



Poultry houses at Kfar Menachem, Israel, are built with cement blocks.

Israel: Small Country With A Big Poultry Industry

By Ben Chorin

● Israel's poultry industry is an interesting example of how an undeveloped country manages a poultry industry which: 1. Provides a plentiful supply of poultry for home consumption; 2. Exports poultry products to earn much needed income for the nation's economy.

Prior to the country's becoming independent in 1948, Israel's native poultry, a small-type fowl, scratched for food in garbage and manure piles and laid about 50 to 60 tiny eggs a year. Little of the modern techniques of poultry husbandry were followed.

Several problems confronted Israeli agriculture. The country is small with a limited area of tillable land. Rainfall averages only 51 cm. annually and is concentrated in the winter months. There is no natural pasture in most parts of the country. Although irrigation permits the raising of fruits and vegetables, it was recognized that poultry was the cheapest and most logical source of locally produced protein for Israel's rapidly increasing population.

With the aid of the Irgun M'gadlei Ofoth, much progress was made. The society, founded in 1929, obtained and

About The Author

Mr. Chorin was born in the United States and migrated to Israel in 1939. He was one of the pioneers who settled at a cooperative agricultural settlement called Kfar Menachem.

Today the settlement cultivates 2000 acres of land, of which 300 acres are irrigated. Various fruits, cotton, sugar beets, clover, alfalfa, and grains are raised where only weeds and thistles could be seen in 1939.

The first broiler type chicks were imported in 1950 from the United States. Presently, the settlement produces 500,000 broilers a year. An eviscerating plant dresses 3000 birds a day and has freezing and storage facilities. Kfar Menachem also has 20,000 laying hens and a hatchery capacity of 160,000 eggs.

distributed information to poultrymen about the latest methods of breeding, nutrition, marketing, and management. Poultry production in the country made great strides (see chart).

The 1961 hatchery census records 600 incubators on 240 Israeli farms. The incubators have a capacity of 7,918,494 eggs, of which 400,000 are used for hatching turkeys, geese and ducks. The largest hatchery has a capacity of 200,000 eggs with settings twice weekly.

The Breeds Used

The most popular breed for egg production is the White Leghorn. Recently, however, egg strains of Rhode Island Reds, New Hampshires and White Rocks have been used to cross with the Leghorn. The crosses are becoming more popular, especially with those new to the poultry business and those using cages. (Crosses have a higher percentage of broodies when raised on litter.) White Rock and Cornish-White Rock crosses are the accepted broiler breeds. Most foundation stock for both eggs and meat birds comes from the United States

Israel has nine pedigreed Leghorn

breeding farms which provide hatcheries with stock. The results of the Sixth Government Random Sample Laying Test (ending August 16, 1960) show that the average results (35 participating breeders) were 193.3 eggs per pullet housed on a 199.1 hen-day basis.

In the Seventh Random Sample Meat Test, the results at 10 weeks were: Average weight of 17 participants, 1.726 kilograms, with a feed efficiency of 2.41. The highest rating was 1.935 kilograms, with a feed efficiency of 2.39.

Production Methods Vary

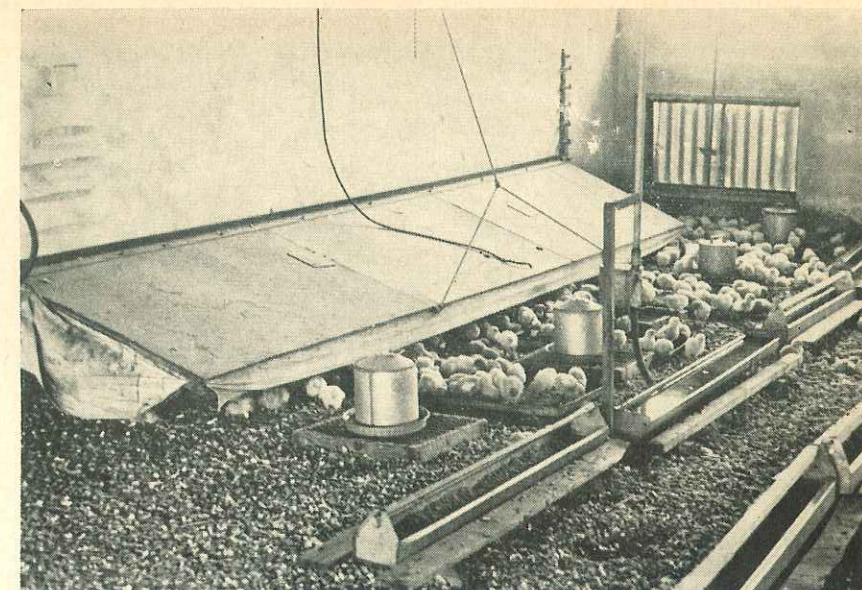
Laying flock size varies from 500 to 20,000 in cooperative farms. Broiler flocks range from several hundred to about 120,000 broilers.

