5 Perdue Farms Inc.: Responding to Twenty-First-Century Challenges

This case was prepared by George C. Rubenson and Frank M. Shipper, Salisbury University.

I have a theory that you can tell the difference between those who have inherited a fortune and those who have made a fortune. Those who have made their own fortune forget not where they came from and are less likely to lose touch with the common man.

—Bill Sterling

Background and Company History

The history of Perdue Farms Inc. is dominated by seven themes: quality, growth, geographic expansion, vertical integration, innovation, branding, and service. Arthur W. Perdue, a Railway Express agent and descendant of a French Huguenot family named Perdeaux, founded the company in 1920 when he left his job with Railway Express and entered the egg business full-time near the small town of Salisbury, Maryland. Salisbury is located in a region immortalized in James Michener's *Chesapeake* and alternately known as the Eastern Shore or the DelMarVa peninsula. It includes parts of Delaware, Maryland, and Virginia. Arthur Perdue's only child, Franklin Parsons Perdue, was born in 1920, the year the company was founded.

Perdue Farms's mission statement (Exhibit 1) emphasizes quality. In the 1920s, Mr. Arthur, as he was called, bought leghorn breeding stock from Texas to improve the quality of his flock. He soon expanded his egg market and began shipments to New York. By practicing small economies such as mixing his own chicken feed and using leather from his old shoes to make hinges for his chicken coops, he stayed out of debt and prospered. He tried to add a new chicken coop every year.

By 1940, Perdue Farms was already known for quality products and fair dealing in a tough, highly competitive market. The company began offering chickens for sale when Mr. Arthur

The authors are indebted to Frank Perdue, Jim Perdue, and the numerous associates at Perdue Farms Inc., who generously shared their time and information about the company. In addition, the authors would like to thank the anonymous librarians at Blackwell Library, Salisbury State University, who routinely review area newspapers and file articles about the poultry industry—the most important industry on the DelMarVa peninsula. Without their assistance, this case study would not have been possible. This case is intended to be used as a basis for class discussion rather than as an illustration of either effective or ineffective handling of the situation. Reprinted by permission of George C. Rubenson and Frank M. Shipper.

EXHIBIT 1

Perdue Farms's Mission for the Year 2000

Stand on Tradition

Perdue was built upon a foundation of quality, a tradition described in our Quality Policy . . .

Our Quality Policy

"We shall produce products and provide services at all times that meet or exceed the expectations of our customers."

"We shall not be content to be of equal quality to our competitors."

"Our commitment is to be increasingly superior."

"Contribution to quality is a responsibility shared by everyone in the Perdue organization."

Focus on Today

Our mission reminds us of the purpose we serve . . .

Our Mission

"Enhance the quality of life with great food and agricultural products."

While striving to fulfill our mission, we use our values to guide our decisions . . .

Our Values

- **Quality:** We value the needs of our customers. Our high standards require us to work safely, make safe food, and uphold the Perdue name.
- **Integrity:** We do the right thing and live up to our commitments. We do not cut corners or make false promises.
- **Trust:** We trust each other and treat each other with mutual respect. Each individual's skill and talent are appreciated.
- **Teamwork:** We value a strong work ethic and the ability to make each other successful. We care what others think and encourage their involvement, creating a sense of pride, loyalty, ownership, and family.

Look to the Future

Our vision describes what we will become and the qualities that will enable us to succeed . . .

Our Vision

"To be the leading quality food company with $20 billion in sales in 2020."

Perdue in the Year 2020

- **To our customers:** We will provide food solutions and indispensable services to meet anticipated customer needs.
- **To our consumers:** A portfolio of trusted food and agricultural products will be supported by multiple brands throughout the world.
- **To our associates:** Worldwide, our people and our workplace will reflect our quality reputation, placing Perdue among the best places to work.
- **To our communities:** We will be known in the community as a strong corporate citizen, trusted business partner, and favorite employer.
- **To our shareholders:** Driven by innovation, our market leadership and our creative spirit will yield industry-leading profits.

realized that the future lay in selling chickens, not eggs. In 1944, Mr. Arthur made his son, Frank, a full partner, calling the company A. W. Perdue and Son, Inc.

In 1950, Frank took over leadership of the company, which employed forty people. By 1952, revenues were $6 million from the sale of 2.6 million broilers. During this period, the company began to vertically integrate, operating its own hatchery, starting to create its own feed formulations, and operating its own feed mill. Perdue Farms also began to contract with others to grow chickens for them. By furnishing the growers with peeps (baby chickens) and feed, the company was able to maintain control of quality.

In the 1960s, Perdue Farms continued to vertically integrate by building its first grain-receiving and -storage facilities and Maryland's first soybean-processing plant. By 1967, annual sales had increased to about $35 million. By then, it became clear to Frank that profits lay in processing chickens. In an interview for *Business Week* (September 15, 1972), Frank recalled that "processors were paying us 10 cents a live pound for what cost us 14 cents to produce. Suddenly, processors were making as much as 7 cents a pound."

A cautious, conservative planner, Arthur Perdue had not been eager for expansion, and Frank was reluctant to enter poultry processing. But economics forced his hand, and, in 1968, the company bought its first processing plant, a Swift and Company operation in Salisbury.

From the first batch of chickens that it processed, Perdue's standards were higher than those of the federal government. The state grader on the first batch has often told the story of how he was worried that he had rejected too many chickens as not Grade A. As he finished his inspections for that first day, he saw Frank Perdue headed his way and he could tell that Frank was not happy. Frank started inspecting the birds and never argued over one that was rejected. Next, he saw Frank start to go through the ones that the state grader had passed and began to toss some of them over with the rejected birds. Finally, realizing that few met his standards, Frank put all of the birds in the reject pile. Soon, however, the facility was able to process 14,000 broilers per hour.

From the beginning, Frank Perdue refused to permit his broilers to be frozen for shipping, arguing that it resulted in unappetizing black bones and loss of flavor and moistness when cooked. Instead, Perdue chickens were—and some still are—shipped to the market packed in ice, justifying the company's advertisements at that time that it sold only "fresh, young broilers." However, this policy also limited the company's market to locations that could be serviced overnight from the Eastern Shore of Maryland. Thus, Perdue chose for its primary markets the densely populated towns and cities of the East Coast, particularly New York City, which consumes more Perdue chicken than all other brands combined.

Frank Perdue's drive for quality became legendary both inside and outside the poultry industry. In 1985, Frank and Perdue Farms Inc. were featured in the book *A Passion for Excellence,* written by Tom Peters and Nancy Austin.

