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New Farmer's Guide to the Commercial Broiler Industry

Farm Types & Estimated Business Returns

► Before purchasing or building a commercial contract poultry farm, growers need to understand key aspects of the industry to make essential business decisions and build a secure future for their enterprise. Learn more in this first of a five-part series for new farmers in the commercial broiler industry.

Growers have many considerations when purchasing or building a commercial poultry farm. A potential grower must first understand the basic nature of the poultry farm being considered and which live production sector it serves.

For each sector in a traditional integrated poultry system, the contract poultry grower owns the real property, the grow-out houses, and associated equipment on the farm. The poultry company, sometimes called the integrator, owns the birds throughout the process.

The integrator provides the birds, feed, veterinary care, transportation, processing, marketing, and grow-out management oversight. In exchange for the contracted payment, the grower provides the facilities needed for grow out, labor, and all utilities required for proper husbandry of the birds as guided by the integrator.

The ultimate product of all live production operations is the broiler, or meat-type bird, that goes into the processing plant to produce meat for human consumption. For the typical integrated broiler company, three farm types serve the live production sector of the company: pullet farms, breeder farms, and broiler farms.

Pullet Farms

Pullet farms are the beginning process of local live production. On these farms, the males (cockerels) and females (pullets) that eventually go into hatching-egg production are raised to sexual maturity. A pullet farm gets chicks that have been purchased by the integrator from a primary genetics company and raises them for approximately 21 weeks. At this point, they are ready to be caught and moved to another farm for the next stage of the process.

Pullet Equipment and Facilities

Pullet farms typically have separate rearing facilities for pullets and cockerels. This can be individual houses or separated rearing areas in the same house. Modern pullet farms vary in size from 42,000 to 72,000 square feet (SF) total, though some larger farms exist.

The birds in these houses are the integrator's most expensive and vital part of the live production process. One hen will produce 150 to 175 hatching eggs in her lifetime, and one rooster will fertilize well over ten times that many eggs. Thus, the proper raising of these breeding birds is highly important, and the integrator tightly controls bird management.

Interaction with the birds is coordinated with feed and lighting schedules. Pullet farms overall do not have a high labor requirement; most labor occurs early in the mornings. A pullet farm typically raises two flocks per year with 4 to 6 weeks between flocks. On rare occasions, due to extenuating circumstances at a broiler

farm, a pullet farm may be asked to raise a flock of broilers during their time between flocks.

Pullet growers are responsible for providing day-to-day environmental control, feed and water, and any other daily needs, including mortality disposal.

Pullet Compensation

Pullet farms are paid weekly or biweekly based on the square footage of housing space. Current pullet farm contracts vary in pay from $0.06 to $0.08 per square foot per week, depending on the company, housing specifications, and location differences. Seasonal utility or energy addendums are often added.

New housing frequently qualifies for additional pay that can vary significantly with integrators in amount and eligibility. Annualized gross revenue per square foot resulting from 42 to 46 weeks of birds per year can range between $3.15 and $3.35 per square foot of grow-out space, with some new houses receiving slightly higher revenues.

Table 1 shows possible differences in net farm income resulting from two common scenarios. Farm A receives the lowest contract pay rate of $0.06 per square foot and has variable expenses estimated at 30 percent of gross revenue; this is likely due to older houses, poorer management, or simply less energy-efficient structures. Farm B receives $0.08 per square foot and has lower expenses (20 percent of gross revenue), representing newer or upgraded structures under the best management. Of the total $15,750 difference in net income, $11,550 (74 percent) is due to expense reduction, which highlights the importance of efficiency to net farm income. Once pullets and cockerels approach sexual maturity, they are moved to the next farm type.

Table 1. Pullet Farm Income Estimates*

Pullet Farm Data	Farm A (older)**	Farm B (newer)**
Total square footage	42,000	42,000
Gross revenue per SF	$3.15	$3.35
Gross revenue	$132,300	$140,700
Variable expenses	$39,690	$28,140
Income before debt service	$92,610	$112,560
Debt service assignment (50%)	$66,150	$70,350
Annual net farm income	$26,460	$42,210
ANFI per SF	$0.63	$1.01

*Example from financial institution surveys. Results may vary.
**Based on 2 houses size 40 × 400 ft. and 1 house 40 × 250 ft. 5% APR for loan calculations.

Breeder Farms

Breeder farms are the second stage of the live production sector. There are generally twice as many breeder farms for a company business unit as pullet farms. Breeder houses generally range between 16,000 and 22,000 square feet of bird space with additional egg collection and storage facilities. Breeder farms usually have 2 to 6 houses total, though some farms have larger houses or more houses per farm. These farms produce fertile hatching eggs and are the first true production stage, as growers are paid according to the number of hatching eggs produced.

