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Pasture Poultry Industry

The purpose of this factsheet is to provide an overview of the management issues associated with raising and marketing pasture poultry in Alberta. This overview isn't intended to be a substitute for managers making their own thorough assessment of all the key issues that would influence the success of an enterprise.

1. Industry Highlights

There are a number of specialty poultry products each with its own characteristics.

- Pastured poultry are raised in moveable pens that allow them to move about freely and have access to fresh pasture on a daily basis. Fresh grass can (depending on quality and composition) make up from 20 to 25 per cent of their diet.
- Free range chickens are raised in a confinement facility, but are given the opportunity for free ranging. There's no industry standard for the number of square feet per chicken, so the meaning of the term free range varies from operation to operation.
- Organic chickens are raised on feed that contains no added chemicals or medication. For chicken to be certified as organic:
 - the organic production process must begin with day old chicks
 - the feed must be certified as organic, meaning the feed processor must be certified
 - the ground the chickens are raised on must be certified as organic
 - the chickens must be processed in federal or provincial slaughter plants that are certified organic¹

The distinguishing feature of pasture raised chickens is that fresh grass makes up a significant portion of their diet. It's claimed that the meat from pasture raised chickens has a higher nutritional value through lower fat content, as well as higher vitamin and mineral content.²

Key elements of a pasture poultry enterprise include:

- chickens are raised in moveable pens that are moved at least daily to ensure the birds have continuous access to fresh pasture
- chickens receive exercise and fresh air while foraging for plants and insects
- manure is spread evenly onto the pasture
- chickens are fed a non-medicated feed or natural feeds

Chickens raised on pasture produce meat (table) birds that can be marketed as:

- fryers that have a carcass weight of 2.5 to 3 pounds at 4.5 to 5 weeks of age
- broilers that have a carcass weight of 3.5 to 4.5 pounds at 8 weeks of age
- roasters that are older than 8 weeks of age and have a carcass weight of 6 pounds and over

Pasture poultry operators need to abide by and operate within the guidelines of legislation controlling the slaughter, processing and handling of meat products.

Pasture poultry operations can be established with seasonal markets and limited capital.

Pasture poultry operators must be prepared to be very active in the marketing of their products. Before developing an enterprise, producers must research their potential markets in order to determine customer needs, what market to target, what type of product to produce and how to best market their product to the target market.

In the 1999 Alberta Organic Food Producers and Processors Directory, there were no certified slaughter plants listed.
 These are the findings of individual producers. There is no published research information to support this claim.





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The production season for pasture raised poultry is limited to the warmer months of May through September. Within this period, producers can operate either an all in – all out production process or a continuous flow process.

Individuals investigating a pasture poultry operation must consider the following factors before investing in production.

- There's limited experience in producing and marketing this poultry product. New producers have to gain their experience by growing and marketing the product themselves.
- Mortality losses are a significant factor in poultry management. Start small to reduce the risk of loss while learning about poultry production.
- Producing a high valued product and providing good service are essential for success.
- New entrants must be prepared to perform a large number of marketing activities, including knocking on doors to introduce their product to consumers, retailers and restaurants.
- Access to facilities for processing the birds in a manner that is acceptable to the final market is required.

2. Regulatory Basics

The Alberta Chicken Producers has legal authority to limit the production of poultry meat through production quotas. There is however, an exemption that allows any individual or land location to produce up to 2,000 birds per year without quota. This product must be marketed directly to end-users and must be provincially inspected prior to sale. For more information, contact the Alberta Chicken Producers at abcp@chicken.ab.ca.

Federal and Provincial regulations require that poultry for local human consumption be slaughtered in provincially or federally inspected facilities. Large retail chains and food industry buyers require that all meat products be processed in federally approved plants. Poultry to be shipped between provinces or for export must be slaughtered in a federally inspected plant.

Specialized poultry, marketed directly to consumers, may be regulated with respect to the location of the sales. Sales taking place within the boundaries of a town or city likely require the seller to have a business license for the municipality. Further information is available through the local municipal office.

Food establishment permits may also be required for the storage and handling of fresh or frozen meat. Check with the public health inspector at your local public health authority for more information.

