

VENEZUELAN POULTRY CONGRESS

POULTRY BUSINESS SECTION

EVOLUTION OF THE WORLDWIDE CHICKEN BROILER MARKET

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In the Beginning

Prior to 1950 the U.S. chicken industry was primarily a rural activity conducted on small farms for consumption by the family and the market was not organized. There was similar situation in most other countries with poultry being primarily *village chickens*. Most eggs and poultry marketed were sold live to neighbors and people who did not produce their own chickens and eggs for consumption. The industry was very fragmented with no organized structure in the U.S., South America, Europe and Asia. In the 1920's and '30's much of the U. S. population either lived on small farms or lived in rural settings. It was quite common for people to grow chickens, primarily for eggs. While a few birds were grown in the spring for meat, most chicken meat was harvested from hens that stopped laying. Thus, the "chicken broiler industry" began as a "by-product industry." However, Wilma Steele, who, in the 1920's, started growing birds strictly for meat in Delaware, is one of the people credited with starting the broiler industry (Aho). The advent of World War II changed the landscape of America and the world dramatically.

Suddenly millions of young men and women had to be fed by the armed forces and thousands were mobilized domestically to supply war materials. Demand for protein products increased, encouraging broiler production. During this period (in the 1940's) chicken growers would buy chicks, feed, medications and equipment from feed dealers

on a credit basis. At the end of 90 days the feed dealer would buy back the chickens usually at an average weight of 2.8 pounds and sell them to the processing plant. After the sale, the feed dealer would then deduct the expenses from the processing plant check and pay the producer. This system allowed the industry to grow, but was risky for both the feed dealer and the grower. The feed dealer had to charge higher prices to off-set the risk that growers would sell their chickens elsewhere and not pay their bills. The grower incurred all the production risks as well as the market risk of low chicken prices at the time of sale. Yet the production system continued to develop (USDA). Similar situations existed in the countries of Europe involved in World War II.

Birth of an Industry-Launch of the Vertically Integrated System

From 1945 to present, the industry has experienced three basic stages of growth. The first growth stage lasted from the 1940's through the 1970's when the industry was growing in size and sophistication. The industry was focusing on efficient production and processing methods. Most broiler meat was sold primarily as unbranded, whole birds and consumers usually had no idea who produced the birds they consumed. Companies competed with each other based on price alone. Although the inexpensive price attracted many consumers, product choices were limited. The second growth stage occurred from the 1970's through the 1990's when the broiler industry discovered that they could market branded products and differentiate themselves from other companies in the minds of consumers.

Shift to International Focus

It was during this time period, especially the late 1970s and the 1980s that attention to industry expansion shifted from domestic focus in the U.S. to other nations interested in poultry production and marketing as a means to improve the nutrition afforded by poultry products to their consumers, the economical advantages of lower cost meat proteins and the versatility offered by poultry products. Among the first to explore poultry as an alternative meat were Mexico, Venezuela, Ecuador and Brazil. Many young people from these countries attended universities in the U.S. including Texas A&M University, University of Georgia and University of Arkansas. In addition, university faculty members visited these countries to assist in the expansion of poultry production and marketing systems. Later these expansion efforts expanded to the countries in Asia including South Korea, Thailand, China, Russia and India.

Shift to Marketing Focus

This identification of products with brands or labels opened the door for companies to develop marketing plans and convenience foods called value added products. Companies could charge much more for value added products than commodity birds because consumers are willing to pay extra for the convenience. The focus of this second growth stage was marketing. The period from the 1990's to the present day represents the third stage of growth. During this stage companies realized that domestic broiler consumption would not increase dramatically. Therefore, continued growth required that companies

focus on exports and begin developing global strategic alliances. While figures vary from company to company, 18 to 20% of birds presently produced in the U.S. are dedicated to exports. This market has made the industry much more sensitive to international trade issues (USDA, 2002).

