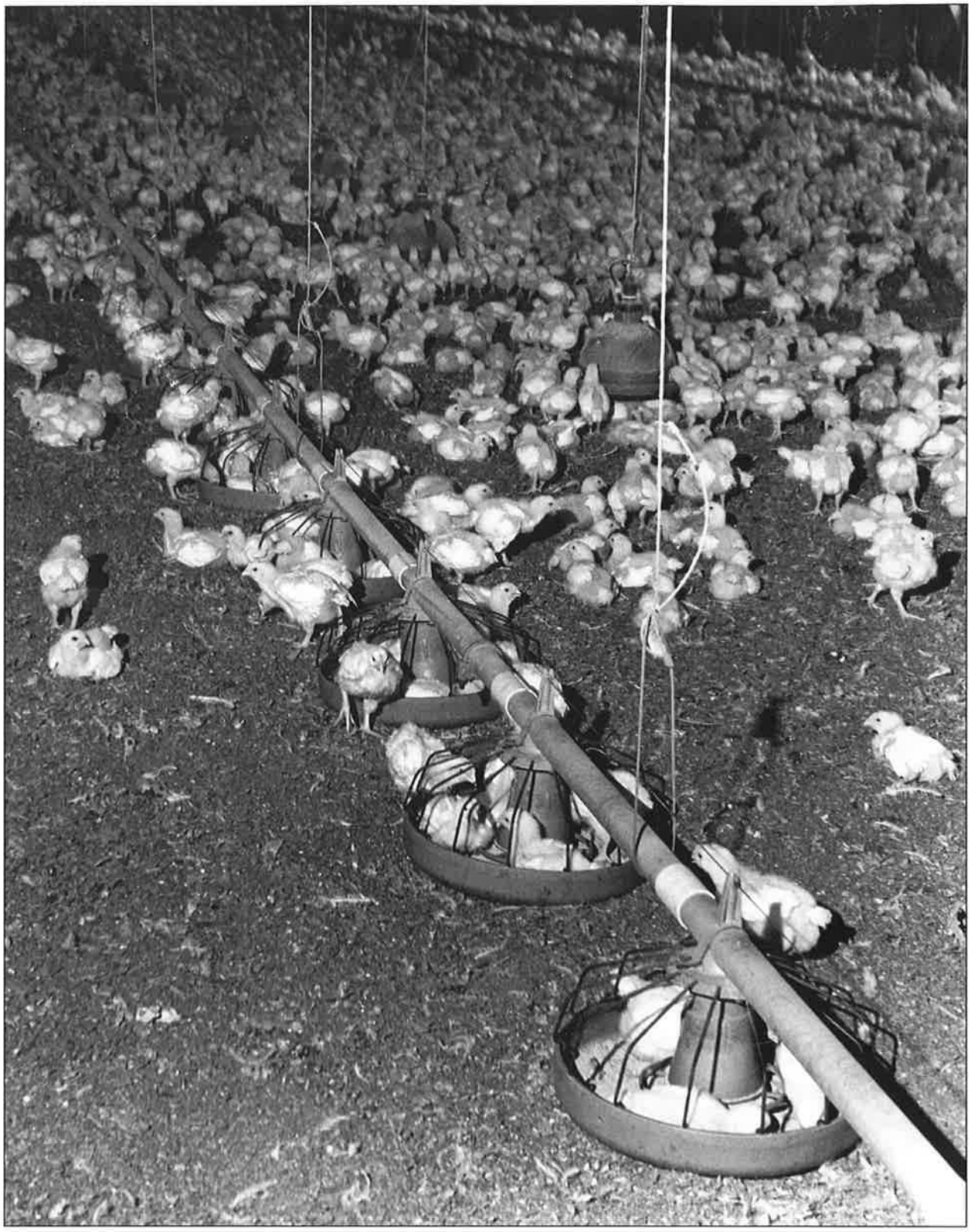
Chapter 5
Maturity and Its Challenges 1962-1998

During the 1970s Frank Perdue told New York television viewers that "my chickens eat better than people do." While some nutritionists may have been skeptical about Perdue's claim, there is no doubt that remarkable advances in the science of poultry nutrition partly explain the greater size, more rapid maturation, and greater resistance to disease that differentiate today's broilers from their avian ancestors. Over the years vitamins, antibiotics, and amino acid combinations have been added to a basic grain diet that, by 1992, was 65 percent corn and 19 percent soybeans. As for Frank Perdue's chickens, their feed also included Norwegian herring, marigold petals, and ground-up cookie meal for dessert.

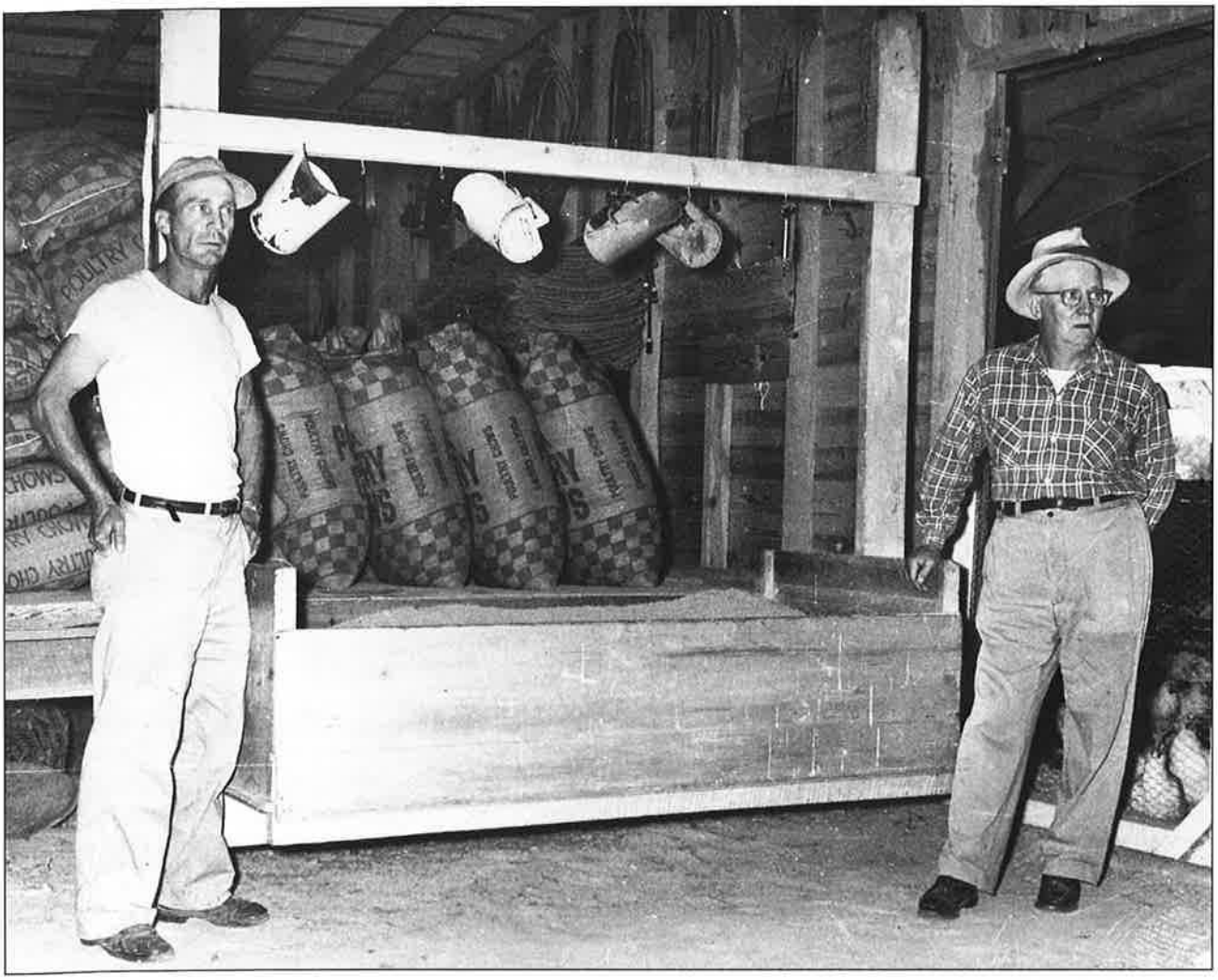
Today's broilers are automatically fed from storage bins by sensor-controlled augers that transport appropriate amounts of feed into feed pans. This mechanized feeding process is a far cry from the potentially wasteful practices of earlier times when as much as one-fourth of the chicken feed might be lost. Because feed represented 65 to 75 percent of the immediate cost of raising a broiler, greater feed-handling efficiency was essential if the broiler industry was to continue to grow and prosper.