In 1970, Perdue established its primary breeding and genetic-research programs. Through selective breeding, Perdue developed a chicken with more white breast meat than the typical chicken. Selective breeding has been so successful that Perdue's chickens are desired by other processors. Rumors have even suggested that Perdue chickens have been stolen on occasion in an attempt to improve competitor flocks.

In 1971, Perdue Farms began an extensive marketing campaign featuring Frank Perdue. In his early advertisements, he became famous for saying things like "If you want to eat as good as my chickens, you'll just have to eat my chickens." He is often credited with being the first to brand what had been a commodity product. During the 1970s, Perdue Farms expanded to areas north of New York City, such as Massachusetts, Rhode Island, and Connecticut.

In 1977, Mr. Arthur died at the age of ninety-one, leaving behind a company with annual sales of nearly $200 million, an average annual growth rate of 17% (compared to an industry average of 1%), the potential for processing 78,000 broilers per hour, and annual production of nearly 350 million pounds of poultry. Frank Perdue has said of his father, "I learned everything from him."

In 1981, Frank Perdue went to Boston for his induction into the Babson College Academy of Distinguished Entrepreneurs, an award established in 1978 to recognize the spirit of free enterprise and business leadership. Babson College president Ralph Z. Sorenson inducted Perdue into the academy, which then numbered eighteen men and women from four continents. Perdue had the following to say to the college students:

> There are none, nor will there ever be, easy steps for the entrepreneur. Nothing, absolutely nothing, replaces the willingness to work earnestly, intelligently towards a goal. You have to be willing to pay the price. You have to have an insatiable appetite for detail, have to be willing to accept constructive criticism, to ask questions, to be fiscally responsible, to surround yourself with good people and, most of all, to listen.

The early 1980s saw Perdue Farms expand southward into Virginia, North Carolina, and Georgia. It also began to buy out other producers, such as Carroll's Foods, Purvis Farms, Shenandoah Valley Poultry Company, and Shenandoah Farms. The last two acquisitions diversified the company's markets to include turkey. New products included value-added items, such as "Perdue Done It!" a line of fully cooked chicken products.

James A. (Jim) Perdue, Frank's only son, joined the company as a management trainee in 1983 and became a plant manager. The latter half of the 1980s tested the mettle of the firm. Following a period of considerable expansion and product diversification, Perdue was told by a consulting firm to form several strategic business units that would be responsible for their own operations. In other words, the firm should decentralize. Soon after, the chicken market leveled off and then declined. In 1988, the firm experienced its first year in the red. Unfortunately, the decentralization had created duplication and enormous administrative costs. The firm's rapid plunge into the processing of turkey and other food it had little experience with contributed to the losses. As in the past, the company refocused, concentrating on efficiency of operations, improving communications throughout the company, and paying close attention to detail.

On June 2, 1989, Frank celebrated fifty years with Perdue Farms Inc. At a morning reception in downtown Salisbury, the governor of Maryland proclaimed it "Frank Perdue Day." The governors of Delaware and Virginia did the same. In 1991, Frank was named chairman of the executive committee and Jim Perdue became chairman of the board. Quieter, gentler, and more formally educated than his father, Jim Perdue focused on operations, renewing the company's commitment to quality control and strategic planning. Frank Perdue continued to do advertising and public relations. As Jim Perdue matured as the company leader, he took over the role of company spokesperson and began to appear in advertisements.

Under Jim Perdue's leadership, Perdue Farms expanded into Florida and west to Michigan and Missouri during the 1990s. In 1992, the international business segment was formalized as Perdue Farms and began serving customers in Puerto Rico, South America, Europe, Japan, and China. By 1998, international sales were $180 million per year. International markets are beneficial for the firm because U.S. customers prefer white meat, while customers in most other countries prefer dark meat.

Food-service sales to commercial consumers have also become a major market. New retail-product lines focus on value-added items, individually quick-frozen items, home-meal replacement items, and products for the delicatessen. The Fit 'n Easy label continues as part of a nutrition campaign using skinless, boneless chicken and turkey products.

The 1990s also saw the increased use of technology and the building of distribution centers. For example, all over-the-road trucks were equipped with satellite two-way communications and geographic positioning, allowing for real-time tracking, rerouting if needed, and accurate information for customers as to when products would arrive.

Nearly 20,000 employees have helped Perdue Farms increase revenues to more than $2.5 billion.

Management and Organization

From 1950 until 1991, Frank Perdue was the primary force behind Perdue Farms's growth and success. During Frank's years as the company leader, the poultry industry entered its high-growth period. Industry executives had typically developed professionally during the industry's infancy. Many had little formal education and started their careers in the barnyard, building chicken coops and cleaning them out. They often spent their entire careers with one company, progressing from supervisor of grow-out facilities to manager of processing plants to corporate executive. Perdue Farms was not unusual in that respect. An entrepreneur through and through, Frank lived up to his marketing image: "It takes a tough man to make a tender chicken." He mostly used a centralized management style that kept decision-making authority in his hands and those of a few trusted, senior executives, whom he had known for a lifetime. Workers were expected to do their jobs.

EXHIBIT 2

Perdue Farms Senior-Management Organizational Chart

In later years, Frank increasingly emphasized the involvement of employees—or "associates," as they are referred to—in quality issues and operational decisions. This emphasis on employee participation undoubtedly eased the transfer of power in 1991 from Frank to his son, Jim. Although Jim grew up in the family business, he spent almost fifteen years earning an undergraduate degree in biology from Wake Forest University, a master's degree in marine biology from the University of Massachusetts at Dartmouth, and a doctorate in fisheries from the University of Washington in Seattle. Returning to Perdue Farms in 1983, he earned an MBA from Salisbury State University and was assigned the positions of plant manager, divisional quality-control manager, and vice president of quality improvement process prior to becoming chairman.

Company goals center on the three ps: people, products, and profitability. With a people-first management style, Jim believes that success rests on satisfying customer needs with quality products and putting associates first because "if they come first, they will strive to assure superior product quality—and satisfied customers." This view has had a profound impact on the company culture, which is based on Tom Peters's view that "nobody knows a person's twenty square feet better than the person who works there." In other words, management tries to gather ideas and information from everyone and to maximize productivity by transmitting these ideas throughout the organization.

Key to carrying out this policy is work force stability, a difficult goal in an industry that employs a growing number of associates working in physically demanding and sometimes stressful conditions. A significant number of associates are Hispanic immigrants who may have a poor command of the English language, are sometimes undereducated, and often lack basic health care. In order to increase these associates' opportunities for advancement, Perdue Farms focuses on helping them overcome their disadvantages.