During recent years, the influx of newcomers to agriculture and poultry raising has increased the popularity of the cage system. Although it requires greater capital investment, management problems and the chore of culling non-layers are simplified. Pedigree breeders also find that the cage system is more accurate than trapnesting. It also requires less labor.

Recent developments in artificial insemination of poultry permit the use of more layers per pedigreed male. Families are no longer limited to 10 to 15 layers per cockerel. More than double that number can be sired by a single cockerel by artificial means in cages.

Broilers Moved Twice

Broilers are kept on litter, in cages, or batteries. Battery brooders, four tiers high, are usually electrically heated. Broiler brooder houses have electric, kerosene, and gas brooders for four to five hundred chicks or a central heating system with hot-water pipe hovers for one to two thousand chicks. In Israel, it is customary to transfer the chicks from the brooder house to a growing house at five to six weeks of age. At market time, the birds are finished in cages of two to three birds each or wire or wooden batteries of forty to fifty birds. Transferring the birds in this manner is less expensive than raising the same bird in the same house to maturity. The cost of brooder house for housing one chick per square foot until market time (four flocks a year), is much higher than keeping two chicks per square foot until fully feathered and



Hot water wall brooders fold up against the wall to simplify cleaning the brooder house.



Feed carrier (above) is filled from bulk feed bin. The carrier travels on an overhead rail to ease the job of feeding the birds.

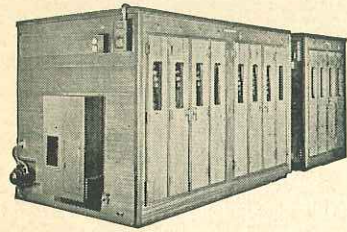


Broilers are transferred from the brooder house to a growing house when they are 5 to 6 weeks old. Before market time, the birds are finished in wooden batteries (above) which hold 40 to 50 birds each.

Israel's Poultry Industry Grows Rapidly

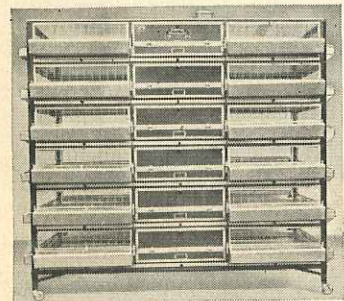
Year	No. of Layers (in millions)	Egg Production (in millions)	Poultry Meat (metric tons)
1948	1,500	—	—
1949	2,506	242.5	—
1954	3,450	414.	9,300
1955	3,250	503.5	9,300
1956	3,650	510.	23,200
1957	4,175	630.	22,200
1958	5,700	886.	35,000
1959	6,500	1,027.	40,650

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then transferring them to a cheaply constructed growing house until market time. This method allows six flocks to be run through the same brooder house each year. At least two weeks are allowed between flocks to clean out the houses.

Cages Are Popular

It is claimed that finishing birds in cages or batteries gives up to 10 percent more weight and better feed efficiency when compared to birds raised



Israeli poultrymen follow a good sanitation program.

on little floors. It is also believed that birds should be housed in groups according to their size and development, so the smaller birds do not become culls because they are at the bottom of the peck order.

Hanging feeders have become popular in Israel. Although few farms are using automatic feeders, observers say they will soon become more widely accepted.

Cement Used for Building

Building materials and labor are expensive in Israel. Tin, aluminum sheeting, and lumber must be imported. Locally manufactured cement used as hollow concrete blocks is an economical and practical construction material. Roofs are corrugated plates of pressed cement. Cage sheds usually have open walls with plastic curtains which are pulled down when strong winds blow and rain falls.

More poultry farms receive their feed in bulk form. A feed carrier on an overhead track runs the length of the building to make distributing the feed easier. Nearly all buildings have semi-

monitor roofs for ventilation and a large number of windows and other openings to keep the birds cool during hot weather.