By the end of World War II, most growers had installed feed carriers mounted with rollers on tracks attached to the ceilings of their broiler houses. A grower or hired hand would load feed onto the carrier in the feed storeroom and then push the carrier along the track down the length of the chicken house. The feed was taken from the carrier in scoops or buckets and poured into the troughs. On occasion some of the feed missed the trough or was piled up so high that the chickens "billed out" the feed (pushed it out of the troughs with their beaks) onto the litter-covered floor. Meanwhile, back in the storeroom, rats and mice opened the one-hundred-pound bags with their teeth and ate at least as well as the chickens. By the late 1950s, however, the advent of bulk feeding, featuring rodent-proof feed bins mounted on the outside of most chicken houses, rendered the feed storeroom obsolete. Feed company trucks delivered chicken feed to the bins, from where it was moved into feed carriers or into smaller bins as part of an evolving electric power-driven automatic feeding system.

Rapid technological improvements in delivering drinking water to broilers also marked the second half of the twentieth century. With dramatic increases in flock size, the earlier system of providing water in earthenware crocks and later in glass and metal "waterers" gave way, in the 1940s, to advances made possible by the introduction of electricity. Electrically driven water pumps and hanging metal drinking troughs with double control valves became standard equipment during the second half of the twentieth century. In the 1980s, lines of nipple drinkers, which were far more efficient in conserving water and keeping the litter dry, were first widely used and, by the 1990s, they had completely replaced the older drinking troughs. By the 1980s most feeder and water lines in chicken houses were on a winch-cable system that allowed the lines to be raised while chicken catchers did their work or



Two-week-old broilers in a wide house typical of the 1960s and 1970s. Note the early type of automatic, auger-driven feeder with two lines running length of house and the hanging plastic waterers.



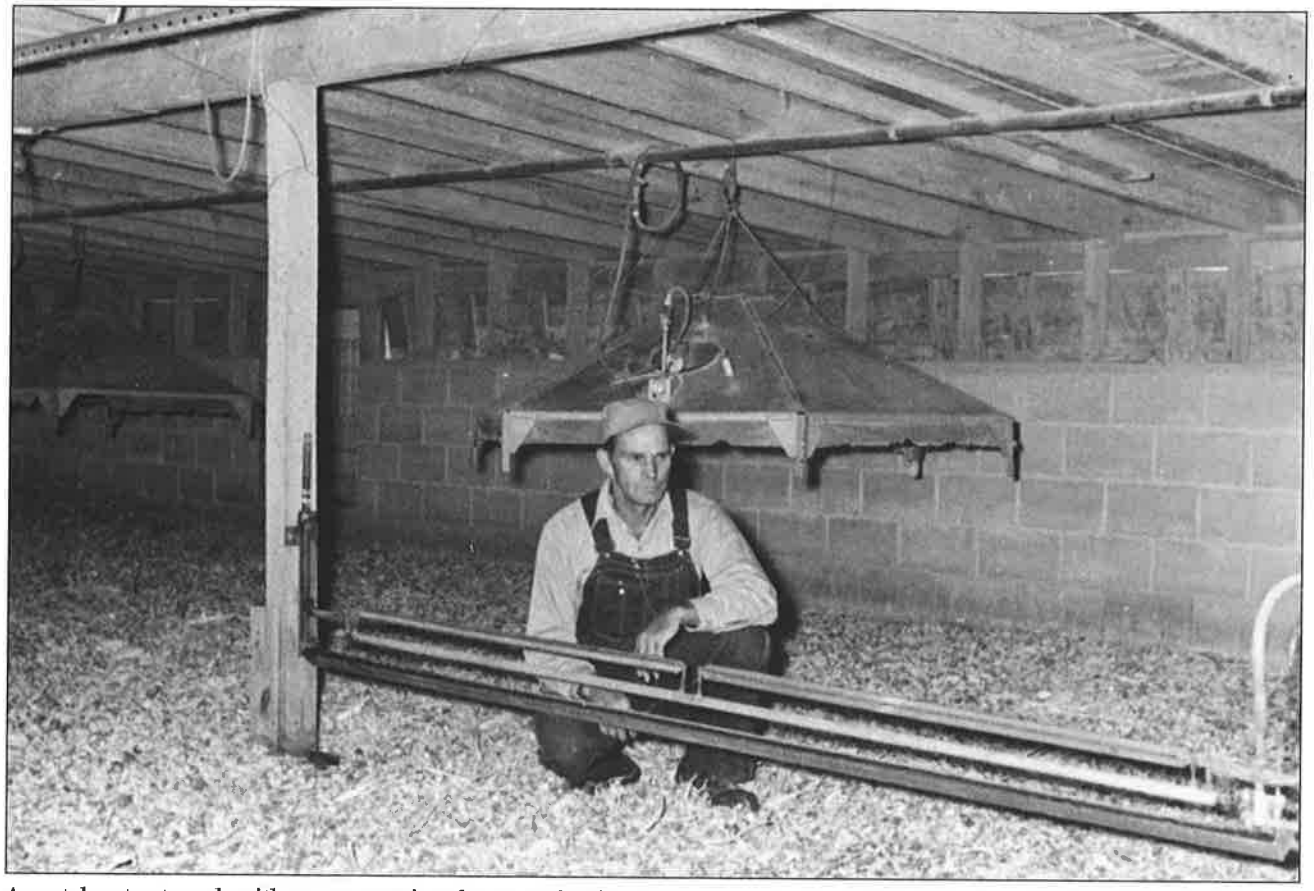
Feed carrier loaded with chicken feed about to be pushed from storage room to chicken house in the 1940s. Note scoops hanging above one-hundred-pound bags of feed.

while growers partially cleaned out their houses between flocks.

Playing a central role in the evolution of Delmarva's broiler feeding and drinking equipment from the 1930s to the 1970s was Mumford Sheet Metal Works of Selbyville, Delaware. Founded by Charles Mumford in 1933, and subsequently joined by brothers William, Isaiah, Warren, and Dale, Mumford Sheet Metal made thousands of feed and water troughs and, according to Warren Mumford, "anything else the growers and poultry companies brought to us to be made."

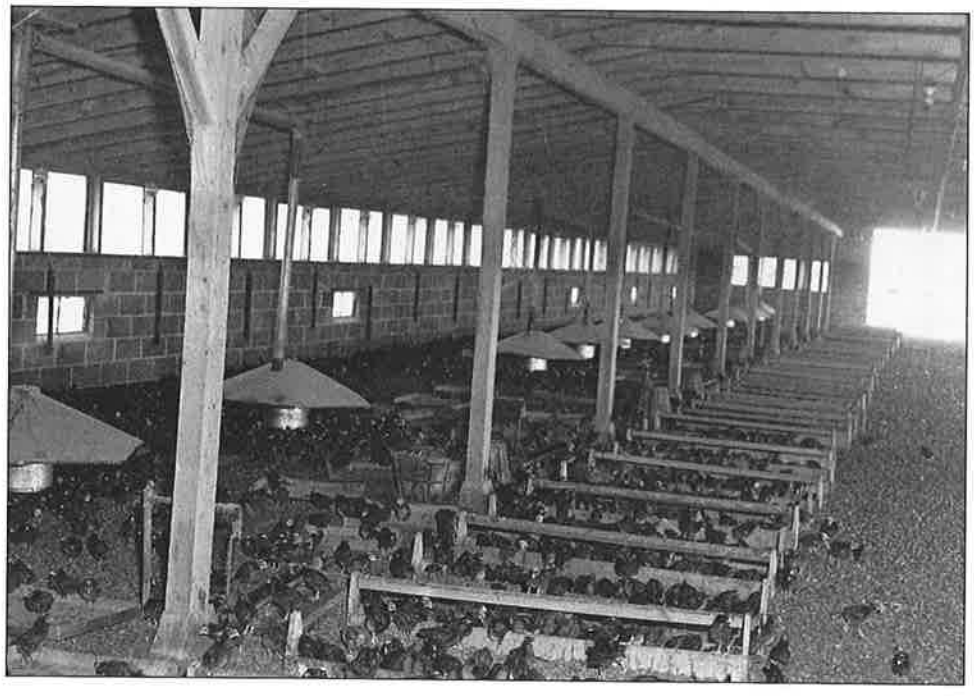
In the early 1950s William R. Murray, a feed dealer in Frankford, designed and had built what was probably the first wooden bulk feed bin. He then designed the first bulk feed delivery truck which was subsequently built from a manure-spreader by Jack Evans of Millville, just west of Ocean View, Delaware. Next, Murray proposed to Mumford Sheet Metal that it manufacture feed bins. By early 1954, Mumford's square metal gravity-flow bins were being installed all over Delmarva. According to Warren Mumford, the bins were so well built that, after Hurricane Hazel and subsequent storms, they were often "the only thing left standing."

After World War II, an expanding market for chicken feed created new opportunities for Delmarva's corn farmers. But Peninsula soybeans, unlike corn,



A metal water trough with an automatic valve to maintain the proper water level. The floor is covered with wood shavings, and a "cold room" gas brooder stands in the background. The chicken house isn't insulated. The photo is from the 1950s.

Wooden feeding troughs were used before Mumford's produced metal feeding troughs.