Birds are placed in the houses at approximately 21 weeks to begin a typical 45-week flock cycle. Toward the end of the 45 weeks of production, hens and roosters are no longer efficiently producing hatching eggs. Typically, around 65 to 68 weeks old, they are caught and sold by the integrator, and the farm has 3 to 4 weeks to prepare for the next flock.

Once a new flock arrives, it usually takes 3 to 4 weeks for the birds to acclimate and begin laying sufficient hatching eggs. During this early time, growers are paid some form of pullet pay. Once the hens produce sufficient eggs, growers are paid based on dozens of hatching eggs delivered to the hatchery per week.

It is generally recognized that better farm management promotes successfully hatched eggs and more broiler chicks at a lower cost to the integrator. Therefore, a bonus payment is usually designed to promote better management of the birds and eggs; this is commonly called a hatch bonus. The higher a farm's hatch numbers, the more bonus received.

Breeder Equipment and Facilities

Breeder farms are by far the most labor-intensive stage of production. Daily requirements include egg gathering (often multiple times a day), feeding and watering,

environmental control, and mortality disposal. More equipment and equipment maintenance are needed than in any other farm type. In addition to feeders, drinkers, and ventilation equipment, there are nests, egg gathering and transport equipment, and egg storage equipment. Breeder growers often experience a higher rate of physical damage to equipment simply because the birds are in-house for 45-plus weeks.

Because of the equipment requirements and other unique aspects of a breeder house, these houses are the most expensive to build. Labor-saving equipment is often used, but this comes with additional costs to the farm. The flock changeover process is also extensively strenuous, often requiring specialized heavy equipment. A higher return per square foot reflects the higher labor levels required for this house/bird type and the higher cost of housing.

Breeder Compensation

Pay rates per dozen eggs can vary significantly with every company. Some companies pay a higher flat rate per dozen, while others emphasize bonus payments or other means of pay. Overall, the current breeder-farm gross revenue is $4.40 to $4.60 per square foot annualized. This assumes including all incentives and add-ons across multiple contract scenarios, including new housing. An individual farm's revenue may fall outside this range, and older farms that do not receive new house bonuses are more likely to drop well below this range.

Table 2 shows two scenarios: Farm A has lower egg production and pay, with variable expenses at 30 percent of gross revenue; Farm B has increased production and pay, with lower expenses at 25 percent of gross revenue. Farm A represents an older farm with less efficient structures, while Farm B represents a newer or upgraded farm with the latest building technology, resulting in better efficiency and production. Of the total $16,000 difference in net farm income, $9,600 (60 percent) is due to decreased expenses. This is less than the impact we see from expenses alone in pullet farms and is mainly due to the production component also impacting net farm income for breeder farms.

The integrator regularly transports gathered and stored eggs from breeder farms to the hatchery. From there, the hatched chicks are delivered to a broiler farm for rearing to the desired market weight.

Table 2. Breeder Farm Income Estimates*

Breeder Farm Data	Farm A (older)**	Farm B (newer)**
Total square footage	64,000	64,000
Gross revenue per SF***	$4.40	$4.60
Gross revenue	$281,600	$294,400
Variable expenses	$112,640	$103,040
Income before debt service	$168,960	$191,360
Debt service assignment (50%)	$140,800	$147,200
Annual net farm income	$28,160	$44,160
ANFI per SF	$0.67	$1.05

*Example from financial institution surveys. Results may vary.
**Based on 4 houses size 40 × 400 ft.
***Gross revenue derived by varying pay rates per dozen eggs and egg production, then converted to dollars per square foot for the purpose of cross-sector comparison.
5% APR for loan calculations.

Broiler Farms

Broiler farms are the most prevalent housing type in a local complex. A processing plant that processes one million birds a week will typically need 300 to 400 broiler houses to grow those birds, depending on the size of the houses and placement density of the birds. The smaller the target weight of the birds, the more birds per square foot of grow-out space can be accommodated, and vice versa.

Broiler live weights can vary from 3.5 pounds up to 10 pounds for a finished bird. The corresponding flock lengths range from 32 to 70 days from placement to catch. Most complexes grow and process one size of bird, but there are some that process multiple sizes.

There typically are 2 to 3 weeks between flocks of broilers, but this out time between flocks can vary greatly with season and market conditions. Extended out times can be costly for growers, significantly lowering annual gross revenue. Some integrators have guaranteed out-time policies and payment stipulations for cases when the company dictates additional time to help cover this loss of grower revenue. Depending on flock length and out time, broiler growers can expect between four and eight flocks per year, with smaller birds growing the most flocks.

