches/ year	% death & condemnation loss/batch	Average enterprise profitability	Cash flow (Year one of loan)	1,000s of birds/house	Average enterprise profitability per 1,000-bird capacity	Cash Flow per 1,000-bird capacity (Year 1 of loan)	Average enterprise profitability per square foot	Cash flow per square foot	Average profitability for six houses	Cash flow for six houses (Year one of loan)
Production <sup>1</sup>	0.063	7.5	24,100	5	6	53,520	53,520	39.6	1,352	1,352	2.44	2.44	321,120	321,120
Litter/manure <sup>2</sup>	0	55	--	--	--	0	0	--	0	0	0.00	0.00	0	0
Gas allowance	0	--	24,100	1	--	0	0	--	0	0	0.00	0.00	0	0
Total receipts						53,520	53,520		1,352	1,352	2.44	2.44	321,120	321,120
<b>Operating Costs</b>														
Car and truck expenses	111					111	111							
Fuel	5,000					5,000	5,000		126	126	0.23	0.23	30,000	30,000
Labor <sup>3</sup>	15	1.25hours/day		308 days/year		5,775	5,775		146	146	0.26	0.26	34,650	34,650
Litter or shavings	330					330	330		8	8	0.02	0.02	1,980	1,980
Litter clean-out	10	55				550	550		14	14	0.03	0.03	3,300	3,300
Repairs	3,700					3,700	3,700		93	93	0.17	0.17	22,200	22,200
Supplies	3,410					3,410	3,410		86	86	0.16	0.16	20,460	20,460
Custom hire	550					550	550						3,300	3,300
Insurance	1,100					1,100	1,100						6,600	6,600
Other	550					550	550						3,300	3,300
Taxes (Real estate)	1,000					1,000	1,000						6,000	6,000
Utilities with rural water <sup>4</sup>	990					990	990		25	25	0.05	0.05	5,940	5,940
Interest on operating expenses <sup>5</sup>	6.25%interest rate					717	717		18	18	0.00	0.00	4,304	4,304
Sub-total for operating expenses						23,783	23,783		517	517	1.08	1.08	142,700	142,700
<b>Fixed Costs</b>														
Depreciation <sup>6</sup>														
Equipment	68,750	25 % salv val		7-year life		7,366			186		0.34		44,196	-
Building	206,000	50 % salv val		15-year life		6,867			173		0.31		41,200	-
Interest on average investment <sup>7</sup>														
Equipment		2.00%opportunity cost/interest rate				859			22		0.04		5,156	-
Building		2.00%opportunity cost/interest rate				3,090			78		0.14		18,540	-
Insurance	1,000					1,000	1,000		25	25	0.05	0.05	6,000	6,000
Financing <sup>8</sup>														
Principal on building	206,000		15	years			8,850			223		0.40		53,102
Principal on equipment	68,750		15	years			2,954			75		0.13		17,722
Interest on building		6.00%interest rate					12,360			312		0.56		74,160
Interest on equipment		6.00%interest rate					4,125			104		0.19		24,750
Property taxes	330					330	330		8	8	0.02	0.02	1,980	1,980
Sub-total for fixed costs						19,512	29,619		493	748	0.89	1.35	117,073	177,714
<b>Total Costs</b>						43,295	53,402		1,010	1,265	1.97	2.44	259,773	320,414
Cash Flow Year 1 (including labor costs)							118			87		0.01		706
Cash Flow Year 1 (excluding labor costs)							5,893			232		0.27		35,356
Return to land, overhead, risk and management						10,225 per house			342 per 1,000 birds		0.47per square foot		61,348 per six houses	
Return to land, labor, overhead, risk and management						16,000 per house			488 per 1,000 birds		0.73per square foot		95,998 per six houses	
Square feet in house (43'x510')	21,930													

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<sup>1</sup> Assumes middle pay and average weight and 56 day grow-out

<sup>2</sup> Assumes litter is sold or results in savings in fertilizer costs in other enterprises. Fertilizer value may be higher if use of litter is managed well.

<sup>3</sup> Labor is not a cash expense if supplied by the owner/operator. However, to be sustainable, an enterprise should provide a return to the operator's labor and management.

<sup>4</sup> Utilities include electricity, gas and water.

<sup>5</sup> Interest on operating expenses = (total operating costs before interest<sup>Footnote2</sup>) x interest rate

<sup>6</sup> Economic depreciation, not tax depreciation. Salvage values vary substantially between operations. A lower salvage value would increase the annual depreciation costs. For instance, if the salvage value of the equipment and buildings is zero, depreciation costs would double.

<sup>7</sup> The opportunity cost on average investment is used in profitability calculations where average investment = (the value of the beginning investment + the value of the ending investment)<sup>Footnote2</sup>. Here, the ending value is the salvage value.

<sup>8</sup> Loan expenses are used in cash flow calculations (but not enterprise profitability calculations which uses interest on average investment). For equal payment loan amortizations, the principal amount increases each year and the interest decreases.

2. If offered, the bonus that the grower receives if the production efficiency is better than middle cost of production. Note that the bonus may not reflect a producer's management ability versus that of an average grower, but of the other growers who sell birds the same week as he or she sells. If a grower is unfortunate enough to market birds at the same time as several above average producers, he or she may receive no bonus and may in fact be penalized for below middle cost efficiency.
3. The shrink in the birds from the farm to the processor.
4. Rapid changes in cash expenses. Over the last five years, large increases in propane and electricity have increased total operating costs by 10 percent to 20 percent. Without an appropriate fuel allowance from the integrator, this can significantly impact producer returns and cash flow.

## Other Considerations

Other factors that a potential broiler grower must consider are rural zoning, air pollution laws and "nuisance" laws if neighbors are close to planned building sites. Two sources of water are preferred where possible to ensure a supply of water for broiler houses.

## Summary and Conclusions

Individuals who are seriously considering the broiler business should learn as much as they can about broiler production by talking with growers and integrators in their area. The potential broiler grower should determine whether an integrator services the area and if the integrator is taking on new growers. No one should buy land or move into an area expecting to grow broilers without a contract from an integrator. Contracts should be studied to determine their acceptability. A lender should be contacted to determine the availability and terms of financing for a broiler enterprise.

Individuals considering broiler production should discuss and evaluate with their families how the broiler enterprise fits into short and long-term family and business goals. The family should discuss their willingness to commit time and energy to a seven-day-per-week operation with breaks limited to periods between flocks of birds. Because the broiler house is a specialized facility, the commitment to production must be long-term in order to ensure that investment costs are recouped.

### Additional Reading:

Hamilton, Neil D. "A Current Broiler Contract Analysis Addressing Legal Issues and Grower Concerns." Chapter 3 in *Assessing the Impact of Integrator Practices on Contract Poultry Growers*. September 2001. Farmers' Legal Action Group, Inc., St. Paul Minnesota 55101.

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