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Recent Developments of Poultry Industry in Korea

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ABSTRACT

The poultry industry in Korea has expanded considerably during the last 15 years. While the number of chicken farms of commercial scale has decreased steadily during the period average farm size increased rapidly. Though the gross national product per capita increased 4.5 folds during ten years period, consumption of chicken meat, like other meats, recorded only 2 folds increase during the period.

When domestic market for chicken meat had been open for two years on the basis of minimum market access quotas, importation remained at levels below the quota during the first one and half years. Nevertheless, during the last six months and thereafter, chicken meat importation recorded a steep increase, threatening the domestic industry.

Poor productivities of the commercial chicken farms might be the main cause for the inferior competitiveness. For the sustainability of the industry some suggestions were made.

INTRODUCTION

In Korea, till early 1970's, poultry raising business of several hundreds or, at best, couple of thousands of laying chickens nearly assured an income to support a family, including the expenditures for university students. This may or might also be true in most of the developing countries. I still remember to have read on a newspaper about ten years ago that Chinese poultry farmers, running rather small poultry farms by our present standards, have been driving expensive imported cars. Of course I understand that China in some poultry operations far superior to Korea in production efficiency and they have been exporting huge quantities of poultry products.

As in most of the industrialized countries, poultry industry in Korea has been playing a leading role in the developments of the country's livestock industry, as can be examplified in the fields such as intensive raising, mechanization and/or automatization of production processes, integrated operations, etc.

Ohh(1993) divided the developments of poultry industry in Korea into five periods as for the following order; back-yard raising period(before

1900), odd-job raising period(1901~1940), suffering period during the World War Ⅱ and Korean War(1940~1960), commercialized poultry farming period(1961~1980), and modernized poultry farming period(1980~present).

This paper will mainly focus on the developments in the Korean poultry industry since 1980.

1. Trends of poultry farming and consumption of poultry products

The number of poultry farms raising over 5,000 chickens in 1980, either layer or broiler chicken, was 2,335. Though 54%(24.3 million birds) of the nation's total chickens population were raised by the farms, over 70% of the farms(1639 farms) were keeping under 10,000 chickens(Figure 1). During the next 10 years the number of farms nearly doubled to 4,539 in 1990. Thereafter it declined to 4,125(91%) in 1995 and 3,509(77%) in 1997, manifesting accelerated decrease after 1995. The numbers of poultry farms raising over 50,000 chickens in 1980 and 1997 were 72 and 278, respectively (MAF, 1980~1997). These changes appear to indicate that the number of farms will decrease steadily while the number of birds raised per farm increase rather rapidly during the next five or ten years.

According to the Monthly Survey Reports of the National Livestock Cooperatives Federation(1998) the number of layer and broiler farms raising over 5,000 chickens were 1,884 and 1,412, respectively. Since 1991 over 30 relatively large layer or broiler complexes have appeared, mostly as farmers cooperative organizations and ranging from 150 to 700 thousands of birds in capacity. Broiler growing has shifted from independent operation to contract growing with integrated broiler operation companies. In 1997 they produced 59% of the national broiler meat production of 380 thousand tons(Han, 1998).

Korea's gross national product per capita increased nearly 4.5 folds from $2,242 in 1985 to $10,037 in 1995. However, less than 2 folds increase was observed in chicken meat consumption during the period, from 3.1 Kg per person in 1985 to 5.9 Kg in 1995(Figure 2). Never the less, the total meat consumption also showed a similar pattern during the period. Egg consumption during the period showed an even meager in-

