

Niche Poultry Markets

Core Area: Animal Science

Unit: Poultry Industry

Lesson # 10: Niche Poultry Markets

California CTE Standards (Agriculture):

A1.2 Distinguish among the main characteristics of individual proprietorships, partnerships, corporations, and cooperatives.

C4.3 Understand the modern-day uses of animals and animal by-products.

D11.1 Understand the specialty animal's role in agriculture (e.g., fish farms, pack animals, working dogs).

D11.2 Understand the unique nutrition, health, and habitat requirements for specialty animals.

D11.3 Know how to synthesize and implement optimum requirements for diet, genetics, habitat, and behavior in the production of specialty animals.

FS 4.1 Understand past, present, and future technological advances as they relate to a chosen pathway.

FS 6.1 Know policies, procedures, and regulations regarding health and safety in the workplace, including employers' and employees' responsibilities.

Student Learning Objectives. Instruction in this lesson should result in students achieving the following objectives:

1. List and explain the differences in market structure between the commercial poultry industry and niche markets.
2. Understand the different production practices associated with different niche poultry markets.

List of Resources. The following resources may be useful in teaching this lesson:

1. Squab Producers of California – <http://www.squab.com>
2. American Poultry Association – <http://www.amerpoultryassn.com>
3. California Poultry Federation – <http://www.cpif.org>

List of Equipment, Tools, Supplies, and Facilities.

- ✓ Computer and Data Projector
- ✓ Power Point Presentation
- ✓ Copies of Student Handouts
- ✓ Copies of Student Worksheets

Terms. The following terms are presented in this lesson (shown in bold italics):

- Cooperative
- Vertical Integration
- Further Processed
- Squab
- Monogamous
- Clutch
- Brown Leghorn Pullet
- Muscovy
- Pekin
- Drake

Interest Approach. Use an interest approach that will prepare the students for the lesson.

Refer back to the Introduction to the Poultry Industry Unit (Objective 1). Ask the students to explain the concept of vertical integration. Review further if necessary. Explain that there are different levels of vertical integration. While many commercial poultry companies are fully integrated, some poultry producers – including niche markets – may be only partially integrated. Explain next the idea of a cooperative, using Squab Producers of California as the example.

SUMMARY OF CONTENT AND TEACHING STRATEGIES

Objective 1: List and explain the differences in market structure between the commercial poultry industry and niche markets.

Anticipated Problem: Why would niche markets not use the full vertical integration market structure like the commercial poultry industry?

- I. Common Niche Markets in California
 - a. Live Bird Markets
 - i. Market live birds in the Bay Area, Sacramento, and in Southern California.
 - ii. Chickens, Ducks, Geese, and other fowl are often sold at live bird markets.
 - iii. Some suppliers are partially integrated.
 1. It is normal for a supplier to own breeder ranches, growout facilities, trucking, and transportation. However, most of the suppliers will not

own their own feed mill or hatchery. This is mainly because of the smaller size of the company.

- iv. Relatively few suppliers and many markets.
- v. Many consumers at live bird markets are from various Asian ethnicities.
- vi. They like to inspect the bird live to make sure that it does not have any illnesses or noticeable defects.
- vii. The traditional Asian consumers prefer to process their own birds at home for cultural reasons and to guarantee freshness.
- viii. Younger generations prefer their bird processed professionally.

b. Duck Producers

- i. The market structure of the duck industry is similar to the commercial broiler and turkey industries but the market for duck in the U.S. is much smaller.
- ii. Some duck companies are fully integrated – owning all major aspects of production.
- iii. Processors typically own their own ranches or contract with duck growers and market under their own brand. (Grimaud Farms of California is fully integrated, no contract growers for ducks.)
- iv. Marketed to high-end restaurants and grocery stores.
- v. Some duck processors offer **further processed** products.
 - 1. Cut-up products
 - 2. Cooked products

c. Squab Producers

- i. A **squab** is a young pigeon.
- ii. There is a high demand in the Asian (principally Chinese) community for squab and it is also marketed to high end restaurants and retail markets.
- iii. Squab Producers of California is an agricultural **cooperative**.
 - 1. Members pool their resources and work together to process and market their squab.
 - 2. Squab Producers of California is the largest squab processing plant outside of Asia.
 - 3. Growers own their ranches and their birds. Collectively the members own and control the cooperative.
 - 4. By joining together, the squab growers can have more control over the supply, demand, and consequently the price of squab.
 - a. Members also benefit from a more efficient processing plant. Instead of having many small processors, a single state-of-the-art processing plant is utilized by all members.

d. Upland Game Bird Growers

- i. Upland game birds include pheasants, chukars, and quail.
- ii. These birds are raised for the specific purpose of hunting at hunt clubs.
- iii. Some growers breed, hatch, and growout their birds.
 - 1. Some larger growers might even have their own hunt clubs.

