

Canadian Exports to Nepal: Canadian Heritage Turkeys

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## **PART 1: PRODUCT INFORMATION**

### **Heritage Turkey Genetics**

Canada has developed a genetically dense poultry system, which includes turkeys.

Canadian Heritage Turkeys are the best approach to helping the Nepal community because they require less attention and hands on work to develop and mature properly.

The industrialized turkey when compared to the Heritage Turkey would be far more of an inconvenience to the Nepalese farmers due to their incapability to walk, and run making them unable to forage the pasture efficiently (Burros, 2001). Heritage Turkeys are well suited to Nepal due to their instinctual, uninvolved reproductive practices, unlike the commercial turkeys that do not lay eggs as a consequence of their rapid growth rate, their extensive breast size no longer allows them to be able to breed on their own, and must be artificially inseminated in order to reproduce”(Burros, 2001). Heritage turkeys are the main classification name, but within that classification there are many breeds that include, the Standard Bronze, Bourbon Red, Narragansett, Jersey Buff, Slate, Black Spanish, White Holland, and later added to the standard were the Royal Palm, White Midget, and Beltsville Small White (Mastrude, 2004).

### **Canadian Turkey Farming**

Turkey farming has slowly been a growing industry within Canada, annual sales of turkey parts and processed turkey products in Canadian supermarkets increased from 8.8 Mkg in 1993, to 18.2 Mkg in 2014.(Turkey Farmers of Canada, n.d). On average, in 2014, Canadians consumed 147.0 million kg of turkey, with a per capita

consumption of 4.1 kg. An estimated 69.9 Mkg of turkey products were purchased, and 51.7 Mkg of that retail were whole turkeys that were purchased (Turkey Farmers of Canada, n.d). Most of the turkey production in Canada takes place within Ontario, followed by Quebec, with each operation usually raising between one to seven flocks a year, depending on the two main factors such as the size of the birds and the size of the operation (Stats Canada, 2009). Turkeys are under a supply management system within Canada, meaning that agricultural production quotas, marketing boards, and the control of trade to regulate agricultural production and prices are implemented upon the turkey farmers of Canada (Stats Canada, 2009). The National Farm Products Council oversees the Canadian Turkey Marketing Agency (CTMA), and estimates the approximate demand for turkey annually, determines the required production nationally, and distributes the production among the provinces (Stats Canada, 2009). In turn, the provincial boards allocate production among the individual producers and ensure they are within this allocation (Stats Canada, 2009). In a supply-managed commodity, producers buy quota from a limited amount available to that specific province (Stats Canada, 2009). With the supply management in place turkey production is controlled and farmers are able to receive a relatively stable return on their stock (Stats Canada, 2009). If a trade agreement is issued between Nepal and Canada, the quota projections for turkeys will skyrocket in order to ensure the supply is met for the demands of the Nepalese farmers and Canadians, and in turn will give Canadian turkey farmers a chance to buy more quota and produce more turkeys.

**Canadian Turkey Exports**  
Eviscerated (1,000 kg)  
**Exportations canadiennes de dindon**  
Éviscéré (en milliers de kg)

Year Année	Carcass Carcasse	Parts Morceaux	Cooked and Other Cuit et autres	Total
1974				271
1979				558
1984	178	486	114	777
1989	186	3,870	1,375	5,431
1994	522	9,557	1,056	11,136
1999	699	11,797	5,146	17,642
2004*	636	12,004	9,122	21,762
2009*	56	15,911	7,849	23,815
2010*	57	14,372	8,247	22,677
2011*	135	12,935	8,331	21,402
2012*	296	12,432	8,325	21,052
2013*	164	14,719	9,174	24,058
2014*	217	14,125	7,533	21,874

SOURCES: AAFC and \*TFC

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(Turkey Farmers of Canada, n.d)

### Turkey Costs in Canada

In 2015, with the weighted average price of a four-week period, Ontario's price of whole turkey was averaged at \$3.08 per kilogram (Government of Canada, 2015). The province with the highest price per kilogram was Quebec with a price of \$4.11, and the province with the lowest price per kilogram was both Saskatchewan, and Manitoba with a price of \$2.71 (Government of Canada, 2015). Although the low prices are located within the prairie regions of Canada, production of poultry is more prevalent throughout Ontario and Quebec, where the prices are slightly higher (Stats Canada, 2009). In 2006, the average flock size located on a large farm was amounted to over 15,000 while smaller farms averaged with only 21 birds (suited to only home or small local market consumption), (Stats Canada, 2009).