Charles Mumford founded Mumford Sheet Metal Works of Selbyville, Delaware in 1933.

William R. Murray, feed dealer in Frankford, Delaware, during the 1940s to 1960s.

had to be shipped elsewhere to be processed and therefore weren't as profitable a field crop. But after Townsends built the Peninsula's first soybean processing plant east of Millsboro in 1951 and Perdue built the second such plant east of Salisbury a decade later, this changed. Peninsula soybeans now commanded good prices because they were in demand. All of this resulted in increased corn and, later, soybean production that moved Delmarva, by 1971, from a deficit to a surplus position in providing enough homegrown corn and soybeans to feed all of its broilers. The decision by Peninsula farmers to increase the acres devoted to corn and soybeans was driven by the assurance that Delmarva's newly integrated poultry firms were willing to pay a premium price for these two staples that reflected the Chicago price plus at least some of the cost of shipping corn and soybeans to Delmarva from the Midwest.

Metal feed bin built by Mumford Sheet Metal Works of Selbyville.

Even in this more modern chicken house of the 1970s, with auger driven feeder lines, a feed carrier continues to be used to carry assorted items the length of the house.

A nine-ton capacity, pneumatic, bulk-feed delivery truck is being loaded with feed at Murray's Feed Service, Inc. mill in Frankford.

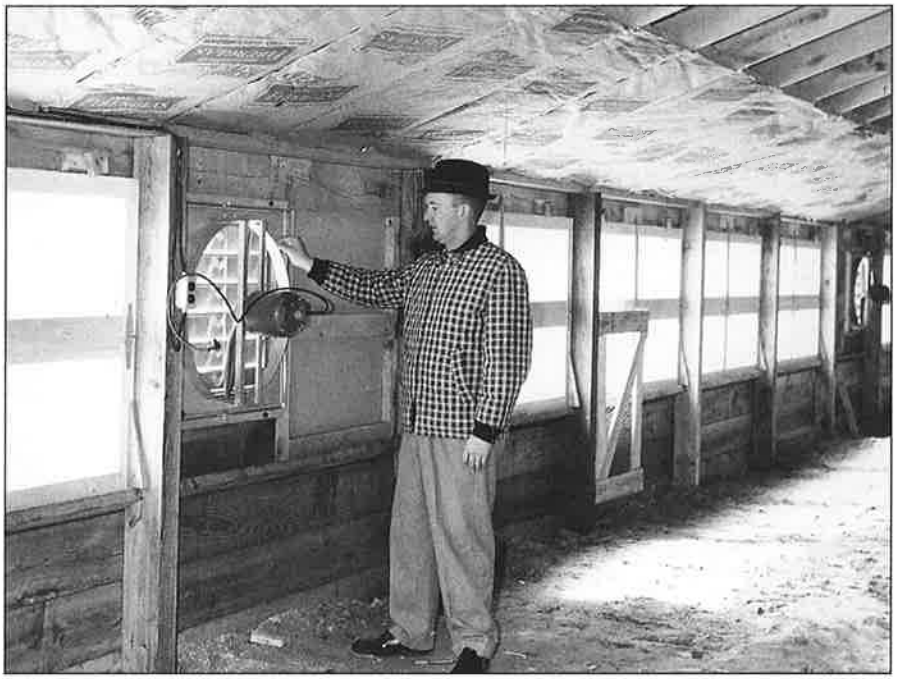
One important extra dividend produced by the Peninsula's rapidly growing broiler population was the increasing amount of chicken manure that was applied to more and more fields. The bumper crops of corn and soybeans produced by this very cheap fertilizer were mixed together into feed at increasingly automated mills and then consumed by the chickens. The birds' digestive tracts promptly transformed the chicken feed into organic fertilizer, which was subsequently collected and spread on the corn and soybean fields. For a while it all resembled one big closed but nicely balanced circle. By the 1980s, however, dramatically escalating demands for chicken feed were outstripping the productive ability of Peninsula corn farmers. In 1995, for example, Delmarva had to import from beyond the Peninsula almost half of the corn that it needed to feed its flocks.

Clearly the Peninsula's broiler industry continued to have a ripple effect on the region's economy far beyond broiler and grain farms and processing plants. Financial institutions and construction companies were particularly affected. Even in the years when broiler prices were low, the number of chickens grown on Delmarva might increase. In short, from 1962 to 1998 the demand for new chicken houses was fairly constant. The economic impact of this demand was self-evident as growers turned to banks for loans and to contractors to build chicken houses. In 1991, for example, 161 new chicken houses were completed, 62 others were started, and financial approval was granted for the building of 13 additional houses. The capacity of each of these new houses averaged 26,500 birds and cost approximately $100,000. This alone represented a $23.6 million investment in the Peninsula's economy.

The design and construction of broiler houses had been evolving since Cecile Steele began raising her five hundred chicks in Ocean View in 1923. But the single most significant event in changing the nature of these structures was Hurricane Hazel, which hit in October 1954 and flattened many of the Peninsula's chicken houses. Although enclosed, most chicken houses of the early 1950s had shed roofs with the high side facing south. Hazel was a dry hurricane—no rain—but its strong winds, coming from the southwest, caught the high side of the chicken houses and knocked over a large number.

Paradoxically, the disaster was seen by university extension agents and specialists as an opportunity to modernize the region's chicken houses by informing growers, before they constructed replacements for their flattened houses, of the most up-to-date and

Bulk feed is being blown into a wooden feed bin in the 1950s. Note "return pipe" that allows air escape from bin. The attached bag catches feed.



Ed Ralph, assistant Sussex County agricultural extension agent and later University of Delaware substation director and DPI executive director, examines installation of ventilation fans as well as insulation in ceiling of new broiler house.

efficient designs. These designs introduced better ventilation and improved heating systems, demanded insulation in every broiler house, and highlighted a sturdier and wider structure that would stand up to future hurricanes and could be entered by small tractors and other machinery used in cleaning out litter and in catching chickens prior to hauling them off to the processing plants. To continue the drive for modernization well into the future, the University of Delaware and the University of Maryland, in cooperation with DPI, jointly sponsored annual seminars on broiler house construction from 1962 to 1983.

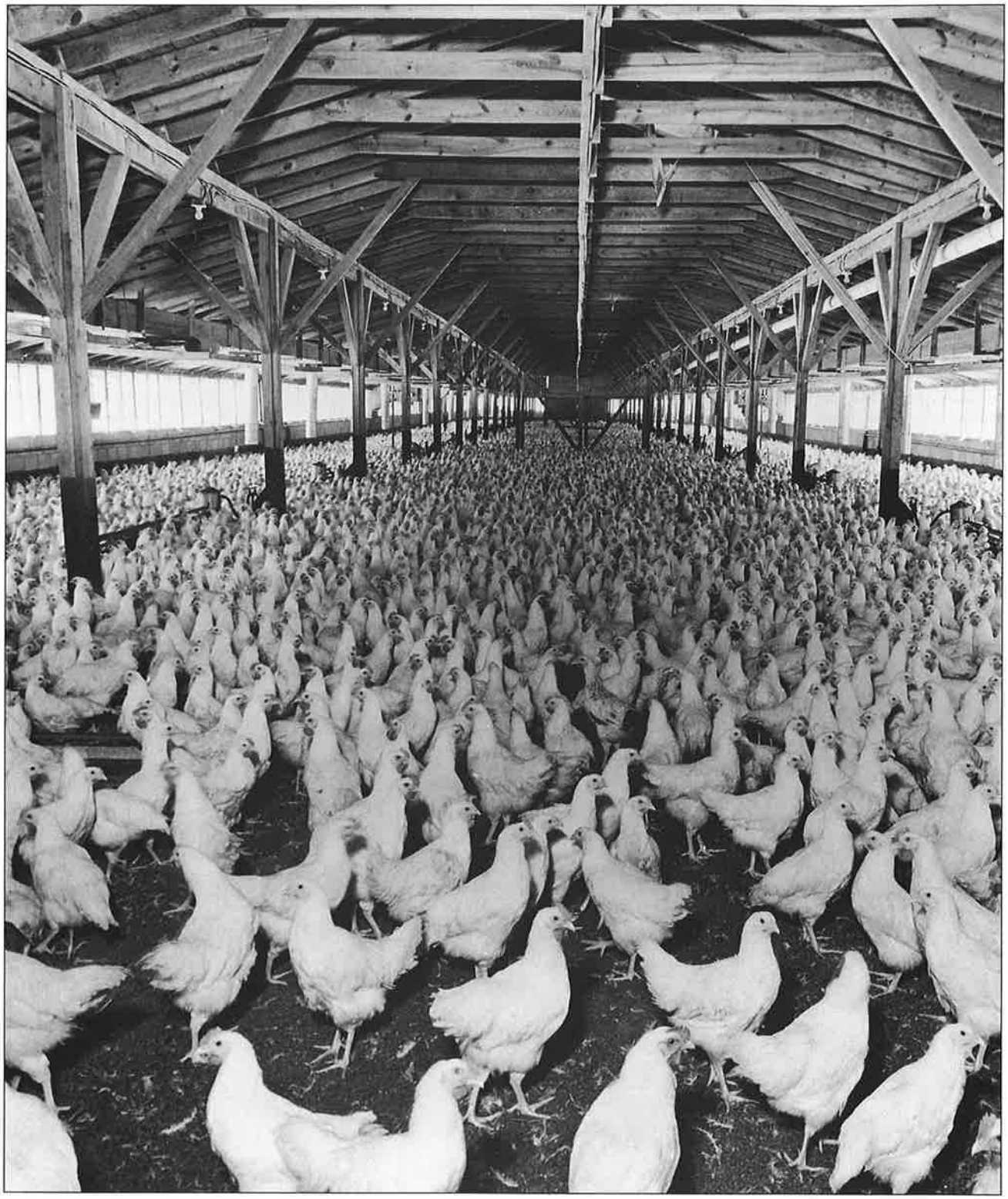
By 1998 approximately 2,600 growers raised broilers on the Peninsula in a work environment that differed remarkably from that experienced by their predecessors. Now early maturation allowed five or six flocks per year to be raised in a mechanized ambiance that was far less labor-intensive than found on Delmarva in the 1920s and 1930s. Also part of the past were most of the old tricks used by chicken buyers, such as emptying out water tanks hidden under truck beds so that, once loaded on the buyer's truck, the grower's chickens could be "short-weighted." In 1998, only the chicken catchers continued to practice their craft in much the same manner as sixty years ago. But even they were partially dependent on new technology. Although the chicken catchers continued to catch chickens by hand, they now placed the birds into cages carried by forklift tractors that moved freely about in the chicken houses and then transferred the loaded cages onto waiting trucks bound for processing plants.

