

Commercial Poultry

The Kimber Poultry Breeding Farm in California

Jack Hylton, '43

THE poultry industry is a big business. In the last year, poultry producers enjoyed a 1,500,000,000 dollar income. The size of this figure is emphasized when it is realized that this income exceeded that of cattle raisers by 200 million dollars, topped the value of the national corn crop by 300 million dollars, and in five of the last six years was only second in value to dairy products.

But, gigantic as it is now, the poultry industry is relatively new, and still growing. Until a few decades ago the raising of poultry was a side-line of most farmers—a few chickens scratching and pecking in the barnyard. However, as the knowledge necessary for control of disease and for management of large numbers of fowl was gained, the size of the flocks increased. And, what is most important, the raising of chickens became a commercial proposition for many poultrymen. Today, chickens are kept in commercial quantities by more than five and one-half million farmers and in large quantities, to the exclusion of other animals, by fifty thousand commercial poultrymen.

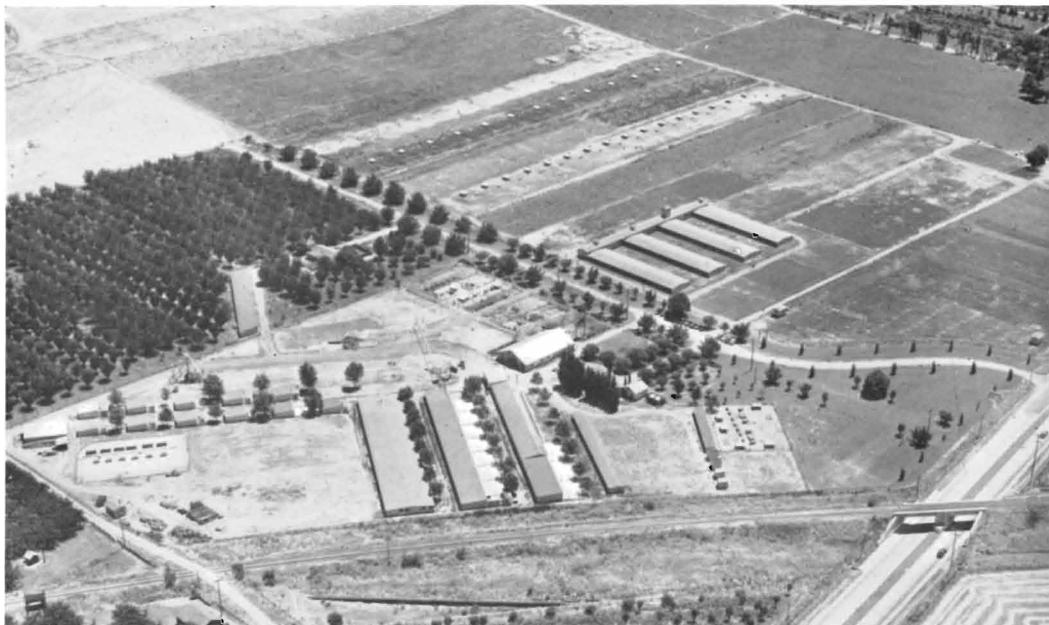
Probably the commercial poultryman offers the most interesting phase of the poultry industry. It is the commercial poultryman, drawing upon scientific research and his own experience, who has proved the feasibility of large flocks of fowl as a paying business venture, and who has shown the farmer how he can make his own smaller flocks an important source of income.

One of the most modern and scientific commercial poultry farms in the world is the Kimber Farm at Niles, California.

Established in August, 1925, the Kimber Poultry Breeding Farm began with an initial investment of 6,300 dollars. Physical equipment included seven acres of land, a poultry house 18 by 120 feet with a capacity of 720 hens, and a garage residence 20 by 40 feet. Foundation stock was obtained from several of the world's foremost breeders of single comb white Leghorns at a cost of from twenty-five cents to twenty-five dollars per egg.

In 1939 the expansion program of the farm was near enough completion to make it, so far as it is known, the largest pedigreed poultry breeding establishment in the world. Today the farm controls 140 acres of land, has housing capacity for over 30,000 hens, has incubator capacity for over 200,000 eggs, employs forty-five to fifty workers the year around, and operates two plants which originally cost about 300,000 dollars. Gross sales in 1940 were approximately 138,000 dollars and were expected to exceed 200,000 dollars in 1941. The addition in 1941 of a plant at Atascadero adds further to the Kimber facilities.

One of the most interesting research projects ever conducted at the Kimber Farm showed that young stock could be reared in complete confinement and live as successfully as on a large range. Thus it has been proved that chickens may be raised in complete confinement to live as well and lay as well as their sisters raised on a large and ideal range. This has led to a change in the housing layout. The present modern poultry houses have metal, fire-resistant walls which are fly-tight and rodent-proof. Screened openings pro-



Air View of Kimber Farm

vide plenty of fresh air without serious draft and prevent entrance of such known carriers of diseases or parasites as birds, rats, mice, and flies. These modern houses are completely under cover of the roof, having no out-of-door runways. An alleyway runs along the entire front of each series of houses which protects the litter from rain and provides continuous water and green feed trough facilities.

