Meat Chicken Breeds for Pastured Production

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While most pastured poultry producers in North America raise the same fast-growing Cornish-and-White-Rock-cross broilers used in conventional confined production, many producers are interested in alternative genetic types that may be more suitable for outdoor production or for niche markets. This publication provides information on the Cornish-Rock crosses in outdoor production, discusses several slower-growing breeds and provides information on hatcheries that offer these alternative breeds.

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Cornish cross chickens on pasture. Photo by Betsy Conner.

Introduction

Most pastured poultry producers in North America raise the same Cornish-and-White-Rock-cross broilers used in conventional poultry production. These are the standard meat birds of the industry, and essentially all broilers produced commercially in North America are Cornish crosses.

This has been true since meat became a primary focus for chicken genetics in the 1950s, and confinement-rearing became the dominant form of production for the U.S. poultry industry. A 1950s contest, sponsored by the Atlantic & Pacific Tea Company, called *The Chicken of Tomorrow* encouraged the development of meatier birds. Cornish crosses became the birds of choice at that time. Since then, the conventional poultry industry has genetically refined Cornish crosses for rapid growth, efficient feed conversion, broad-breastedness, limited feathering (for ease of plucking) and other traits considered desirable for rearing very large numbers of birds in confinement. Because of their rapid growth, they reach a market weight of 5 pounds (live weight) in six to seven weeks.

However, most pastured poultry producers today use the Cornish crosses because they are meaty and are readily available, not because they are ideally suited to rearing

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on pasture. Many of the characteristics that make the Cornish-cross broiler strains good for industrial confinement production are not well-suited for alternative production systems.

Many pastured poultry producers see the Cornish crosses as having weak legs, excessive rates of heart attacks, a high incidence of congestive heart failure (ascites), poor foraging ability, poor heat tolerance and other liabilities when raised on pasture. While most producers value their rapid growth, others find it unnaturally fast. In most pasture-based production systems, Cornish crosses usually produce a 5-pound bird in eight weeks. Keeping the birds longer than eight weeks and allowing them to get larger can contribute to even greater leg problems.

Many pastured poultry producers would like to raise birds that are better suited to range production than the Cornish crosses. The purpose of this publication is to identify the genetic options available to producers who do not want to use the conventional confinement production model.

Related ATTRA

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Poultry: Equipment for Alternative Production

Range Poultry Housing

Genetics and commercial availability of Cornish and other meat breed birds

Many pastured poultry producers would like to raise birds that are better suited to range production than the Cornish crosses, but their alternatives at this time are extremely limited. There are several different strains of Cornish crosses. No other type of chicken that is widely available in North America produces as much meat as economically as the Cornish crosses. This fact makes it very difficult for producers to consider other breeds, even though there is abundant variety in the poultry world. The **Further resources** section contains links to color photos and descriptions of many poultry breeds and information about hatcheries, organized by state.

The primary breeding companies for broilers in the United States are Aviagen (which includes the formerly separate companies of Arbor-Acres, Ross Breeders and Nicholas Turkeys), Cobb-Vantress (which now includes Avian Farms and Hybro and is owned by Tyson Foods) and Hubbard. Most of these companies are multinational enterprises and dominate the world market for conventional broiler production.

These companies work constantly to produce genetic improvements in their breeding stock. They typically use a system of four-way crossing to produce the parents of the birds that are raised as broilers. They select and develop certain strains to use as their male line, with emphasis on growth performance and body conformation, while at the same time developing different female lines, with emphasis on reproductive performance. This cross-breeding system protects each company's genetic research, because the genetics of the original grandparents cannot be reproduced from their offspring.

Most of the primary breeding companies produce more than one strain of Cornish cross. They try to meet the needs of their customers by producing a heavier-breasted bird for producers focused on white meat, a thriftier bird that has a slightly better feed conversion ratio or a heavier strain for the roaster market. Some also offer slower- and faster-growing strains of Cornish-cross birds. The slower-growing strains may be of interest to pastured poultry producers, because they may have fewer heart and leg problems.