During and after World War II, the Peninsula's processing plants also moved down the road to modernization with new, improved machines being produced almost annually. By 1945 mechanical feather-pickers were freeing up much of the work force from the most labor-intensive part of processing. But until the design advances of the late 1960s, the automated feather-pickers continued to require workers to hand-hold chicken carcasses over the picking machines during the defeathering process. Even the advanced machine introduced in 1968, which didn't require that the carcasses be held by hand, took off only 90 percent of the feathers.

Until 1970, except for defeathering and hock-cutting machines—the latter cut off chicken feet—the rest of the preparation of the bird, including evisceration, was still done by hand, one process at a time, on broilers that moved through the plant on shackles hanging from automated conveyer lines that were anchored to ceiling tracks. Then, in the early 1970s, gizzard-removing machines, which saved considerable stress on the line's cutters, made their appearance. In the late 1970s and early 1980s newly designed eviscerating machines were introduced that further opened up and cleaned out the interior cavity of the birds.

A fad in the 1960s was construction of 3-story "chick motels." Touted as a better way to grow chickens while saving energy costs, they soon became a thing of the past due to operational difficulties.

A chicken house of the 1990s. Many growers switched to tunnel ventilation of houses. As shown here, large fans on one end pull air through the entire length of the house. Though more expensive to operate than previous air movement systems, tunnel houses are designed to provide more uniform air movement and better living conditions for birds.



The interior of a wide, pole-type broiler house of the 1960s filled with broilers about ready for processing. Note that there is no insulation in the ceiling and that there are no metal feed troughs on floor.

At the Townsends processing plant near Millsboro, Delaware, in 1958, chickens are being packed in boxes, iced down, and then sent to retail stores.

The view of the Swift and Co. processing plant in Georgetown, Delaware, during the mid-1950s, shows whole broilers being cut into parts and packaged, a procedure that would become very common in the years ahead. U.S. Department of Agriculture inspectors worked at the plant prior to mandatory government inspection. One interesting feature of this plant is the windows to the outside and the sunshine coming in, something not seen in today's plants.

By 1998 processing machines had so automated the slaughter and preparation of chickens for market that Perdue's Jim Dennis estimates that they do more than 50 percent of the line work, from the hanging and killing of the broiler to the sending of the prepared carcass to the chiller, work that was done by hand in the processing plants of the late 1960s. Although the feed mills—now operated by computers—and the grow-out operations have undergone remarkable changes over time, former extension poultry specialist and University of Delaware Substation director George Chaloupka insists that "no other part of the industry has changed so much over the years as the processing of chickens."

Just as dramatic as the addition of automation was the altered nature of the processing plants' final products. During the 1950s, the New York-dressed bird was replaced by the eviscerated variety, but both were sold by processors as whole birds. In the 1960s and 1970s, however, two developments sparked a growing demand for chicken products beyond the traditional whole broiler.

Beginning with the 1960s, more American women entered the work place than ever before. Drained of time and energy by their jobs, they searched supermarkets, grocery stores, and butcher shops for a form of chicken that required less effort and time to prepare than did whole birds. About the same time Colonel Sanders' Kentucky fried chicken became very popular, followed by McDonald's chicken nuggets in the early 1970s. As a result, these and other fast-food chains became increasingly important wholesale purchasers of chicken. But like working women, fast-food chains had little interest in whole birds and demanded an easier-to-prepare alternative form of chicken.

Statistics indicate just how quickly the processing plants moved to meet these new consumer demands. In 1962, whole birds represented approximately 83 percent of chicken sold nationally. By 1995, however, that figure had dropped to only 14 percent. During the same period, cut-up chicken in tray packs moved from 15 percent to 53 percent, while "further value-added" chicken—such as bone-

One of the first uses of computers in the broiler industry was in feed formulation. Jack Harrison, a feed nutritionist at Bayshore Foods of Easton, Maryland, developed chicken feed rations for hundreds of farms.

A typical Peninsula processing plant of the 1970s.

less breasts and thighs, patties, nuggets, hot dogs, and partially or fully cooked products—jumped from 2 percent to 33 percent of the chicken sold by the processing companies.

Whether whole, in parts, or made easy to serve in other ways, the broiler's rise in popularity has been nothing short of astonishing. In 1940, broilers represented only about 1.4 percent of the meat consumed by an average American. (Other poultry such as stewing chickens and turkeys represented another 10.6 percent.) By 1996, broilers had long since passed beef as the nation's favorite meat and represented 34 percent of the total meat consumption of an average American. (Other poultry represented another 9 percent.)

This spectacular increase in broiler consumption has been fueled by a marked increase in healthier eating habits among many Americans. The increasing public awareness that chicken, once its skin is removed, contains less fat and fewer calories than other meats has caused many consumers to favor it over beef and pork. Perhaps even more important is the broiler industry's ability to produce a quality product at a very modest price.

The broiler industry's increasing efficiency over the last five decades has produced a meat that is easily affordable to all classes of Americans. Indeed, despite inflation, the average retail price of broilers dropped from sixty-one cents per pound in 1948 to only forty-one cents per pound in 1972. Although, by 1983, inflationary pressures sparked by Arab oil embargoes drove the price up to seventy-two cents per pound, beef and pork—once much cheaper than chicken—were selling at $2.50 and $1.86 per pound. Because the American broiler industry, on Delmarva and elsewhere, has become the world's most efficient system of meat production, food shoppers increasingly choose chicken over beef and pork. And why not? As Robert Street of Princess Anne pointed out in 1997: "Nothing on God's earth is any cheaper than chicken. Today a housewife can buy [a whole] chicken for $.69 a pound. You can't buy apples, oranges, tomatoes, scrapple, or sausage for $.69 a pound."

The increased efficiency that produces such an inexpensive chicken is, in part, the result of the completion of full vertical integration by the broiler companies. Not only did these emerging agribusiness giants—which combined under one corporate roof at least one hatchery, feed mill, processing plant, fleet of trucks, sales and marketing department, and a large number of contract growers—demonstrate that bigger was better, they were also more cost-efficient because they usually eliminated all but one profit center. Moreover, with full vertical integration, poultry companies could establish complete quality control over every stage of broiler production.

Quality control was crucial because it led to the production of consistently superior birds that would eventually attract consumer loyalty. It was also important because it enabled integrators to bring into their processing plants chickens of uniform weight, size, and configuration. This uniformity in the chickens was necessary if defeathering, cutting, and eviscerating machines were to effectively replace many of the line workers. Although, on Delmarva, Townsends, Inc., led the way to quality control through full vertical integration by 1957, two of the future giants—Perdue and Allen's—weren't fully integrated until years later.

Perdue Farms Inc., located a few miles east of Salisbury, was both a hatchery for layers and a table egg producer during the 1920s and 1930s. From 1940 to 1945, however, devastating outbreaks of fowl typhoid and range paralysis among its egg-laying flocks caused Perdue Farms to turn its energies to hatching and raising broilers. In 1950, Frank Perdue was named president by his father, Arthur W. Perdue, and the company commenced signing up farmers in the surrounding area to grow broilers on contract. The next year Perdue Farms was mixing and selling its own brand of chicken feed. The building of a feed mill in 1958 and a soybean processing plant in 1961 further strengthened Perdue Farms' position in the feed business. The number of growers under contract increased greatly and by 1968 Perdue Farms was the largest live broiler company in the United States and sold eight hundred thousand birds per week at the Selbyville auction.