Electric fly-killers are installed throughout the buildings, designed to attract and destroy flies which enter when a door is opened. Laying houses are equipped with self-cleaning trapnests. Large vacuum cleaners remove all litter, dust and dirt from the houses and transport these materials by means of an extensive pipe system to a central vacuum tank which, after sucking it from the houses, blows the litter into fertilizer bins where it is held until sold.

Breeding Program

The breeding program of the Kimber Farm is based on the most advanced technics that their scientists can devise, and rests squarely on an unprecedented series of precision measurements and their

careful analysis and utilization. The breeding and research program has been under the general direction of George C. Kimber, an honor graduate of Stanford University, who also received a scholarship at the University of Brussels, Belgium, where he did research work. He has made the Kimber breeding program and technic so outstanding in the industry that other scientists come from far and wide, spend days studying it, and return home filled with enthusiasm. Arthur Heisdorf, geneticist, is in personal charge of Kimber's scientifically designed program. The genetic records maintained to aid the program cost over 40,000 dollars, a figure indicating the scale of operation.

Genetic Analysis

Precision measurements and genetic analysis are the two basic steps in this modern breeding program. No less than 1,251 complete families of full sisters, averaging about 25 sisters per family, have been kept intact until death in order to measure the soundness of each family. In this group, the records of approximately 30,000 individual pedigreed females are

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kept. In addition, 524 other families, unbroken for from two to five years, constitute 10,000 more pedigreed birds. All mortality in these families has been recorded as well as livability and soundness. These factors are thought to be more important than the measurement of egg production, but every female is trapnested for egg production and egg size; precise measurement of shell, yolk, and albumen of the egg are made and recorded.

Kimber scientists are working on approximately forty separate and distinct research problems. As an aid to the solution of these problems, every bird which has died on the farm since 1934 has been necropsied. Dr. H. R. Brewer, veterinary pathologist, is in charge of this phase of the work.

One of the early problems of the farm was to attain a higher degree of biological soundness than that possessed by the foundation stock, even though some of the birds were from the world's best. A difficult problem was the outbreak of range paralysis (leucosis), which caused grave concern for three years. The reduction of the incidence of leucosis in the main population was accomplished by careful selection. At present, the most interesting problem is the development of a leucosis-free strain. Should such a strain actually be produced, as cancer-free strains have been in mice, it would constitute one of the greatest achievements in poultry breeding. Another problem is an attempt to develop a "pause-free" strain—that is, a reduction of the winter pause in laying hens.

The Kimber Farm is only part of America's billion dollar poultry industry, but much credit should be given it as it represents an establishment in business not only for itself but for the American poultryman. Scientific breeding on a large scale greatly benefits the farmer, and especially the commercial poultryman who is interested in the problems of breeding, feeding and management.

As was pointed out at the Seventh World's Poultry Congress held in Cleveland, Ohio in 1939, disease is the most important problem of the poultry industry

today. The United States Bureau of Agricultural Economics estimated that in the average year of 1937 over 15 per cent of the 420,250,000 adult chickens in the United States died of some disease. This loss of adult birds, exclusive of chick and young stock losses, cost the poultry industry 48 million dollars in a single year. It can be seen why the poultry industry is seeking the help of the veterinary profession.

The Kimber Farm is an example of how the veterinarian can help the poultry industry. While every poultry raiser can not operate upon the scale of the Kimber establishment, the principles of management are the same. As the Kimber Farm has utilized the knowledge gained by scientific research and practical experience, so can any poultry raiser. It is a matter of good business. The veterinary profession today should be ready to supply the poultry industry with all available information it has concerning poultry disease. That is good business too.

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is necessary for egg production, for hatchability, for the prevention of infections of the respiratory system and intestinal tract and for growth and general well being in chicks. The vitamin A potency of a product is measured in terms of international units. The international unit of vitamin A is the growth promoting and xerophthalmia preventing potency of 0.0006 milligrams of pure beta carotene. Vitamin A may be present in either one of two forms. It may be present as vitamin A itself; this form is found in animal products, or it may be found in the form of one of the carotenes which are recognized as provitamin A. It is usually found in this form in the vegetable sources. This vitamin is not stable, and fresh supplies of feed should be mixed frequently in order that the vitamin A potency may be retained.

The chick requires 1000 to 1200 International units of vitamin A per pound of feed. The laying hen requires approximately twice that amount or 2000 to 2400 units, and for maximum hatchability breeders should be fed up to 4750 units