For example, the firm provides English-language classes to help non–English-speaking employees assimilate and earn the equivalent of a high school diploma. To deal with physical stress, the company has an ergonomics committee in each plant that studies job requirements and seeks ways to redesign those jobs that put workers at the greatest risk. The company also has an impressive wellness program, which operates clinics at ten plants. The clinics are staffed by medical professionals working for medical-practice groups under contract to Perdue Farms. Employees can visit a doctor for anything from muscle strain to prenatal care to screening tests for a variety of diseases, and they have access to all Perdue-operated clinics. Care for dependents is also available. Benefits to the employees are obvious; the company also benefits through a reduction in time lost for medical office visits, lower turnover, and a happier, more productive, and more stable work force.

Marketing

In the early days, chicken was sold to butcher shops and neighborhood groceries as a commodity; that is, producers sold it in bulk, and butchers cut and wrapped it. The customer had no idea what firm grew or processed the chicken. Frank Perdue was convinced that higher profits could be made if the firm's products could be sold at a premium price. But the only reason a product can command a premium price is if customers ask for it by name—and that means the product must be differentiated and "branded." Hence, Perdue Farms emphasized superior quality, broader-breasted chickens, and a healthy golden color (the result of adding marigold petals in the feed to enhance the natural color of corn).

In 1968, Frank Perdue spent $50,000 on radio advertising. In 1969, he added $80,000 in TV advertising to his radio budget—against the advice of his advertising agency. Although his early TV ads increased sales, he decided the agency he was dealing with didn't match one of the basic Perdue tenets: "The people you deal with should be as good at what they do as you are at what you do." That decision set off a storm of activity on Frank's part. In order to select an ad agency that met his standards, Frank learned more about advertising than any poultry man before him and, in the process, catapulted Perdue Farms into the ranks of the top poultry producers in the country.

He began a ten-week immersion in the theory and practice of advertising. He read books and papers on advertising. He talked to sales managers of every newspaper, radio, and television station in the New York area, consulted experts, and interviewed forty-eight ad agencies. During April 1971, he selected Scali, McCabe, Sloves as his new advertising agency. As the agency tried to figure out how to successfully "brand" a chicken—something that had

never been done—they realized that Frank Perdue was their greatest asset. "He looked a little like a chicken himself, and he sounded a little like one, and he squawked a lot!"

McCabe decided that Perdue should be the firm's spokesman. Frank initially resisted, but in the end, he accepted the role, and the campaign based on the slogan "It takes a tough man to make a tender chicken" was born. The firm's first TV commercial showed Frank on a picnic in the Salisbury City Park saying:

> A chicken is what it eats . . . And my chickens eat better than people do . . . I store my own grain and mix my own feed . . . And give my Perdue chickens nothing but pure well water to drink . . . That's why my chickens always have that healthy golden yellow color . . . If you want to eat as good as my chickens, you'll just have to eat my chickens.

Later ads touted high quality and the broader-breasted chicken:

> Government standards would allow me to call this a grade A chicken . . . but my standards wouldn't. This chicken is skinny . . . It has scrapes and hairs . . . The fact is, my graders reject 30% of the chickens government inspectors accept as grade A . . . That's why it pays to insist on a chicken with my name on it . . . If you're not completely satisfied, write me and I'll give you your money back . . . Who do you write in Washington? . . . What do they know about chickens?

> The Perdue roaster is the master race of chickens.

> Never go into a store and just ask for a pound of chicken breasts . . . Because you could be cheating yourself out of some meat . . . Here's an ordinary one-pound chicken breast, and here's a one-pound breast of mine . . . They weigh the same. But as you can see, mine has more meat, and theirs has more bone. I breed the broadest-breasted, meatiest chicken you can buy . . . So don't buy a chicken breast by the pound . . . Buy them by the name . . . and get an extra bite in every breast.

The ads paid off. In 1968, Perdue had about 3% of the New York market. By 1972, one out of every six chickens eaten in New York was a Perdue chicken, and 51% of New Yorkers recognized the label. Scali, McCabe, Sloves credited Perdue's "believability" for the success of the campaign. "This was advertising in which Perdue had a personality that lent credibility to the product. If Frank Perdue didn't look and sound like a chicken, he wouldn't be in the commercials."

Frank had his own view. As he told a Rotary audience in Charlotte, North Carolina, in March 1989, "The product met the promise of the advertising and was far superior to the competition. Two great sayings tell it all: 'nothing will destroy a poor product as quickly as good advertising,' and 'a gifted product is mightier than a gifted pen!'"

Today, branded chicken is ubiquitous. The new task for Perdue Farms is to create a single theme for a wide variety of products (e.g., from fresh meat to fully prepared and frozen products) to a wide variety of customers (e.g., retail, food-service, and international markets). Industry experts believe that the market for fresh poultry has peaked and that sales of value-added and frozen products continue to grow at a healthy rate. Although domestic retail sales account for about 60% of Perdue Farms's revenues in 2000, food-service sales now account for 20%, international sales account for 5%, and grain and oilseed contribute the remaining 15%. The company expects food-service, international, and grain-and-oilseed sales to continue to grow as a percentage of total revenues.

Domestic Retail

Today's retail grocery customer is increasingly looking for ease and speed of preparation. To meet this need, Perdue Farms is concentrating on value-added products. The move toward value-added products has significantly changed the meat department in the modern grocery. There are now five distinct meat outlets for poultry:

1. The fresh meat counter—traditional, fresh meat; includes whole chicken and parts.
2. The delicatessen—processed turkey, rotisserie chicken.
3. The frozen counter—individually quick-frozen items such as frozen whole chickens, turkeys, and Cornish hens.
4. Home-meal replacement—fully prepared entrees, such as Perdue's Short Cuts and Deluca brand entrees, which are sold along with salads and desserts so that customers can assemble their own dinners. (The Deluca brand was acquired by Perdue Farms but is sold under its own name.)
5. Shelf stable—canned products.

Because Perdue Farms has always used the phrase "fresh young chicken" as the centerpiece of its marketing, value-added products and the retail frozen counter create a possible conflict for the company. Are these products compatible with the company's marketing image? If so, how does the company present the notion of quality in this broader product environment? To answer that question, Perdue Farms has been studying what "fresh young chicken" means to customers who consistently demand quicker and easier preparation and who admit that they freeze most of their fresh-meat purchases once they get home. One response is that "fresh young chicken" means that "quality" and "freshness" are closely associated. Thus, the real issue may be trust: the customer must believe that the product, whether fresh or frozen, is of the freshest, highest quality possible. Future marketing efforts must develop that concept.

