



Poultry on Diversified Farms: A Guide to Profitability and Sustainability

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This guide introduces poultry farming for small-scale, diversified operations, offering insights into enterprise options, economic benefits of poultry, and strategies for managing costs and maximizing revenue. Beginning with a comprehensive overview of start-up and operating expenses, the guide delves into potential revenue streams, market opportunities, and risk-management strategies tailored for small-scale producers. It also highlights economic efficiencies and financing options to help farmers make informed investment decisions. Focusing on sustainable practices, this resource equips farmers with the tools to build resilient poultry enterprises that contribute to their broader farm goals.



Photo: Darron Gaus, NCAT

Introduction

For small, diversified farms, adding poultry can be a flexible and profitable way to enhance an existing operation. Not only can poultry products like eggs and meat provide steady income, but they also support bigger farm goals by managing waste and enriching soil. Whether you're raising chickens or experimenting with other types of poultry, like quail, ducks, geese, or turkeys, these birds can be integrated into, or rotated with crops, orchards, or other livestock to help create a more sustainable and balanced farm. Poultry enterprises can easily adapt to meet both the needs of the farm and local market demands, making them an ideal choice for diversified operations.

Why Economics Matter for Small-Scale Poultry Farming

A solid understanding of poultry economics is essential for any small-scale farmer hoping to make their poultry enterprise profitable. Economics guides decisions on how much to invest in housing and equipment, the best sales outlets, and managing risk. Feed is the largest operating cost, so knowing its cost—and rates of feed conversion to eggs or meat—is essential to determining product pricing. Small-scale producers benefit most from finding ways to keep costs down and maximize productivity, often by using resources they already have on hand. Although poultry productivity depends

on high-quality rations with balanced nutrition, pasture and food scraps can provide small offsets and add diversity to the poultry diet.

Poultry Enterprises for Small-Scale Diversified Farms

Depending on your goals and markets, there are several poultry enterprises that can fit well within a small, diversified farming system. Here are some options:

Broilers (Meat Production)

- **Scale-friendly:** Raising broilers in small batches allows producers to respond to local market demands for direct-to-consumer sales, such as farmers markets.
- **Quick Turnover:** Broilers reach market weight in about seven to 12 weeks, making it possible to sell multiple batches per year without the need for long-term housing investments.
- **Integration with Crops:** Broilers can help manage pest populations and enrich the soil if rotated through pasture or garden areas.

Layers (Egg Production)

- **Regular Income:** Laying hens can offer a steady source of income (with seasonal fluctuations) through egg sales, which can complement seasonal produce or other farm products.
- **Low-cost Feeding Options:** Supplement layer feed with scraps, fodder, and forage feed to diversify the diet and provide small offsets to feed expenses.
- **Soil Fertility and Pest Management:** Portable coops or “chicken tractors” allow layers to fertilize soil and reduce pests.
- **Marketing Opportunities:** Farm-fresh eggs are popular at local markets and among community-supported agriculture (CSA) customers, making them ideal for smaller-scale producers. Selling eggs in addition to vegetables or other products may help producers access new markets.

Pastured Poultry (Meat or Eggs)

- **Sustainable and Marketable:** Pastured poultry offers an appealing product for customers interested in sustainable, ethical, and humane practices. Birds raised on pasture can improve

soil health, and being on pasture allows natural foraging behavior that diversifies birds’ diet and helps them thrive.

- **Flexible Market Entry:** Small batches of pastured birds can find local markets, and portable housing systems are ideal for rotation on small pastures.

Other Poultry Species

To add niche products and resilience to their operations, small-scale producers can diversify with avian and poultry species whose management is similar to chickens.

- **Quail:** Small and easy to manage, quail require little space and have quick turnover for both meat and eggs, making them an accessible entry point. (Because quail are outside the USDA definition of poultry, meat-processing regulations differ from those for chickens.)
- **Ducks:** Ducks can complement wet or marshy farm areas where chickens may struggle. Duck eggs and meat are highly marketable in local or specialty markets.
- **Geese:** Geese are effective grazers, can reduce mowing needs, and are excellent for integrated systems where they help manage weeds, improve soil health, and even act as natural guardians by deterring small predators and alerting to potential threats.
- **Turkeys:** Primarily for seasonal markets like Thanksgiving, turkeys can add high-value sales with modest annual investment, if raised in small batches.

Benefits of Poultry Diversification for Small Farms

Integrating poultry into a diversified farming operation can contribute significantly to creating a balanced, resilient, and profitable system. Diversification is key for small farms looking to mitigate risk, improve sustainability, and maximize resource efficiency. Poultry, whether for eggs, meat, or other products, provide a range of benefits that can complement other farming enterprises. Here are the primary advantages of incorporating poultry into a diversified farm:

- **Risk Reduction and Income Stability**
By diversifying with poultry, farmers can reduce their dependence on a single

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income source. Poultry products, such as eggs, meat, and even feathers or manure, can provide multiple revenue streams when sold in various markets. This is particularly important for small-scale farms whose profitability is especially vulnerable to fluctuations in crop yields or market prices for other products. For example, during a poor season for crops, poultry can continue to generate steady income from egg sales or meat production, helping to smooth out financial volatility.

- **Enhanced Soil Fertility and Pasture Health**

Poultry play an essential role in improving soil health and fertility. Birds, especially when rotated through pasture systems, help to fertilize the land naturally with their droppings, enriching the soil with nitrogen and organic matter. This reduces the need for synthetic fertilizers, lowering input costs and enhancing long-term soil productivity. Additionally, poultry can help manage weeds and pests, including insects and other arthropods, preventing damage to crops while contributing to the overall health of the farm ecosystem.

- **Improved Pest and Weed Management**

Poultry are natural foragers and are highly effective at controlling pests and weeds. In pasture-based systems, chickens, ducks, or geese can reduce the population of insects, ticks, and other pests that might harm crops or livestock. For example, a farmer described a marked reduction in ticks on her livestock guardian dogs following the rotation of laying hens through the fields. Ducks are known for their ability to control snails and slugs, which are common pests for some crops. Meanwhile, chickens and turkeys can eat weed seeds and disturb the soil, helping to manage unwanted plant growth without the need for chemical herbicides.

