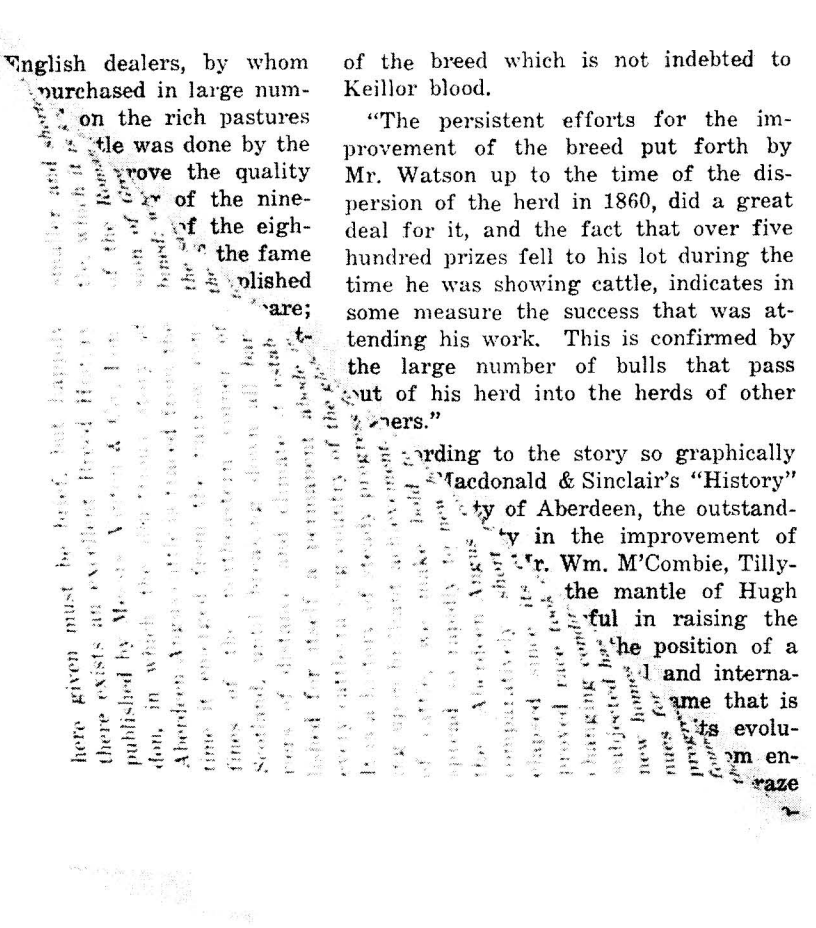

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Turning Back The Pages Of Livestock History

By M.E. Ensminger, Ph.D.

Historically, the livestock industry has been marked by certain milestones or turning points. Without claiming that I have included all of them, my chronology of important developments in the U.S. livestock industry follows:

First American livestock show — In 1810, the first American livestock show was held at Pittsfield, Massachusetts, but livestock exhibitions had been initiated in Europe many years earlier.

First public livestock auction — In 1836, the first public livestock auction sale was held in Ohio by the Ohio Company, whose business was importing English cattle. This event also marked the first sale of purebred cattle ever held in America.

Modern U.S. dairy industry evolved — Beginning about 1850, the following developments paved the way for the modern U.S. dairy industry of today. Cattle which were the foundation of our present-day breeds were brought to this country; milk was pooled by neighboring farm families in a

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cooperative effort to make cheese; condensed milk was developed by Borden in 1856; the centrifugal cream separator was invented in 1878; the Babcock test for fat evolved in 1892, followed by the adaptation of pasteurization to milk, mechanical refrigeration, homogenization, and modern packaging and transportation.

First agricultural colleges — In 1855, Michigan established the first agricultural college in the United States; and in 1862, the Morrill Agricultural Land Grant Act was passed, enabling states to establish colleges of agriculture.

