

CHAPTER 13

Economics of Heritage Turkey Production on Range

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The economics of range production of heritage turkeys is dependent on fixed costs, management, product quality, and market conditions. Initial capital investment as well as fixed and variable costs of production can affect profitability and income potential. Understanding these how these costs are affected by management can help you decide whether or not to pursue a heritage turkey enterprise.

Capital Investment and Fixed Costs

Brooders will be among the first pieces of equipment a producer will use. Brooders can be made inexpensively from existing materials, or can be purchased. The size of the brooder will depend on the number of birds to be brooded at any given time. Costs for brooders can run from under \$10 for homemade versions to over \$1000 for prefabricated, multi-tiered battery brooders. Since the brooder is where poults will get their start in life and will influence their long-term health and productivity, thoughtful evaluation of needs is important.

Range production requires only simple buildings and equipment. For example, Walters Hatchery in Stilwell, Oklahoma, built a unique octagonal barn to house their breeder birds for about \$5,000. Their pastured meat birds have only a simple 20- by 40-foot open-sided shelter which was purchased for \$1800.¹ (Incidentally, the shelter's original purpose was for sheltering RVs or trucks.) Watering and feeding equipment costs will vary depending on the producer's farm layout and existing infrastructure. Waterers can be simple, inexpensive troughs or sophisticated automated systems. The simple waterers cost as little as \$10 while larger more durable models can cost as much as \$50. These will need to be thoroughly cleaned and manually filled at least once a day. Automated waterers can be purchased for around \$20 plus the cost of hose or PVC pipe to deliver water to the device. These save labor, but require more planning to determine where to place the waterers, as well as the extra expense of installing the infrastructure. These will also need to be cleaned regularly.

Fencing will be needed to constrain the turkeys to specific areas and to protect them from predators. Electric netting is easily moved, facilitating pasture rotation. It costs \$100 – \$150 for a 164-foot roll. Chargers vary in price from \$100 for small, electric models to \$500 for large, solar models. Permanent fencing is commonly used. Costs will vary depending on materials, height, and the size of the area to be enclosed. Many producers have a permanent perimeter fence and use electric netting to subdivide the pasture to make more effective use of the area.

Range production requires relatively low investment in buildings and equipment, but a higher investment in land. Range-reared turkeys need enough space to express their natural behaviors and to forage while still maintaining healthy pasture. In eastern Oklahoma, a stocking rate of about 100 turkeys per open acre is possible.¹ This converts to 435 square feet per bird. Well-planned rotation can reduce the acreage required. Producers who already own land that has been cleared and is in permanent pasture will not incur any more expense than regular maintenance. Those who need to purchase or clear land and establish pasture will incur significant expense and will require several years to accomplish this task.

Variable Costs

In 2006 heritage turkey poults cost about seven dollars each, plus shipping costs. Mortality is usually highest when the birds are young. At this stage, providing superior husbandry can reduce mortalities significantly and improve the overall performance of the birds (see Chapter 2, *Brooding and Brooder Pens*). By twelve weeks, a turkey's immune system is nearly fully developed. Barring exposure to known disease, losses may be restricted to predation.² Losses are often higher in range production systems, and become more costly as the birds grow and mature. You must plan fencing, housing, and other methods of protection to safeguard your investment.



Standard breed turkeys. Photo by David Cavagnaro.

Feed is a significant expense. Heritage turkeys require a feed formulation with 28% protein, which is more expensive than commercial turkey feed. Since standard turkeys are excellent foragers, pastured turkeys may supplement their feed up to 60% with forage and insects. In 2006, bagged formulations cost 20¢ per pound. Large producers or groups of small producers can purchase in bulk to reduce costs, though feed should not be stored more than two weeks during hot summer months since it can quickly become rancid and bug infested. Heritage turkeys take 26 to 28 weeks to reach a marketable weight and maturity, as compared to the commercial Broad Breasted White turkey which is ready in 16 to 18 weeks. Feed conversion for heritage turkeys varies, based on the line and the degree to which the breeding flock has been selected for feed conversion. In a controlled study conducted in 2003, the Kardosh line of the Standard Bronze consumed 4.75 pounds of grain per pound of weight gained.³ Research conducted in 2002 by the American Livestock Breeds Conservancy and Virginia Tech on farms showed the Privett line of Bourbon Red turkeys consumed 6.08 pounds of grain per pound of weight gained. By contrast, in this same study the tom turkeys of the BUTA commercial medium white line consumed 4.99 pounds of grain per pound of

weight gained. Industry average for feed conversion in confined production systems is 2.5 pounds of grain per pound of weight gained. Feed costs can be managed by cooperating with other growers to order feed in quantity and by obtaining poults lines that are known for superior growth and feed conversion.