The globalization of poultry production has resulted in an expansion of marketing opportunities for not only the U.S. poultry industry but also the poultry industries of many developed, developing and emerging economies. This expansion has been driven by the market needs of countries with substantial populations and limited capacity to produce poultry for their own consumption. There are many success stories for the poultry industry in Brazil, Venezuela, Mexico, Ecuador, Central America, Eastern Europe, Russia, Asia, China, India, Malaysia and New Zealand.

Market Driven Growth

The underlying strategy used by successful poultry marketing companies is comprised of four basic factors. The first factor, not only for poultry but also for any food or beverage product, is *taste quality*. The product must be organically competitive. The second factor is that the product must be *economical*. The product that is economically competitive and organically competitive will be preferred over other more expensive and lower quality meats. The third factor is the *nutritional quality* of the poultry product. The product is naturally high in protein and low in fat, which is healthful for consumers of all ages. Health and medical professionals also support poultry as a healthy part of the diet. The fourth factor is the *versatility* of poultry products as a food choice. The product has a mild, delicate natural flavor which can be seasoned in multiple ways to attract the consumer regardless of food preferences.

There are also four secondary factors which influence consumer purchases in poultry meat. The first is *food safety*, a factor which is inherent or intrinsic to poultry meats. The efforts expended by poultry companies to ensure a safe product are phenomenal and the inspection system which is part of the market system is also excellent. The *attractive packaging* utilized in marketing poultry products also contributes to market success. *Product placement* in the retail environment is also a key to successful marketing efforts. Finally, *advertising and promotion* are also key elements in assuring the success of poultry marketing companies.

Location of Production

As poultry production and processing became more integrated and volumes of birds under contract increased, the geographic concentration of both production and processing occurred (Goodwin). Because 60-70 % of production costs are for feed, it would be expected that birds would be located in or adjacent to areas of corn and soybean production. Several additional factors have been key in determining location of bird production and processing, especially in the early stages of industrial development during the 1950s and 1960s, such as the costs and availability of land and labor, which can explain the dominance of the Ozark and Southern Appalachians as the industry evolved

and expanded. Land quality, largely unsuitable for large scale crop production, resulted in low prices per acre and relatively small land holdings. Employment alternatives and educational levels in the same areas translated into adequate supplies of relatively low cost labor. Similar decisions are made in other countries in order to maintain a competitive edge in cost of production.

Consolidation of production

The top five factors affecting the complex location were feed costs, community attitude towards broiler production, availability of potential growers and unemployment and wage rates. Intensification of production is evident in the leading states of Georgia, Arkansas, Alabama, North Carolina and Mississippi, with additional growth also particularly evident in South Carolina, Texas, Louisiana, Kentucky and California (Goodwin). It is anticipated that location of production in other countries will be made utilizing similar inputs.

Slowing Growth of Export Markets

Toward the end of the 1990s, 1998 in particular, it became evident that a decade of double digit growth in poultry meat trade was coming to an end (FAS Online, 1998). This occurred primarily because of abundant supplies of poultry meat in the major producing regions and a very constrained trade outlook in the world poultry market. Despite low prices for U.S. poultry meat, strong availabilities of competitor supplies and the value of the U.S. dollar resulted in limited growth in exports. Especially affected were Russia, where reductions in financial support by the government, scarcity and high costs of quality mixed feeds and high energy costs contributed to a reduction in poultry production, and China, where low grain prices and lower meat prices resulted in slower consumption gains at the same time China's production continued to expand.

Developing Countries/Emerging Markets

However, in the late 1990s and early 2000s dynamics occurring in the emerging Asian markets, particularly China and India, offered some indication of future market changes. Production capacities in each country were expected to expand to meet domestic consumer demand. Efforts to assist in meeting these expanding market needs have been provided by the U.S. Gains Council and other USDA agencies. Despite these efforts, both countries continue to be major importers of poultry products.