Food Service

The food-service business consists of a wide variety of public and private customers, including restaurant chains, governments, hospitals, schools, prisons, transportation facilities, and the institutional contractors who supply meals to them. Historically, these customers have not been brand conscious, instead requiring the supplier to meet strict specifications at the lowest price, thus making this category a less than ideal fit for Perdue Farms. However, as Americans continue to eat a larger percentage of their meals away from home, traditional grocery sales have flattened and the food-service sector has shown strong growth. Across the domestic poultry industry, food service accounts for about 50% of total poultry sales; for Perdue Farms, about 20% of its revenues come from this category. Clearly, Perdue Farms is playing catch-up in this critical market.

Because Perdue Farms has neither strength nor expertise in the food-service market, management believes that acquiring companies with food-service expertise is the best strategy. One such acquisition is the purchase in September 1998 of Gol-Pak Corporation, based in Monterey, Tennessee. A further processor of products for the food-service industry, Gol-Pak had about 1,600 employees and revenues of about $200 million per year.

International

International markets have generally been a happy surprise. In the early 1990s, Perdue Farms began exporting specialty products such as chicken feet (known as paws) to customers in China. Although not approved for human consumption in the United States, paws are considered a delicacy in China. By 1992, international sales, which consisted principally of paws, had become a small but profitable business of about 30 million pounds per year. Building on this "toehold" over the next six years, Perdue Farms quickly had an international business of more than 500 million pounds per year (see Exhibit 3); annual revenues were more than $140 million from selling a wide variety of products to China, Japan, Russia, and the Ukraine.

In some ways, Japan is an excellent fit for Perdue Farms's products because customers there demand high quality. Furthermore, all Asian markets prefer dark meat, which means that what in America is excess meat can be sold in Asia at a premium price. On the downside, Perdue Farms gains much of its competitive advantage from branding (e.g., trademarks, processes, and technological and biological know-how), but this has little value internationally because most of Asia has not yet embraced the concept of branded chicken.

To better serve export markets, Perdue Farms has developed a portside freezing facility in Newport News, Virginia. This permits poultry to be shipped directly to the port, reducing processing costs and helping to balance ocean shipping costs to Asia, which are in the range of .66 cent per pound (contracting an entire ship is equal to contracting 300 to 500 truckloads).

EXHIBIT 3

Perdue Farms's International Sales, 1992–1998

Shipping poultry to Asia is not without problems. For example, in China delivery trucks are seldom refrigerated. Thus, the poultry can begin to thaw as it is being delivered, limiting the distance it can be transported prior to sale. One shipload of Perdue Farms chicken bound for Russia actually vanished and was later discovered to have been impounded using forged documents; eventually, most of its dollar value was recovered.

Initial demand for Perdue Farms's products in Russia, Poland, and eastern Europe was huge. By 1998, a significant portion of the international volume was going to Russia. Unfortunately, the crumbling of Russia's economy has had a devastating effect on imports, and sales have dropped significantly. Such instability of demand, coupled with rampant corruption, makes risking significant capital in Russia unacceptable.

Import duties and taxes for poultry are also a barrier. According to the U.S. Department of Agriculture (USDA), import duty rates in China are a whopping 45% for favored countries and 70% for unfavored countries; in addition, there is a 17% value-added tax for all countries. Import duties and taxes in Russia have been similarly high. Hence, profits can be expected to be slim.

Perdue Farms has created a joint partnership with the Jiang Nan Feng brand in order to develop a small processing plant in Shanghai. Brand recognition is being built with usual marketing tools. The products use the first "tray pack" wrapping available in Shanghai supermarkets. This new business shows promise because the sale in China of homegrown, fresh dark meat is a significant competitive advantage. Furthermore, government regulations do not permit exportation of foreign-grown poultry to the United States, but the possibility of importing white meat from Shanghai is attractive. Perdue Farms's management believes that investing in processing facilities in Asia requires the company to partner with a local firm. Attempting to do so by itself is simply too risky due to the significiant cultural differences.

Operations

Two words sum up the Perdue approach to operations: quality and efficiency, with emphasis on the first. Perdue more than most companies embodies the total quality management slogan, "Quality: a journey without end." Some of the key events in this journey are listed in Exhibit 4.

EXHIBIT 4

Milestones in the Quality-Improvement Process at Perdue Farms

1924 – Arthur Perdue buys leghorn roosters for $25
1950 – Company adopts logo of a chick under a magnifying glass
1984 – Frank Perdue attends Philip Crosby's Quality College
1985 – Perdue recognized for its pursuit of quality in *A Passion for Excellence*
– Two-hundred Perdue managers attend Quality College
– Quality Improvement Process adopted
1986 – Corrective Action Teams established
1987 – Quality training for all associates established
– Error Cause Removal Process implemented
1988 – Steering committee formed
1989 – First annual quality conference held
– Team management implemented
1990 – Second annual quality conference held
– Values and corporate mission codified
1991 – Third annual quality conference held
– Customer satisfaction defined
1992 – Fourth annual quality conference held
– How to implement customer satisfaction explained to team leaders and quality improvement teams
– Quality index created
– Customer satisfaction index created
– "Farm to Fork" quality program created
1999 – Raw material quality index launched
2000 – High performance team process initiated

Both quality and efficiency are improved through the management of details. Exhibit 5 is a diagram of the structure and product flow of a generic, vertically integrated broiler company. This company can choose which steps in the process it wants to take and which it wants suppliers to take. For example, the company could purchase all grain, oilseed, meal, and other feed; or it could contract with hatcheries to supply primary breeders and hatchery-supply flocks.

Perdue Farms chose maximum vertical integration in order to control every detail. It breeds its own chickens and hatches its own eggs (nineteen hatcheries),

EXHIBIT 5

Perdue Farms's Integrated Operations

selects its own contract growers, builds Perdue-engineered chicken houses, formulates and manufactures its own feed (twelve poultry feedmills, one specialty feedmill, and two ingredient-blending operations), oversees the care and feeding of chicks, operates its own processing plants (twenty-one processing and further-processing plants), distributes with its own trucking fleet, and does its own marketing. Total control of this process formed the basis for Frank Perdue's early claims that his poultry was of higher quality than other poultry: "A chicken is what it eats . . . I store my own grain and mix my own feed . . . and give my Perdue chickens nothing but well water to drink.

Total process control also enables Perdue Farms to ensure that nothing goes to waste. Eight measurable items—hatchability, turnover, feed conversion, livability, yield, birds per man-hour, utilization, and grade—are routinely tracked.

Perdue Farms continues to ensure that nothing artificial is fed to or injected into the birds. No shortcuts are taken. A chemical-free and steroid-free diet is fed to the chickens. Young chickens are vaccinated against disease. Selective breeding is used to improve the quality of the stock: chickens are bred to yield more white breast meat because that is what the American consumer wants.

To ensure that its poultry continues to lead the industry in quality, Perdue Farms buys and analyzes competitors' products regularly. Inspection associates grade these products and share the information with the highest levels of management. In addition, the company's quality policy is displayed at all locations and taught to all associates (see Exhibit 6).