Birth of meat packing — In 1863, Philip D. Armour, in partnership with a Mr. Plankington, established a meat-packing enterprise in Milwaukee; and four years later Armour & Company set up a business in Chicago. Gustavus F. Swift first opened a retail meat market of his own at Eastham, Massachusetts in 1859; gradually, he moved westward and opened up the Swift & Company plant in Chicago in 1877.

Changes in the poultry industry that have paced the whole field of agriculture — Starting with 1869, a brief chronology of important developments in the poultry industry follows:

1. In 1869, the first trapnest patent was granted.

2. In 1923, the first commercial broiler industry was started on the Delmarva Peninsula, near Ocean View, in Sussex County, Delaware.

3. In 1929, layers were first kept in individual cages at the Ohio Agricultural Experiment Station. Today, 90 per cent of the layers are in cages.

4. In 1956, Colonel Harland Sanders of Kentucky began franchising Kentucky Fried Chicken, a fast food chain. By 1977, 19 per cent of the total U.S. broiler production was sold through fast food outlets and carry-out restaurants. Kentucky Fried Chicken, McDonald's, and other fast food services, have had a significant impact on the U.S. livestock and poultry industries.

5. In 1956, integrating and contracting began in the egg business. Today, 99 per cent of the broilers, 85 per cent of the turkeys, and 80 per cent of the eggs are produced under some kind of integrated or contract arrangement.

First agricultural experiment station — In 1875, Connecticut establish-

ed the first state experiment station; and in 1887, the Hatch Act passed, establishing agricultural experiment stations.

First tower silo — In 1876, the first tower (upright) silo built in the United States was erected by F. Morris in Maryland.

Federal animal disease eradication — The year 1884 marked the beginning of organized cooperative effort, under legal authority, for the control and eradication of animal diseases. In that year, Congress created the Federal Bureau of Animal Industry to prevent exportation of diseases cattle and to eradicate contagious pleuropneumonia and other contagious diseases. Famous Bulletin Number 1 followed, in which the Bureau of Animal Industry revealed that Texas fever ticks were the biological bearer of the protozoa causing Texas fever. The description of this type of disease relationship laid the foundation for the subsequent work on such diseases as yellow fever and malaria of humans.

Swine types — Beginning about 1890, swine breeders turned their attention to the development of early maturity, great refinement, and very thick finish. In order to obtain these desired qualities, animals were developed that were small in size, compactly built, and very short of leg. In the Poland China breed, this fashionable fad was carried to the extreme, finally culminating in the development of the "hot bloods." Hogs of this chuffy type were notoriously lacking in prolificacy; they often farrowed twins and triplets. When they were carried to weights in excess of 200 pounds, their gains were expensive. Small, refined animals of this type dominated the show-ring from about 1890 to 1910.

About 1915, in order to secure increased utility qualities, breeders began the shift to the big-type strains. Again the pendulum swung too far. The big-type animals were rangy and slow in maturity. One popular champion of the day was advertised as being "so tall that it makes him dizzy to look down."

Since about 1925, American swine breeders have been producing meat-type hogs — animals that are intermediate between the lard and bacon types.

Commercial feed industry — In 1895, the commercial feed industry began in Chicago.

Mechanized power replaced horse power — In 1900, the automobile was still the plutocrat's plaything, and the truck and tractor were unknown. Then, in 1908, Henry Ford produced a car to sell at $825. The truck, the tractor, and improved highways followed closely in period of time. Old dobbin didn't know it at the time, but his days were numbered. In 1915, horse numbers peaked at 21,431,000 head; and in 1925, mules peaked at 5,918,000 head. The extension of mechanical power caused a decline in the use of animals as a source of power, and liberated crop acreages and contributed to surpluses.

Milk and butterfat testing — In 1905, the first U.S. cow-test program was established in Newaygo County, Michigan. Years later, in 1926, this gave way to the Dairy Herd Improvement Association (DHIA), the most complete of all dairy production and record plans. Today, more than half the lactating cows on production test in the United States are on this program.