In Alberta, there are regulations governing the location of farm stores and roadside food stands. Farm direct operators must check with their municipal government for zoning, signage, parking and licencing bylaws. Producers considering organic production require certification through one of the four certifying bodies in Alberta. Information on organic certification and certification standards is available at http://www.ocia.org/ docs.html

All products that are pre-packaged and sold must be labeled. The Canadian Food Inspection Agency regulates the type and amount of information on a food product label. More information is available at the agency's web site: http://www.cfia-acia.agr.ca

3. Marketing Basics

The focus of marketing pasture poultry is either selling directly to consumers or developing markets with restaurants and retailers. Key marketing factors for a pasture poultry enterprise include:

- proximity to a large urban population centre
- the ability to develop relationships with buyers of product
- being able to distinguish pasture raised poultry from other specialty poultry products
- the ability to provide a high level of service with the product

New entrants must be prepared to gather as much knowledge and information as they can about the consumer markets for pasture raised poultry in their area. This market research should be performed before any production activities are started.

The focus of market research should be on determining consumer trends in poultry consumption, the specifications consumers may have and what processing requirements might be needed to produce the desired product. As well, new entrants need to pay particular attention to any evidence of excess supply in their market area and any trends of declining consumption or declining prices.

Key questions to be asked in the market research for a pasture poultry operation are:

- What products do consumers buy? Specific factors include size, whether fresh or frozen.
- Will consumers pay a premium for certified organic poultry?
- Who buys the product(s)?
- Where are the buyers located?
- What is the market size?
- What, when and where do the buyers buy?
- How many will people buy, two or 10?
- What are the market prices?
- How much do prices fluctuate?
- Is the market mature or growing?
- Does the market have room for additional production?

Pasture poultry producers must have a marketing strategy for their own production. A key issue to be addressed is whether processed birds require freezing or chilling. As a result, producers need to co-ordinate the production of market ready birds, access to processing facilities, storage requirements for processed birds, the location of the market(s) and the marketing channel through which the birds are marketed to buyers.

Producers who decide to develop consumer markets for their table birds (freezer trade) need to consider the following issues:

- · consumers prefer roasters and broilers
- consumers have shown a strong preference for poultry that is fed non-medicated feed
- access to large urban populations is necessary for larger scale operations (over 500 birds annually)
- producers must be prepared to answer numerous questions to educate consumers on purchasing and preparation of the poultry
- producers must be prepared to work closely with a processor
- producers must ensure that birds are packaged properly and labeled according to Canadian Food Inspection Agency requirements
- developing a package label that is recognized by consumers as a distinct product.

Pasture raised poultry can be marketed directly to consumers through farm gate sales or farmers' markets.

Farm gate sales are the sales of table birds directly to consumers. Producers who are considering marketing their production through farm gate sales must recognize the following:

- It's illegal to slaughter poultry on the farm for the purposes of sale. Arrangements must be made with a provincially inspected processor to process the birds to the customer's preference.
- Farm gate sales require facilities, staff and liability coverage. As well, food handling and storage permits may be required. Check with the regional health authority about the area you are planning to operate in. More information is available at the Alberta Health web site: www.health.gov.ab.ca
- Farm gate sales require producers to invest a large amount of time in developing markets for their production.
- Marketing activities required to support sales of pasture raised poultry include advertising, a strong word-of-mouth presence and providing information to new customers.

- Producers need one-on-one personal skills to bring in customers and have happy satisfied customers who become repeat customers.
- Producers need to determine the preferences of each customer and provide a consistent high quality product.
- Producers may have difficulty marketing their entire product through their outlet. As a result, a back-up marketing plan is needed to deal with any oversupply.

Farmers' Markets consist of a number of producers selling products directly to consumers at a common location. Each producer has a separate stall or stand at the market. There are farmers' markets located in most urban centers in Alberta. Each Alberta approved Farmers' Market sets its own guidelines to control the size of the market, number of stalls, hours of operation and day-to-day operations.