## **Potential Turkey Life in Nepal**

In 2005 the top livestock used for meat production in Nepal were buffalo, goat, sheep, chicken, pig, and duck (Pariyar, 2005), which are all naturally able to rely on very little human interaction to mature and develop. Canadian heritage turkeys would be able to adapt to the Nepal Agricultural community because like many of their current top meat production livestock, the turkeys can maintain themselves while on pasture. It works out quite efficiently because a turkey needs short immature grass, approximately no longer than three inches tall, in order to effectively forage their required feed (Nation 2011). The turkey is one of the most efficient species within the poultry sector in terms of harvesting forage from pasture because the turkey is able to convert 45%-50% of their diet from young leguminous pasture, versus chickens who can only convert 25%-30% of their diet from being pastured (Nation 2011). An advantage to the heritage turkey is that it is capable of protecting itself because they are capable of flying. Although it may not protect the turkey from all threats, the turkey is able to fly upwards of 30 feet, allowing them to easily escape ground predators (Nation 2011). Fortunately, turkeys also take to herds, making it easier for the Nepalese farmers to care for the birds when needed. All breeds of heritage turkey are also very tolerant of different climates, and are very durable when older, however are extremely fragile before six weeks of age (Nation, 2011). With all the traits that the heritage turkey displays, adapting to the Nepalese community would be extremely easy, and due to their durability would be efficient because of the low death toll.

## Canadian Benefits of Exporting Heritage Turkeys

### Increased Canadian Revenue

There has been a steady incline in the number of turkey farmers in Canada, and also an increase in the average price per turkey (Stats Canada). The more turkeys Canada is able to export, the higher turkey sales will be, making more profit for Canadian Turkey farmers.



#### MONTHLY AND ANNUAL AVERAGE PRODUCER PRICES REPORT - TURKEY

Year: 2014

dollars per kilogram live weight



#### LIVE TO PRODUCER - 6.2 kg and under

	British Columbia	Alberta	Saskatchewan	Manitoba	Ontario	Quebec	New Brunswick	Nova Scotia	Prince Edward Island	Newfoundland and Labrador	Canada
January	1.99	1.96	1.96	1.90	1.96	1.94	1.89	1.97	-	-	1.95
February	2.00	1.97	1.97	1.91	1.98	1.95	1.91	1.99	-	-	1.96
March	2.02	2.02	2.02	1.93	2.00	1.96	1.92	2.01	-	-	1.98
April	2.04	2.04	2.04	1.96	2.01	1.98	1.94	2.03	-	-	2.00
May	2.06	2.04	2.04	1.98	2.05	2.00	1.96	2.06	-	-	2.03
June	2.07	2.06	2.06	2.01	2.06	2.03	1.99	2.08	-	-	2.05
July	2.06	2.08	2.08	2.00	2.04	2.02	1.98	2.06	-	-	2.04
August	2.03	2.08	2.08	1.97	2.01	1.99	1.95	2.03	-	-	2.02
September	2.02	2.06	2.06	1.96	2.01	1.97	1.93	2.03	-	-	2.00
October	2.04	2.01	2.01	1.97	2.03	1.99	1.95	2.04	-	-	2.01
November	2.02	1.97	1.97	1.95	2.00	1.98	1.94	2.02	-	-	1.98
December	1.99	1.97	1.97	1.94	2.00	1.95	1.91	2.01	-	-	1.97
2014	2.03	2.02	2.02	1.96	2.01	1.98	1.94	2.03	-	-	2.00

### More Canadian Jobs

With an increase in the price of turkey production, more and more producers will accumulate. With more producers in the picture Canada will retain more genetic variability within the turkey breeds and will in turn be able to send more genetic variability to Nepal. With more sales, and an increase demand in turkey production, more quota will become available for Canadian turkey farmers to buy, and producers will have an opportunity to expand their farm or there will also leave room for new turkey farmers

to gain access to quota. An increase in turkey production will also result in an increase in the need for the grain that the turkeys are fed, providing an opportunity for further Canadian job opportunities. On a global scale, even if certain provinces are capable of producing more turkey eggs for export to Nepal, it could result in being very beneficial for provinces that are capable of producing more grains, because the supply demand will be greater. Therefore, although some provinces in Canada will see the benefits more and potentially quicker, the entire country will eventually be benefited if the trade is successful, and possible other heritage turkey exports become available.