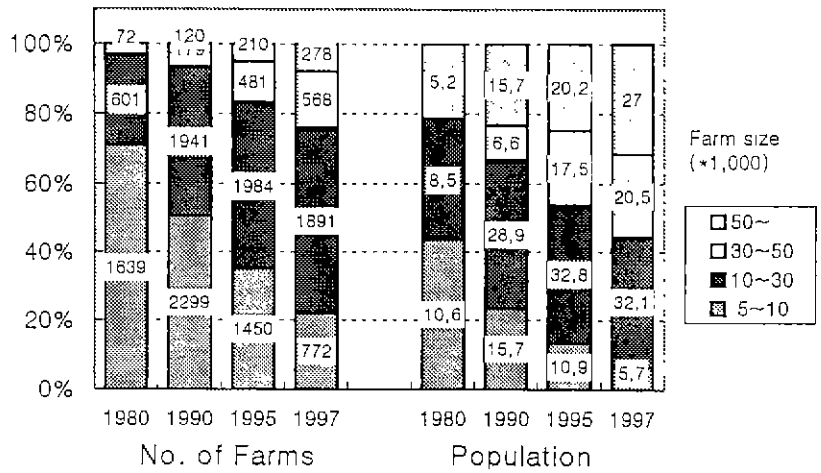

Figure 1. Number of farms and chicken populations classified according to the farm sizes.

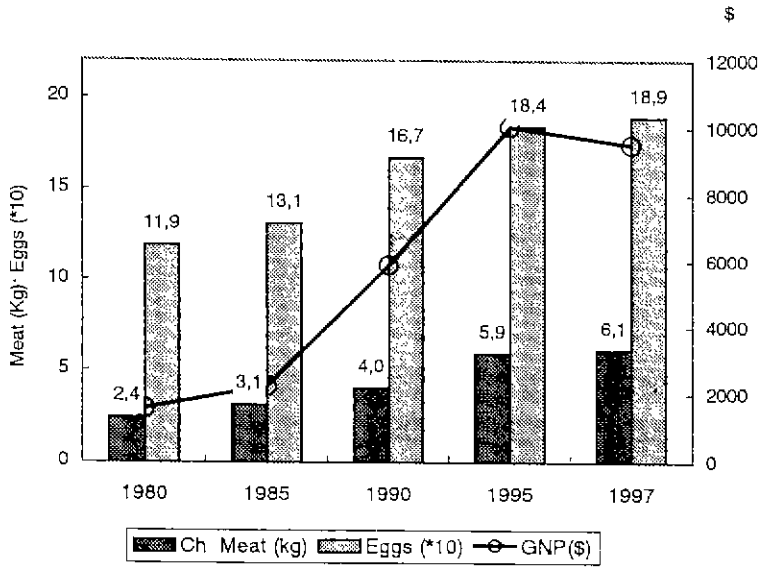

Figure 2. Trends of chicken meat and egg consumption per capita.

crease, from 131 eggs per person to 184 eggs(1.4 folds)(Ryu, 1998).

2. Trends of poultry meat importation

Until 1995 restriction was imposed on the importation of chicken meat. Following the agreement on the Urguy Round Talks, the Korean government set forth minimum market access (MMA) quotas for chicken meat importation from July 1995 to June 1997. Till the end of 1996

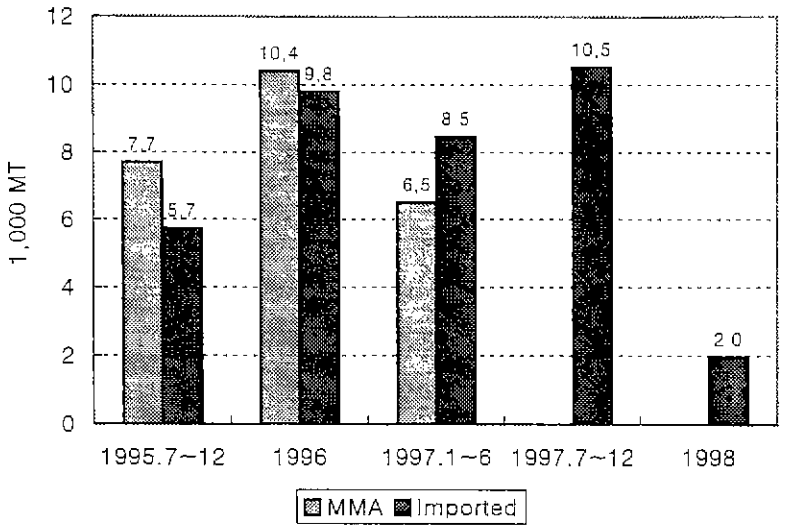

Figure 3. Chicken meat importation.

the quantities of imported broiler meat were smaller than MMA quotas. This might be due to the lower domestic prices, higher importation levies and tariffs(32.0%~33.5%), and unfavorable attitudes of consumers for frozen meat(Figure 3). However, the actual imported quantity in the first half of 1997(8,469 tons) exceeded the MMA quota(6,500 tons). The increasing trend of the importation was accelerated during the latter half of 1997 when the domestic market was fully open, exceeding ten thousand tons. The quantity of importation had shrunken sharply in 1998 due to the severe economic depression in the country.