- **Increased Sustainability and Resource Efficiency**

Poultry systems contribute to the overall sustainability of a farm by recycling organic waste. While purchased feed is necessary, poultry can consume farm byproducts such as vegetable scraps, cull fruits, leftover grains, or unused produce (such as unsold

farmers market produce), transforming these materials into high-value eggs or meat. By utilizing waste streams effectively, farmers can reduce their reliance on purchased feed and minimize waste sent to landfills. This closed-loop system supports sustainable farming practices, making poultry a cost-effective addition to many operations.

- **Market Diversification and Niche Products**

Adding poultry to a farm opens opportunities to enter niche markets. For instance, some small farms focus on producing eggs or specialty products, like pasture-raised meats or heritage poultry breeds, that attract higher-value consumers. The growing demand for local, sustainable, humanely and ethically raised food products means that small-scale poultry producers can tap into premium markets, providing farm-fresh eggs, gourmet poultry, or value-added products such as processed meats. Diversification with poultry can be a key strategy for reaching new customer bases, including local grocery stores, restaurants, and community-supported agriculture (CSA) programs.

- **Increased Resilience to Environmental and Market Shifts**

A diverse farm system that includes poultry is more resilient to unexpected shifts, whether environmental, economic, or market-driven. For example, poultry are less vulnerable to drought conditions compared to crops, and they require less water and land area. Moreover, having a mix of animals and crops provides a buffer against market fluctuations in one sector, allowing the farm to adapt to changing consumer preferences or price variations. By integrating poultry into a diversified system, farmers are better positioned to weather both environmental challenges and economic downturns.

- **Educational Opportunities and Community Engagement**

Diversified farms that include poultry can also serve as excellent platforms for education and community engagement. Hosting visitors, workshops, and farm tours can highlight the role of poultry in sustainable farming systems, educating the public on topics such as animal welfare, food production, and

Poultry can help manage weeds and pests, including insects and other arthropods, preventing damage to crops while contributing to the overall health of the farm ecosystem.

eco-friendly farming practices. By sharing knowledge and demonstrating effective farming techniques, small-scale poultry producers can build connections with local communities, strengthen relationships with consumers, and inspire others to adopt sustainable practices.

- **Workload Management and Time Efficiency**

Although poultry require daily attention, they can be managed efficiently, especially when integrated into rotational grazing or pasturing systems. For instance, mobile coops or chicken tractors make it easier for farmers to move birds between areas, optimizing access to fresh forage while distributing manure evenly across fields. This reduces the time spent on tasks like pasture maintenance or weeding, while still offering the benefits of active farm management. In contrast to larger livestock, poultry can be managed with fewer resources, and many farmers find that poultry help balance the workload on a diversified farm.

Whether enhancing sustainability, reducing financial risk, or providing multiple income streams, poultry contribute to an integrated approach to farming that benefits both producers and consumers.

Start-Up Costs

For small-scale, diversified producers who are adding poultry to their operations, start-up costs can vary depending on factors such as system



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type, farm size, and local market demand. Careful budgeting for essential expenses is important to ensure a sustainable start and create a setup that supports both the welfare of the poultry and the farm's operational objectives.

Infrastructure

Mobile coops or “chicken tractors” are popular in small-scale operations because they allow for rotation and integration with crops or pasture, improving soil health and reducing feed costs. Stationary coops may be more cost-effective for larger flocks, with essential features like ventilation, predator-proofing, and nesting areas.

Gravity feeders and nipple waterers are low-maintenance options that maintain a clean water supply, reduce waste, and are easy to adapt to small setups. Portable feeders and waterers for pasture systems make it easier to manage daily movement.

In small-scale systems, lighting may only be necessary for layer flocks during winter months to maintain egg production. Solar-powered lighting can be a cost-effective solution.

Finally, predator-proof fencing is critical, especially for pastured or free-range systems. Electric poultry netting is effective for portable systems, while permanent fencing may work better for stationary setups.

Equipment

The equipment needed for a poultry operation may include incubators, brooders, transport crates, egg collection systems, product storage systems, ventilation, and a way to wash` eggs. Incubators allow producers to hatch their own chicks, reducing dependency on outside sources. Hatching may be the most practical approach to raising quail, whose small chicks do not fare well in transport. Equipment and skill development may be worthwhile investments for those interested in raising their own breeding stock. However, purchasing chicks, ducklings, and turkey poults from a hatchery that participates in the National Poultry Improvement Plan (NPIP) may be best for beginning producers.

Brooders are essential for caring for chicks during their first weeks of life and preparing chicks for the pasture. A lot of low-cost and self-built options are available. Additionally, transport crates are required for safely moving birds for

on-farm management, trips to the processor, or deliveries to customers. Crates should be sturdy, easy to clean and handle, and predator-proof.

Small-scale operations often rely on manual egg collection, but equipment such as roll-away nesting boxes or similar low-cost systems can help reduce egg breakage and maintain cleanliness. In addition, proper refrigeration and freezer storage of poultry products are necessary. Storing poultry products correctly is crucial to maintaining their freshness, safety, and quality. Proper refrigeration and freezer storage help extend shelf life and prevent harmful bacterial growth and foodborne illnesses.

Poultry require ventilation when in coops, buildings, or eggmobiles, as this is essential for maintaining the health of the flock. Many small-scale setups rely on natural ventilation, but in enclosed spaces, small fans may be necessary to keep air moving and prevent moisture buildup.

Finally, small scale egg-washing systems will increase efficiency in workflow and save time. Refer to ATTRA's publication *Small-Scale Egg Handling*.



Photo: Tammy Barnes, NCAT



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Land and Facilities

Whether land is owned or leased, land costs are a key consideration. Small flocks can thrive on limited acreage, and diversified producers may find they can integrate poultry within existing fields, gardens, or orchards. For producers establishing a pasture system, ensuring adequate forage area and rotation space will optimize bird health and reduce feed costs. For pasture-based systems, establishing a mix of grasses, legumes, and forbs helps ensure birds have nutritious forage. Initial seeding and land preparation can be minimal for small flocks but still require planning.