II. Importance of Niche Markets

- a. Although the niche poultry markets are much smaller than the commercial poultry industry, they still are very valuable to the economy.
- b. Because of niche markets, consumers have a choice between different products.
- c. Many Asian American and Asian immigrants in the United States take advantage of the niche markets for traditional cultural reasons.

Objective 2: Understand the different production practices associated with different niche poultry markets.

I. Production Differences

a. Live Bird Market Suppliers

Live Bird markets often offer chickens, ducks, geese, and other fowl. However, this section focuses mainly on chickens.

i. Breed differences from commercial broilers

1. **Brown Leghorn Pullet**

- a. The first brown chickens raised for meat in the U.S. in the early 1980's.
- b. Early consumers in California were mainly in San Francisco, San Jose, and Los Angeles.
- c. Companies make regular deliveries but some also offer on-farm pick up for birds to be brought to the market.

ii. Chicken flock lifespan

1. Age of bird varies with time of year and breed.
2. Most common age bird is sold is 16 to 20 weeks old.
3. The bird maturity plays a part in the time of the sale.

iii. Diet differences

1. Due to the manner in which the bird is prepared, requires the meat to be tougher than traditional broiler birds.
 - a. Most birds are either boiled or barbequed.
 - b. This is maintained through feed formulation.
2. Feed formulas are exclusive to the individual supplier.
 - a. They can consist of chick starter, grower, and a developer.

iv. Processing

1. Processing can be done by the consumer at home.
2. Processing is also done at commercial processing plants that offer custom processing.
3. Birds that are processed must be sold and consumed within 7 days in order to maintain freshness.
4. Birds are never frozen and then sold in the markets as fresh.
5. Whether the birds are professionally or personally processed, the bird is left whole with the head and feet attached.
 - a. This is called a Buddhist Style process.
 - b. The consumer can also tell the age of the bird by the size of the comb.
6. A "Hot Plant" is offered for consumers to pick out the live bird they want and have it processed in a state inspected processing facility.
7. All other processing is done at USDA inspected facilities.
 - a. The birds are packaged with custom labels or packed directly on ice for transport.

v. Marketing

1. Birds are sold in grocery stores, restaurants, and live bird markets.
2. Most live markets offer both live and processed product.

3. The store is divided in two by a panel to separate the live from the processed cold storage.
- b. Duck Producers
- i. Descriptive terms
 1. Drake – Male duck
 2. Hen – Female duck
 3. Ducklings – adolescent ducks
 - ii. Major meat breeds
 1. **Aylesbury** – popular in England where the breed originated.
 - a. Appearance – White feathered, white skin, flesh colored bills, light orange legs and feet. Adult drakes – up to 9 lbs, adult hens – up to 8 lbs.
 2. **Muscovy** – Unrelated to other meat breeds. Wild Muscovy originated in South America; however, the French domesticated the Muscovy duck for commercial production and brought it to the United States. This is a major commercial breed in California.
 - a. Appearance – many varieties, white is most desirable for markets. Drakes weigh up to 11 lbs and hens weigh up to 6 lbs.
 - b. Non-migratory bird
 - c. Still considered a waterfowl; however is more comfortable on the ground than water. Enjoys scavenging in the mud and dirt.
 - d. The breed that California Muscovy producer Grimaud Farms produces was originally domesticated in France. However, Muscovy ducks are indigenous of South America. Wild populations are found in Florida and Texas today because they were relocated by people to those areas.
 3. **White Pekin** – Major commercial breed in California and the United States. Originated in China and introduced in the U.S. in 1870's.
 - a. Appearance – White feathered, orange-yellow bills, reddish orange legs and feet. Can reach market weight of approximately 6.25 lbs in 8 weeks.
 - b. Migratory Bird
 - c. The majority of the commercial duck industry in the U.S. is Pekin ducks. Woodland Farms produces them in California. However, Indiana is where the majority of duck producers are located.
 - iii. Flock lifespan of meat birds
 1. Muscovy vs. Pekin
 - a. Muscovy ducks take no longer than 10 (hens) to 12 (drakes) weeks to reach market weight.
 - b. Pekin ducks can reach market weight in 5.5 to 6 weeks.
 - iv. Breeding and reproduction
 1. Male and female “lines”
 - a. Male lines are bred for structural correctness, breeding productivity, efficient feed conversion ratios, and desirable carcass characteristics.
 - b. Female lines are bred to lay an optimal amount of eggs.