The different strains of birds that the breeding companies offer are described at their Web sites. Some of these sites also include technical manuals and guides for raising their birds.

The breeding companies sell hybrid parent stock to vertically integrated poultry producers, independent hatcheries and others who produce the hatching eggs that will ultimately become broilers. Most independent hatcheries do not keep their own flocks to produce hatching eggs. Instead, they buy their hatching eggs from a few very large suppliers (such as the Keith Smith company in Arkansas, *www.keith-smith.com*, or CWT Farms International, Inc. in Georgia,

Breeding companies

Aviagen
(256) 890-3800
www.aviagen.com

Cobb-Vantress
(479) 524-3166
www.cobb-vantress.com

Hubbard
(603) 756-3311
www.hubbardbreeders.com

Perdue
1-800-992-7043
www.perdue.com

Pureline
(860) 889-1933
www.purelineinside.com

www.aviagen.com/home.aspx?siteid=6). Therefore, the Cornish cross chicks available from hatcheries throughout North America are the same strains being used by the vast majority of the conventional industry.

Producer preferences

Even though the differences in the Cornish-cross strains are relatively small, some pastured poultry producers do have preferences. Over the years they may see that one strain performs better than others. These differences may be things such as fewer leg problems, slightly faster or slower growth or lower mortality. Therefore, while most pastured poultry producers do not know exactly which strains they are raising from batch to batch, a few producers always try to purchase a particular strain of chick.

Yet even those producers who express a preference for one strain may have had their opinions influenced by factors that are not related to the genetics of the birds they have raised. For example, the age of the breeder flock influences the size of the hatching eggs and the chicks that result. Young breeder flocks produce smaller hatching eggs and smaller chicks than mature flocks. Older flocks nearing the end of their productive lives also produce chicks with greater inconsistencies in their size and vigor than a flock at the prime of its life.

The importance of access to chicks

Because the differences between modern Cornish-cross strains are relatively small, most pastured poultry producers use other criteria when deciding which birds to raise and where to get their day-old chicks. Many have concluded that a hatchery's customer services and location are more important than the precise strain of broiler chicks available. They have learned to get their birds from the most reliable hatchery, one that can get the chicks to the farm with the least shipping stress. Usually this means the hatchery that has the shortest delivery time. Death losses and slower rates of growth that result from shipping stress are often more significant than the performance differences between strains. The liability of shipping stress is also confirmed by the practices of the major conventional industrial producers. Producers use their own employees and vehicles to deliver chicks directly to their contract growers and try to control the chicks' shipping conditions as much as possible to minimize their shipping stress. This is an argument for having more, rather than fewer, hatcheries and having them located as close as possible to the producers who will raise the chicks.

Below are the Web sites of several hatcheries. These are not given as recommendations, but simply as examples of what independent hatcheries have to offer and how they present themselves. A more complete listing of hatcheries throughout the United States can be searched at *https://npip.aphis.usda.gov/npip/openParticipantSearch.do* and *www.poultryconnection.com/hatchery.html.*

Shipping constraints beyond the control of the hatcheries can be an important factor, as well. During the early and mid 1900s, the

Samples of hatchery Web sites

Belt Hatchery
www.belthatchery.com
(559) 264-2090

Estes Hatchery
www.esteshatchery.com
1-800-345-1420

McMurray Hatchery
www.mcmurrayhatchery.com
1-800-456-3280

Moyers Chicks
www.moyerschicks.com
(215) 536-3155

Mt. Healthy Hatcheries
www.mthealthy.com
1-800-451-5603

Privett Hatchery
www.privetthatchery.com
1-877-774-8388

Townline Hatchery
www.townlinehatchery.com
(616) 772-6514

practice of sending day-old poultry by mail from hatcheries to customers all over the country became very popular and commonplace. In recent years, however, the number of airlines willing to carry day-old poultry as U.S. mail has declined, even to the point that the chicks-by-mail service appeared to be in jeopardy. Then in 2001 and 2002, the U.S. Postal Service and several airlines modified their mail-carrying contracts and the regulations governing the shipment of live animals through the mail. These new arrangements have apparently stabilized the situation, and the chicks-by-mail service continues. The latest information on the postal regulations governing the shipping of live animals as mail can be found by visiting the Web site of the U.S. Postal Service, *www.usps.com,* or *www.birdshippers.com*.