Up to this point, Frank Perdue had hesitated to take the final step to full vertical integration. Perdue

Early bulk feed handling with pneumatic truck and gravity flow bin in the 1960s.

Arthur W. Perdue and son, Frank Perdue.

Clarence Allen who began Allen's with a hatchery in the 1920s.

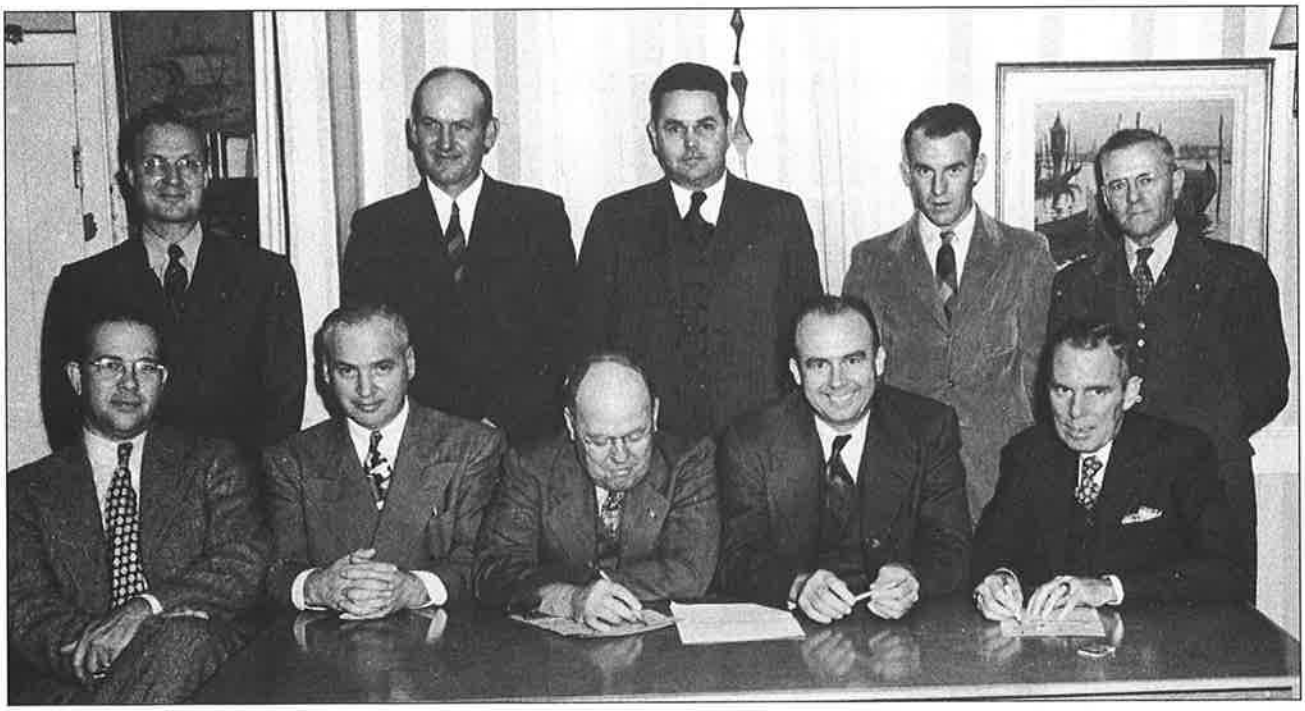
recalls that "I was losing my butt because I wasn't in the processing business," but he was also concerned with having to deal with labor unions and with some of the other headaches often connected with owning a processing plant. At this juncture a tennis doubles match in Salisbury helped make up his mind. Frank Perdue and his partner played Milt Rabinowitz of Paramount Poultry, Harbeson, Delaware, and Buddy Solomon, a New York poultry distributor. When the match ended, Solomon turned to Rabinowitz and said, "I really love this guy Perdue. Here we are making $.07 a pound off him and he's still smiling. That's what I call a real sport." An angry Frank Perdue flew in Don Tyson from Arkansas to look at the Swift processing plant in Salisbury, and, after listening to Tyson's comments, purchased the plant in 1968. The rest, as they say, is history.

Like Perdue Farms, Allen Family Foods, Inc., began as a hatchery. In 1919, C. Clarence and Nellie Allen started off with 250 eggs and a kerosene heater in the parlor of their farmhouse a few miles from Seaford, Delaware. After almost burning down the house with his incubating experiments, Clarence was forced by Nellie to move his incubator out to the garage, which he promptly burned down. Clarence Allen subsequently moved his hatchery to the outskirts of Seaford and by the end of World War II was increasingly involved with broilers. About that time Clarence's three sons, Charles, Warren and Jack, joined the family business. In 1971, Allen's moved closer to full vertical integration by purchasing the Esskay processing plant in Cordova, Talbot County, Maryland. The purchase and renovation of a feed mill in Delmar, Delaware, in the early 1980s made Allen's the last of the Peninsula-based poultry companies to become vertically integrated. Allen's has continued to expand, and by 1998 owned and operated three broiler processing plants on Delmarva.

In 1985 there were nine fully integrated companies —ConAgra, Holly Farms, Perdue, Cargill, Showell, Chesapeake Foods, Townsends, Mountaire, and Allen's—operating on the Peninsula. By far the largest was Perdue Farms, which processed 3 million Peninsula broilers weekly, or three times as many as its closest rival, Townsends. The spectacular rise of Perdue Farms reflected its ability to open up the New York City market by extending vertical integration forward to the distribution market. As a 1961 study of Delmarva's broiler industry pointed out, this might be done by "use of a brand name known to retail consumers."

After Delmarva lost most of its New York broiler

Esskay processing plant in Cordova, Maryland, purchased by Allen's in 1971.



Officers and members of the Delaware State Poultry Commission
Left to right seated: W. Edgar Timmons, Millsboro; Harry Pack, Dagsboro; J. Frank Gordy, Executive Secretary; B.V. Carmean, Chairman, Laurel; G.M. Worrilow, Director of University of Delaware Agricultural Experiment Station and Extension Service, Newark.
Left to right standing: Dr. John Hammond, Bridgeville; G.C. Simpson, Houston; Curtis W. Steen, Dagsboro; Philip B. Brittingham, Laurel; and Frank Attix, Kenton.

market during World War II, industry leaders began a strong promotional campaign to regain former customers and to acquire new ones. Quasi-government agencies such as the Delaware State Poultry Commission and voluntary trade organizations, such as the Delaware Poultry Improvement Association (DPIA), and subsequently the Delmarva Poultry Industry, Inc. (DPI), sent representatives to New York for media interviews in which the virtues of buying and eating Delaware or "Delmarvalous" chicken were emphasized.

But cracking the New York poultry market demanded more than convincing consumers that chickens from Delmarva were particularly desirable. A bewildering network of distributors, handlers, street markets, chain stores, restaurants, independent grocery stores, and butcher shops presented a formidable obstacle course that lay between broiler producers on the Peninsula and New York consumers. But even more troubling was the graft, price fixing, racketeering, and violence that marked New York's wholesale and retail poultry market. Italian and Jewish underworld figures fought each other for a piece of the lucrative chicken trade, with the Cosa Nostra (Mafia) exercising considerable control over the distribution of broilers and most other meats in New York City.

Despite its very troubling nature, however, the New York market was worth fighting for. In 1970, its greater metropolitan area included 18 million people, while the greater metropolitan areas of Philadelphia and Boston contained only 6.5 million and 5 million, respectively. Demographics argued that anyone who could crack the New York market stood to make an awful lot of money. In 1967, when he first decided to get into processing, Frank Perdue also