Broiler Equipment and Facilities

Broiler farm size varies greatly. House sizes and numbers per farm have evolved throughout the years. The trend for wider, longer houses started several years ago and has proven financially beneficial as economies of scale improve, with larger houses and more houses per site. With that comes an increase in management and labor requirements, which can be limiting factors.

Broiler houses have become highly automated, and computerized controls are the norm. This has allowed growers to spread management time across more square footage. Still, 80,000 to 120,000 square feet of housing for most family farms is all a single farmer can successfully operate while limiting hired labor.

The grower is responsible for the daily husbandry of the birds, including feed, water, and environmental management. The speed at which the modern broiler grows requires close monitoring of all these aspects for growers to maximize their returns. Even the slightest missed opportunity in these areas can be very costly to the grower and integrator.

Basic maintenance requirements are generally the same for broiler farms, regardless of bird size; however, operational labor requirements for larger birds are generally recognized as being higher. One exception is that small bird farms raising more flocks per year have more labor-intensive new flock setups per year and more cycles of brooding flocks that require higher cost inputs, such as heating fuel. Large bird farms generally have higher electricity expenses driven by ventilation fan usage.

Broiler Compensation

Broiler farms typically are paid based on live weight (pounds of birds) delivered to the processing plant.

Broiler contracts are built around a contract or base pay rate per pound set by the company. Growers are then paid according to how much more or less than expected the delivered birds cost the integrator to be grown on their farm. This system of payment is called competitive or tournament-style pay.

The number of broiler farms required to keep a plant running prohibits companies from fielding staff numbers sufficient for close daily oversight of every farm. Since it is generally assumed that many aspects of day-to-day bird management affect mortality and morbidity, feed conversion, and weight gain, the competitive pay systems are designed to incentivize better day-to-day on-farm management by the growers.

Example:

A company has a base rate of $0.06 per pound delivered. Within a given week of processing birds, they add up all the costs to grow the birds (feed, etc.) attributed to all farms that week and divide by the total number of pounds processed from all farms. This yields a weekly average live cost per pound for the company. Every grower who contributed birds that week then has their specific cost to grow birds divided by their farm's pounds delivered to establish the farm's live cost per pound. The company's weekly cost is compared to the farm's cost, and the final pay per pound is adjusted based on how the farm compared to the weekly average. The individual farm

receives additional pay if their cost is less than the average; otherwise, pay is subtracted from the base pay if their individual cost is higher than the average.

If grower A's farm cost was $0.005 per pound higher than average, their pay might fall to $0.055 per pound, down from the base rate of $0.06 per pound. In the same week, if grower B's cost were half a cent lower, their pay would rise to $0.065 per pound.

This system typically has limits for minimum and maximum pay per pound, often referred to as top and bottom pay. The actual pay rate a farm receives can be anywhere within those limits. Some companies use a tiered system where the individual farm's performance dictates which payment tier the current flock falls within, but the principle is the same.

From a business perspective, broiler growers need to understand the impact that flocks receiving lower, or even higher, pay rates can have on cash flow. Common mistakes by growers are improper budgeting and lack of financial discipline that cause financial crunches when a flock with lower pay or extraordinary expenses, or both, occurs.

Growers may become accustomed to a recurring income stream from good or average flocks and adjust their lifestyle and adjoining expenses accordingly. When a downswing in the business occurs, they are in a poor position to weather the financial storm. Simply calculating cash flow based on an assumed continuous average or base pay does not allow for a complete picture of what could happen on a farm. Growers can be blindsided by these downswings, causing serious financial stress to a business. This type of situation can occur with breeder farms as well but is more often seen in the broiler segment.

Some integrators have begun to modify their compensation system to further reduce the financial risks of broiler growers by using some level of guaranteed pay, resembling pullet pay per square foot or a base rate that does not change, or changes very little, with a farm's individual live cost. Even in these modified payment programs, additional performance incentives are often available to encourage better on-farm management.

It is much harder to estimate an overall average gross revenue per square foot for broiler farms because of the varying pay rates. A broad range of $2.75 to $3.25 per square foot would likely cover most situations. Also, the realized cost of production for each broiler grower varies much more than the other farm types. Potential broiler growers need to pay close attention to the utility cost aspect of the farm, especially when purchasing an existing farm, as that makes up the bulk of the variable cost of production and dramatically affects profitability.

Table 3 shows estimates for two broiler farms, both newer and of larger size. Farm A represents a poor-performance, high-expense (35 percent of gross revenue) farm receiving a low pay rate; Farm B is a high-performance, low-expense (25 percent of gross revenue) farm receiving a higher pay rate.

A broiler grower needs to understand that gross revenue and resulting net income can vary highly from flock to flock and year to year. The $10,800 difference in expenses makes up only 37.5 percent of the overall $28,800 in net income difference between these two farms. This further highlights how performance and production play an increasing role in overall net farm income for the broiler grower.