Export Markets/Consumer Driven Development

Data from the USDA Foreign Agricultural Service indicate that broiler meat trade continues to climb. The top five importers of broiler meat are Russia, Japan, European Union, China and Saudi Arabia. China and the European Union are expected to be net broiler meat importers in 2008 on the basis of continued strong demand, higher domestic prices, and strengthening currencies. China is expected to be supplied by the U.S., whereas the EU is expected to be supplied by Brazil and Thailand. It is important to note

that Japan remains in the second position behind Russia as a broiler meat importer, primarily because of the lack of land mass for broiler production. This is also the case for other countries as well. It is becoming more and more evident that there are regions of the world where broiler meat production will flourish at the expense of other regions where broiler production will be constrained for a variety of reasons, which will be discussed in later sections.

Industry Challenges/Constraints

There are several obstacles to expanding poultry production in developed countries such as the U.S. While there is little doubt that the broiler industry infuses billions of dollars into the U. S. economy annually, it is not without critics. Indeed, some states have enacted “anti-corporate farm” legislation to prevent vertically integrated firms from moving into the state. While it is unproductive to examine every industry issue, it is important to understand the major issues facing the industry (Jones).

Labor / Cultural Diversity Issues

The processing plant accounts for a majority of jobs available in a given complex and the repetitive nature of most positions makes them undesirable jobs, leading to a high turnover rate. Immigrants currently fill many of these positions. While Hispanic workers tend to be dominant, as many as ten different immigrant groups may be represented in a complex. Language and cultural differences often lead to communication problems. In addition, immigrants filling these positions often move with their families, straining schools and other community services.

Animal Welfare



Over the past two decades animal rights groups (most notably People for The Ethical Treatment of Animals or PETA) have grown in popularity among Americans. These groups believe animals have rights similar to humans and it is morally wrong to consume animals as food. Many in these groups are vegetarians actively engaged in recruiting others to their lifestyle. While these groups have always protested and sought to disrupt animal production enterprises, their recent tactics have forced broiler companies to pay attention.

Animal rights groups have targeted consumer franchises such as Burger King, KFC and MacDonald’s with protests. While consumer franchises realize that broiler companies are producing healthy birds, to stop these protests, they have imposed animal care standards and audits on their suppliers (i.e. broiler companies).

Environmental Issues

The Arkansas industry continues to face litigation on water quality issues from the state of Oklahoma. The suit(s) contend that land application of poultry litter has resulted in the pollution of streams flowing into Oklahoma. This issue has resulted in new regulations governing broiler production and restrictions on the spreading of litter on land in Arkansas. While a number of legal issues are as yet unsettled, an additional and bigger issue looms on the horizon. The EPA has indicated that in the next few years, it will likely force the industry to comply with air quality standards on broiler production houses. In view of the fact that virtually no one has a method for compliance, this issue could be a difficult one for both the grower and company.

Contract Grower Issues

A number of growers believe that the payment schedule for growers is unfair, since the materials they must work with (i.e. the birds, feed and medications) supplied them by the company are inconsistent and under company control. In addition, mandated equipment updates, and house renovations have further upset growers. These issues have led a number of growers to file law suits against local poultry companies. Grower organizations are also appearing in various parts of the country in an effort to give a stronger voice to independent growers.

Nuisance / Neighbor Relations

Rural, non-farm populations tend to be increasing nationwide. These populations generally are people who envision having a nice house in the idyllic countryside and usually are not familiar with modern day commercial agriculture. The dust, odors and gases that are blown out of tunnel ventilated broiler houses ruin the idyllic vision and, since these folks are not without means or abilities, misunderstandings and law suits result.

Global Trade Barriers

There are also multiple barriers to expansion of global poultry production and global poultry trade. Among these are 1) food safety, sanitary, and phyto-sanitary concerns, 2) avian influenza and other poultry health issues.

Food safety regulations which are specific to each country have often resulted in disruption of global poultry trade. In some cases it is founded in differences with regard to how inspection is achieved while in others it is founded in non-tariff trade barriers which are designed to protect domestic poultry producers. As there is more agreement with regard to the science behind the food safety regulations and inspection standards, there are more harmonized guidelines between trading partners.