With the recovery of Korean economy, it appears almost certain that the importation of chicken meat would increase at an unprecedented scale. This would be a serious threat to the Korean poultry industry. The industry has long been suffering from lower productivities, leading to higher consumer prices. Koreans particularly favor red meat parts like legs and wings. Contrary to this, in Western countries like USA, breast meat is most favored and fetches higher prices than the rest of all parts. In addition to this, with the development of thawing technology of frozen meat, it becomes difficult, if not impossible, for ordinary consumers to differentiate fresh and frozen meat.

The following suggestions may be made for the sustainability of the industry; 1) improve productivity, 2) create new products or brands favored by consumers, like special flavor, taste, lean, diet or medical foods, 3) diversify poultry types such as turkeys, ducks, quails, pheasants, 4) find ways to export fresh chicken meat.

The amount of turkey meat had been steadily increased since 1991. In 1997, approximately 40 thousand tons of turkey meat, worth of 68 million dollars, was imported. It is mainly used as an ingredient for processed foods such as sausages(Figure 4).

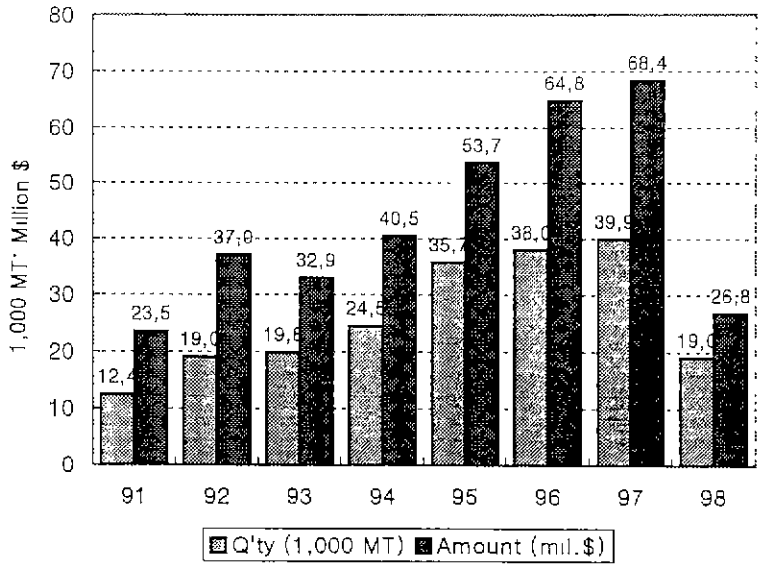

Figure 4. Other poultry(mainly turkey) meat importation.

3. Poultry productivities

There has been no reliable data on productivities of commercial poultry flocks in Korea. Broiler random sample tests(RST) have been run three times a year, March, June, and November. Differences in managements between RST and commercial farms are flock sizes, crop intervals, and bird densities. Flock sizes of RST have been under 5,000 birds and, as the birds were grown up to seven weeks of age, bird densities have been kept less than 9.2 birds per square meter(Korea Poultry Association, 1985~1998). Figure 5 shows average body weights and broiler indices(BI), calculated from an equation of [(% livability) * (kg live weight) * 100]/[(days of rearing) * (feed conversion). From 1985 to 1993 the broiler productivities and weight gains have been improved steadily as manifested by rising BI scores. Since 1994, except 1996, BI scores and weight gains have remained at somewhat lowered levls. The average values(standard deviation) at six weeks old for 41 tests during the 14 years were 97.8(±2.3) % for livability, 1989(±133) g for body weight, 1.920(±0.054) for feed conversion, and 242(±17) for BI.