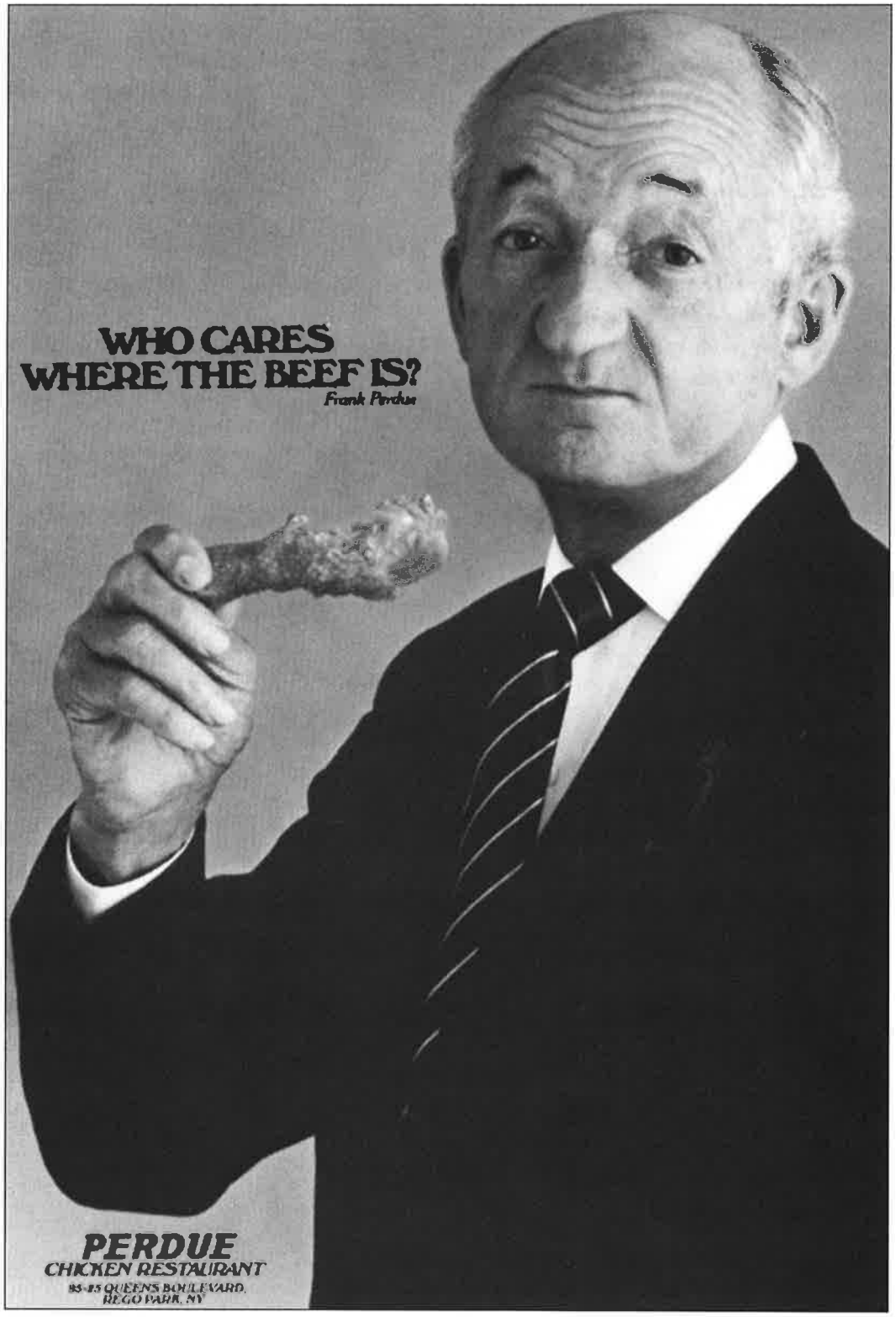
Promoting increased consumption of Delmarva chicken by New Yorkers was a significant activity for poultry industry leaders. Shown in this early photograph are Earl Hawk of Greenwood, Delaware, E.A. Yutzi of Georgetown, Delaware, Frank Gordy, and Susan Adams, cooking star, on New York television station WABD.

decided to compete for a significant share of the New York retail poultry market. Over the next four or five years Perdue spent considerable time and effort finding out what New York consumers wanted and how he could convince New Yorkers that his broilers were the only legitimate answer to their craving for quality chicken.

Ignoring the past practices of most Delmarva broiler companies, Frank Perdue decided that the Perdue label would be placed on his company's processed chickens and that the label would stand for such high quality to consumers that they would be willing to pay a few more cents per pound. Because New Yorkers preferred yellow over white chickens, Perdue Farms added marigold petals and corn-gluten meal, which contained a high concentration of a skin-yellowing substance called xanthophyll, to its chicken feed.

The next step was to immerse the New York area in a high-powered advertising campaign. This too was revolutionary because, prior to Perdue, chickens from specific broiler companies weren't usually advertised in retail markets. Starting with radio in 1968 and television in 1971, Perdue Farms spent millions over the next two decades in plugging Perdue chicken in commercials that, in their nature, were also a clear departure from past practices. The New York advertising firm handling the Perdue account,

Walter Dorsey, of near Laurel, Delaware, in 1972, walking through his flock of broilers which are ready for processing.



Frank Perdue in ad for Perdue chickens.

struck by a certain rustic directness in their client's demeanor, decided to cast a reluctant Frank Perdue as the star of his own company's commercials. On their television screens, New Yorkers were introduced to a plain-speaking poultry entrepreneur whose no-nonsense presence made believable his company's slogan, "It takes a tough man to raise a tender chicken." On screen Frank Perdue insisted that "my chickens have that healthy golden color" and that his audience shouldn't wonder "why my chickens are so yellow," rather they should wonder "why some chickens are so white."

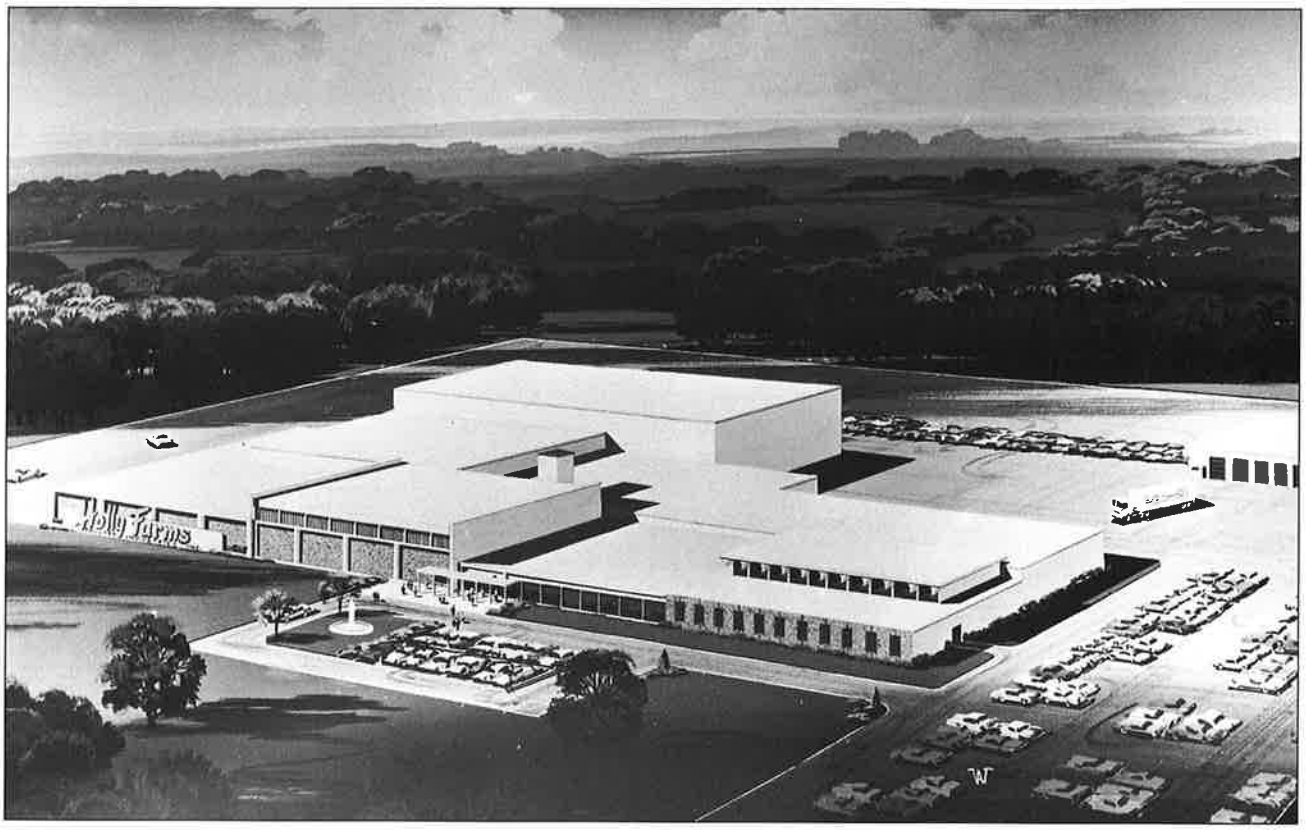
The results were beyond anyone's expectations. Not only was Frank Perdue probably the first corporate head to become a national celebrity by appearing on television commercials, his company's broiler sales skyrocketed. In 1971 Perdue Farms sold one million chickens per week and was the twelfth largest broiler producer in the United States. By 1987 Perdue Farms was selling six and one-half million chickens per week and had become the nation's fourth largest broiler producer. In 1998 New York City continued to be very important to Perdue Farms. Every week as many as five hundred tractor trailers laden with Perdue chickens left Delmarva and headed north for the New York City market.

To meet the rising demand for its chickens from New York City and from newer markets that were opening up in other areas of America, Perdue Farms expanded its broiler operations into other states beyond the Peninsula. But Perdue Farms also significantly increased its broiler operations on Delmarva by making a series of important acquisitions in recent years. By 1997 Perdue Farms' Peninsula holdings included seven hatcheries, five feed mills, and five processing plants, which allowed the company to maintain a considerable production edge over any of Delmarva's other leading poultry producers.