Ensure there is appropriate space for storage of feed, bedding, and equipment. This will allow for smooth operations and reduce time spent procuring supplies, as well as lower costs by making bulk purchases feasible. Also, if processing on-site is an option, a small processing area or modular processing unit can add value.

Breeding Stock/Chicks

For small flocks, chicks or pullets are an affordable starting option available from reputable hatcheries or local breeders. Broilers, layers, and other species should align with your enterprise goals (e.g., egg production or meat). Some producers may prefer heritage or dual-purpose breeds that offer both eggs and meat. When planning your purchase, it is important to order chicks at the right time of year to match the weather in your region. For example, starting in spring or early summer

in cooler climates allows birds to grow during warmer months, while in hotter areas, fall or late winter orders may help avoid extreme heat during brooding and early growth. This ensures better survival rates and reduces the stress on both birds and producers.

Ducklings, goslings, and poults (young turkeys) typically have higher initial costs than chickens, but they can provide significant returns for small, diversified operations. These species often appeal to niche markets, such as consumers seeking specialty meats or eggs. However, producers must factor the higher startup costs into the budget, as other species may require different housing, feed, and care needs compared to chickens. For farmers looking to diversify their offerings and cater to unique market demands, raising these species can offer both a challenge and an opportunity for increased profitability.

Feed is often one of the highest ongoing costs, so selecting a type that balances cost with production goals is essential.

Licensing and Certification Fees

Organic certification can add value for markets where there's high demand for organic products. Certified organic production in the United States requires obtaining USDA certification that includes an annual inspection to verify compliance with regulations. Certification of laying hens is straightforward. Sale of poultry meat as organic requires that processing of birds, as well as production, is certified. It is important to familiarize yourself with all federal regulations related to organic production before getting started. For more information, see ATTRA's Tipsheet: *Organic Poultry Production for Meat and Eggs* at attra.ncat.org/publication/tipsheet-organic-poultry-production-for-meat-and-eggs.

Certifications such as Certified Humane or Animal Welfare Approved can increase market access and appeal, especially for direct-to-consumer sales. Producers will need to weigh the costs of participating in these programs with how much customer recognition they have and whether certification increases consumer willingness to pay.

Depending on local regulations, producers may need registrations or licenses to sell eggs or poultry meat, even for small operations. Some are simple to obtain and low-cost. Understanding the requirements early on can prevent unexpected expenses and ensure a compliant setup.

These start-up cost considerations will provide

a foundation for budgeting and planning, with flexibility for small-scale systems and diversified operations.

Operating Costs

For small-scale and diversified poultry producers, managing ongoing expenses is critical to sustaining a profitable operation. As these farms balance the costs of raising poultry with the need to maintain quality and health, careful attention to key operating expenses is essential. Below, we provide an overview of the most common ongoing costs faced by poultry producers, along with practical strategies to minimize expenses without compromising bird health and welfare, or production quality.

Feed Costs

Feed is often one of the highest ongoing costs, so selecting a type that balances cost with production goals is essential. The most affordable choice, conventional feed, meets basic nutritional needs, but using it may not appeal to customers seeking non-GMO or organic products. Organic feed is necessary for certified organic operations, and appeals to eco-conscious customers, but it's typically 30 to 40% more expensive than conventional options. Non-GMO feed can be a middle ground, offering a premium product without the higher cost of organic, yet appealing to customers interested in sustainable practices.

Knowing feed consumption rates helps in budgeting accurately. Each species and type of poultry has different nutritional, as well as feed type, requirements, and it is important to understand what the various species need at each stage of growth.

For example, layers consume about 0.25 pounds of feed per day, totaling around 90 pounds annually per hen. It typically takes about 25 pounds of feed to raise a chick to the point of lay. Feed quality and nutritional balance are important for consistent and quality egg production.

Broilers consume 13 to 16 pounds of feed per bird over a seven to 10-week (about two and a half months) grow-out period. Pasture-based broilers may consume slightly less feed by foraging, though balanced rations remain essential for growth and development.

Quail, ducks, geese, and turkeys each have different feed needs, with ducks requiring higher

protein and geese often foraging effectively on pasture. It is important to understand the nutrient requirements of the species you intend to produce.

Labor Costs

Labor costs vary, especially for small operations where family labor is common. Outside labor may only be needed for tasks like processing or seasonal work. However, to account for the true costs of production, the value of family labor must be tracked and included in an enterprise budget.

Producers should budget time for each of the following activities:

- **Feeding and watering:** These daily tasks are often the most time-consuming, though automatic feeders and waterers can reduce labor requirements.
- **Cleaning and maintenance:** Keeping housing clean reduces health risks; small operations may only need weekly cleaning, but this varies with flock size.
- **Egg collection:** Collecting eggs once or twice daily is necessary to prevent breakage and maintain egg quality. Roll-away nesting boxes can save time in small-scale systems.
- **Preparing for sale:** This includes the time spent getting products ready for market, such as cleaning eggs, packaging them, and ensuring compliance with labeling regulations. Producers may also need to prepare birds for processing, whether by ensuring that they are appropriately transported or slaughtered, cleaned, and chilled on a farm. Also, allocate time for organizing and packing products for delivery or shipment.
- **Moving pastured birds:** In a pasture-based system, regular rotation of birds is essential for maintaining pasture health and animal well-being. Moving birds to fresh pasture involves ensuring they have access to necessary shelter and water. It is necessary to move birds at least every one to three days, depending on flock size and pasture condition.
- **Marketing product:** Marketing requires consistent time investment to build customer relationships and promote products effectively. Producers should allocate time to engage with customers through social media, websites, or farmers markets, while also developing promotional strategies like



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seasonal sales or new product campaigns. Networking with local stores, co-ops, and restaurants can expand market opportunities, and tracking customer feedback helps refine offerings and improve service. Ensuring compliance with marketing regulations, such as proper labeling for organic or specialty products, is also crucial for maintaining trust and meeting legal requirements. By dedicating regular time to these activities, producers can strengthen their brand and increase sales.