Energy costs for heating and ventilation are relatively low for range production because these factors only need to be controlled during the brooding of poults.

Labor to feed, water, and move shelters is estimated at about 30 minutes per day.⁴ Mike Walters of Walters Poultry estimates that the producer can expect about \$25 in total costs of production per standard turkey before processing.¹

There are very few poultry processing plants available to independent producers. If there is one near you, thank your lucky stars and do all within your power to help it stay in business. As a result of this shortage of facilities, processing costs can be relatively high. Producers will need a trailer or truck that is properly outfitted to safely transport turkeys to the processing plant. Calculate the expense of traveling to and from the processing plant. This may require two trips: one to drop the birds off, the second to pick them up. If the processor is a significant distance, an overnight stay may be needed. For heritage turkeys, processing costs may be higher due to their longer frame, variability in size and shape of the carcass, and colored pinfeathers. Prices for processing vary across the country.

Processed birds need to look good when they go to the customer. Processors may provide only simple plastic bags and prices may increase if you want higher quality bags or additional services like vacuum-packing or value-added processing. If you are serving a particularly discriminating clientele, you may want to develop your own label. Consult with the processor and plant inspector to see if a customized label can be used, and learn about initiating the process of government approval for the label. Customized labels must be approved by the USDA (there is a fee for this service). Allow plenty of time to complete this task. Make careful, thoughtful decisions, as mistakes are costly in both time and money. Print labels in appropriate quantities.

Don't forget that marketing takes money, too. Pre-season promotion and sales are important. Producers should focus their efforts on their target audience. Email promotions to current customers have worked

Comparison of Economic Aspects for Standard and Broad Breasted White Turkey Production on Range		
	Standard	Broad Breasted White
Production Cost per lb. of Processed Final Product⁵	\$2/lb and up	\$1/lb
Cost per Poult⁵	\$7	\$1
Feed Costs^{6,1}	Higher unit feed costs. Possibly lower total feed consumption due to foraging	Lower unit feed costs
Labor⁶	Labor about 30 minutes/day—water, feed, moving shelters and moving birds to new pastures	Labor about 30 minutes/day—water, feed, moving shelters and moving birds to new pastures
Sales Price per lb.⁶	\$2-\$6/lb.	\$2-\$3/lb.
Gross Income per Bird⁵	\$47.60 for a 14-lb. bird	\$36.80 for a 16-lb. bird
Gross Income per lb.⁵	\$3.40/lb.	\$2.30/lb.
Net Income per Bird⁵	At least \$4.80 more per bird	

well and may cost little more than time. Visits to restaurants, making and returning telephone calls, providing free samples (either as whole birds or cooked, bite-sized tastes), printing promotional material, and the like, all need to be factored into the marketing costs. Because heritage turkeys look different, and need to be prepared differently than common supermarket turkeys, consumers will need to be educated.¹ Plan to provide consumers with descriptions, recipes, and handling tips. This will ensure that the consumer knows the natural differences between a heritage and a commercial Broad Breasted White turkey carcass and is prepared to properly cook the heritage turkey.

Finally, you need to get the dressed bird to the customer in a timely fashion and in peak condition. Your approach will be dictated by your clientele, but the costs of doing so should be estimated ahead of time. Options include:

- one or two central customer pick-up times and locations. This is the least expensive way for you as the producer, but least convenient for your customers;
- delivery to individuals or other distributors;
- overnight shipping. This will require boxes, mailing labels, dry ice, and overnight shipping expenses.

Whatever method you choose, your final objective is a satisfied customer who will return year after year.

Income and Profitability

Income can be maximized by understanding your market demands in terms of the size of a finished bird.