The best example of how devastating a crisis or major negative event can be on the global poultry industry we need look no further than the 2003 outbreaks of highly pathogenic avian influenza ((HPAI) H5N1 virus (USDA-ERS, October-2007). Initially, import

demand for both uncooked and cooked poultry declined substantially, due to consumers' fear of contracting avian influenza by eating poultry meat. Consumer fears adversely affected poultry consumption in many countries, leading to lower domestic prices, decreased production, and lower poultry meat exports. Fortunately these were short lived in most developed countries with consumption patterns returning to normal.

Future Considerations

There are several factors which must be considered as decisions are made with respect to global poultry production and global poultry trade including 1) initial investment/cost of production, 2) changing consumer consumption patterns, 3) political issues, and 4) energy concerns.

Initial Investment/Cost of Production

The initial investment for a million bird complex is substantial in the U.S. It requires a large amount of capital which is best illustrated by the estimated annual budget for such a complex. The primary costs are 1) feed ingredients, 2) grower payments, 3) labor/benefits, 4) depreciation, 5) interest, 6) breeder chicks, 7) electricity, 8) water/sewer, 9) misc. and 10) vehicle operations totaling \$84,808,100. Starting a new complex is a decision which requires careful planning and should be considered in regions or countries where the decision will be met with a positive response. The estimated cost of production reflected in this annual budget does not take into account the increased cost of feed ingredients associated with increased corn prices as a result of the competition for corn globally in the conversion to ethanol. The actual costs of production will be considerably higher.

Changing Consumption Patterns

As rising production costs and export growth drive retail prices higher, U.S. consumers are projected to purchase less meat over the next 10 years according to USDA's Agricultural Long-Term Projections to 2017. The report projects that per-capita beef consumption will decline by about 5 pounds and pork by about 2 pounds. Poultry consumption will increase by about 2.5 pounds during the same period. This is not unexpected as the traditional response to higher competing meat prices has been an increase in poultry meat consumption. The net decrease for all three proteins would be about 2.9 pounds. *Taken in the global context, this should translate to increased poultry production worldwide.*

Political Issues

Often political issues influence the global poultry market and the current situation is no different. The following discussion illustrates how such decisions can be both positive and negative.

The U.S. Congress has asked food companies to do more on food safety. U.S. food suppliers are overhauling their own food safety rules, executives from companies

involved in recent food recalls said recently (February, 2008), but lawmakers said the industry must do more to prevent future outbreaks. A series of high-profile food safety scares in the past two years — including spinach tainted with *E. coli* and peanut butter and pot pies with *Salmonella* — have aggravated concerns among consumers, Congress and federal health regulators. This past February, California-based Westland/Hallmark Meat Packing Co. recalled 143 million pounds of beef because it butchered "downer" cattle in violation of federal rules.

The European Union is being urged by its industry commissioner to end its import ban on U.S. poultry. "The U.S. takes the poultry issue as a test case as to whether we are seriously 'pro-American,'" Guenter Verheugen of Germany, the EU's commissioner for enterprise and industry, wrote in a letter obtained by *Reuters* to European Commission President Jose Manuel Barroso. The EU in 1997 prohibited the importation of product treated with chlorinated water, saying that chlorine used in this capacity posed a human health risk. The European Food Safety Authority is expected to release a report on the matter in the coming weeks. "We should also be ready to come forward with an alternative solution if the scientific advice is mixed or negative, by examining the possibility of allowing imports while not allowing the use of the antimicrobial treatment on our own EU production," Verheugen continued, referring to the soon-to-be-published study.

Meanwhile, a new Foreign Agricultural Service GAIN report said that the European Union will likely become a net importer of broiler meat in 2008. Exports are expected to decline in 2008 when compared with 2007, and broiler imports are expected to increase, the report said. Broiler imports are expected to be 650,000 metric tons this year, while 620,000 tons are expected in exports from the EU. According to the report, EU broiler exports are being hampered by Brazil's increasing market share in the Middle East and Sub-Saharan Africa as well as the rising value of the euro.