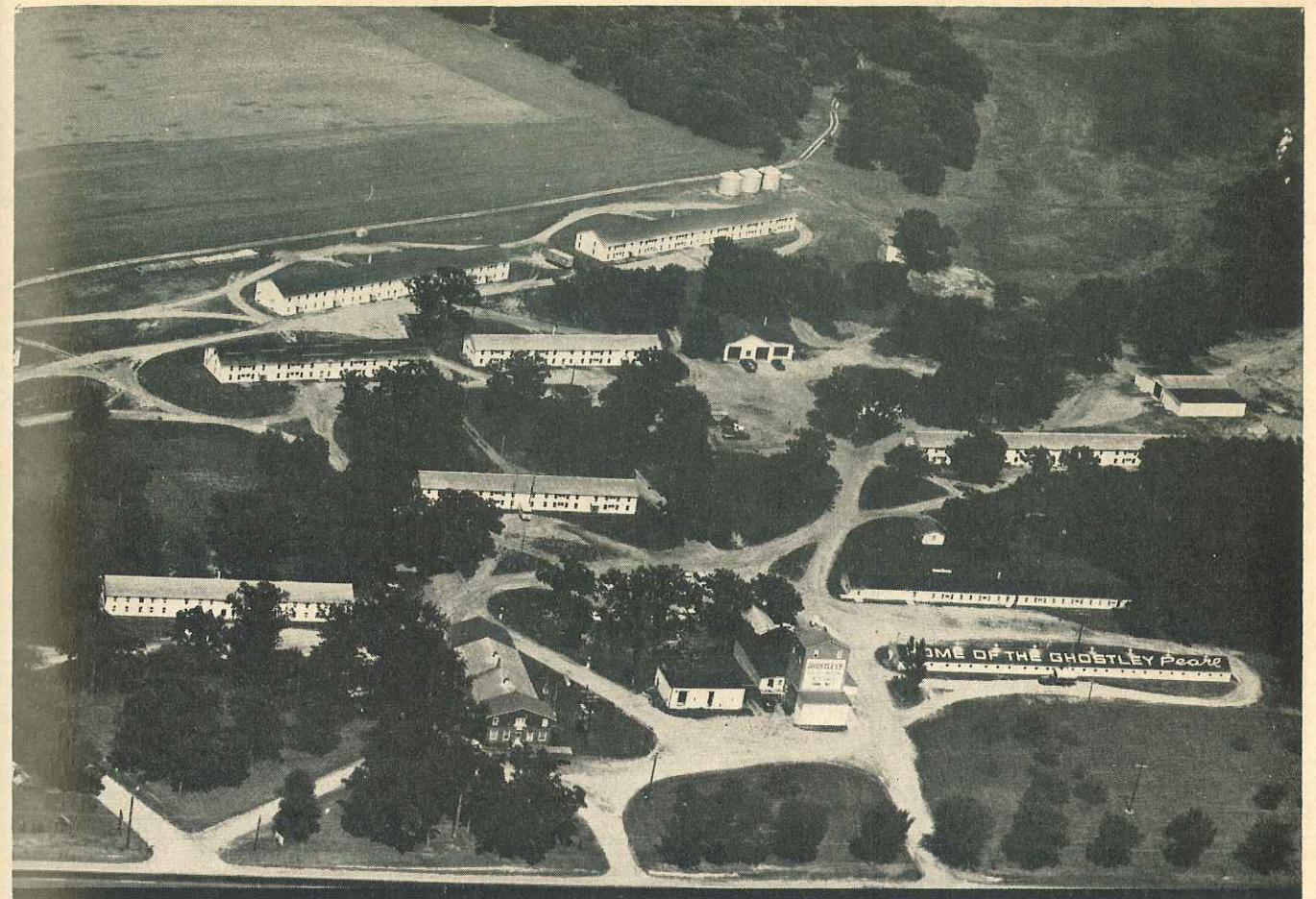
Most large poultry establishments mix their own feed. One and a half ton vertical mixers are common. Israel produces about 50 percent of her grain requirements and the remainder is imported. Fishmeal and soybeans are also imported. Israel's increasing cotton production is availing more cotton-seed meal for use in poultry feeds. Some locally produced peanut meal is used in some feed. Locally manufactured vitamin pre-mixes and minerals are used.

Disease a Problem

Although pullorum and laryngotracheitis are unknown in Israel, most of the diseases plaguing poultrymen over the world cause the Israelis problems. It is customary to give vaccination for pox at one day of age. Replacement stock is revaccinated at four months. Broiler chicks are vaccinated for Newcastle (fowl plague) at three and a half weeks by injecting the vaccine in the breast or thigh muscle. Bluecomb has appeared frequently in recent years, especially in flocks of heavy breeds in early months of production. It is interesting to note that Bluecomb is common at all seasons of the year. Coccidiosis, coryza, isolated cases of synovitis, paratyphoid and hemorrhagic disease have appeared in reports from the government veterinary laboratories. Infectious bronchitis is being successfully treated with antibiotics which also control chronic respiratory disease.

Since poultry is important in providing income for the economy, the departments of poultry science in the numerous agricultural schools are usually highly developed. The ministry of agriculture, in cooperation with the poultry association, has established a course for beginning poultrymen. The course lasts for three weeks and it is conducted in the fall of each year. The course has been very popular. Much poultry literature is published by the experimental station at Beth Dadon. A monthly magazine (in Hebrew) published by the poultry association is devoted to the problems of poultrymen.

Ten years ago, Israel suffered from a food shortage. Today, because of hard work, cooperation, and enthusiasm, the country exports poultry meat and eggs.



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Egg Color

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