Other decision factors

Some pastured poultry producers also make decisions about which chicks to raise based on other non-strain factors. For example, some producers choose to raise all females, because that eliminates the problem of cockerels harassing the pullets as they grow, resulting in a more tranquil flock and presumably better feed conversion. Or they will raise all males because their customers want large birds, and producers want greater uniformity in their product.

Uniformity is tremendously important for the conventional poultry industry. Birds are managed as a unit instead of as individuals, and birds that are not nearly identical to the others are problems. For broilers, much of the conventional industry's processing equipment is automated, and odd-sized birds may not process well because they are not the size the equipment is designed to handle. Variations in carcass size cause real problems for automated equipment.

Most pastured poultry producers do not seek this much uniformity, however, because their market does not require it. Using straight-run chicks gives a range of carcass sizes at butchering time because the cockerels grow faster. Most pastured poultry producers are glad to have some variance in size, because some of their customers prefer smaller birds and some prefer larger birds. Some will even choose to produce Cornish game hens (which are the same Cornish cross birds, just butchered younger and smaller), while other producers have customers who want very large roasters and are willing to pay a premium price for them. Uniformity certainly can become more important, however, as producers move beyond on-farm processing and direct marketing. A spread-out harvest that is advantageous on a small scale may become a distinct problem at larger scales of production. Some customers prefer colored birds (red or black) over white-feathered ones. This kind of preference also influences producer decisions about which birds to raise.

Beyond Cornish crosses

North American producers of range poultry who want options other than those offered by the conventional Cornish crosses do not have very much to choose from at present. Their options may be increasing, however. For a listing of producers that offer other options, see the **Further resources** section.

There are genetic options in other countries. In France, in particular, there are lines that are bred for France's range production systems. These lines have been developed during the past 30 years for pasture rearing. These distinctive lines are used primarily by producers who are raising birds to be marketed under the quality-labeling program known in France as *Label Rouge* (Red Label). Food products carrying the *Label Rouge* logo are highly valued by French consumers.

The *Label Rouge* program focuses on high-quality products, mainly meats, with poultry as the flagship product. The program emphasizes quality attributes such as taste, food safety and free-range production. The main reason for the superior taste is the use of slow-growing birds harvested close to sexual maturity, instead of the fast-growing birds used in the conventional U.S. industry. The meat is flavorful and firm, but not tough.

Slow-growing birds are the key to *Label Rouge* production — birds grow to 5 pounds live weight in 12 weeks. In comparison, the

fast-growing broilers (Cornish cross) of the conventional industry reach 5 pounds in six to seven weeks. The slow growth allows the organs, muscles and bones to grow in harmony. The carcass is generally more elongated, with a smaller breast and larger legs than conventional carcasses.

Using slow-growing genetics and the low-density *Label Rouge* production system also means distinct health advantages. Ascites, leg problems and sudden death are minimal, and birds have good immunity. Mortality was found to be 0 percent in slow-growing *Label Rouge* birds, while fast-growing birds were found to have a mortality rate of 11 percent (Lewis et al., 1997). In Europe, slow-growing strains are mainly supplied by the breeding companies SASSO *(www.sasso.fr)* and Hubbard *(www.hubbardbreeders.com)*. They do not sell the actual meat chicks, but only the parents. However, many pastured poultry producers have hatching capabilities.