Other Peninsula integrators (poultry companies) also competed for a share of the New York market with Showell Farms, Inc., headquartered in Showell, Worcester County, Maryland, leading the way. Vertically integrated since 1967, Showell brought out its own premium brand, the "Cookin' Good" broiler in 1975, described it as a "tasty yellow chicken," and sold it for a few cents more than chicken under the more generic labels of most other competitors. By the mid-1970s approximately 80 to 85 percent of the chickens from its Showell processing plant was sent to New York City. Following the Perdue pattern in other ways, Showell Farms expanded its production operations to states beyond the Peninsula. As a result, when Perdue Farms purchased Showell Farms in 1995, Perdue acquired Showell's poultry operations in North Carolina, Florida, and Alabama as well as on Delmarva.

Acquisitions have made the nation's largest broiler processor, Tyson Foods, Inc., an important presence on the Peninsula. In 1968 Holly Farms, Inc., built a processing plant in Temperanceville, Accomack County, Virginia. In 1988 Tyson Foods purchased Holly Farms and thus took over the Temperanceville plant. Tyson Foods expanded its Delmarva holdings in 1998 when it purchased Hudson Foods' Berlin processing plant. (See appendix for details of holdings of each of the five poultry companies with integrated operations on Delmarva.) Acquisitions have also brought Mountaire Farms, Inc., to the Peninsula. In 1977 and 1978 Mountaire purchased the Selbyville broiler company that was originally known as H & H Poultry when it was founded in the late 1930s.

The expanding New York market of the 1970s and 1980s brought together the integrated companies' sales representatives and truckers, who were natives of Delmarva, with New York-based wholesalers, retailers, union officials, and assorted others connected with the city's poultry business in a more intense manner than ever before. Mixing the obvious cultural differences with the fact that this "volatile industry led to volatile tempers," considerably raised the possibilities of culture shock. David Givans, who was a native of Selbyville, went to work for Showell Farms as a sales representative in 1976. His initial telephone conversations with distributors were startling experiences because the New York-accented voices on the other end would call Givans every derogatory name imaginable as the two haggled over a fraction of a cent on a pound of chicken. Givans had never been spoken to like that before, and he learned quickly that to survive in the interstate poultry business you had to develop a thick skin.

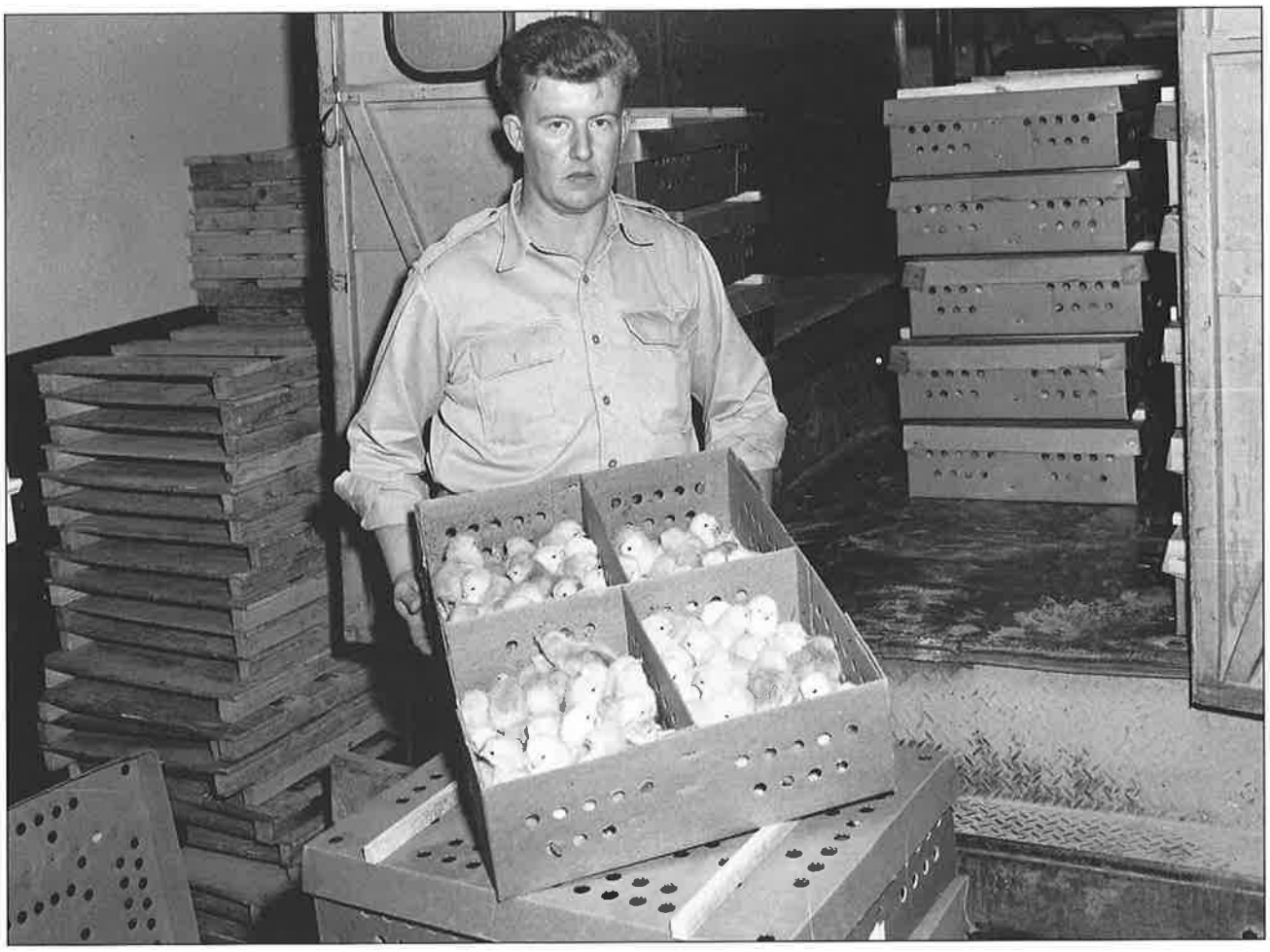


Drawing of Holly Farms processing plant in Temperanceville, Virginia, built in 1968. In 1988, the plant was purchased by Tyson Foods, Inc.

More than thick skin was needed for corporate survival in an industry that produced handsome profits one year and significant losses the next. For family-owned companies that had been involved in the Delmarva broiler industry since the 1930s and 1940s, the volatile nature of the chicken market was something that was taken in stride. In 1997 P. Coleman Townsend, chairman of Townsends, Inc., maintained that the family-owned companies, such as Townsend, Allen, and Perdue, were willing to wait out the broiler market's downturns because, historically, they knew that the market had always recovered. Moreover, Delmarva's family-owned companies had all of their eggs in one basket and therefore had to stick with that basket.

Unlike Delmarva's family-owned companies, such large publicly owned, diversified agribusinesses as Swift and ConAgra were not solely dependent on broilers. Moreover, because they were publicly held firms, they were subject to the demands of stockholders that company divisions not producing profits be immediately shut down. As a result, Swift, ConAgra, and even privately owned Cargill, have ceased producing broilers on the Peninsula, while Townsends, Allen, and Perdue have not only stayed the course, but have expanded their Peninsula operations.

As chicken houses became more automated, the ratio of growers to broilers declined dramatically, causing the total number of growers to decrease over the last four decades. While automation in processing plants also caused the ratio of line workers to processed broilers to decline dramatically, the cutting of whole broilers into parts and the production of value-added chicken has created new plant production lines that have led to a significant demand for additional laborers. Although figures are difficult to come by, more than ten thousand line workers were employed in the Peninsula's processing plants in 1998, compared to only 3,215 in 1965.



In the 1960s, chicks were delivered to growers from hatcheries in cardboard boxes.

Working on a line in a processing plant has always been hard labor. Usually most line workers were unskilled and poorly educated whites and blacks. Although men worked at specific stations, probably 70 to 90 percent of the line work force in any given processing plant was female. Throughout the labor history of the Delmarva's broiler processing plants, higher wages were paid for line work than for many other local jobs such as domestic employment or farm work. To Elizabeth Hall, an African-American, the attraction of line work was obvious. She almost doubled her weekly salary when she left domestic work, in 1970, to trim livers and cut out oil sacks for Townsends.

During the post World War II era, improving economic opportunities caused many white women to leave the processing plants for positions outside the broiler industry. As a result, the line labor force became overwhelming African-American. A case in point was Paramount Poultry of Harbeson, Delaware, where by 1948 approximately 80 percent of processing line workers were black. Although some black employees were natives of the broiler-producing sections of Delmarva, others moved in from the lower tip of the Peninsula or from Virginia and North Carolina to find work. At Townsends' processing plant east of Millsboro, for example, many in its African-American work force had originally moved north from the Eastern Shore of Virginia to work in Townsends' orchards.