- **Buying feed and other supplies:** Set aside time to research, purchase, and store feed and other necessary supplies, including items like egg cartons, cleaning products, and equipment. It's important to maintain consistent stock levels. Planning for bulk purchases or anticipating seasonal demand can help reduce overall costs and last-minute shopping trips.
- **Health management:** Routine health checks, vaccinations appropriate to the species and region, and treatments, especially for larger flocks, are essential to preventing disease outbreaks.

Processing and packaging incur costs and should be part of your enterprise budget, as accurate production projections help in budgeting and meeting customer demand.

Health Costs

Vaccination needs depend on region and operation type. Laying hens should be vaccinated against Marek's disease, as an outbreak can quickly kill an entire flock. Choose vaccinations in consultation with a veterinarian, as needs vary by region and disease prevalence. Vaccination against some diseases may mask symptoms yet allow birds to carry the disease. Virulent Newcastle Disease, for example, is one disease for which vaccination recommendations vary by region and recent outbreak history. Check with Cooperative Extension poultry specialists in your county or region for recommendations for disease prevention and protocols for management.

It is important to have a preventive health care plan. Impactful investments include biosecurity, such as proper fencing, footbaths, dedicated clothing and footwear, general cleanliness, and sanitation between flocks to minimize disease risks. Other preventive health measures include selecting well-adapted species, providing appropriate shelter and clean and dry bedding, balancing nutrition, providing clean water, supplying proper ventilation for good air quality and temperature, preventing and monitoring injuries, and furnishing adequate space for exercise, stress reduction, and expression of natural behaviors. Because there are relatively few treatments that are allowed and effective for use in poultry, producers will do well to invest in preventive health practices.

Utilities and Miscellaneous Costs

Electricity and propane costs for poultry enterprises mainly involve lighting for egg production and heating for chicks in brooders, especially in colder months. Solar lighting and energy-efficient heat sources can lower expenses.

If you are storing eggs or processed poultry, reliable refrigeration or freezer units are essential. These may require significant electricity, especially in warmer climates. Insulated buildings and small, energy-efficient refrigerators or chest freezers can help minimize costs. Producers focused on meat or other perishable products may also consider use of backup generators in case the power fails, or if they are off-grid.

Costs for water are usually low but increase with flock size. Systems that reduce water expenses include rain-water capture or nearby

natural water sources. Gravity water systems on mobile units can reduce energy costs. Finally, housing, feeders, and other equipment will need repairs or replacement over time. Budgeting for and conducting regular maintenance as a minor, ongoing cost can prevent larger, unexpected expenses and stress later.

Marketing and Distribution Costs

Processing and packaging are necessary for product uniformity, safety, and distribution. If selling eggs, suitable cartons and labels are needed to maintain quality and meet local sales regulations. If marketing meat, you must comply with regulations for processing, packaging, and labeling in order to sell products. Processing and packaging incur costs and should be part of your enterprise budget, as accurate production projections help in budgeting and meeting customer demand. (See *Poultry Meat Processing: Choosing an Approach for your Farm* for more information and links to regulations.)

Transportation costs include fuel, vehicle maintenance, and refrigeration for meat products. Many small producers reduce these costs by selling locally, at farmers markets or community events. To save the fees and time spent at market, small-scale producers may leverage direct sales through social media or on-farm sales, but they need to remember to factor in the costs of developing and maintaining a website or outfitting and licensing a farm stand.

Some small-scale producers partner with local grocers or restaurants. This may involve negotiation of prices, fees, or packaging costs, but it provides more consistent income and reduces direct-sales labor. To help maintain regular cash flow, be sure to allow for the lag time between product delivery and payment. (Check with other producers about the timeliness, reliability and accuracy of a wholesaler's payments.)

Finally, if organic production is a goal, a producer needs to weigh the financial costs of organic certification with potential price premiums.

Revenue Streams

For small-scale and diversified poultry producers, creating multiple revenue streams is essential to sustain operations and maximize profitability. By understanding potential income sources and pricing strategies, producers can

align their offerings with local demand and market opportunities.

Egg Production

Egg pricing depends on size, quality, and production practices, with pastured or organic eggs generally commanding higher prices. Standard pricing typically differs for medium, large, and extra-large eggs. Offering a mix can appeal to a broader customer base.

Egg prices can be affected significantly by geographical locations. Pastured, organic, or non-GMO eggs can attract premium prices at local markets or through direct sales. Access to a metro population often brings with it consumers' capacity and willingness to pay higher prices to purchase certified organic products or pay a premium for product characteristics they value. Transparent labeling and branding can promote ethical practices and can boost the customer's value perception.

The breed of poultry you choose affects overall revenue because of differences in production rates. A typical hen lays around 250 to 300 eggs per year under good conditions. Some breeds that lay either white or brown eggs are known for producing high numbers of eggs. Breeds that lay eggs with green shells (novel for marketing) generally lay significantly fewer eggs—around 200 per year. Also, hens generally produce the most eggs when they are young, and small-scale farmers generally find production to be acceptable for their first two years. To maintain consistent output and profitability, the farmer must track egg production and plan to raise a new flock so that it will come into production when it is time to cull the existing flock—before the costs to maintain the flock exceed the value of egg sales.

Meat Production

Producers of meat birds should track their profit margins per bird. Calculating costs versus sales is key to understanding profitability. Costs of feed, processing, and labor are important factors that impact profit margins. Calculating a per-bird cost and aiming for a selling price that leaves a comfortable margin is essential. Tracking the performance of your stock under your management conditions will allow you to make more accurate estimates over time.