More information on *Label Rouge* can be found in ATTRA's publication *Label Rouge: Pasture-Based Poultry Production in France,* available online at *http://attra.ncat.org/attra-pub/PDF/labelrouge.pdf.*

Joyce Foods, Inc. is a U.S. producer of poultry from the same slow-growing genetics as used in France's *Label Rouge* program. Joyce Foods, located in North Carolina, has provided the slow growing broiler chicks to small producers in the past.

Some of the proven European genetics are available from J.M. Hatchery, a small year-round hatchery located in Lancaster County, Pennsylvania. The hatchery offers medium- and slow-growing birds that are adapted for outdoor production and a gourmet market. These breeds are noted to grow to 4-5 pounds live weight in nine to 11 weeks, which is slightly quicker than the 12-week standard used in the Label Rouge program.

The S & G Poultry Company (formerly Rainbow Breeder Company) is developing similar genetics and offers day-old chicks or parents. Their colored broilers grow out between eight and 11 weeks.

Redbro is a Hubbard product that is currently available in the United States through parent stock that is imported from France. It is not slow-growing but rather a medium-growing broiler. It grows out in nine to 10 weeks. Jerry Srednicki at Yankee Chicks in Connecticut ships day-old chicks.

For contact information for all of the above producers, see the **Further resources** section.

Importing live birds and hatching eggs from other countries is not a simple task, but those who are interested in pursuing this approach can learn more by visiting the Web site of the USDA Import and Export Center, *www.aphis.usda.gov/import_export/index.shtml.*

There is also some interest in standard American heritage chicken breeds for gourmet poultry production. Unlike hybrids, standard breeds breed true and the offspring are like the parents. In general, however, heritage breeds have not yet been selected for meat production for many years, and the carcass may be very small at 12 weeks. Through careful breeding selection of standard breeds it is possible to increase the qualities desired in a meat bird, such as growth rate and weight gain in later generations. Plymouth Rock, Delaware, New Hampshire, Wyandotte and Naked Neck are breeds that may give the most positive results in such a breeding regime (Ussery, 2009). The American Livestock Breeds Conservancy (ALBC) compiles a heritage livestock breeders directory each year and makes it available to members. See the **Further resources** section for contact information.

Turkeys are native to the Americas, and there are several slow-growing breeds available. These are naturally-mating turkeys and do not require artificial insemination. Some have ties to the regions in which they were developed (for example, the Bourbon Red is from Kentucky, and the Narragansett is from Massachusetts). Good Shepherd Turkey Ranch, Inc., raises five heritage turkey breeds, and sells hatching eggs as well as final turkey products. Reese has also selected standard chickens for good meat qualities, including the Barred Rock, New Hampshire

and Jersey Giant. The Standard Bred Poultry Institute is based at Reese's farm.

Sandhill Preservation Center, a producer of heritage poultry and seeds, provides day-old chicks from a large assortment of heritage poultry including turkeys and chickens, as well as geese, ducks and guineas.

Matt John at Shady Lane Poultry is selecting standard breeds for high-quality egg production as well as dual purpose.

For contact information for these producers, see the **Further resources** section.

Considerations

The main consideration for pastured poultry producers raising the fast-growing Cornish cross is the choice of hatchery, which was discussed earlier. The variety in other meat birds makes the decision a little more difficult. Producers can use their priorities to help make choices best suited for them. The following considerations may help guide producers' decisions on the breed and hatchery most appropriate for their production system.

Lifestyle

The Cornish cross are bred for a particular environment that large vertically integrated companies created in order to grow the large number of birds needed to meet demand. This fast-growing hybrid was not meant for pasture, although many producers use this breed and are very successful. Some may argue that the choice of slower-growing genetics can greatly benefit the welfare of a bird on pasture.

There is a growing interest raising of heritage breeds in order to conserve genetic diversity. Raising dual-purpose standard breeds gives one the advantage of egg and meat production as well as the ability to produce stock. As discussed earlier, standard breeds may be difficult to market or make a profit with compared to the meat hybrids, but there may be the opportunity for a gourmet niche market using standard breeds. Flocks can be used for egg production and roosters, culls and older hens can be marketed for meat or live sale.