- c. Crossing these two lines produces a superior terminal product (hybrid vigor).
 - 2. Incubation period
 - a. Muscovy – 35 days
 - b. All other breeds – 28 days
- v. Growout
 - 1. Brood / Growout (very similar to chicken / turkey production)
 - a. Heat source
 - i. For the first week, ducklings need an extra heat source. The first week the temperature should be about 90 degrees Fahrenheit. Duck growers use brood stoves similar to the commercial poultry industry.
 - b. Litter
 - i. Mold resistant materials must be used for the floor cover – i.e., rice hulls, peat moss, straw, or shavings.
 - 2. Feeding
 - a. All feed mixes are designed by an animal nutritionist with the health and welfare of the birds in mind.
 - b. Starter – high percentage of protein (about 22%).
 - c. Grower – about 18% protein.
 - d. Finisher – about 16% protein.
- c. Squab Growers
 - i. Uniqueness of Squab
 - 1. Pigeon breeders are **monogamous** and mate for life.
 - 2. Squabs are processed at about one month of age, before the bird can fly.
 - 3. Squab meat is dark, moist, and flavorful.
 - ii. Reproduction and production
 - 1. Pigeon Pair – mated male and a female pigeon. Since pigeons mate for life they are referred to as a pair.
 - 2. Nest – each pair has their own nest. This is where the eggs are laid and the squabs are raised.
 - 3. Controlled mating – when a pair of birds are manually placed in a nest together. Common practice for widowed pigeons.
 - 4. Natural mating – is when the grower places the young birds in a pen and lets the pigeons choose their own mate. This is the most common industry practice.
 - 5. **Clutch** – a set of 2 eggs laid during the mating period.
 - 6. Pigeon breeders are often given an identification band on their leg to help the producer keep production records.
 - 7. Once the squab reach about three weeks of age, the hen will lay another clutch of eggs. The female will be responsible for incubating the new eggs and the male will take charge in feeding the squab.
 - 8. Pigeon's egg production peaks at about 3 years of age.
 - 9. A pair can produce about twenty-two squab per year at their production peak. However, they average about 14 squab per year over their average 5 year economically viable breeding lifespan.

10. The grower collects the squab for processing at about 26-28 days of age.
- iii. Processing and marketing
 1. In California, the vast majority of squab is processed by Squab Producers of California.
 - a. Squab Producers of California was founded in 1943 in San Francisco. Today the headquarters and processing plant are located in Modesto.
 - b. The plant has recently upgraded the chilling system to a state of the art air chilling system.
 - i. The most common process to chill carcasses is through an ice water bath; however, some consumers are willing to pay more for an air chilled product because they prefer the way it tastes, its color, and skin crispness.
 - c. Most squab is sold to metropolitan areas such as San Francisco, Los Angeles, and New York City. It is marketed to high end restaurants, grocery stores, and other Asian (principally Chinese) markets.

Review/Summary. Focus the review of the lesson around the student learning objectives. Ask students to explain the content associated with each objective. Use their responses as the basis for determining any areas that need to be covered again.

Evaluation. Evaluation should focus on student achievement of the objectives for the lesson. Various techniques can be used, such as a written test.

Answers to Sample Test:

Part One: Matching

- | | |
|---|-------------------------|
| G | 1. Cooperative |
| E | 2. Vertical Integration |
| I | 3. Further Processed |
| J | 4. Squab |
| A | 5. Monogamous |
| B | 6. Clutch |
| H | 7. Brown Leghorn Pullet |
| C | 8. Muscovy |
| D | 9. Pekin |
| F | 10. Drake |

Part Two: T / F

- | | | |
|-------|-------|-------|
| 1. T | 12. T | |
| 2. T | 13. F | |
| 3. F | 14. F | |
| 4. T | 15. T | |
| 5. F | 16. T | |
| 6. T | 17. F | |
| 7. T | 18. T | |
| 8. T | 19. T | |
| 9. F | 20. T | |
| 10. T | 21. F | |
| 11. F | 22. T | 23. T |