Small-scale producers can increase their market opportunities by tapping into local markets,



Photo: Tammy Barnes, NCAT

where consumers are willing to pay a premium for pastured or organic meat. Selling directly through farmers markets, CSAs, or on-farm can yield higher prices than wholesale. In comparing the profitability of marketing channels, include all costs, such as equipment (vehicle, coolers, table, awning, signage), stall fees, lunch, and the value of the time needed for loading, transportation, and sales. Is it worth the overhead costs of working a market to make the extra dollars per dozen eggs or pounds of meat? (See ATTRA's NCAT *Marketing Tip Sheet Series*, attra.ncat.org/publication/ncat-marketing-tip-sheet-series, for information on successfully accessing a variety of different market outlets.)

Producers can also consider partnerships with local grocers, restaurants, or specialty stores that may be interested in stocking premium meat products from local producers, though this kind of market outlet may require consistent year-round supply. Also, meat that is to be resold needs to be processed in an inspected facility rather than under an on-farm exemption, which requires factoring in additional processing costs.

Value-Added Products

Producers who offer value-added products can significantly boost profitability by making use of excess or lower-grade birds and tapping into new markets. By processing poultry into different forms, farmers can diversify their product lines and offer unique items that meet consumer demand. Refer to USDA's Small Plant Help Desk to clarify the inspection and licensing requirements for selling different types of poultry meat products. The Niche Meat Processor's

Assistance Network (NMPAN) can be a useful source of information, as well. For example, producers can operate under the retail exemption to cut up, marinate, and package poultry that is USDA-inspected and passed, but sausage-making has different requirements. Be sure you can meet federal, state, and local regulations for processing and selling meat and meat products. Here are some potential value-added product ideas:

- **Piecing out birds:** Many customers prefer poultry already pieced—such as thighs, legs and boneless breasts. Prices can be significantly higher per pound than for whole birds.
- **Poultry sausages:** Making sausages from ground poultry is an excellent way to utilize lower-grade or excess birds. With the right seasoning and high-quality ingredients, poultry sausages can attract health-conscious consumers, especially if they are made with organic, free-range, or heritage breed poultry. Unique flavor combinations, like garlic and herb or spicy chorizo, can help differentiate your sausages in the market.
- **Bone broth:** Poultry bones, including those from wings, necks, or carcasses, can be used to create nutrient-rich bone broth. Bone broth, known for its reputed benefits to joint health, digestion, and skin, is a highly sought-after product in both the health and culinary markets. Marketing it as a “farm-to-table” or organic product could help increase its appeal, especially among health-conscious customers.
- **Eggshell powder:** Crushed eggshells from cracked or cull eggs can be processed into a valuable calcium supplement for gardens or livestock feed. Selling eggshell powder as an organic soil amendment or a feed supplement for poultry, cattle, or goats can add extra revenue without generating additional waste. This is an eco-friendly product that appeals to environmentally conscious consumers.
- **Smoked poultry or poultry jerky:** Smoking poultry or making jerky can create high-demand, shelf-stable products. Smoked chicken, turkey, or other poultry cuts offer a savory alternative for consumers looking for convenient, ready-to-eat snacks. Similarly, jerky products made with lean poultry meat can appeal to the growing market for

protein-rich, portable snacks.

- **Marinated or pre-seasoned poultry:** Offering marinated or pre-seasoned poultry can attract customers who are looking for easy, ready-to-cook meals. By offering unique marinades or flavor profiles, like teriyaki, Cajun, or Mediterranean, you can appeal to a variety of tastes. This can be a great way to increase product value by saving customers time on meal preparation.
- **Poultry stock or soup kits:** Offering ready-made poultry stock or soup kits can appeal to busy families or individuals looking for homemade meal options. These kits could include pre-measured ingredients like poultry frames or bones, broth, vegetables, and seasonings to make cooking easier for consumers while utilizing parts from birds that can't be sold in whole form.

By offering a variety of products, small-scale poultry operations can cater to local consumer demands, tap into niche markets, and reduce financial risk, creating more opportunities for growth and long-term sustainability.

Manure and Waste

Poultry manure is a valuable fertilizer, high in nitrogen and sought after by gardeners, landscapers, and other farmers. Raw or composted manure sales are additional enterprises that need their own management plan and budget, and composting poultry waste with bedding and other organic material can create a high-quality soil amendment. Sell these products in bagged form or bulk, depending on local demand. Composting can also reduce odors and pathogens, making it a safer and more attractive product.

Integrating diverse revenue streams not only enhances overall income but also strengthens the farm's market presence, helping to build a more resilient business model. By offering a variety of products, small-scale poultry operations can cater to local consumer demands, tap into niche markets, and reduce financial risk, creating more opportunities for growth and long-term sustainability.

Economic Efficiency and Profitability Metric

Measuring economic efficiency and profitability is essential for small-scale poultry producers. Farmers need to understand their costs, set appropriate prices, and make informed decisions about the viability of expansion, necessary adjustments to their operations, or discontinuing an enterprise when it does not fit in the whole farm plan and contribute to business goals.

A key economic concept to consider is the competitive equilibrium price. This is the price at which the quantity demanded of a good, such as eggs, matches the quantity supplied. This price point occurs where the supply and demand curves intersect, indicating a balanced market. Producers can estimate this equilibrium price by analyzing historical data from sources like the USDA's National Agricultural Statistics Service (NASS) and Economic Research Service (ERS), which provide insights into pricing trends and supply levels. Understanding this data allows farmers to predict optimal sales periods and maximize profitability by aligning production with market demand.

Here are the key metrics for tracking financial performance:

Cost of Production per Unit:

- *Per bird:* Calculating per-bird costs involves tallying feed, health care, housing, labor, and other inputs. This metric is especially useful for meat production, to help the producer understand the cost per finished bird.
- *Per dozen eggs:* Cost per dozen includes feed, labor, housing and equipment, utilities, packaging, and marketing costs. Knowing all these costs, including overhead, variable costs, and profit margin, then dividing by the number of dozens of eggs produced allows producers to set prices that cover costs and provide a reasonable margin.
- *Per pound of meat:* Calculating the cost per pound of poultry meat (whole or cut) gives insight into profitability, helping producers understand how efficiently they can produce meat within a given weight range.

