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PROBLEMS CONFRONTING THE PRODUCTION AND IMPROVEMENT OF LIVESTOCK IN THAILAND

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There is every indication that in Thailand livestock raising will become progressively more important, as more men are likely to enter into greater activities in Agriculture. There are still many available places in Thailand that are ideal for stock raising. Moreover, feeds for livestock are plentiful in both products and by-products of cereals and legumes; the only scarce feeds are the pasture and forage crops during the dry season.

The population of cattle and water-buffaloes in Thailand was decreasing during the latter part of the war. This is due to the fact that many animals, both cattle and water-buffalo, were slaughtered for meat; and towards the end of the war, rinderpest—a highly communicable disease—took away many thousand lives of the animals. Water-buffaloes however, suffer more than cattle. Since they are the only animal that can be used for plowing and general agriculture in the central plain of Thailand, the government has to help the farmers of this region by obtaining water-buffaloes from other uninfected area of the country; so that no

effect occurred upon the rice industry, and hence the rice production of the country.

The Department of Livestock Development has a long range program in combating this disease throughout the country, which includes the manufacturing of biological products, vaccine and serum from different sources.

The said disease is now in control since the beginning of last year. There is no report of animal died from rinderpest since the beginning of last November 1949. Besides rinderpest, our problems to face are Barbone, Surra, Haemorrhagic Septicaemia, Foot and Mouth disease and others, but they are less important than rinderpest.

The improvements of livestock on cattle and water-buffalo are being done at different government breeding stations located in different parts of the country, including the central agricultural experiment station at Bangkhen. The latter station, besides conducting experiments on feeding and breeding of animals, is the distribution center of animals to the public.

THE PRESENT LIVESTOCK
INDUSTRY IN THAILAND:

Over 80 per cent of the population of Thailand are engaged in Agriculture, and probably an even greater percentage of the utilized land of the nation is used for agricultural production. The raising of livestock, especially, cattle and water-buffalo are not so commercialized as crop farming. This is due to the fact that most of the farmers have never raised or kept animals primarily on account of their meat or milk. Animals in Thailand in the past have been the field assistants of the farmers, the heavy machinery of the timber industry, and the motive power of the trader's caravans. Because of their great importance as servants, they acquired an important secondary significance as the tangible evidence of wealth.

The farmer who owns much land must own many cattle and water-buffaloes to till his fields. In times of prosperity the farmers invest their surpluses in cattle or water-buffaloes almost as heavily as they do in land. In time of depression the value of these animals generally falls less than does the value of rice land, and so the farmers frequently liquidate their animals before they do the land. But at the present time - post-war - the value of water-buffalo is much higher than the value of cattle, and is about 10 times as high as the pre-war price. Cattle price

is 8 times higher than pre-war time. This is due to the fact that rice-land in the central part of the country depends upon the water-buffalo for tilling and do all kind of works.

Cattle and Water-buffalo.

Thailand has approximately the same number of cattle as there are water-buffaloes. (Table 1). The breeding center of cattle and water-buffalo is in the North-eastern part of the country. In this section, the population of cattle is nearly 56 percent of all the cattle in Thailand, and that of water-buffaloes is 10 percent of the total.

Table, showing the number of cattle
and water-buffaloes in Thailand from
1937-1948

Year	Number of Cattle	Number of Water-buffaloes
1937	5,711,720	5,551,232
1938	5,858,134	5,750,873
1939	5,964,701	5,891,482
1940	6,248,951	6,158,580
1941	6,384,404	6,309,967
1942	4,417,603	5,261,722
1943	5,310,851	5,740,171
1944	4,957,984	5,437,723
1945	4,798,435	5,230,278
1946	5,158,050	5,044,547
1947	4,832,351	5,316,162
1948	4,069,979	4,493,077

Besides using the animals for farm labor, they are also exported to the neighboring countries, such as Singapore,

the Malay States and Hong Kong. In years the number of animals exported is promising, but during the war a great number of cattle and water-buffaloes were lost due to being slaughtered and diseases. It is, however, hoped that within a few years Thailand will be able to regain her cattle and water-buffalo population; and thus being able to export to the neighboring countries as before. This is due, however to the new method of improvements of livestock which are at present strongly advocated by the Department of Livestock Development in Thailand.

Table, showing the number and kind of animals exported from Thailand during 1932-1941.

Year	Cattle	Water-buffaloes
1932	6,698	4,293
1933	12,289	13,652
1934	22,138	23,591
1935	6,306	4,147
1936	1,749	3,914
1937	1,439	5,084
1938	1,215	3,431
1939	1,135	6,339
1940	1,976	10,145
1941	2,647	12,837

For plowing purposes, the ox is largely employed on sandy and high places—the Upland farms—, while the water-buffalo is used on low, deep, and muddy places, — the Lowland farms.

The ox as a cart animal is the chief means of transportation in nearly all parts of Thailand. They are used for hauling carts, and are of great importance in transporting paddy or sugar-cane from the fields to the mills. Occasionally a farmer who owns no water-buffalo uses his bullock for plowing and general agricultural purposes, but since the fields are muddy or water-covered at the time when they must be worked, the bullocks are not so satisfactory for this purpose as the water-buffalo.

The native Thai cattle belonged to a definite type. This type has a relatively light body with a long barrel set high from the ground. The head is narrow and long. The horns vary in size and in the manner that they rise from the head. Horns that are curved forward are common. Various solid colors, varying from cream to black are known, although the yellowish red color appears to be popular. Some are also chestnut and brown in color.