During the 1970s, 1980s, and 1990s, prospects for Delmarva's blacks improved to the point where many weren't as eager as earlier generations to work in the processing plants. As early as 1965, a

In contrast to earlier practices of burying, incinerating, or feeding carcasses to hogs, today's poultry growers generally dispose of dead birds by composting on their farms.

report on the Peninsula's broiler industry warned that the problem of "attracting, keeping and managing processing plant workers is one that will continue and [will] increase in difficulty." By the late 1980s, processing plants were very hard pressed to fill their expanding labor needs. At this point a vanguard of Hispanics, a distinctly different ethnic labor force, began to appear in a few processing plants. Within a decade, a majority of workers were Hispanic in a number of plants. Two examples were Perdue Farms in Georgetown and Townsends east of Millsboro where, by 1997, about 50 to 60 percent of line employees were Hispanic.

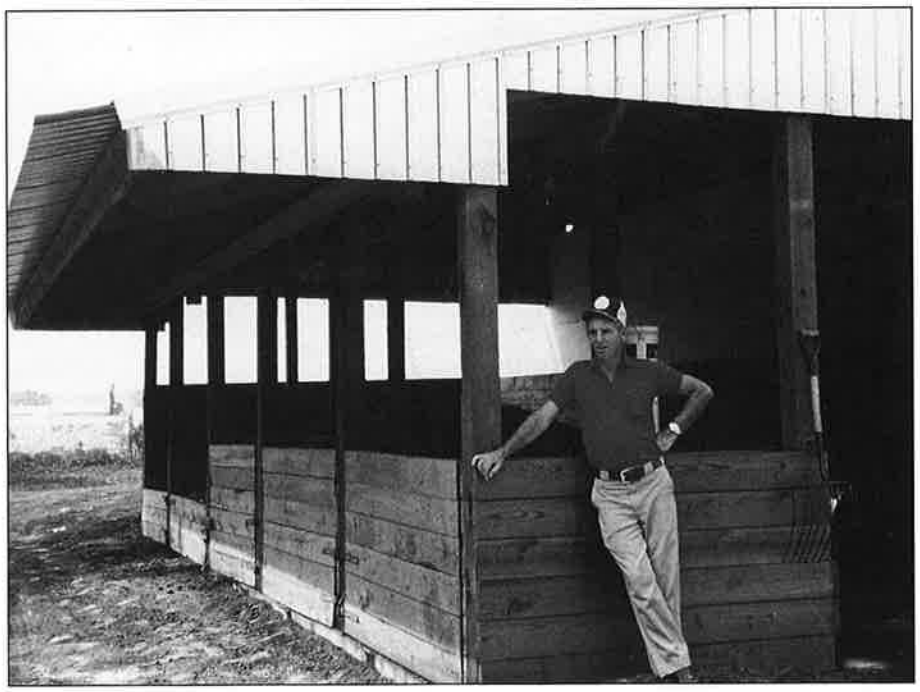
The Hispanic laborers were predominantly young males from Guatemala, Mexico, and other Latin American nations. In general they left their native lands to escape political oppression or to improve their economic opportunities. Whatever the reasons for immigrating to Delmarva, they were appreciated by spokesmen for the broiler industry. By 1994 Bill Satterfield, executive director of DPI, was making the point that "if we didn't have these people...the whole industry would be smaller." By 1997 Frank Perdue was calling the Hispanics "a God-send," because they "have an extraordinary work ethic."

Hispanic poultry workers took up residence in towns throughout much of the Peninsula, but the heaviest concentration was in Georgetown, the seat of Sussex County, where one processing plant was within town limits and at least three others were within easy commuting distance by automobile. Georgetown is a conservative community that had never experienced an influx of more than a handful of immigrants who didn't speak English. As late as 1989 there were only a few Hispanics in town. By early 1998, however, an estimated 25 to 50 percent of Georgetown's population was Hispanic, primarily Guatemalan. For many native Georgetown residents, this Hispanic presence has created culture shock of considerable proportions.

As it looks to its future, Delmarva's broiler industry faces some obstacles to continued expansion. Critics have called for strong government intervention because, they charge, chicken manure spread as fertilizer on corn and soybean fields has created a nutrient-rich runoff that becomes a public health threat as it eventually makes its way into many of the Peninsula's waterways. Spokesmen for the broiler industry responded that the potentially hazardous substances appearing in the waterways have other sources than chicken manure. By June 1998, Maryland had mandated some restrictions on the future use of chicken manure while Delaware had opted to continue its voluntary control programs.

At stake is the economic well-being of the Peninsula's broiler industry. If tight restrictions are legislated by Delaware, Maryland, or Virginia on the use of chicken manure, the entire broiler industry on Delmarva would be hard pressed to compete with other regions of the United States. Chicken manure is a very effective but inexpensive organic fertilizer that has kept down the cost of raising local corn and soybeans. Tight restrictions, however, would force Peninsula grain farmers to depend more extensively than before on the more expensive chemical fertilizers, which would only drive up the costs of raising corn and soybeans. These higher costs, in turn, would make locally milled and mixed chicken feed more expensive. And a rise in Delmarva's chicken feed costs would make it almost impossible for Peninsula chickens to be priced competitively in regional, national, and international markets.

Another issue of significance for the future concerns the impact on growers of the declining number of Peninsula integrators due to consolidation. The "new" contract system, introduced in the 1950s, took most of the risk out of raising chickens, but it also made the growers more dependent on the integrators. But as long as there were many integrators interested in contracting with individual growers, broiler farmers felt that they had some leverage. (In the past Peninsula farmers have had more integra-



Millsboro grower H. Edward Dutton, Jr. in front of his composter in 1988, one of the first on Delmarva. Composting is an environmentally sound way of disposing of dead chickens. It is a significant improvement over earlier methods such as throwing carcasses into the woods or burying them in the ground. Composting was first introduced in the late 1980s.

tors to choose from than most other broiler-producing regions.) From 1969 to 1998, however, consolidation reduced the number of integrators from sixteen to five: Perdue, Mountaire, Tyson, Townsends, and Allen's. This development is very troubling, according to broiler grower and grain farmer Jim Baxter of near Georgetown, because it eliminates competition, and leaves the farmer "no options." On the whole, however, a 1997 University of Delaware survey of growers indicates that the "vast majority" were "satisfied with their business as poultry grower." In addition, over 70 percent of growers polled were optimistic about the future of Delmarva's broiler industry.

Trying to predict the future of any industry is very difficult. Most observers maintain that, on the Peninsula, the broiler industry has reached a mature stage of development where the dramatic growth that marked the past is not likely to continue. In 1998 the chairman of Perdue Farms, Jim Perdue, pledged that his company's headquarters would remain on Delmarva, but added a cautionary note: "The question is, are we going to be able to grow and process chickens here?" Some observers of the industry predict that, in the long run, the Peninsula will follow the example of Long Island, where ducks and potatoes have been replaced by summer tourism and residential development.

And yet, almost from its inception in 1923, there have been predictions of impending calamity concerning the future of Delmarva's broiler industry. In the late 1920s, a number of farmers hesitated to raise broilers year-round because they suspected that meat-type chickens didn't have a future. During the early 1930s, predictions that the broiler industry would soon "blow up" caused hatcheries to cut back on egg orders, which led to a shortage in broiler chicks. Stephany Poultry of Seaford, Delaware, shut

Like the Allens and Townsends, the Perdues represent three generations of involvement in Delmarva's broiler industry. This 1950s photo shows Jim (left), Frank, and Arthur Perdue.

down its processing plant at the end of World War II because its owners saw no future for the poultry business. In 1997 DPI's former executive director Jerry Truitt pointed out that "the gloom and doom predictions" concerning the future of Delmarva's broiler industry have surfaced at least five different times since the 1950s.

Despite these dire predictions, however, the Peninsula's broiler industry just keeps moving ahead, solving old problems and meeting new challenges with innovative ideas and the application of the most advanced modern technology. As a result, Delmarva produced at least fifty-five times the number of broilers in 1997 as in 1934. This is particularly impressive because the chickens of 1997 were at least twice the size of the 1934 birds and were fully processed, rather than delivered live to markets.

But this dramatic success wasn't easy. As former broiler entrepreneur Ed Covell reminds us, much of it was due to the "courage and tenacity" of key leaders who stuck with the industry through "rough times." The continued presence of these traits among the more than twenty thousand people employed in various stages of production and marketing by the Delmarva broiler industry promises to maintain the chicken as an indispensable part of the Peninsula's economy for years to come. Sylvester Harmon, a retired Townsends' employee who lives east of Millsboro, Delaware, pointed out in 1997 that if the poultry industry hadn't come along for "the people in my neighborhood, I don't know how they would have made it." The presence of the broiler industry in the decades ahead promises continued economic hope to some Peninsula residents through direct employment and to many others through the ripple effect of the broiler industry on the region's economy.

Ed Covell, Delmarva broiler entrepreneur.