Break-Even Analysis:

- The break-even point is the minimum production level needed to cover all operating and fixed costs. Calculating this helps producers know the volume of eggs or meat needed to cover costs before generating profit. For example, if a producer's break-even is 200 dozen eggs per month, knowing this can inform decisions around flock size, production goals, and pricing adjustments.

Return on Investment (ROI)

$$\text{ROI (\%)} = \left(\frac{\text{NET PROFIT}}{\text{COST OF INVESTMENT}} \right) \times 100$$

Return on Investment evaluates how quickly initial investments, like infrastructure (housing, feeders) or breeding stock, are recovered. If a producer invested \$5,000 in a brooder and flock setup, and they generate \$2,500 in profit annually, the ROI would be 50%, indicating a two-year recovery period. This metric is particularly helpful in determining if expanding or adding new equipment is financially wise.

Gross and Net Margins

Gross revenue is total income before expenses. Gross margin represents revenue minus the cost of goods sold (e.g., feed, health costs for the birds) and provides insight into production efficiency.

$$\text{GROSS MARGIN (\%)} = \left(\frac{\text{NET SALES} - (\text{Cost of Goods Sold})}{\text{GROSS MARGIN}} \right)$$

By contrast, *net margin* accounts for all expenses, including fixed and variable costs, yielding a clear picture of profitability after all expenses. Understanding these margins allows producers to benchmark financial health against industry standards and adjust as needed.

Feed Conversion Ratio (FCR)

$$\text{FCR} = \left(\frac{\text{TOTAL QUANTITY OF FEED CONSUMED PER BIRD IN LBS}}{\text{MEAN BODY WEIGHT IN LBS}} \right)$$

The *Feed Conversion Ratio* (FCR) evaluates feed efficiency: in this case, the amount of feed required to produce a pound of meat or eggs. Lower FCR values indicate better feed efficiency. FCR has a direct impact on profitability. An efficient FCR means feed costs are lower for the same amount of product. For instance, broilers with an FCR of 2.0 consume two pounds of feed for every one pound of weight gain, helping producers minimize costs relative to output.

Consumer trends provide a means for producers to assess marketing options, and a producer who has knowledge of consumer trends can better develop a profitable pricing strategy.

Mortality Rates

Mortality impacts financial performance by affecting both the revenue and cost structure. High mortality increases costs by reducing production output and wasting inputs (such as feed and health costs). Monitoring mortality rates and identifying trends regularly help producers address issues promptly, reducing losses and maintaining flock health.

By consistently monitoring these key performance metrics, small-scale poultry producers can identify areas for improvement, optimize operational costs, and make data-driven decisions to enhance overall efficiency. This proactive approach allows producers to adjust practices, fine-tune production processes, and set more accurate, achievable production goals that align with both short-term financial objectives and long-term sustainability plans.

Market Opportunities and Risk Management

A solid understanding of market opportunities and effective risk-management strategies is essential for maximizing profitability while safeguarding the enterprise from potential setbacks. Producers can make informed decisions that reduce vulnerability and enhance their ability to capitalize on profitable opportunities by analyzing market trends, recognizing emerging consumer preferences, and assessing external risks (such as weather patterns or shifts in regulation). This approach not only strengthens the farm's financial resilience but also positions it for long-term success in an ever-changing market environment.

Market Analysis

Consumer trends provide a means for producers to assess marketing options. Interest in sustainable and ethical farming practices has led to increasing demand for free-range, organic, and pastured poultry. Local food movements, health-conscious consumers, environmental awareness, and interest in animal welfare also drive demand for these products and willingness to pay for their full value.

A producer who has knowledge of consumer trends can better develop a profitable pricing strategy. Aligning consumer expectations with prices for premium products can maximize profits. This includes calculating the cost of organic or pastured production and setting prices

to reflect the added value. Marketing on-farm practices (e.g., “raised on open pasture”) can justify premium prices, especially in direct-to-consumer markets.

Seasonality

Poultry demand often peaks around specific holidays, such as Thanksgiving or Easter, when people seek fresh poultry or heritage birds. Planning flock sizes and production schedules around these peaks can help capture high-value sales. Producers can also plan production cycles to align with periods of high demand or diversify by offering both eggs and meat to even out demand throughout the year.

Contracts and Wholesale Markets

Entering wholesale agreements with grocers or restaurants offers reliable sales but has lower margins. This marketing strategy is only appropriate for operations of sufficient scale to provide a consistent, year-round supply of product. For these markets, it's important to understand contract terms, including supply volume and quality standards, which can be stringent, and may require additional grading, testing, and other quality control systems.

Insurance and Risk Management

All producers should carry insurance for product liability. For small-scale producers, production insurance mitigates risks from disease outbreaks, natural disasters, or accidental losses. Options include coverage for livestock, property, and business liability.

Prevention is a key component of risk management. A producer's health plan is also a way to mitigate risk. Regular flock-health monitoring, sanitation practices, and biosecurity investments help reduce the likelihood of disease outbreaks.

Financing and Support Programs

Securing financing and exploring available support programs are crucial steps in establishing a strong financial foundation for small-scale poultry operations. These sources of funding can provide essential capital for purchasing equipment, covering other start-up costs, and managing cash flow during the early stages of the operation. Additionally, grants, low-interest

Financing and Support Programs

1 Grants and Loans

GOVERNMENT PROGRAMS

Several USDA and NRCS programs offer grants and loans for small-scale and beginning farmers. These programs may cover costs associated with infrastructure, conservation practices, or other farm improvements.

APPLICATION PROCESS

Grants may require detailed business plans and impact statements. Familiarizing yourself with these requirements can improve the chances of securing funds and may also serve as a useful business-planning exercise.

2 Subsidies and Incentives

ENVIRONMENTAL & CERTIFICATION SUBSIDIES

Some programs provide financial incentives for farmers pursuing organic certification, improving environmental practices, or participating in conservation efforts.

ENERGY & WATER EFFICIENCY

Subsidies may be available for water-efficient systems or energy-saving practices, which can lower production costs and align with sustainable farming goals.