EXHIBIT 6

Quality Policy

- WE SHALL produce products and provide services at all times that meet or exceed the expectations of our customers.
- WE SHALL not be content to be of equal quality to our competitors.
- OUR COMMITMENT is to be increasingly superior.
- CONTRIBUTION TO QUALITY is a responsibility shared by everyone in the Perdue organization.

Research and Development

Perdue is an acknowledged industry leader in the use of research and technology to provide quality products and service to its customers. The company spends more on research (as a percentage of revenues) than any other poultry processor. This practice goes back to Frank Perdue's focus on finding ways to differentiate his products by quality and value. It was research into selective breeding that resulted in the broader breast, an attribute of Perdue Farms chicken that was featured in the company's early advertising. A list of some of Perdue Farms's technological accomplishments is found in Exhibit 7.

Although other processors have improved their stock, Perdue Farms believes that it leads the industry. Attempting to leave nothing to chance, the company employs specialists in avian science, microbiology, genetics, nutrition, and veterinary science. Because of its research and development capabilities, Perdue Farms is often involved in USDA field tests with pharmaceutical suppliers; knowledge and experience gained from these tests sometimes leads to a

EXHIBIT 7

Perdue Farms's Technological Accomplishments

- Conducts more research than all competitors combined
- Breeds chickens that consistently have more breast meat than any other bird produced in the industry
- First to use digital scales to guarantee weights
- First to package fully cooked chicken products in microwaveable trays
- First to have a box lab to define quality of boxes from different suppliers
- First to measure its chickens and competitors' chickens on fifty-two quality factors every week
- Improved 20% on time deliveries between 1987 and 1993
- Built state-of-the-art analytical and microbiological laboratories for feed and end-product analysis
- First to develop food-safety management practices for all areas of the company
- First to develop commercially viable litter pellets for poultry

competitive advantage. For example, Perdue has the most extensive and expensive vaccination program in the industry. The company is also working with, and studying the practices of, several European producers who use completely different methods.

The company has used research to significantly increase productivity. For example, in the 1950s, it took fourteen weeks to grow a 3-pound chicken; today, it takes only seven weeks to grow a 5-pound chicken. This gain in efficiency is due principally to improvements in the feed-to-chicken conversion rate. The current rate of conversion is about 2 pounds of feed to produce 1 pound of chicken, and feed represents about 65% of the cost of growing a chicken. Thus, if additional research can further improve the feed-to-chicken conversion rate by just 1%, the company would see additional income of $2.5 million to $3 million per week, or $130 million to $156 million per year.

Finance

Perdue Farms is privately held and considers financial information to be proprietary. Hence, available financial data are limited. Stock is primarily held by the family; a limited amount is held by management. Numbers commonly used by the media and the poultry industry peg Perdue Farms's revenues for 2000 at about $2.5 billion and the number of associates at nearly 20,000. *Forbes* magazine has estimated 2000 operating profits at about $160 million and net profits at about $22 million.

The firm's compound sales growth rate has been slowly decreasing during the past twenty years, mirroring the industry, which has been experiencing market saturation and overproduction. However, Perdue has compensated by using manpower more efficiently through such improvements as automation. For example, twenty years ago a 1% increase in associates resulted in a 1.6% increase in revenue; currently, a 1% increase in associates results in an 8.5% increase in revenues (see Exhibit 8).

Poultry operations can be divided into four segments: retail chicken (growth rate of 5%), food-service chicken and turkey (growth rate of 12%), international sales (growth rate of 64% over past six years), and grain and oilseed (growth rate of 10%). The bulk of sales continues to come from retail chicken, the sector with the slowest growth rate. The greatest opportunities appear to lie in food-service sales, where the company is admittedly behind, and international sales, where political and economic instability in target countries makes the risk to capital significant.

EXHIBIT 8

Annual Compound Growth Rate for Perdue Farms, 1980–2000

	Revenue	Associates	Sales/ Associate
Past 20 years	10.60%	6.48%	3.87%
Past 15 years	8.45%	4.48%	4.48%
Past 10 years	7.39%	4.75%	2.52%
Past 5 years	8.39%	0.99%	7.33%

Perdue Farms has been profitable every year since its founding, with the exception of 1988 and 1996. Company officials believe the loss in 1988 was caused by overproduction by the industry and higher administrative costs resulting from a decentralization effort begun during the mid eighties. At that time, there was a concerted effort to push decisions down through the corporate ranks to provide more autonomy. When the new strategy resulted in significantly higher administrative costs due to duplication of effort, the company responded quickly by returning to the basics, reconsolidating, and downsizing. The loss in 1996 was due to the impact of high corn prices. Currently, the goal is to constantly streamline in order to be cost effective.

Perdue Farms approaches financial management conservatively, using retained earnings and cash flow to finance most asset-replacement projects and normal growth. When planning expansion projects or acquisitions, long-term debt is used. The target debt limit is 55% of equity. Such debt is normally provided by domestic and international bank and insurance companies. The debt strategy is to match asset lives with liability maturities and have a mix of fixed-rate and variable-rate debt. Growth plans require about two dollars in projected incremental sales growth for each dollar invested.

Environment

Environmental issues present a constant challenge to all poultry processors. Growing, slaughtering, and processing poultry is a difficult and tedious process

that demands absolute efficiency in order to keep operating costs at an acceptable level. Inevitably, detractors argue that the process is dangerous to workers, inhumane to the poultry, and hard on the environment and that it results in food that may not be safe. Thus, media headlines such as "Human Cost of Poultry Business Bared," "Animal Rights Advocates Protest Chicken Coop Conditions," "Processing Plants Leave a Toxic Trail," and "EPA Mandates Poultry Regulations" are routine.

Perdue Farms tries to be pro-active in managing environmental issues. In April 1993, the company created an environmental steering committee. Its mission is "to provide all Perdue Farms work sites with vision, direction, and leadership so that they can be good corporate citizens from an environmental perspective today and in the future." The committee is responsible for overseeing how the company is doing in such environmentally sensitive areas as waste water, storm water, hazardous waste, solid waste, recycling, bio-solids, and employee health and safety.

For example, disposing of dead birds has long been an industry problem. Perdue Farms developed small composters for use on each farm. Using this approach, carcasses resemble soil in a matter of a few days. The disposal of hatchery waste is another environmental challenge. Historically, manure and unhatched eggs were shipped to a landfill. However, Perdue Farms developed a way to reduce the waste by 50% by selling the liquid fraction to a pet-food processor that cooks it for protein. The other 50% is recycled through a rendering process. In 1990, Perdue Farms spent $4.2 million to upgrade its treatment facility with a state-of-the-art system at its Accomac, Virginia, and Showell, Maryland, plants. These facilities use forced air heated to 120 degrees, which causes the microbes to digest all traces of ammonia, even during the winter months.