Energy concerns

The poultry industry, like all other industries, must contend with the rising cost of fuel for production of poultry, transportation of live birds and processed birds as well as feed ingredients and operation of hatcheries, feed mills and processing plants. This is compounded by the increasing costs associated with feed ingredients as more and more corn is diverted to the production of ethanol. This not only increases the cost of production and marketing of poultry products, it increases the cost to the consumer. However, the natural advantage poultry has always enjoyed as the most efficient converter of feed to meat protein should allow poultry to remain competitive in the global market place.

Potential Markets

Around the globe are potentially lucrative markets available for growth and expansion. An example is the Philippines, and economy which expanded by 6.1% in 2004 (USDA-FAS, September-2005). This reflected not only a continuing trend of gains in recent

years, but also posted its best annual growth in 15 years. While U.S. products once dominated imports in Philippine supermarkets, food processing facilities and restaurants, competition in the market has intensified. Key competitors include Australia, New Zealand, the EU, Canada and fellow members of the Association of Southeast Asian Nations. Similarly, the Global Broad-Based Initiatives Program of the USDA-Foreign Agricultural Service is committed to rebuilding the Iraqi poultry industry (USDA-FAS, June-2005). Other such opportunities are also available.

Summary

In summary, the development of the global poultry market occurred in 3 stages, 1) the 1940s-1970s in which the industry was growing in size and sophistication through efficiency in production and processing, 2) the 1970s-1990s in which the industry was Branding products to differentiate themselves from other competitors and 3) the 1990s-present in which the industry focused on the globalization of the poultry market and worked through strategic alliances to expand the global poultry market. The Industry evolved from a production driven business to an integrated business structure to a marketing focused, consumer driven enterprise with a move to globalization of the business. The key to successful development of poultry firms is to identify developing markets, address the challenges and constraints of poultry enterprises and anticipate the trade barriers which can limit worldwide growth of the poultry business. The successful poultry firms will be those who manage all of these issues with an eye to future considerations. They must have a vision for the future and the courage to move forward in meeting the vision.

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May 22, 2008

**Venezuelan Poultry Congress
MARACAIBO, VENEZUELA**



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In the beginning

- Prior to the 1950s
- No Organized Structure
- Worldwide Situation
- 1920s and 1930s
- Pioneer-Wilma Steele in Delaware
- World War II-Dramatic Change

Birth of an Industry

- Millions of Young Men and Women
- Demand for Protein
- Chicken Growers and Feed Dealers
- Processing Plant
- Risky but Accommodated Growth
- Similar Situations in Europe

Launch of Vertical Integration

- 1940s-1970s
 - Growth in Size and Sophistication
 - Focus-Efficient Production/Processing
 - Product Unbranded
- 1970s-1990s
 - Market Branded Products
 - Differentiate from Competitors

Shift to International Focus

- Late 1970s and 1980s
- Shift to Other Nations
- Improve Nutrition and Affordability
- University Education Role-Students
- Mexico, Venezuela, Ecuador, Brazil
- International Industry Education
- South Korea, Thailand, China, Russia, India

Shift to Marketing Focus

- 1990s-Present Day
- Branded and Labeled Products
- Value Added Convenience Products
- 18-20% of U.S. Dedicated to Exports
- Expanding Marketing Opportunities
- Substantial Populations-Limited Capacity
- Brazil, Venezuela, Mexico, Ecuador, Central America, Eastern Europe, Russia, Asia, China, India, Malaysia, New Zealand