Marketing

The market you select may dictate your choice of bird. If there are other poultry producers in your area, growing a different variety may be a way to distinguish yourself and create a niche market.

Does the market have price constraints? Different birds will require different costs to produce and this results ultimately in a different cost to the consumer. See the *Pastured poultry budget comparison* in the **Further resources** section for a comparison budget example.

If you currently raise and market Cornish crosses, it will be important to consider your consumers' reactions if you decide to move away from this breed. Slow-growing broilers tend to have a slightly different body shape, more of an elongated breast as compared to broad. Yield may also differ between fast- and slow-growing birds. Typically, slow-growing birds will have smaller breast yield and larger wing and leg yield compared to fast-growing birds. Dressed weight to live weight yield may also be smaller in slower-growing varieties. The colored pin feathers of a colored broiler, if not plucked completely, will be more obvious on the dressed carcass than that of a white-feathered broiler.

It may be helpful to speak to your market to get an idea of their wants and needs. One way to learn the opinions of your customers is to develop a survey. Restaurants may be less flexible in the physical change of product, and an open conversation about the new proposed product can be worthwhile. In addition to the possible changes in the appearance of the bird, it is important to discuss changes in other qualities such as taste and livability. Since slow-growing birds are harvested closer to their sexual maturity, the meat is known to have more flavor. Slower-growing birds are also less susceptible to the problems associated with the Cornish cross and better acclimated to pasture production, which can be translated to increased animal welfare.

Production budget

Slower-growing birds demand greater input, which increases cost of production. The

longer grow-out requires more labor and more feed. Feed conversion, the amount of feed needed to produce 1 pound of gain, increases as you move away from the fast-growing varieties. See the *Pastured poultry budget comparison* in the **Further resources** section for comparison budget example.

System

Slow-growing varieties and standard breeds take greater advantage of the opportunity to exercise and forage in a range system compared to fast- and even medium-growing birds. Fast-growing birds may be more suited to a pastured pen system because they often remain sedentary and close to the food source.

Location

Depending on the location of the farm and type of production system, birds may be exposed to environmental extremes that could be a stressor and a risk in production. The location of a hatchery may be a priority in the decision making, particularly if the parent stock is raised in a similar production system as your own. This may determine how hardy the birds will be in your production system. While most large hatcheries do not raise their own parent stock or raise them in climate-controlled environments, it still may be worthwhile to contact hatcheries in your region and inquire about how their stock is raised. The distance of the hatchery to the farm may also affect the amount of shipping stress put on the birds through delivery. Deciding first on a hatchery or region of hatcheries narrows the choices of breeds, which may help in the decision process.

Quota

Depending on the desired bird weight, the grow-out periods can vary considerably between breeds. This is an important factor when determining the number of birds to be grown per season. Slower growth rates result in fewer birds per season with a fixed number of pens. More pens may need to be built or the season extended earlier and/or later in order to sustain the production numbers achieved with the Cornish cross.

References

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Ussery, Harvey. 2009. Sunday-Dinner Chicken: Alternatives to the Cornish Cross. Backyard Poultry. Accessed July 2009. *http://backyardpoultrymag.com/issues/4/4-2/alternatives_to_the_cornish_cross.html.*

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Further resources

Genetics and commercial availability of Cornish and other meat breed birds

Feathersite
www.feathersite.com/Poultry/BRKPoultryPage.html#Chickens
Provides color photos and descriptions of many poultry breeds
www.feathersite.com/Poultry/BRKHatcheries.html
This site also includes a link to hatcheries, organized by state

Beyond Cornish crosses
Moyer's Chicks
266 E. Paletown Rd.
Quakertown, PA 18951
(215) 536-3155
www.moyerschicks.com
Moyer's Chicks offers a K-22 Red Broiler that grows to 5 pounds live weight in about eight weeks.