More than ten years ago, North Carolina's Occupational Safety and Health Administration cited Perdue Farms for an unacceptable level of repetitive stress injuries at its Lewiston and Robersonville, North Carolina, processing plants. This sparked a major research program in which Perdue Farms worked with Health and Hygiene Inc., of Greensboro, North Carolina, to learn more about ergonomics: the repetitive movements required to accomplish specific jobs. Results have been dramatic. Launched in 1991 after two years of development, the program videotapes employees at all of Perdue Farms's plants in order to assign stress values to their tasks. Although the cost to Perdue Farms has been significant, results have been dramatic: workers' compensation claims went down 44%; lost-time recordables were just 7.7% of the industry average; serious repetitive-stress cases decreased by 80%, and there was a 50% reduction in lost time or surgery due to back injuries (Shelley Reese, "Helping Employees Get a Grip," *Business and Health,* August 1998).

Despite these advances, serious problems continue to develop. In 1997, the organism pfiesteria burst into media headlines when massive numbers of dead fish with lesions turned up along the Chesapeake Bay in Maryland. Initial findings pointed to manure runoff from the poultry industry as the cause. Political constituencies quickly called for increased regulation to insure proper manure storage and fertilizer use. Perdue Farms readily admits that "the poultry process is a closed system. There is lots of nitrogen and phosphorus in the grain, and it passes through the chicken and is returned to the environment as manure. Obviously, if you bring additional grain into a closed area such as the DelMarVa peninsula, you increase the amount of nitrogen and phosphorus in the soil unless you find a way to get rid of it." Nitrogen and phosphorus from manure normally make excellent fertilizer, which moves slowly in the soil. However, scientists speculate that erosion speeds up runoff, threatening the health of nearby streams, rivers, and larger bodies of water, such as the Chesapeake Bay. The problem for the industry is that proposals to control the runoff are sometimes driven more by politics and emotion than research, which is not yet complete.

Although it is not clear what role poultry-related nitrogen and phosphorus runoff played in the pfiesteria outbreak, regulators believe the microorganism feeds on the algae that grows when too much of these nutrients is present in the water. Thus, the EPA and various states are considering new regulations. Currently, contract growers are responsible for either using or disposing of the manure from their chicken houses. But some regulators and environmentalists believe that (1) it is too complicated to police the utilization-and-disposal practices of thousands of individual farmers, and (2) only the big poultry companies have the financial resources to properly dispose of the waste. Thus, they want to make poultry companies responsible for all waste disposal—a move that the industry strongly opposes.

Some experts have called for conservation measures that limit the density of chicken houses in a given

area or require a percentage of chicken houses to be taken out of production periodically. Obviously this would be very hard on the farm families who own chicken houses, and the measure could result in fewer acres devoted to agriculture. Working with AgriRecycle Inc. of Springfield, Missouri, Perdue Farms has developed a possible solution: turn excess manure into pellets for use as fertilizer. This would permit sale outside the poultry-growing region, better balancing the input of grain. Spokesmen estimate that as much as 120,000 tons (nearly one-third of the surplus nutrients from manure produced each year on the DelMarVa peninsula) could be sold to corn growers in other parts of the country. Prices would be market driven but could be $25 to $30 per ton, suggesting a potential, small profit. Still, almost any attempt to control the problem potentially raises the cost of growing chickens, forcing poultry processors to look for locations where the chicken population is less dense.

In general, solving environmental problems attributable to the industry presents at least five major challenges to the poultry processor:

- how to maintain the trust of the poultry consumer
- how to ensure that the poultry remain healthy
- how to protect the safety of the employees and the integrity of the process
- how to satisfy legislators, who need to show their constituents that they are taking concrete action when environmental problems occur, and
- how to keep costs at an acceptable level.

Jim Perdue sums up Perdue Farms's position as follows: "We must not only comply with environmental laws as they exist today, but look to the future to make sure we don't have any surprises. We must make sure our environmental policy statement [see Exhibit 9] is real, that there's something behind it, and that we do what we say we're going to do."

Logistics and Information Systems

The recent explosion of poultry products and increase in customers placed a severe strain on Perdue Farms's logistical system, which was developed at a time when there were far fewer products, fewer delivery points, and lower volume. Hence, the company had limited ability to improve service levels, could not support further growth, and could not introduce services that might give it a competitive advantage.

In the poultry industry, companies are faced with two significant problems: time and forecasting. Fresh poultry has a limited shelf life, measured in days. Thus, forecasts must be extremely accurate and deliveries timely. On the one hand, estimating requirements too conservatively results in product shortages. High-volume customers such as Wal-Mart will not tolerate product shortages that lead to empty shelves and lost sales. On the other hand, if estimates are too high, the results are outdated products that cannot be sold and losses for Perdue Farms. A common expression in the poultry industry is "You either sell it or smell it."

Forecasting has always been extremely difficult in the poultry industry because the processor needs to know approximately eighteen months in advance how many broilers will be needed in order to size hatchery-supply flocks and contract with growers to provide live broilers. Most customers (e.g., grocers and food-service buyers) have a much smaller planning window. Additionally, Perdue Farms cannot know when rival poultry processors will discount a particular product reducing Perdue Farms sales, or when bad weather and other factors beyond the company's control may reduce demand.

Historically, poultry companies have based their estimates on past demand and information from industry networks and other contacts. Although product complexity has exacerbated the problem, the steady movement away from fresh product to frozen product (which has a longer shelf life) offers some relief.

Information technology (IT) has helped by shortening the distance between the customer and Perdue Farms. As far back as 1987, PCs were placed on the desks of customer-service associates, allowing each of them to enter customer orders directly. Next, a system was developed to put dispatchers in direct contact with every truck so that the dispatchers would have accurate information about product inventory and delivery at all times. Now, IT is moving to further shorten the distance between the customer and the Perdue Farms service representative by putting a PC on the customer's desk. All of these steps improve communication and shorten the time from order to delivery.

Today, poultry products fall into four channels of distribution:

1. Bulk fresh. **Timeliness and frequency of delivery are critical to ensure freshness.** Distribution requirements are high-volume and low-cost delivery.

EXHIBIT 9

Perdue Farms's Environmental Policy Statement

Perdue Farms is committed to environmental stewardship and shares that commitment with its farm family partners. We're proud of the leadership we're providing our industry in addressing the full range of environmental challenges related to animal agriculture and food processing. We've invested—and continue to invest—millions of dollars in research, new technology, equipment upgrades, and awareness and education as part of our ongoing commitment to protecting the environment.