### **Additional Benefits**

As more turkeys are implemented into the Nepalese farming community their genetics will become greater. With improved genetics the Nepalese farmers will receive a better yield from the turkeys with both the laying of eggs, and their meat quality and weight gain. This in turn will produce more money for the farmers, and an increased demand for farthing their genetic playing field, leading the farmers to import more turkeys from Canada. This trade also offers an opportunity for Canadian agricultural researchers to work with the Nepalese agricultural researchers to analyze how the average turkey is able to adapt to the Nepal environment and potentially gain critical information that could be useful in the future for possible heritage turkey exports to other developing countries.

### **Part 2 Benefits to Nepal**

#### **Nepal's Developing Agricultural Industry**

The human population in Nepal is a staggering 24.6 million, with an annual growth rate

of 2.3% (FAO, n.d). Total land area in Nepal is 143,000 sqkm, with a total of 50,310sqkm used for agriculture (FAO, n,d). The total livestock GDP is 645 million US \$, and is 30.0% of the proportion of the country's agricultural GDP (FAO, n,d). In 2005 the top livestock used for meat production in Nepal were buffalo, goat, sheep, chicken, pig, and duck (Pariyar, 2005), which are all naturally able to rely on very little human interaction to mature and develop.

### Livestock Production in Nepal: Trends in annual production of meat, milk, and eggs

Product	Year				Annual growth rate (%)	
	1980	1990	2000	2002	1980-1990	1990-2000
Meat, total	127.4	186.5	237.2	246.1	3.9	2.4
Beef and buffalo	90.5	135.6	169.8	174.7	4.1	2.3
Mutton and goat	25.9	31.9	39.8	41.4	2.1	2.2
Pig	5.8	9.9	14.6	15.6	5.5	4.0
Poultry	5.3	9.1	13.0	14.4	5.6	3.6
Milk, total	746.7	922.1	1,170.7	1,235.6	2.1	2.4
Eggs, total	14.5	18.0	23.4	26.1	2.2	2.6

Source: FAO (2005a)

Trends in the annual consumption of meat, and eggs suggest that from 1990-2000 there was a 3.6% growth rate in poultry (FAO, n.d). With a growing demand for meat and eggs already in effect the heritage turkeys have the potential to meet the demands of the Nepalese community.

### Nutritional Benefits

Turkey and chicken both have very similar nutritional fundamentals. When looking at the



nutritional facts both turkey and chicken provide approximately 200 calories, while both providing approximately 24g of protein (USDA, 2011). Turkey ranges slightly higher in the amount of iron it can contribute, and slightly lower in the amount of sodium than chicken (USDA, 2011). With the trend in the annual consumption of meat, and eggs from 1990-2000 being 3.6% growth rate in poultry, turkey will prove to be just as valuable as a food resource as chickens in the Nepalese community (FAO, n.d).

### **Nepal Support Systems**

Nepal has support systems under their belt that would allow the idea of heritage turkeys being imported from Canada to become a reality. N.A.R.C, Nepal Agricultural Research Program is an anonymous organization with the main goal of conducting research in Nepal to better the economic level of the country and the people that reside (NARC, 2007). The organization conducts qualitative research required for national agricultural policies, provides research and consultancy to clients, evaluates agricultural research activities in Nepal, and documents research activities (NARC, 2007). The organization is funded by the Government of Nepal and receives other funds from servicing the farmers of Nepal and from national and international donor agencies and governments (NARC, 2007). With the help of the NARC organization, early research on the condition and adaptability of the heritage turkeys could be recorded. This could not only be an advantage to the Nepalese farmers, as the information they would receive from the NARC as opposed from information heard from Canadians may be more reliable to the local Nepalese farmers, but also to Canada because the potential research could lead to

Nepal wanting to import more turkeys, whether it be for research purposes or strictly agricultural practices.