MT-DI Poultry Farm
1209 S. Catherine Rd.
Altoona, PA 16602
(814) 942-7024
mtdifarm@yahoo.com

Contact: George Dibert
MT-DI Poultry Farm offers a Red Cross and Off-White (Rosambro) Cross that grow to 5 pounds live weight in about eight weeks. The parent stock is raised in day-range production.

Noll's Poultry Farm
Kleinfeltersville, PA 17039
(717) 949-3560
(717) 949-3722 FAX
The Noll family is working to make medium-growing genetics more widely available in North America. Henry Noll offers a Silver Cross and Red Cross that grow to 5 pounds live weight in about eight to nine weeks.

Label Rouge
Joyce Foods, Inc.
4787 Kinnamon Road
Winston-Salem, North Carolina 27103
(336) 766-9900
(336) 766-9009 FAX
info@joycefoods.com
www.joycefoods.com

J.M. Hatchery
178 Lowry Rd.
New Holland, PA 17557
(717) 354-5950
(717) 354-0728 FAX
www.jmhatchery.com

S & G Poultry
PO Box 2363
Clanton, AL 35046
(205) 280-3771
Contact: Danny Eiland
www.sandgpoultry.com

Yankee Chicks, Inc/Hall Brothers Hatchery
PO Box 1026
Norwich, CT 06360
(860) 608-1389
(860) 889-6351 FAX
Contact: Jerry Srednicki

American heritage breeds
American Livestock Breeds Conservancy (ALBC)
PO Box 477
Pittsboro, NC 27312
(919) 542-5704
(919) 545-0022 FAX
www.albc-usa.org

Good Shepherd Turkey Ranch, Inc.
3441 Mustang, Tampa, KS 67483
(785) 227-5149
(316) 462-0604 FAX
brahmabrahma@hotmail.com
Contact: Frank Reese

Sandhill Preservation Center
1878 230th St.
Calamus, IA 52729
(563) 246-2299
Shady Lane Poultry
PO Box 612
Columbus, IN 47201
(812) 603-7722
info@shadylanepoultry.com
Contact: Matt John
www.shadylanepoultry.com

Appendix I: Pastured Poultry Budget Comparison

The financial projections used in these documents, and the assumptions on which they are based, should be used only as guidelines and estimates. In the budget example, the business is operating at full production capacity. Most businesses require up to five years to achieve profitability and good market exposure. It is vitally important that each potential business develop its own set of financial statements before starting an enterprise. The economic and business environment varies tremendously from region to region, and what works in one area may not work in another. Cooperative Extension Service specialists, bankers and accountants can all help in developing the necessary financial statements. Remember, the sustainability of any enterprise is based on its ability to produce and sell a product consistently at a profit.

Fast- and slow-growing meat chicken breed budget comparison for pastured production with on-farm processing.

Enterprise budget	# of birds	lbs. per bird	
	999	4.5	
	Fast	Slow	Your estimate
Price per pound	$3.25	$3.5	
Income			
Sell 999 birds	$1,4610.38	$1,5734.25	
Expenses			
Fixed			
Brooder house	$320	$320	
Processing building	$320	$320	
Processing equipment	$157.86	$157.86	
Pens	$160	$200	
Composter	$50	$50	
Waterers/feeders	$100	$120	
Brooder	$17.86	$17.86	
Dolly (to move pens)	$20	$20	
Certification			
Total fixed expenses	$1,145.72	$1,205.72	
Variable			
Chicks	$1,350	$1,185	
Bags and staples	$177.82	$177.82	
Wood chips	$150	$150	
Utilities	$20	$20	
Feed	$4,406	$4,826	
Marketing	$400	$400	
Labor (production)	$2,639	$3,959	
Labor (processing)	$1,392	$1,566	
Liability insurance (rider on Farm Policy)	$250	$250	
Pasture rent per acre	$30	$30	
Miscellaneous	$400	$400	
Total variable expenses	$11,215.07	$12,963.32	
Total expenses	$12,360.79	$14,169.04	
Net income	$2,249.585	$1,565.21	