- Perdue Farms was among the first poultry companies with a dedicated Environmental Services department. Our team of environmental managers is responsible for ensuring that every Perdue facility operates with *100 percent compliance of all applicable environmental regulations and permits.*
- Through our joint venture, Perdue AgriRecycle, Perdue Farms is investing $12 million to build in Delaware a first-of-its-kind pellet plant that will convert surplus poultry litter into a starter fertilizer that will be marketed internationally to nutrient deficient regions. The facility, which will serve the entire DelMarVa region, is scheduled to begin operation in April 2001.
- We continue to explore new technologies that will reduce water usage in our processing plants without compromising food safety or quality.
- We invested thousands of man-hours in producer education to assist our family farm partners in managing their independent poultry operations in the most environmentally responsible manner possible. In addition, all our poultry producers are required to have nutrient management plans and dead-bird composters.
- Perdue Farms was one of four poultry companies operating in Delaware to sign an agreement with Delaware officials outlining our companies' voluntary commitment to help independent poultry producers dispose of surplus chicken litter.
- Our Technical Services department is conducting ongoing research into feed technology as a means of reducing the nutrients in poultry manure. We've already achieved phosphorus reductions that far exceed the industry average.
- We recognize that the environmental impact of animal agriculture is more pronounced in areas where development is decreasing the amount of farmland available to produce grain for feed and to accept nutrients. That is why we view independent grain *and* poultry producers as vital business partners and strive to preserve the economic viability of the family farm.

At Perdue Farms, we believe that it is possible to preserve the family farm; provide a safe, abundant, and affordable food supply; and protect the environment. However, we believe that can best happen when there is cooperation and trust between the poultry industry, agriculture, environmental groups, and state officials. We hope Delaware's effort will become a model for other states to follow.

2. Domestic frozen and further-processed products. **Temperature integrity is critical.** Distribution requirements are frequency and timeliness of delivery. This channel lends itself to dual-temperature trailer systems and load consolidation.
3. Export. **Temperature integrity, high volume, and low cost are critical.** This channel lends itself to inventory consolidation and custom loading of vessels.
4. Consumer-packaged goods (packaged-fresh, prepared, and deli products). **Differentiate via innovative products and services.** Distribution requirements are reduced lead time and low cost.

Thus, forecasting now requires the development of a sophisticated **supply-chain management system** that can efficiently integrate all facets of operations, including grain and oilseed activities, hatcheries and growing facilities, processing plants (which now produce more than four hundred products at more than twenty locations), distribution facilities and the distributors, supermarkets, food-service customers, and export markets (see Exhibit 5). Perdue Farms under-

lined the importance of the successful implementation of supply-chain management by creating a new executive position, senior vice president for supply-chain management.

A key step in overhauling the distribution infrastructure is building replenishment centers that will, in effect, be intermediaries between the processing plants and the customers. The portside facility in Norfolk, Virginia, which serves the international market, is being expanded and a new domestic freezer facility added.

Products are directed from the processing plants to the replenishment and freezer centers based on customer forecasts, which have been converted to an optimized production schedule. Perdue Farms trucks deliver these bulk products to the centers in finished or partly finished form. At the centers, finishing and packaging are completed. Finally, customer orders are custom-palletized and loaded on trucks (either Perdue owned or contracted) for delivery. All shipments are produced from replenishment-center inventory. Thus, the need for accurate forecasting by the distribution centers is critical.

In order to control the entire supply-chain management process, Perdue Farms purchased a multimillion-dollar IT system that represents the biggest nontangible expense in the company's history. This integrated, state-of-the-art information system required total process reengineering—a project that took eighteen months and required training 1,200 associates. Major goals of the system were to:

1. Make it easier and more desirable for the customer to do business with Perdue Farms.
2. Make it easier for Perdue Farms associates to do their jobs.
3. Reduce costs as much as possible.

Industry Trends

The poultry industry is affected by consumer and regulatory trends. Currently, chicken is the number-one meat consumed in the United States, with a 40% market share (Exhibits 10 and 11). A typical American consumes about 81 pounds of chicken, 69 pounds of beef, and 52 pounds of pork annually (USDA data). Chicken is also becoming the most popular meat in the world; in 1997, poultry set an export record of $2.5 billion. Although exports fell 6% in 1998—a decrease attributed to Russia's and Asia's financial crises—food-industry experts expect this to be temporary. Hence, the world market is clearly a growth opportunity.

EXHIBIT 10

Consumption per Capita of Chicken, Beef, and Pork in the 1990s and Projected Consumption for 2000 and 2001

The popularity and growth of poultry products are attributed to both nutritional and economic issues. Poultry products contain significantly less fat and cholesterol than other meat products. In the United States, the demand for boneless, skinless

EXHIBIT 11

Chicken as a Percentage of Overall Meat, Poultry, and Fish Consumption, 1960–2000

breast meat, the leanest meat on poultry, is so great that dark meat is often sold at a discount in the United States or shipped overseas, where it is preferred to white meat.

Another trend is a decrease in demand for whole birds as the base dish for home meals and an increase in demand for products that have been further processed for either home or restaurant consumption. For example, turkey or chicken hot dogs, fully cooked sliced chicken or turkey, and turkey pastrami—which neither looks nor tastes like turkey—can be found in most deli cases. Many supermarkets sell either whole rotisserie chicken or parts of it. Almost all fast-food restaurants have at least one sandwich based on poultry products. Many up-scale restaurants feature poultry products that are partially prepared and then shipped to them frozen in order to simplify restaurant preparation. All these products have been further processed, adding value and potentially increasing the profit margin.

The industry is consolidating; that is, the larger companies in the industry are continuing to buy smaller firms. There are about thirty-five major poultry firms in the United States, but this number is expected to drop to twenty to twenty-five within the next ten years. There are several reasons for this. Stagnant U.S. demand and general product oversupply create downward price pressure, which makes it difficult for smaller firms to operate profitably. In addition, efficiency improvements require huge capital outlays. Finally, high-volume retailers such as Sam's Club and Royal Ahold (the Dutch owner of several U.S. supermarket chains) prefer to deal with large suppliers rather than many smaller processors.

The industry is heavily regulated. The Food and Drug Administration (FDA) monitors product safety. The USDA inspects live poultry as it arrives at the processing plant. After it is killed, each bird is inspected by a USDA inspector for avian diseases and contamination of feces or other foreign material. All poultry that does not meet regulations is destroyed under USDA supervision. USDA inspectors also examine the plant, equipment, operating procedures, and personnel for compliance with sanitary regulations. Congress has mandated that the USDA make this information available online. Additional intensive inspections of statistically selected product samples have been recommended by the National Academy of Sciences, so more FDA regulations are anticipated.