Market Driven Growth

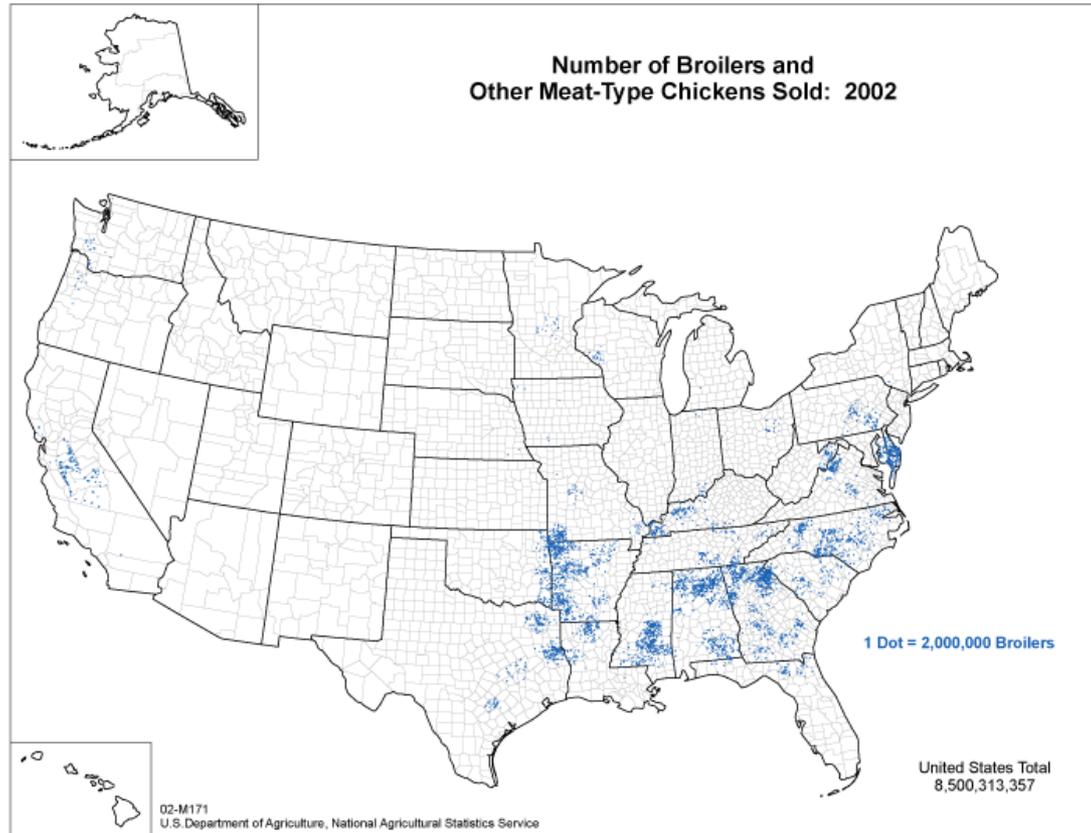
■ Primary Factors

1. Taste & Quality
2. Economical & Affordable
3. Nutritional Quality
4. Versatility

■ Secondary Factors

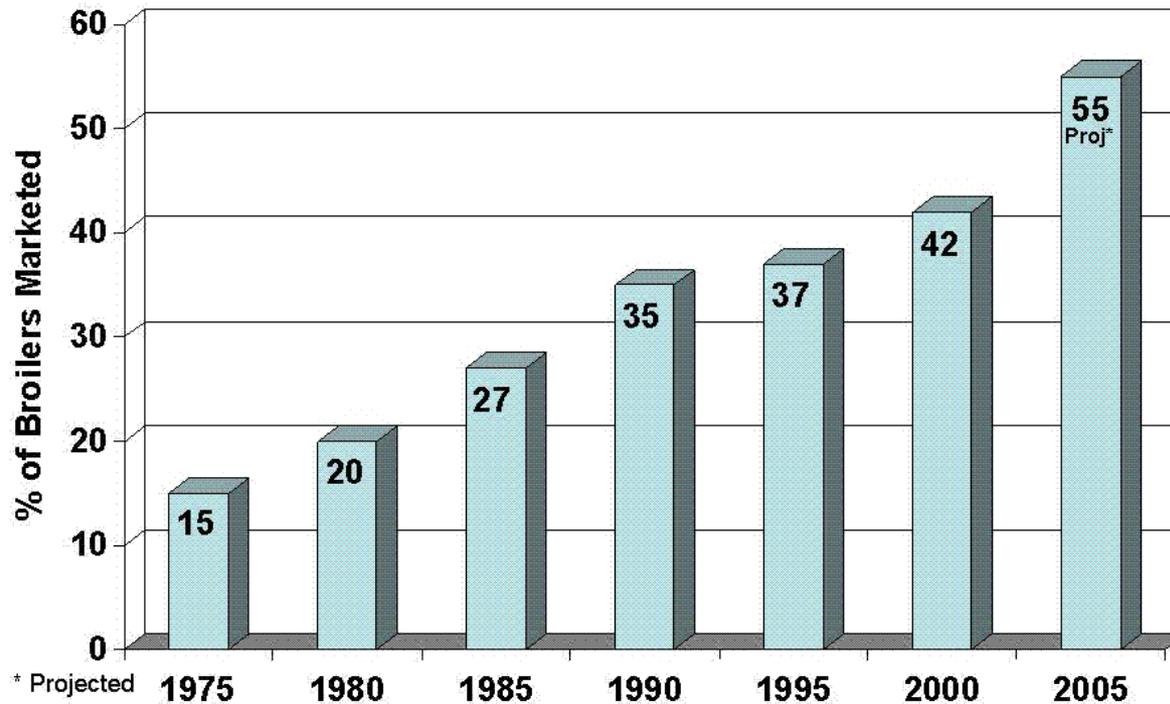
1. Food Safety
2. Attractive Packaging
3. Product Placement
4. Advertising & Promotion