Basic assumptions - Fast	Slow (differences)
Seasonal production (only in spring, summer and fall)	
4 batches per year	3 batches per year
Each batch is 313 birds in 4 pens	Each batch is 370 birds in 5 pens
Birds placed each year: 1,250	1,110
Grow out period of 8 weeks	12 weeks
Birds eat 15 lbs. of feed each	18.5 lbs. of feed/bird
Feed costs $470 per ton	
No bulk feed storage	
15% death loss	5% death loss
5.08% processing loss (including home birds)	
Dressed weight of 4.5 pounds per bird, without giblets	
Price is $3.25/lb	$3.50/lb
Birds for sale each year: 999	
Birds are direct marketed to customers; no labels	
Offal and feathers are composted in a covered, 3-bin system	
Labor is based on pens and servicing them, but also includes pen construction, brooding, feed-mixing, etc. Labor valued at min. wage ($7.25/hour)	
All assets fully depreciated over life span with no residual value	

Budget details

Brooder house: $5,000-2% salvage value = $4,900/20 year life = $245 per year
Interest = $5,000/2 x 3 = $75 per year
Depreciation + interest = $320 per year

Processing building: $5,000-2% salvage value = $4,900/20 year life = $245 per year
Interest = $5,000/2 x 3 = $75 per year
Depreciation + interest = $320 per year

Processing equipment: $1000/7-year life = $142.86
Interest = $1,000/2 x 3% = $15
Depreciation + interest = $157.86

Pens:
FAST: $200 per pen, 5-year life, 4 pens; $200 x 4/5 = $160
SLOW: $200 per pen, 5-year life, 5 pens; $200 x 5/5 = $200

Composter: $500, includes labor and materials, 10-year life; $500/10 = $50 per year

Waterers/feeders:
FAST: $60 per pen/brooder x 4 pens + 1 brooder, 3 year life; $300/3 = $100 per year.
SLOW: $60 per pen/brooder x 5 pens +1 brooder, 3 year life; $360/3 = $120 per year.

Brooder: $125 for gas brooder, 7 year life; $125/7 = $17.86 per year

Dolly to move pens: $20

Chicks:
FAST: $1 per chick x 1,250 chicks needed, $25 per shipment/batch x 4 shipments; 1250+100 = $1,350
SLOW: $1 per chick x 1110 chicks needed, $25 per shipment/batch x 3 shipments; 1110+75 = $1,185.

Bags and staples: $0.018 per staple, $0.16 per bag; $0.178 x 999 saleable birds = $177.82

Wood chips *(for brooder and composter)*: $150 per year

Utilities *(estimated cost)*: $20 per year

Feed:

FAST: $470 per ton - 1,250 birds x 15 lb. each/2,000 lb. x $470 per ton = $4,406.25
SLOW: $470 per ton - 1,110 birds x 18.5 lb. each/2,000 lb. x $470 per ton = $4,825.73

Marketing *(printing, postage, advertising, phone, travel, fees, etc.)*: $400 per year

Labor *(production)*:

FAST: .5 hour per day in brooder, 14 days = 7 hour brooder labor, .5 hour per pen per day in field, 4 pens, 42 days in field = 84 hours field labor. 91 total labor hours x 4 batches = 364 x $7.25/hour = $2,639
SLOW: .5 hour per day in brooder, 14 days = 7 hour brooder labor, .5 hour per pen per day in field, 5 pens, 70 days in field = 175 hours. 182 hours total x 3 batches = 546 hours x 7.25/hour = 3,958.5

Labor *(processing)*:

FAST: 12 hours x 4 people x 4 batches/year x $7.25/hour = $1,392 per year
SLOW: 12 hours x 6 people x 3 batches/year x $7.25/hour = $1,566

Liability Insurance: $500,000 coverage = $250/year

Pasture rent for one acre: $30

Miscellaneous *(cleaning supplies, LP, repairs, ice)*: $400 per year

Notes

Meat Chicken Breeds for Pastured Production

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