3 Cooperatives and Shared Resources

ECONOMIC BENEFITS OF COOPERATIVES

Joining a poultry cooperative or pooling resources with neighboring farms can reduce costs on bulk purchases (e.g., feed or equipment) and help secure better market access.

SHARED INFRASTRUCTURE

Small-scale producers can reduce capital expenses by sharing tools, processing facilities, or even marketing resources, allowing them to expand capabilities without large individual investments.

By leveraging market opportunities and fully understanding available financing options and risk management tools, small-scale producers can not only strengthen their operations but also build greater resilience against market fluctuations and environmental challenges.

loans, and government subsidies can help reduce operating expenses, making it easier for producers to invest in necessary infrastructure, improve animal welfare, and expand market reach. By strategically leveraging these financial resources, producers can enhance long-term stability and reduce the financial risks often associated with starting or scaling a farm.

Grants and Loans

Several USDA, specifically NRCS, programs offer cost-share funds, grants, and loans for small-scale and beginning farmers. These programs may provide a portion of costs associated with infrastructure, conservation practices, or other farm improvements.

Grants generally require detailed business plans and impact statements, and generally at least three years of records. Familiarizing yourself with these requirements can improve the chances of securing funds. A clear business plan and a reliable record-keeping system are essential to any successful business, whether you plan to apply for loans or cost-share contracts.

Some programs provide financial incentives for farmers pursuing organic certification, improving environmental practices, or participating in conservation efforts. Specifically, these can help fund water-efficient systems or energy-saving practices, which can lower production costs and align with sustainable farming goals.

Cooperatives and Shared Resources

Producers may obtain the economic benefits of cooperation by pooling resources. For example, sharing the cost of delivery of a truckload of feed with neighboring farms can reduce costs on bulk purchases (e.g., feed or equipment) and help secure better market access. Small-scale producers can reduce capital expenses by sharing tools, processing facilities, or even marketing resources, allowing them to expand capabilities without large individual investments.

By leveraging market opportunities and fully understanding available financing options and risk management tools, small-scale producers can not only strengthen their operations but also build greater resilience against market fluctuations and environmental challenges. This proactive approach enables producers to better navigate

uncertainties, maximize profitability, and ensure long-term sustainability for their poultry ventures.

Economic Sustainability in Poultry Production

Achieving economic sustainability in poultry production requires a careful balance between revenue generation, cost control, and long-term operational stability. For small-scale producers, this means optimizing production practices to ensure consistent output while minimizing unnecessary expenses. Key strategies include managing feed costs efficiently, reducing waste, and investing in long-lasting infrastructure. By diversifying income streams, such as selling eggs, meat, or poultry by-products, producers can create a buffer against market fluctuations. Sustainable economic practices also involve making data-driven decisions based on market trends, production costs, and consumer demand. Fostering strong local partnerships, building a loyal customer base, and exploring niche markets can further enhance profitability and ensure a resilient, adaptable operation. Economic sustainability is not just about short-term profits but about building a farm that can continue to thrive and contribute to the local economy.

Diversification

Diversification can help reduce economic risks by incorporating multiple income streams, which can provide stability even if one part of the operation faces challenges. Consider these diversification opportunities:

- *Dual-purpose breeds:* Select breeds that serve both egg and meat production roles to maximize utility and adapt to shifting demand.
- *Agritourism:* Offer on-farm experiences such as tours, farm stays, or educational workshops to engage the community and provide additional revenue. The ATTRA publication *Roots to Revenue: Making Agritourism Work for Your Farm* (attra.ncat.org/publication/roots-to-revenue-making-agritourism-work-for-your-farm) provides more information on this opportunity
- *On-farm workshops:* Share knowledge about poultry care, regenerative practices, and small-scale farming to attract visitors and strengthen your local presence while generating income.

Economic Sustainability in Poultry Production

1 Diversification

DUAL-PURPOSE BREEDS

Selecting breeds that serve both egg and meat production roles helps maximize utility and adapt to shifting demand.

AGRITOURISM

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ON-FARM WORKSHOPS

Sharing knowledge about poultry care, regenerative practices, and small-scale farming can attract visitors and strengthen your local presence, while generating income.

2 Reducing Costs Through Sustainability

ECONOMIC BENEFITS OF PASTURE-BASED SYSTEMS

Utilizing pasture-based systems can lower feed costs by letting birds forage and increase health benefits due to the diverse diet and increased space. Additionally, manure distribution directly enriches the land, reducing fertilizer needs.

CARBON SEQUESTRATION

Poultry on pasture contribute to carbon sequestration through plant growth and soil health, which can have economic benefits, especially as carbon credits and other environmental incentives become available.

REGENERATIVE AGRICULTURE

Regenerative approaches, like rotational grazing and cover cropping, lower input costs by improving soil health, reducing the need for synthetic fertilizers and increasing resilience against pests and diseases, thereby supporting economic resilience over time.

3 Future Trends in Poultry Economics

MARKET DEMAND SHIFTS

Consumers are increasingly interested in sustainably and humanely raised poultry. Positioning your product to meet these demands can offer a competitive edge.

RIISING INPUT COSTS

With feed, fuel, and labor costs on the rise, staying informed about cost-saving technologies is key. Consider local feed sourcing, alternative feeds, or more efficient equipment to help manage these pressures.

TECHNOLOGY INTEGRATION

New technologies, like automation in feed and watering systems and data tracking, help optimize operations, reduce labor demands, and improve animal welfare. For small-scale farms, initial investments may be offset by long-term gains in efficiency and health outcomes.

Raising poultry on pasture contributes to carbon sequestration through plant growth and soil health, which can have economic rewards. Additionally, manure distribution directly enriches the land, further reducing fertilizer needs.

