

A SURVEY OF RABBIT PRODUCTION IN CHINA

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Abstract - Since the 5th Congress of the World Rabbit Science Association, rabbit keeping has been strongly developed in China. In 1994, the number of rabbits was 149.38 million and there was a two-fold increase of the number as compared with 1990, among which there were 85.18 million meat rabbits, 63 million wool rabbits and about 0.9 million rex rabbits, respectively. As a result, 229 thousand ton rabbit meat and 20 thousand ton rabbit wool were produced. It is worth noting that the process of raw rabbit product has rapidly developed in China besides some of the raw product for annual export. In particular, rabbit managing and house raising have gradually transformed to intensive and medium-sized production, and several new coarse-wool strains were bred.

Rabbit production is a new industry of animal husbandry in China and has shown a prosperous tendency since the 5th Congress of the World Rabbit Science Association.

THE INCREASING TOTAL AMOUNT OF ALL BREEDS OF RABBITS

The amount of 149.38 million rabbits in 1994 was twice as large as the amount in 1990. Most of the rabbits were produced in the eastern China, in which the amounts of rabbits in five provinces were over 10 million and the highest as follows : 52.22 million in Shandong, 20.69 million in Sichuan and 13.1 million in Jiangsu. The meat rabbits up to 85.18 million were mainly raised at a large proportion (57%) of rabbit production in China, in which 29.22 million were in Shandong, 18.23 million in Sichuan and over 5 million in Hebei, Jiangsu or Fujian. The total amount of wool rabbits was over 63 million in China, in which 22.99 million were in Shandong, 9.7 million in Anhui, 5.37 million in Henan and about 3 to 5 million in Jiangsu, Sichuan or Zhejiang. The amount of rex rabbits was 0.9 million and mainly distributed over the north-western China and other provinces such as Shandong and Zhejiang. It tends to increase in rex rabbit raising.

RAPID DEVELOPMENT OF RABBIT PRODUCTS AND PROCESS

The amounts of meat, wool and fur products of rabbits were increased to a great extent as more and more farmers raise rabbits. Meat rabbits were freeze-processed in a certain scale, 229 thousand ton rabbit meat produced in 1994 in China was twice as heavy as the amount in 1990. The amount of rabbit meat in 1994 reached a first record in the history of rabbit raising of China. The amount of the meat in some provinces as follows : 87 thousand tons in Shandong, 43 thousand tons in Sichuan, 27 thousand tons in Jiangsu, and 11 thousand tons in Hebei. Besides 50-60 thousand ton frozen rabbit meat for annual export, many kinds of rabbit meat product were developed such as crisp fried rabbits, smoked rabbits, cured rabbits, high springy sausage mixed with pork and rabbit meat, specially braised rabbits in China. Rabbit meat product attracted the interest of consumers. More and more consumers recognized that rabbit meat is the easily digested top meat food with more protein, less fat and less cholesterol. The domestic sale of rabbit meat was increased year after year.

China is a country where Angora wool is produced and exported. The production of rabbit wool reached over 20 thousand tons which was twice as heavy as the production in 1990. About 8 thousand tons of rabbit raw wool were exported annually and the rest wool were spined and weaved in China. Over 90 thousand spindles of rabbit wool were produced, pure rabbit wool yarn, fine rabbit wool yarn, high proportion of rabbit wool blending yarn blending fabrics are sold on market. Some daily necessities such as fur coat, fur bed cloths, children's shoes, gloves, shawl, muffler, chair cushion and some handicrafts are made of rabbit fur. These articles were not only exported but also sold on domestic market as the living level of the Chinese were increased gradually.