The advantages of farmers' markets are:

- Individual producers benefit from collective advertising that attracts more people to the market location.
- Farmers' markets provide new producers the opportunity to gain exposure with consumers. As well, farmers' markets provide a means for growers to market production that isn't sold through farm gate sales.
- The market provides parking and good access to consumers that may not be available to individual growers at their farm locations. There are numerous markets operating in the production season so producers have the opportunity to market their production at a number of farmer's markets and increase their exposure to customers.

The disadvantages of farmers' markets are:

- producers must package and transport the product to the market
- there may be other producers offering similar production
- producers must be prepared to deal with unsold production, through an alternative marketing plan

The commercial market for pasture raised poultry consists of speciality food retailers and food service outlets like restaurants and caterers.

Producers who undertake to develop commercial markets for their production will need to consider the following issues.

- The commercial market has specific requirements in terms of size, quality, consistent supply and processing of the birds.
- Restaurants prefer a carcass weighing 3.75 pounds. This enables them to serve two 8 oz. portions of breast.³

³ Large restaurants may have the labor available to further process the birds for their requirements. Restaurants without this available labor may require birds that are partially processed to their specifications.

- Specialty food stores prefer fryers and broilers.
- Commercial markets also have a strong preference for poultry that has been fed non-medicated feed.
- Access to commercial markets can be direct or through food brokers and food service agencies.

Price information for pasture raised poultry is limited and difficult to collect. Generally, prices are quoted per pound of carcass weight. Retail prices have ranged from \$2 to \$2.50 per pound. Wholesale prices have ranged from \$1.90 to \$2.25 for case lots of 12 birds boxed. Premiums for certified organic products may be available.

The price a producer receives for his/her production in a particular year is influenced by the following factors:

- changes in consumer demand for pasture raised poultry
- the supply of specialty poultry products available in the market at a specific time
- commercial buyers having specific requirements with price being the most effective tool for expressing the requirements

Pasture poultry producers may be able to achieve higher prices or higher returns through the following value-added activities.

- Certified organic chickens generally produce higher prices and higher returns. Organic poultry must be raised in conditions that provide freedom of movement, normal socialization, and access to sunshine and fresh air. They are fed only certified organic feed.
 Producers need to be registered as organic producers and meet the requirements of a certifying body in order to market their production as certified organic.
 A complete listing of these certifying associations is in the resource section of this document.
- Further processing of the bird to produce chicken burger, chicken sausages, bone out pieces and bone in pieces can contribute to higher prices and higher returns. However, managers, have to assess each value-added opportunity in terms of added revenues and added costs.

The critical marketing issues for managers of pasture poultry enterprises are:

- to research the various markets for specialty poultry and determine customer requirements
- identify a target market for the birds and be able to produce the specific product required by that market
- · determine how to access the target market

4. Production Basics

New producers must be prepared to learn as much as they can about specialty poultry production. They must visit farms, join producer associations, attend training sessions and read extensively about chicken production. A critical production management concern is bird mortality. Mortality levels of 15 per cent are likely for the complete production process. Bird mortality needs to be considered for a wide range of production decisions.

Each potential market for pasture raised chicken has specific product requirements that define the production process. Producers need to specify the type of bird to be produced, the average size of bird to be marketed, the number of birds to be produced, the date of production and processing requirements.

Production information for pasture poultry production is limited. However, a widely used reference is *Pastured Poultry Profits* by Joel Salatin

Key elements of the production process for pasture raised poultry are:

- planning the process to meet market requirements
- site requirements as certified organic producers require land that is certified organic
- facilities and equipment
- the type of bird
- management in the brooder house including disease prevention and control
- management on pasture including a predator control for dogs, coyotes, foxes and birds of prey
- feed including a water analysis and determining the availability and cost of organic feed for organic producers
- processing

The markets being served should determine the production process for an individual enterprise.

- A continuous flow production process has market birds available every week. This type of production process is needed to meet the needs of restaurants and retailers that are seeking a regular supply of table birds.
- An all in all out production process has market birds ready for market at one or two times during the season. This process works for providing birds to customers, family and friends once or twice a season.

The market requirements for type of bird (fryer, broiler or roaster) specifies the length of the production cycle.

The site requirements for a pasture poultry operation varies with the number of cages, size of cages and the grass cover. Generally, cages are 10 feet by 10 feet in size. An eight-week production cycle requires 3,500 square feet. That equates to approximately to 10 per cent of an acre for each pen.