Truck transportation — In 1911, truck transportation of market livestock had its beginning. Today, trucks transport the vast majority of market animals.

Discovery of vitamins — In 1912, Casimir Funk, a Polish scientist working in London, first used the word "vitamines" to describe substances needed for animal life. Later the "e" was dropped; hence, the word "vitamin." With these findings, a new era of science was ushered in — the modern approach to nutrition was born.

Essential amino acids identified — In 1930, Dr. W. C. Rose and co-workers of the University of Illinois initiated a series of studies, using a new technique, out of which evolved specific information relative to the amino acids that must be present in the feed and food — the ten essential amino acids.

Coming of the exotic cattle — In the late 1930's, the Charolais found its way into the United States from Mexico. Then the tidal wave broke, facilitated by the quarantine station in Canada established on Grosse Isle, in the St. Lawrence River, and opened in 1965. It was then possible to bring cattle from Europe, previously closed because of the disease situation. The first Simmental was imported into Canada in 1967, and the first Limousin entered Canada in 1968. The time was ripe for the exotics and more crossbreeding. During much of the 1950's and 1960's, the cow-calf man was hurting financially. Crossbreeding with its demonstrated potential for producing more at less cost through complimentary genes and heterosis offered new hope — hope for survival. Artificial insemination facilitated the movement.

Artificial insemination — In 1936, artificial insemination began in dairy cattle; and in 1939, the first AI association was organized in this country. In addition to making for wider use of outstanding sires, AI was a motivating force back of increased crossbreeding of animals because it simplified the rotation of sires of different breeds.

Haymaking went modern — Beginning about 1940, scientists and engineers pooled their efforts to transform haymaking. Haymaking went modern, with automated one-man pick-up balers, field choppers, cubing machines, round bales, mechanically compressed stacks, and other modern equipment replacing the pitchfork.

Man-made fibers had impact on sheep and wool — Beginning about 1945, synthetic fibers — nylons, polyesters, and acrylics; products of research conducted by Dupont — had

great impact on sheep and wool. In the period 1945 to 1973, the U.S. per capita consumption of man-made fibers increased from 5.5 to 41.1 pounds. During this same period, U.S. per capita consumption of scoured wool declined from 4.6 to 0.7 pounds.

Growth of the grain-fed cattle binge — About 1947, the time was ripe for the "chain reaction" that spawned the era of grain-fed cattle. Grain bins bulged with surpluses, and consumers were able and willing to pay for grain-fed beef, which was ably promoted and merchanized by self-service chain stores. Commercial cattle feeders acutely attuned to consumer demands, set out to fill the needs. In 1947, only 3.6 million head of cattle were grain fed, representing 35 per cent of the slaughter cattle. By 1973, 25.3 million head of fed cattle were marketed, representing 75 per cent of all cattle slaughtered that year. Equally remarkable, was the development of big and modern commercial cattle feedlots.

Feed additive era — In 1949, McGinnis of Washington State University, and Jukes of Lederle Laboratory, discovered that antibiotics were something new to be added to livestock feeds. In 1952, Burroughs and

associates at Iowa State University, announced a major breakthrough in rate of gain and increased feed efficiency by feeding stilbestrol (DES). Most nutritionists agree that antibiotics and hormones stand out as the two nutritional, or nutritional related, discoveries of recent years that have had the greatest impact on livestock feeding.

Energy crisis prompted manure handling — The energy crisis of the 1970's prompted concern that farmers would not have sufficient chemical fertilizers at reasonable prices in the years ahead. Since nitrogenous fertilizers are oil- and petroleum-based, there is cause for concern. As a result, a growing number of American farmers are returning to organic farming; they are using more manure — the unwanted barnyard centerpiece of the past 40 years, and they are discovering that they are just as good reapers of the land and far better stewards of the soil.

That's the way it looks from my end of the log. Of course, others will recognize difference milestones or turning points.