ENCOURAGING FARMER TO TRANSFER FAMILY RABBIT RAISING TO INTENSIVE RAISING

Because of more people and less arable land in China, the governments at different levels advocated development of family rabbit raising in order to save on food and feed forage. They considered the effective approach to make poor farmers rich, demonstrate how to build simple rabbit hutch for intensive raising and improve the raising efficiency. Usually, a small family raising size was 30 to 50, middle size was from 100 to 200 and large size was from 1000 to 2000 rabbits. An integral system of raising, supply and sale into industrial production was established gradually. For example, some counties such as Sheng and Xinchang in Zhejiang were considered as the main area of rabbit wool production where 1000 families raised 100 rabbits in hutch and produced 100 kg rabbit wool yearly and realized a modern management of automatic drinking and feed pelleting. Wool Rabbit Product Corporation of Huaxing in Zhejiang manage as a integral line including raising-service-process-sale. The corporation ran a 10 thousand herds of breeding rabbit farm, a 3000 ton yearly producing capacity of feed mill and a textile mill, charged 8000 rabbit raising families, 18 rabbit wool purchasing centers and 47 purchasing stations. Its income from rabbit raising was 25 million RMB and income from export was 4.5 million USD. The amount of rabbits in Shandong was over 50 million and the production of rabbit meat and wool ranks first in China. In Shandong, the number of rabbits were over 2 million in 2 countries, 1 million in 4 counties and 0.5-1 million in 9 counties. 500-2000 breeding female rabbit farms were set up in some counties. a rabbit combine in Jilin raised 500 does and reproduced 20 thousand off springs each year, cooperated local farmers to fatten 200 thousand commercial rabbits and then purchased these commercial rabbits for slaughter and sale. This natural combination promoted the enthusiasm of farmer's raising rabbits.

USING SCIENTIFIC TECHNIQUES TO IMPROVE THE LEVEL OF RABBIT PRODUCTION

In order to speed up rabbit production in China, experts did a lot of research in breeds, feeds, nutrition, reproduction, disease prevention and product process, and obtained many achievements last decade. Zhenhai giant strain of high yielding wool rabbits was bred in Zhejiang. It was appraised that its average weight of an adult rabbit is 1500-2000 g, the highest wool yield is 2884 g litter size at birth is 5.5. A new coarse-wool strain of wool rabbits at pearl wool rabbit farm in Laizhou, Shandong performed that average weight of an adult is 5289 g, yearly average wool yield is over 1420 g. Coarse-wool rate is $22.20 \pm 3.45\%$, litter size at birth is 7.34 ± 2.65 , the ratio of feed to wool is 44 : 1. Some coarse wool strains of wool rabbits were selected and necessary raising techniques were applied successfully in Anhui, Jiangsu and Shanghai. The meat breeds such as Large Harbin White rabbit and Saibei rabbit have been bred. The fur strain of Rex rabbits was being selected and bred. The use of the strains or population improved the quality and production of rabbits in China. In addition, based on the success of frozen-semen and embryo transplant, embedding or test-tube rabbits were born successively. The scientists at Institutes of Animal Science in Shandong and Sichuan applied a comprehensive and complete set of new and advanced techniques including breeding of meat rabbits, use of cross dominance, diet formulation, rapid fattening and disease prevention in order to improve the whole level of rabbit production and get rid of simple technique advice. Under a amicable raising condition, 42-45 new-born rabbits alive were reproduced by a female rabbit per year, the body weight of a rabbit was 2.0-2.5 Kg, dressing percentage was 54.2 % and ratio of feed to gain was 2.8-3.0 : 1 at the age of 76-90 days.

UNIVERSAL TECHNIQUE EDUCATION OF RABBIT RAISING

As rabbit raising spreads in China, state agricultural universities or colleges offer courses of rabbit science and bring up a number of rabbit experts who have been playing an important role in studies of rabbit science. The technical secondary schools also offer courses of rabbit science and train a lot of special technicians. Local administrations of agriculture and animal husbandry run training lectures of rabbit raising by TV, broadcast, Video and slide show. Rabbit raising associations were established and rabbit producers have organized to run competition of rabbit breeds, communication of techniques and information, exchange and widespread of scientific raising and experience. Some rabbit experts edited and wrote concerning books and teaching materials. Journal of Chinese Rabbit Farming and Rabbit Information were published and sponsored by Chinese Rabbit Breeding Committee. Rabbit producers have mastered knowledge of rabbit production. Wide spreading education has taken a positive effect on improving rabbit raising and rabbit quality.