Pasture poultry consume most palatable forages available to them. Accordingly, birds do best when they have access to legumes, rather than coarse mature grasses. The moveable cages can be built of wood or metal. New producers need to choose between the longer life and easier handling of metal cages versus the lower cost of wooden cages.⁴

Chicks can generally be purchased either at one day of age or three weeks of age by arrangement with the hatchery. Day-old chicks can be expected to cost \$0.90 to \$0.96 per chick. Three-week-old chicks can be expected to cost \$2.25 to \$2.50 per chick. Volume discounts may be available for purchases of greater than 500 birds.

A brooder house is necessary when chicks are purchased at one day of age. An area of approximately 10 sq. ft. is required for each 100 chicks. A brooder house can be developed from existing outbuildings with wooden floors. A brooder house also requires a source of heat (brooder lamps or gas heater) and possibly partitions to confine chicks in a small space.

The brooder stage lasts approximately three weeks. During that time, operators must ensure the chicks are kept warm, clean and dry. The chicks can be moved to pasture cages at three weeks. As a precaution against cold weather chicks shouldn't be put on pasture earlier than May 1.

Brooding and brooder house conditions are critical to a good start and to flock health and productivity later on in the production cycle. Key factors to manage in the brooder house include: temperature, ventilation, litter quality and equipment. Between cycles the type of cleaning and disinfecting is important to prevent the carry-over of disease agents from cycle to cycle. Biosecurity is important in preventing the spread of disease from location to location and from farm to farm.

Pasture poultry producers also need to decide what type of bird to use in their production process. Birds developed for the commercial poultry (indoor) industry tend to be high performance birds with good carcass quality. However, these types of birds haven't been bred for outdoor operations. As a result, mortality rates for these birds tend to be high in pasture based operations.

Cornish crosses are recommended for pasture operations because of their hardiness and lower mortality levels when raised outdoors. However, Cornish type birds don't have the same carcass quality as commercial birds and may take longer to achieve the desired size.

Key management practices in the production process focus on managing the health of the flock at all stages of the production process. Producers need to become skilled at identifying, treating and preventing various health problems in their flock. Vaccines and vaccination are an integral part of good health and lower mortality. Producers need to find an effective balance between the use of vaccines and meeting a markets demand for natural products

Feeds and feeding are important issues in the performance of pasture raised poultry. Producers need to be familiar with both the natural supply of pasture and the supplemental feeding programs needed to support their growing birds.

The feed requirements for pasture poultry consist of different rations at each stage of growth. These include:

- starter rations for a period of three weeks
- grower rations for the period from the fourth week to the eighth week
- finishing rations for periods over eight weeks

Producers should seek specialized advice when formulating their feed rations so as to ensure they are feeding a balanced ration. As well, feed specialists can help with issues such as whether to feed pelleted or loose feeds, and whether to feed free choice or limit meal feedings. Organic producers require guidelines provided by the certifying body.

Feed conversions are an important management factor in pasture poultry operations. Basically, feed conversions are higher in the early stages of growth and become lower at later stages of growth. New producers should determine acceptable levels of feed conversion and manage their production to achieve these targets.

Producers need to co-ordinate the processing, storage and marketing of their birds. This includes hauling to the processor, ensuring an inspector is on site when the processing takes place, ensuring the birds are tagged as inspected, having storage (freezers) ready for the processed birds, having proper transportation for the dressed birds and having the market ready for the birds.

Producers need to pay particular attention to both freezer capacity and being able to freeze the processed birds promptly. Although a large freezer (21 cubic feet) holds 100 birds, it may take four to five days to completely freeze all of the birds as those in the middle of the freezer will not freeze right away. Accordingly, producers need to ensure that birds are froze promptly after processing.

The critical production management issues in raising pasture poultry are determining the production process that matches the market requirements as well as achieving acceptable performance in both feed conversion and mortality losses.

4 Metal cages are estimated at \$175 for materials plus \$75 for labor while wooden cages are estimated at \$200 for materials and \$25 for labor.

5. Economic/Finance Basics

Many producers tend to be hobbyists who produce birds for personal consumption. The economic focus for these producers may be limited to having a good understanding of all the costs associated with their hobby.