Reducing Costs Through Sustainability

One of the most impactful practices to reduce costs on livestock farms is utilizing more pasture. Pasture-based systems can lower feed costs (albeit by a small amount for poultry) by letting birds forage, but the health benefits due to the diverse diet and increased space are even more significant than the small reduction in feed costs. Regenerative approaches, like rotational grazing and cover cropping, lower input costs by improving soil health, reducing the need for imported fertilizers, and managing pests, thereby supporting economic resilience over time. Raising poultry on pasture contributes to carbon sequestration through plant growth and soil health, which can have economic rewards, especially as carbon credits and other environmental incentives become available. Additionally, manure distribution directly enriches the land, further reducing fertilizer needs.

Future Trends in Poultry Economics

- *Market-demand shifts:* Consumers are increasingly interested in sustainably and humanely raised poultry. Positioning your product to meet these demands can offer a competitive edge.
- *Rising input costs:* With feed, fuel, and labor costs on the rise, staying informed about cost-saving technologies is key. Consider local feed sourcing, alternative feeds, or more efficient equipment to help manage these pressures.
- *Technology integration:* New technologies, like automation in feed and watering systems and data tracking, help optimize operations, reduce labor demands, and improve animal welfare. For small-scale farms, initial investments may be offset by long-term gains in efficiency and health outcomes.

Key Lessons Learned from Both Successful and Struggling Operations

Learning from challenges is just as important as celebrating successes. Some common themes include the following:

- *Overcapitalization:* Some farms initially invest heavily in infrastructure or technology but struggle with cash flow. It's essential

to align initial investments with revenue potential and demand.

- *Underestimating labor costs:* Many new poultry operations underestimate labor requirements, particularly in pasture-based or regenerative systems. Some do not track, place a value on, or pay for their own labor. Building labor costs into financial projections helps prevent surprises.
- *Market mismatch:* Some producers find that niche markets for pasture-raised poultry take time to develop, especially when customers are unfamiliar with sustainable practices or higher price points.
- *Poor record-keeping:* Inadequate record-keeping can significantly impact whole-farm management by obscuring the true costs of production, labor, and inputs. Without accurate records, producers may find it difficult to assess profitability, identify inefficiencies, or make informed decisions. Implementing robust record-keeping systems helps ensure that all aspects of the farm are monitored effectively, facilitating better financial planning and operational adjustments.

These lessons can guide others to refine their approach based on proven successes and areas for improvement.

Summary of Key Economic Factors for Financial Success

Achieving financial success in poultry production requires a combination of strategic planning and adaptability. These are some key factors for success:

- *Smart diversification and risk management:* Balancing income sources and managing risks effectively can stabilize cash flow and reduce vulnerability to market fluctuations.
- *Adopting sustainable practices:* Implementing cost-reducing and environmentally beneficial practices not only cuts expenses but also fosters long-term soil health and operational resilience.
- *Staying responsive to market trends and innovation:* Keeping an eye on how markets are changing and technology is advancing enables producers to stay competitive and adopt cost-effective solutions to improve efficiency.

Continuous Tracking and Adaptation

The poultry market, like all sectors of agriculture, is dynamic and is influenced by consumer preferences, input costs, and environmental conditions. To maintain sustainability, it is essential for producers to monitor these factors continuously. Conducting regular financial reviews, tracking production metrics, and staying informed about market shifts are practices that allow producers to adjust their strategies and remain agile. Those who engage proactively with emerging trends and adjust their approaches are better positioned for long-term success and

resilience. An operation needs to both budget time for these activities and include the cost of this time in its enterprise budget.

Final Encouragement

Building a sustainable and profitable poultry operation requires time, experimentation, and flexibility. By prioritizing economic sustainability, staying informed, and remaining open to change, producers can build a thriving business that not only supports their financial goals but also contributes to the well-being of their communities and the environment. With patience and adaptability, a poultry enterprise can become a cornerstone of both personal success and positive local impact.

Further Resources

Guides and Publications

ATTRA's Poultry Resources

National Center for Appropriate Technology

attra.ncat.org/topics/poultry

A wide-ranging library of free resources covering feeding, housing, regulations, mobile processing, and marketing with a focus on sustainability.

Profitable Poultry – Raising Birds on Pasture Sustainable Agriculture Research and Education

sare.org/resources/profitable-poultry

This free publication profiles 17 farms and analyzes labor, infrastructure, and enterprise profitability across poultry systems.

Poultry Production

Cornell Cooperative Extension Ulster County ulster.cce.cornell.edu/agriculture/livestock/poultry-production

A web page that covers startup strategy, legal issues, and profit models for broilers and layers.

Financing and Support Programs

Microloan Programs

USDA Farm Service Agency

fsa.usda.gov/programs-and-services/farm-loan-programs/microloans

Simplified loan applications and flexible use of funds, ideal for beginning and small-scale poultry farmers.

Military Veteran Farmers, USDA

farmers.gov/your-business/military-veterans

Landing page for veterans accessing grants, land, credit, and training opportunities, including poultry production.

Find Cooperative Extension in Your State

Extension Foundation, nifa.usda.gov/about-nifa/what-we-do/extension

Find regional economic and production support from university-affiliated agricultural extension offices.

Market and Risk Management

Approaches to Processing Poultry Meat for Sale: Navigating Regulations across the United States. 2021. By Ann Baier, NCAT, Butte, MT.

Get a free printed copy by calling 800-346-9140 or download it from the ATTRA website: attra.ncat.org/publication/processing-poultry-meat-national.

Poultry Marketing

USDA Agricultural Marketing Resource Center

agmrc.org/commodities/products/livestock-dairy-poultry/poultry

Market outlooks, price trends, and risk considerations related to consumer demand for poultry products.

Sustainability and Diversification

The One Stop Shop for Meat Processing Education & Assistance
Niche Meat Processor Assistance Network

nichemeatprocessing.org

Extensive online resources for producers considering on-farm processing or value-added poultry products. Contains economic and regulatory guidance.

Resources for Farmers: Farmer Grants & Funding
Food Animal Concerns Trust

foodanimalconcernstrust.org/resources-for-farmers

Grants and webinars on humane, pasture-based poultry production, including the topics of infrastructure and economic planning.

Notes



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Poultry on Diversified Farms: A Guide to Profitability and Sustainability

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