Productivities in some broiler integrated operations are shown in Figure 6. Though the broiler chickens in commercial operations were slaughtered at an earlier age(average at 38 days), average BI score showed only 72% level (175) of that of RST. Average mortality of commercial operations stood at 11% at 38 days old. If extra chicks(usually 3%) are counted, mortalities and BI scores would be further worsened.

Average hen housed egg numbers of layer flocks at RST are shown in Figure 7. Till mid 1980's white layers were predominant in the country. However, since early 1990 white layers were replaced almost completely with brown

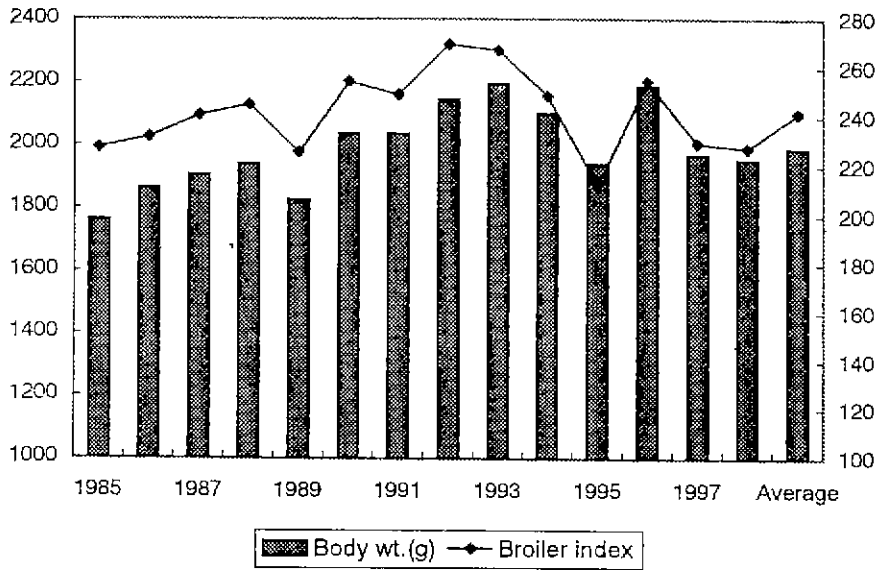

Figure 5. Yearly average production parameters of broiler random sample test flocks at 6 weeks old(41 tests).

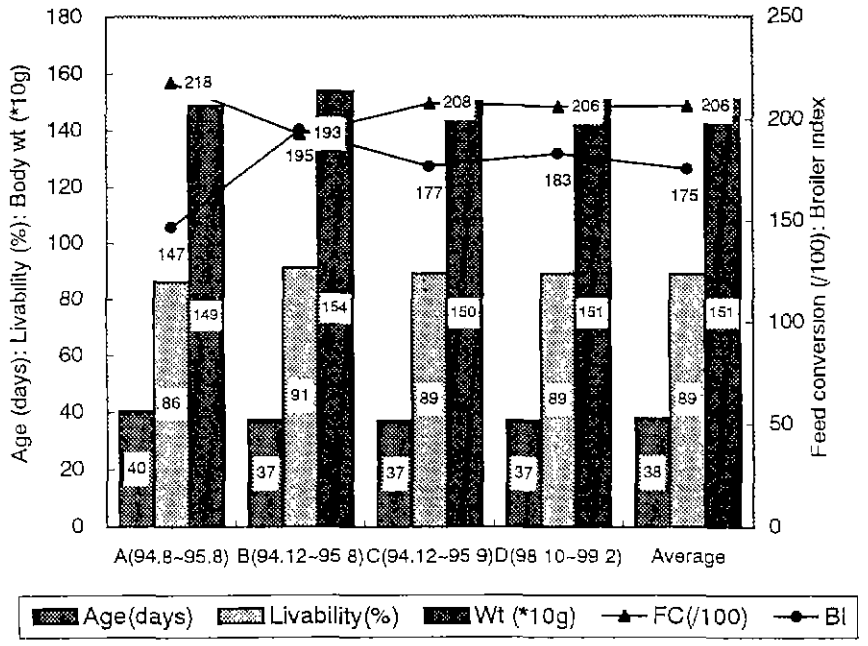

Figure 6. Productivities of broiler integration companies.