Commercial producers may incur higher levels of costs in order to meet the demand of their particular markets and achieve higher returns. Commercial producers need to closely examine the costs and returns for their specific type of operation in order to determine whether the profit or expected profit (at some point in the future) meets a certain criteria they establish for this business activity.

The following budgets have been prepared to illustrate the capital investment, operating parameters and estimated

expenditures and returns for a start-up operation. These budgets do not reflect the additional costs that would be incurred in a certified organic operation. It's important to recognize that the following budgets are estimates and are included to provide growers with a framework that identifies the type of information required and the type of analysis they should undertake.

Table 1 provides estimates of the capital investment required to establish a start-up pasture poultry operation with two pens or 130 birds.

The capital investment to establish the start-up enterprise can involve land, buildings and vehicles already owned. The opportunity cost of using these assets in the poultry operation is included as a cost in the assessment of profitability for the operation.

Table No. 1 Pasture Poultry Start-Up Enterprise; Capital Investment Budget

	Acres	\$/Acre	Total Cost	Useful Life	Depreciation \$/year	Opportunity Cos \$/year
Land						
Cropland	.5	\$1,000	\$1,000			\$40
Total Costs			\$1,000			\$40
	<u>Cost</u>	<u>Share</u>				
Improvements and Facili	ities					
Brooder building	\$500	30%	\$150	10	\$15	\$6
2 cages	\$500	100%	\$500	15	\$33	\$20
Total Costs			\$650		\$48	\$26
Equipment						
Freezers	\$500	100%	\$500	3	\$167	\$20
Total Costs			\$500		\$167	\$20
Total Fixed Costs			\$2,150		\$215	\$86

Table 2 presents the production parameters for the start-up operation. The estimates for feed conversion and mortality are felt to be achievable in an Alberta enterprise. However, each individual needs to estimate these parameters when planning for their specific operation.

Table No. 2 Pastu	re Poultry E	nterprise	; Product	tion Param	eters	
Pasture Poultry Enterprise (2 Cag	jes)					
Target Market/Production	Broilers					Year 1
Pounds	4.25					
\$/lb.	\$2.50					
Total mortality	15%					
Birds sold	111					
Total Revenues						\$1,179
			Units	Quantity	\$/unit	
Chicks (1 day)			Chicks	130	\$0.96	\$125
Feed		Birds	Units	Quantity	\$/unit	
Starter		130	Kg.	130	\$0.40	\$52
Grower		117	Kg.	585	\$0.40	\$234
Total Feed Costs						\$286
Custom Costs						
Processing			Bird	111	\$1.60	\$178
Bagging			Bird	111	\$0.25	\$28
Cages & hauling						\$100
Total Custom Costs						\$305
Materials						\$100
Total Operating Expenses						\$816

Table 3 presents projected revenues and expenses for the start-up pasture poultry operation. The projected net income indicates that the proposed enterprise (based on production parameters presented) will cover all costs and provide a modest return to management and labor. Individual operators may be able to beat these numbers, particularly if they are effective in managing mortality levels and feed conversions.

Table No. 3Projected Revenues
and Expenses for
Start-up Pasture
Poultry OperationStart-up Pasture Poultry Enterprise (2 Cages)Projected Revenues and ExpensesYear 1

\$1,179

Projected Revenues

Broilers

Total Sales Revenues	\$1,179
Operating Costs	
Chicks	\$125
Feed	\$286
Custom costs	\$305
Materials	\$100
Interest on operating	\$20
Utilities	\$10
Total Operating Expenses	\$846
Overhead Costs	
Annual depreciation costs	\$215
Opportunity cost on capital investment	\$86
Total Enterprise Costs	\$1,147
Net operating Income	\$32

Although the net operating income is low, this start-up operation is also providing the benefit of valuable experience that is necessary to develop a larger scale enterprise. As well, a pasture poultry operation can compliment other enterprises such as market gardens or u-pick berry operations. The economic performance of a pasture poultry enterprise is influenced by the mortality level and prices received for product(s). Since this is a relatively new industry, interested growers must consider the profit performance under a range of price and mortality scenarios in order to assess the situation they might be entering into.