Select one or more varieties that will produce a desired finished weight. This is especially important for producers who take advance orders for customer-specified weights. Generally, it is wise to experiment for a year or two with very small flocks to evaluate growth rates, while also developing husbandry skills and fine tuning management systems. Many farmers selling directly to consumers are reporting a demand for smaller birds, those dressing out at 8 to 13 pounds. These buyers appreciate the smaller hen that will more than adequately feed the family. One caution: plan carefully to meet customer requests, and communicate regularly and candidly to keep consumer expectation consistent with the reality of your production. If birds are smaller than expected, alert customers early and provide options, like two birds instead of one, if possible. Remember, it only takes one bad experience to turn customers away. Often, their negative experience will be shared with others, turning away other potential customers.

Cash flow management is especially important for a heritage turkey enterprise, because at least 90% of sales are concentrated in the months of November and December.¹ Expenses are highest in spring when poults are purchased and in fall when the birds are transported, processed, packaged, and shipped to customers. Taking orders with deposits early in the year for holiday turkeys can help improve cash flow in spring. Again, stay in contact with these customers, especially if production begins to go other than as planned.

Comparing the Economics of Range and Confinement Production⁴

An economic analysis of confinement and range turkey production systems has been made for both tom and hen Broad Breasted White turkeys produced in Georgia may be relevant to heritage turkeys as well. Physical and economic differences were compared for total confinement and open range turkey production systems on a commercial scale.

Georgia growers contract to grow a specified number of turkeys in total confinement to market in winter and spring months so processing plants can operate year-round. There are also a large number of turkeys that are marketed during the summer and fall months as well. Some producers in Georgia and other Southeastern states use range systems while others have changed to total confinement houses, which reduces any natural climatic advantages that the region has in open range production.

The research revealed that total labor requirements are almost the same for the two systems. However, market weights for tom turkeys grown on range during the 1978 to 1981 period averaged 0.77 kg (1.7 lb) heavier with a 0.09 lower feed conversion than shown for total confinement flocks. Total production costs in 1981 excluding land and labor cost, with feed valued at \$0.22/kg (\$0.10/lb) for tom turkeys averaged \$0.0457/kg (\$0.0207/lb) lower for open range flocks than total confinement flocks. Performance records and cost analyses indicated that Georgia producers can grow both tom and hen turkeys to heavier weights more efficiently on



Broad Breasted White turkeys. Photo by Paula Johnson.

open range than in total confinement for marketing during the summer, fall, and early winter months.

Developing Your Own Enterprise Budget

To help you develop a clearer understanding of the expenses of your heritage turkey enterprise, develop a budget. Free enterprise budget templates for pastured poultry production can be downloaded at: www.cias.wisc.edu/archives/2003/02/01/poultry_enterprise_budget/index.php

The budget template may also be requested in hard copy form from the Center for Integrated Agricultural Systems, University of Wisconsin-Madison, College of Agricultural and Life Sciences, 1535 Observatory Drive, Madison, WI 53706. Budgets such as these are very useful for projecting initial costs and for monitoring actual expenses.

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Resources

American Livestock Breeds Conservancy, PO Box 477, Pittsboro, NC 27312, (919) 542-5704, albc@albc-usa.org, www.albc-usa.org.

HOW TO RAISE HERITAGE TURKEYS ON PASTURE

ATTRA - National Sustainable Agriculture Information Service, PO Box 3657, Fayetteville, AR 72702, (800) 346-9140 (English), (800) 411-3222 (Español), www.attra.ncat.org.

— *Growing Your Range Poultry Business: An Entrepreneur's Toolbox*, www.attra.ncat.org/attra-pub/PDF/poultrytoolbox.pdf.

— *Marketing, Business & Risk Management*, www.attra.ncat.org/marketing.html.

Bender, Marjorie, *Raising Standard Turkeys for the Holiday Market*, www.ces.ncsu.edu/chatham/ag/SustAg/range%20turkey%20booklet.pdf, American Livestock Breeds Conservancy (2003), ALBC, PO Box 477, Pittsboro, NC 27312, albc@albc-usa.org, www.albc-usa.org.

Sustainable Agriculture Network (SAN), *Profitable Poultry: Raising Birds on Pasture*, www.sare.org/publications/poultry.htm, USDA-CSREES, Stop 2223, 1400 Independence Ave. SW, Washington, D.C. 20250-2223, fax (202) 720-6071.



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