Table 3. Broiler Farm Income Estimates*

Broiler Farm Data	Farm A (older)**	Farm B (newer)**
Total sqaure footage	72,000	72,000
Gross revenue per SF	$2.75	$3.25
Gross revenue	$198,000	$234,000
Variable expenses	$69,300	$58,500
Income before debt service	$128,700	$175,500
Debt service assignment (50%)	$99,000	$117,000
Annual net farm income	$29,700	$58,500
ANFI per SF	$0.71	$1.39

*Example from financial institution surveys. Results may vary.
**Based on 2 houses size 60 × 600 ft.
***Gross revenue derived by varying pay rates per pound and bird production, then converted to dollars per square foot for the purpose of cross-sector comparison.
5% APR for loan calculations.

Bonus Payments or Other Additional Payments

Within every type of farm mentioned, there are usually pay bonuses or additional payments available over and above the base contract pay. Management stipulations often apply. If growers do not meet these stipulations, they may not receive the bonus pay.

Most companies pay growers a utility cost bonus to help offset increasing utility bills. Sometimes this is limited to cold weather months to offset some of the heating fuel costs. In other cases, especially with larger broilers, this is a year-round bonus added to the base pay to offset a portion of both heating fuel and electricity.

These bonuses may be paid as an additional amount per pound, thus tying it somewhat to bird performance, or as a single lump sum with no performance component. Sometimes these bonuses are tied to specific housing specifications and require upgrading a house to qualify for the bonus pay. A farm with multiple-age houses could have varying bonus rates based on the condition of each house; some houses may not qualify for any bonus.

With the increasing cost of housing, many integrators have started providing new-housing bonus pay. These bonuses can be an additional amount per pound added to the base pay rate, an annual payment per square foot, or various other payment methods for qualifying houses. This type of bonus often has a set length of time during which it will be paid—ranging up to 15 years currently. These new-housing bonuses vary widely and make up a significant portion of a farm's total revenue. Poultry growers must verify how much and for how long they may apply to accurately estimate potential cash flow in the long term.

Lifestyle Considerations

Commercial poultry operation requires significant labor and daily management, although the specific requirements may vary with farm type and size. Before investing, take the following steps:

- Talk to as many other growers as possible to get a good idea what daily life will be like on the farm type you are considering.
- Consider future quality-of-life expectations and costs.
- Decide if poultry farming requirements and income will result in your desired lifestyle. Long-term success requires a certain amount of financial discipline. Living outside of what the farm provides is often a cause of poultry farm business failure.

To be highly successful, commercial poultry farming requires constant management and attention to detail. Unlike other types of animal agriculture and even crop farming, raising commercial poultry requires 24/7 oversight when birds are in-house and significant house maintenance and preparation between flocks. A poultry farmer is either in the daily process of raising birds or working to prepare the houses for the next flock.

Poultry farmers often integrate other enterprises into the poultry operation, especially when employing hired labor. But this should be carefully considered. Neglecting critical daily management of the poultry operation can quickly lead to disastrous situations. Timely attention to bird husbandry requirements is of utmost importance.

Definition of Terms

- **Assignment agreement** or **loan assignment.** Agreement between the integrator, lending institution, and grower that allows the integrator to make direct payment for the farm loan to the lending institution out of the grower's contract pay before the grower receives the payment.
- **Breeder farm.** Grower-owned housing for producing hatching eggs to be hatched for broilers.
- **Broiler.** Chicken grown to a specified weight for meat production.
- **Broiler farm.** Grower-owned housing for broiler grow out.
- **Bonus pay.** Any payment that is not part of the normal contract base pay rates. These can be limited to a specific period, time of year, housing category, or another parameter. Can be based per pound or per square foot (SF). Examples are new house bonus pay or cold weather fuel bonus.
- **Cockerel.** Young or sexually immature male chicken.
- **Complex.** All business entities needed to support a local poultry processing plant, such as hatchery, feed mill, transportation, etc. Includes all grower-owned live production facilities. Sometimes called business units or grow-out units.
- **Hen (breeder hen).** Mature female chicken producing hatching eggs (sometimes referred to as "layers").
- **Integrator.** Major poultry-producing company (e.g., Tyson Foods, Pilgrim's, Koch Foods). These companies own the birds, supply the feed, and are responsible for all aspects of transporting, processing, and marketing the birds.
- **Pullet.** Young or sexually immature female chicken.
- **Pullet farm.** Grower-owned housing for raising breeder hens and roosters from chicks to sexual maturity.
- **Pullet pay.** The rate paid per square foot to pullet growers or breeder growers during the first few weeks after pullets and cockerels are moved into the breeder facility, before going into full egg production.
- **Rooster.** Mature male chicken.

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