Location of Broiler Production in the U.S.



Consolidation of Production

**US Broiler Consolidation Status by year –
Share of Top Three Firms¹**



* Projected

¹Adapted from Aho, P. 2003. Consolidation. Arbor Acres Broiler Economics Bulletin 9(5):1-2.

Consolidation of Production

100 Years of Structural Changes in U. S. Agriculture¹

Item	1900	1930	1945	1970	2000
No. Farms (Mil.)	5.7	6.3	5.9	2.9	2.1
Av Farm Size (Ac.)	146	151	195	376	441
No. Commodities produced / farm	5.1	4.5	4.6	2.7	1.3

¹Adapted from: Dimitri, C. and A. Effland. 2005. Milestones in U. S. Farming and Farm Policy. Amber Waves, USDA-ERS <http://www.ers.usda.gov/AmberWaves/June05/DataFeature/>

Slowing Growth of Export Markets

- End of 1990s – 1998 in particular
- Abundance of Poultry Meat Supplies
- Low Poultry Prices
- Strong Availability of Competitors Supplies
- Value of U.S. Dollar
- Russian Situation
- China Situation

Developing Countries/Emerging Markets

- Late 1990s and Early 2000s
- Asian Markets
- China, India
- U.S. Grains Council
- American Soybean Association
- USDA Agencies

Top 5 Importers

- Russia, Japan, EU, China, Saudi Arabia
- China and EU – Net Importers in 2008
- China – Supplied by U.S.
- EU – Supplied by Brazil and Thailand
- Japan – Second to Russia
- Russia – Shortage in Red Meat Supply and Favorable Poultry Prices
- Regions Favorable to Poultry Production

Industry Challenges/Constraints

- Labor/Cultural Diversity Issues
- Animal Welfare

Animal Welfare

Peta Demonstration Against KFC



Industry Challenges/Constraints

- Labor/Cultural Diversity Issues
- Animal Welfare
- Environmental Issues
- Contract Grower Issues
- Nuisance/Neighbor Relations

Global Trade Barriers

- Food Safety
- Sanitary, Phyto-Sanitary
- BSE, FMD
- Avian Influenza
- Exotic Newcastle
- Other Poultry Health Issues-LT

Future Considerations

- Initial Investment/Cost of Production
- Changing Consumption Patterns
- Political Issues
- U.S. Congress
- EU
- Energy Concerns
- Potential New Markets-Philippines

Summary

- 3 stages of development
- 1940s-1970s
- 1970s-1990s *
- 1990s-present
- Production-Integration-Marketing-International
- Developing Markets
- Challenges/Constraints
- Trade Barriers
- Future Considerations