Table 4 presents a sensitivity analysis, which shows the changes to net operating income over a range of price combinations (\$/lb. carcass weight) and mortality levels (per cent of beginning chicks).

Table No. 4 Sensitivity Analysis Net Income in Response to Mortality and Prices

	Prices (\$/Lb.)						
		20%	15%	12%	10%	8%	
	\$2.25	(\$153)	(\$86)	(\$57)	(\$28)	(\$0)	
	\$2.30	(\$131)	(\$62)	(\$33)	(\$3)	\$26	
	\$2.40	(\$86)	(\$15)	\$16	\$46	\$77	
	\$2.50	(\$42)	\$32	\$64	\$96	\$128	
	\$2.60	\$3	\$79	\$113	\$146	\$179	
	\$2.75	\$68	\$150	\$185	\$220	\$255	

The critical economic issues for pasture poultry producers is to carefully evaluate the economics of production before investing and develop strategies to be a low cost producer. Individual producers need to achieve all of the following factors for their enterprise to be profitable. Producers need to:

- produce a product that meets the buyer's specifications
- gain access to the market
- achieve a good market price for the product
- control the operating costs and the capital costs of the enterprise as low margins (high operating costs relative to revenues) and high capital costs can severely squeeze the returns an individual operation might produce

6. Resources

Industry Associations

Alberta Organic Producers Association 56424 Hwy 2 Sturgeon County, AB T8R 0G9 Phone: (780) 939-5808 Fax: (780) 939-6738

Sustainable Agriculture Association Alberta OCIA #2 Box 1181, Station M Calgary, Alberta T2P 2K9 Phone: 1 (888) 561-2555 Biological Food Processors Association Alberta OCIA #3 Box 989 Vulcan, Alberta T0L 2B0 Phone: (403) 528-2010Fax: (403) 528-2015

Publications

Pastured Poultry Profits By Joel Salatin Polyface Inc. Rural Route 1, Box 281 Swoope, VA 24479 USA Phone: (540) 885-3590

Meat Processing Facilities in Alberta Regulations Technology Design Available from Alberta Meat Processors Association 21234 TWP RD 522 Sherwood Park, Alberta T8G 1C8 Phone: (780) 922-6006

Farm Direct Marketing: Know the Regulations booklet series:

- General Legislation (Agdex 844-1)
- Food Labels (Agdex 844-2)
- Food Claims (Agdex 844-3)
- Meat and Meat Products (Agdex 844-4)
- Poultry and Poultry Products (Agdex 844-5)
- Fruits, Vegetables and Products (Agdex 844-6)

Raising Organic Pasture Poultry (Agdex 450/20-2) Available from Alberta Agriculture and Rural Development

Government Resources

Economics

Farm Management Specialist Alberta Agriculture and Rural Development

Business Planning

Rural Development Specialist – Business; Alberta Agriculture and Rural Development

Alberta Ag-Info Centre Call toll free: 310-FARM (3276) Website: www.agriculture.alberta.ca

7. Key Management Issues

If you continue to investigate this agricultural business opportunity, it's essential that you are able to answer the following questions concerning the production of poultry and the management requirements of a pasture poultry enterprise.

- Are you prepared to learn all you can about poultry production, visit farms, join producer associations, attend workshops and read all you can about chicken production and marketing?
- Have you clearly defined the specialty poultry market that you will be marketing to?
- Have you researched the applicable legislation and are you prepared to abide by it?
- Have you clearly defined the production process and the production practices needed to achieve an acceptable level of business performance?
- Have you clearly defined the marketing activities that you will be required to perform in order to market your product to the specific market segment mentioned above?
- Are you aware of the intensive management required by a pasture poultry enterprise?
- Are you aware of the amount of time required to continuously market your product and improve your production performance?
- Are you prepared to develop a complete business plan for your enterprise and to test this plan on a small scale that you can afford?
- Have you objectively and thoroughly assessed the "fit" that the marketing, production, economic and management requirements of a pasture poultry enterprise have with your personal situation?

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For more information on diversification and other business profiles, please visit Alberta Agriculture and Rural Development's website at www.agriculture.alberta.ca