Although poultry produces less waste per pound of product than cattle or hogs, all meat industries are being scrutinized more closely by the EPA with regard to waste disposal. In general, waste generated at processing plants is well controlled by regulation, monitoring, and such penalties as fines. When an EPA violation occurs, the company that operates the plant may receive a substantial fine—potentially, millions of dollars.

Still, the most difficult problems to deal with are those that occur as a cumulative result of numerous processors operating in a relatively small area. For example, increasing poultry production in a given area intensifies the problem of disposal of manure. In manmade fertilizer, phosphorus and nitrogen exist in approximately a 1:8 ratio, whereas in poultry manure the ratio can be 1:1. Thus, the production of too much poultry manure can result in excessive phosphorus runoff into streams and rivers, potentially causing aquatic disease and degradation of water quality. This was the case in the 1997 outbreak of pfiesteria, a toxic microbe, in the tributaries of the Chesapeake Bay. Although the poultry industry insisted that there were many possible reasons for the problem, the media and most regulatory spokespersons attributed it primarily to phosphorus runoff from chicken manure. After much negative publicity and extensive investigation by both poultry processors and state regulatory agencies, Maryland passed the Water Quality Act of 1998, which required the industry to formulate nutrient-management plans. However, many environmentalists still believe that the EPA must create stricter regulations. Recent regulatory activity has continued to focus on Eastern Shore agriculture, especially the poultry industry. However, new studies from the U.S. Geological Survey suggest that the vast majority of nutrients affecting the Chesapeake Bay come from rivers that do not flow through the poultry-producing areas of the Eastern Shore. The studies also found that improved agricultural management practices have reduced nutrient runoff from farmlands. Jim Perdue says, "While the poultry industry must accept responsibility for its share of nutrients, public policy should view the watershed as a whole and address all the factors that influence water quality."

Other government agencies whose regulations impact the industry include the Occupational Safety and Health Administration (OSHA) and the Immigration and Naturalization Service (INS). OSHA

enforces its employee-safety regulations via periodic inspections and levies fines when noncompliance is discovered. For example, a Hudson Foods poultry plant was fined more than a million dollars for alleged willful violations causing ergonomic injury to workers. The INS also uses periodic inspections to find undocumented workers. It estimates that the percentage of undocumented aliens working in the industry ranges from 3 to 78% of the work force, depending on the plant. Plants found to employ undocumented workers, especially those that are repeat offenders, can be heavily fined.

The Future

The marketplace for poultry in the twenty-first century will be very different from that of the past. Understanding the wants and needs of generation Xers and echo-boomers will be key to responding successfully to these differences.

Quality will continue to be essential. In the 1970s, quality was the cornerstone of Frank Perdue's successful marketing campaign to brand his poultry. However, in the twenty-first century, quality will not be enough. Today's customers expect—even demand—all products to be of high quality. Thus, Perdue Farms plans to use customer service to further differentiate the company from its competitors. The focus will be on learning how to become indispensable to the customer by reducing cost and delivering the product exactly the way the customer wants it, where and when the customer wants it. In short, as Jim Perdue says, "Perdue Farms wants to become so easy to do business with that the customer will have no reason to do business with anyone else."

In the poultry business, customer-purchase decisions, as well as company profitability, hinge on mere pennies. Thus, the location of processing facilities is critical. Historically, Perdue Farms has been an Eastern Shore company and has maintained major processing facilities there. However, it currently costs about 1.5 cents more per pound to grow poultry on the Eastern Shore than in Arkansas. This difference results from the cost of labor, compliance with federal and state environmental laws, resource costs (e.g., feed grain), and other variables. If regulations will permit the importation of foreign-grown poultry in the future, producers could even use inexpensive international labor markets to further reduce costs. The opportunity for large growers to reduce costs in these ways puts increased pressure on small poultry companies, which suggests further consolidation of the industry.

Grocery companies are also consolidating in order to compete with huge food-industry newcomers, such as Wal-Mart and Royal Ahold. These new competitors increase efficiency by minimizing the number of their suppliers and buying huge amounts from each at the lowest possible price. In effect, suppliers and buyers become dependent on each other, and buyers expect their suppliers to do more for them. For example, Perdue Farms considers it possible that, using sophisticated distribution-information programs, they will soon be able to manage the entire meat-department requirements for several supermarket chains. Providing this service would support Perdue Farms's goal of becoming indispensable to its first-line retail customer, the grocer.

The twenty-first-century consumer will demand many options. Clearly, the demand for uncooked, whole chickens purchased at the meat counter has peaked. Demand is moving toward further-processed poultry. To support this trend, Perdue Farms plans to open several cooking plants. In addition, a criterion for future acquisitions will be whether they support value-added processing. Products from these plants will fill food-service requirements and grocery sales of prepared foods, such as delicatessen, frozen, home meal-replacement, and shelf-stable items. Additionally, the twenty-first-century customer will be everywhere. Whether at work, at a sports event, in school, or traveling on the highway, customers will expect to have convenient refreshment options and a wide selection of wholesome, ready-to-eat products.

Designing a distribution system that can handle all of these options is extremely difficult. For example, the system must be able to efficiently organize hundreds of customer orders for more than four hundred different products, which are processed and further prepared at more than twenty facilities throughout the southeast for delivery by one truck—a massive distribution task. As executives note, the company survived until now using distribution techniques created as long ago as the eighties, when there were a handful of products and processing facilities. However, the system approached gridlock during the late 1990s. Thus, Perdue Farms invested in a state-of-the-art information-processing system—a tough

decision because "we could build two new processing plants for the price of this technology package."

International markets are a conundrum. On one hand, Perdue Farms's international market has grown from an insignificant side business in 1994 to one generating $140 million in 1999, about 5% of total revenues. Further, its contribution to profits is significant. Poultry is widely accepted around the world, providing opportunities for further growth. However, different places value different parts of the chicken and demand different meat color, preparation, and seasoning. Thus, products must be customized. Parts that are not in demand in one country must be sold at severely reduced prices, used as feed, or shipped frozen to a market where demand exists. While this can be done, it is a distribution problem that significantly complicates an already difficult forecasting model.

International markets can also be very unstable, exposing Perdue Farms to significant demand instability and potential losses. For example, in 1997, about 50% of Perdue Farms's international revenues came from Russia. However, political and economic problems there reduced 1999 revenues significantly. This high level of instability, coupled with the corruption that thrives in a country experiencing severe political and economic turmoil, introduces significant risk to investment.

Clearly, the future holds many opportunities. But none of them comes without risk, and Perdue Farms must carefully choose where it wants to direct its limited resources.