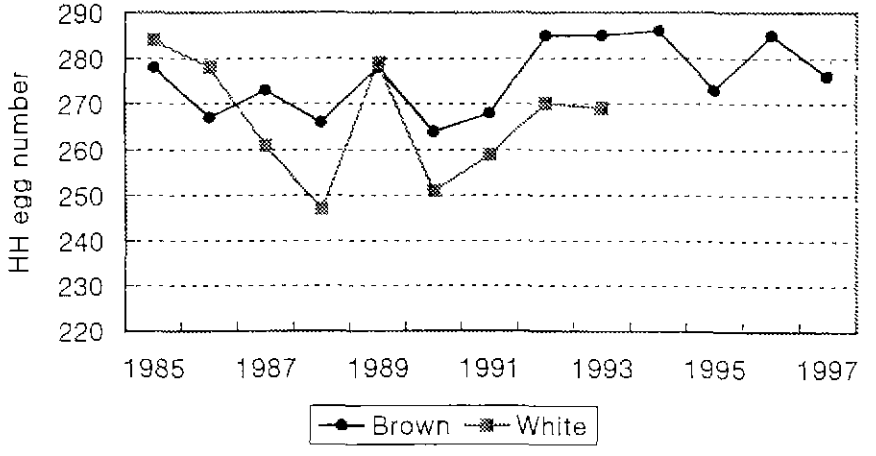

Figure 7. Hen housed egg numbers of the random sample test flocks(72 wks)

layers. This was mainly due to higher prices and consumer preference for brown eggs, and higher mortalities in white layers mainly due to tumor diseases. Since the first report on the outbreak of fowl typhoid in 1992(Kim et al., 1994), most of the layer farms have been experiencing

heavy losses from the disease.

적 요

1980년 전업 규모(5천수 이상)의 양계 농가는 2,300여 호였으며 이들 농가가 전체 사육 수수의 절반 이상을 사육하고 있었으나 70%가 1만수 이하의 소규모 양계 농가였다. 이후 10년 동안 양계 농가수가 증가하여 1990년에는 4,500여 농가로 약 2배 가까이 증가하였다. 이후 1995년까지 농가수가 서서히 감소하다가 이후에는 급속히 감소하는 경향을 보였다. 반면 5만수 이상 대규모 사육 농가는 1980년 72호에서 1997년 278호로 증가하였으며 1991년부터 15만~70만수의 대규모 산란계 또는 육계 단지가 30여 곳 이상 탄생할 정도로 급속한 규모의 확대를 보여왔다. 1997년 현재 5천수 이상 전업 규모의 산란계 농장은 1,884호, 육계 농장은 1,412호였다.

1980년부터 10년간 1인당 국민소득은 약 4.5배 증가하였으나 같은 기간동안 계육의 소비는 2배 증가로 다른 육류와 비슷하였으며 계란의 소비는 40% 증가에 그쳤다. WTO 출범이후 1995. 7 부터 2년간 최소시장접근물량(MMA)에 기초한 닭고기의 수입을 허용하였으며 처음 1년 반 동안은 수입물량이 MMA 쿼터에 미치지 못하였으나 이후 1년 동안은 급속한 수입물량의 증가를 보였다. 이러한 수입 계육의 급속한 증가는 경기회복과 더불어 가속화되어 국내 육계업에 심대한 위협이 될 것으로 예측된다. 국내 양계업의 경쟁력은 생산성의 향상과 신선육 수출 능력의 확보 여부에 달려 있는 것으로 여겨진다. 닭의 품종, 사료 및 사양관리 면에서 큰 차이가 없는데도 불구하고 국내 육계 인티그레이션사의 생산성이 육계 경제능력 검정계 성적의 72% 수준에 머문다는 사실에 주목할 필요가 있는 것으로 본다.

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