### **Challenges of Exporting to Nepal**

#### **Avian Influenza**

Avian influenza is an infection within birds with avian influenza Type A viruses (CDC, 2015). These viruses occur naturally among birds worldwide, and are very contagious among birds and can sicken and even kill domesticated birds such as chickens, ducks, and turkeys (CDC, 2015). The virus can be shed through saliva, nasal secretions, and feces and can also be contracted by a bird when placed in contact with surfaces that are contaminated with the virus from infected birds (CDC, 2015). No human infections have been detected within Canada, although it is possible that they can occur but the Centers for Disease Control and Prevention deems the virus as a low risk to people at this time (CDC, 2015). When domesticated poultry are infected symptoms can be very mild, such as a slight decrease in egg production, so very severe, such as high mortality rates (CDC, 2015). The Centers for Disease Control and Prevention, United States Department of Agriculture, World Health Organization, World Organization for Animal Health, and Food and Agriculture Organization of the United Nations routinely monitor influenza viruses and have implications for both the health of the public and the animals (CDC, 2015). The biggest concerns for the outbreak of avian influenza within domesticated birds is that the virus has potential to evolve into highly pathogenic viruses, the potential

for rapid spread and significant illness, the economic impact and trade restrictions if an outbreak were to occur, and the possibility that the virus can potentially be transmitted to humans (CDC, 2015). The solution to this problem may be that the Nepalese government and the Centers for Disease Control and Prevention, United States Department of Agriculture, World Health Organization, World Organization for Animal Health, and Food and Agriculture Organization of the United Nations work hand in hand to ensure the safety of the Nepalese poultry industry and the Canadian poultry industry.

### **Exporting the product to Nepal**

All breeds of heritage turkey are very tolerant of different climates, and are very durable when older, however are extremely fragile before six weeks of age (Nation, 2011). This makes exporting birds from Canada to Nepal more difficult. The best solution to this would be shipping eggs to Nepal. Although the cost of shipping may increase, Canada has a more assured way of knowing no transmittable diseases will be entering Nepal if the birds have not been born yet and therefore have not come into contact with any diseases.

### **“Unknowns”**

As for the transportation specific costs and method of shipping that is unknown. As mentioned before costs of shipping will be greater because the eggs will have to be handled respectfully. Whether Nepal and Canada decide to ship by means of boat or airline, if possible, is under the discretion of that country. Another unknown includes

when the shipment does arrive in Nepal how, and potentially, will they have the resources to keep the eggs incubated until the chicks are born. Furthermore will they have the resources and space to house the new born chicks in mass orders, especially for the individuals living in the downtown region of Nepal. Other resources that may be in need are cereal crops to start the chicks growing efficiently until they are old enough to feed off the pasture. The agricultural leaders of each country would also have to decide upon how large of a shipment of eggs would be not only beneficial to Canada, by means of cost, but how much of a demand Nepal believes will come from the importing of heritage turkeys. Price per egg would vary, depending on the amount of eggs as well as other factors including the cost of transportation and the labour costs of the farms contributing the eggs. Not only that, but also because the turkey industry is a supply managed sector of agriculture, officials would have to sit and project how much more quota would be available to Canadian turkey farmers. This in turn would have an effect on the price per egg and also the amount that the Canadian turkey farmer intakes. The costs of shipping, and the cost per egg are the major unknowns simply because of all the underlying factors that would respectively be decided based upon personal preference of both the county leaders.

## **Conclusion**

Heritage turkeys have true potential to create the people of Nepal with another food resource. After an analysis of the potential to export Canadian heritage turkeys to Nepal it is shown that Canada and Nepal have many opportunities to be gained. Canada has the

potential to offer the Canadian turkey farmers a greater quota system, as well as provide a steady demand for the resulting product. With increased revenue, and quota, more jobs will be offered within the Canadian agricultural system, and Canada becomes a major player in the development of the Nepal poultry agricultural sector. Nepal also gains many opportunities, such as offering another food source that the Nepalese farmers are capable of fully and easily adapting to. By offering more variety the community of Nepal is less susceptible to losing mass animals at once, due to disease, sickness, or environmental factors due to variability of the genetics within the country. This trade agreement could very well be a step in the right direction to sustainable farming for both Nepal and Canada.

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