In the Southern part of Thailand, cattle are of a different type. Careful selection is made among the bulls for the purpose of securing animals that are suitable for fighting purposes. Among the points emphasized are a good strong pair of horns set well apart, and a well developed chest. The horns rise upwards, bending slightly to the front. The head is short with a narrow forehead and small

eyes, ears, and muzzle. The legs are short, making the animal look stocky. The base of the tail is large. The longer and finer the end of the tail or switch, the better. Black, red and reddishgray colors are preferred. Black bulls also possess black tongues and hoofs; thus making the color solid black. For the purpose of fighting, the bulls in the Southern part of Thailand are not castrated; while in the North and Northeast, however, castration is generally practised if the animals are expected to be of excellent use for hauling purposes.

Like the ox, the water-buffalo is upstanding, with the head and neck carried high, and the body set higher from the ground. The conformation is heavy, appears low-set because of its great depth of the body. The horns are symmetrical, curving beautifully outward backward and upward. In action, it commands attention by its stylish movements. Usually the water-buffalo has dark pigmentation throughout, except under the root of the tail, where it is usually light. The predominating color is generally black, but some animals have a pinkish skin and whitish hairs. The skin is glossy and smooth with very coarse hairs. The well matured animals are practically hairless, but the calves are well covered with hairs.

Unlike the ox, the water-buffalo

is essentially a swamp animal and is used principally for puddling low-lying land preparatory to rice planting. In the central part of Thailand, where most of the transport is by water, the water-buffaloes are by far more important economically than the bullocks. The whole communities are submerged to a depth of from one to three or even six feet of water during the late rainy season, especially during the late month of October and November where the rice plant is full grown. The farmers are obliged to build pile-dwellings with inclined ramps for the cattle to stay. Bullocks can scarcely live under these conditions, but water-buffaloes thrive well.

Dairying :

Dairying is an industry on which many families in Bangkok depend for a livelihood, but this is not true in the case of farmers in rural districts throughout the country. Outside of Bangkok-Thailand's capital - dairying is little practiced. In Bangkok, the Dairy Industry is linked with the Indian people and Indian animals. In the majority of cases, the Indians are either the operators of the dairy or are employed as caretakers of the animals, principally Indian breeds of cattle.

Cattle of Thailand origin are not being of dairy type, and more or less are

of draft type or dual purposes type, that is draft and beef purposes. Therefore the importation of cattle from India is quite necessary for building up the Dairy Industry in Thailand.

There are however, some private dairy farms in Bangkok in which dairy animals from temperate zones are kept; especially the Jersey, but the Indian cattle are used in most of the dairies. The Bengala breed from India seems to be the most popular at the present time.

Goat is raised scatterly throughout country. The original breed seems to be brought from India, but no exact reports are available. The animals are larger than the native, and the distinct characteristics are the long ears and long nose.

The Dairy Industry in Thailand at present is rather undeveloped, and much improvements along this line have to be made. The importation of milk animals, both cattle and goats from the tropical country seems to be the most desirable.

INTRODUCTION OF FOREIGN BREEDS OF LIVESTOCK

The problem of the improvement of cattle and other livestock in the tropics has for many years aroused the interest of the governments and of private individuals in tropical countries. Importations of the European breeds of cattle have been made into various parts of tropical

countries. The results secured from the imported animals have generally been disappointing. It has been found that animals of temperate origin are unsuitable for propagation in the tropics.

Scattering reports on animal importations reveal that breeding stocks have been introduced into Thailand many times by Government and private enterprises. Holstein, Jersey and Shorthorn were introduced some twenty years ago, but not even a single pure-bred animal survives at the present time. The cattle from India were being imported from time to time in the past, and were bred with the native animals. This however, seems to be the breed of animal that are well adapted to the condition in Thailand.

It is reported that import — animals from temperate zone, such as the Holstein, Jersey, Guernsey, Ayrshire and Shorthorn cattle were distributed in different government stock farms, with the end in view of selling their progenies to the public at low cost. Nothing however came out of this work; not that the public were indifferent, but rather that there were no progenies to sell. What was worse, many of the imported animals had died. This was due to climatic conditions, parasitic diseases, and troubles due to feed caused the mortality in most cases. Few animals, however, survive, but they looked very unthrifty and did not produce very well, and later died despite careful treatment

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and judicious feeding.

Recently, the government has imported some Saanen goats from Copenhagen, Denmark. The animals arrived safely in Bangkok by boat, but they seem to perspire much for a few weeks after their arrival. The Saanen goat, so far to be concluded yet, seems to thrive well under the condition here. The average milk yield is about 7.97 pounds per day during the lactation period of 387 days.

The Saanen goats seem to be popular here, due to its milk yield over the native goat, and are crossed with the female native. The crossbred however, produce a higher amount of milk than the native.

ATTEMPTS AT SOLUTION OF THE
PROBLEM

In an effort to find permanent solution of the problem to effectively and efficiently carry out the livestock improvement works, the Department of Livestock Development has worked out a program of activities to be undertaken during the next five years. This consists of prevention, control, and eradication of dangerous communicable diseases; veterinary researches with a view to manufacturing biological products and parasitocides for parasites. The maintenance of stock farms and breeding stations in different sections of the country where imported pure bred stocks will be propagated,

and their offsprings sold at reasonable price to the public. The effective and systematic promotion of livestock through extension service will be expanded throughout the country. Besides, extensive programs of researches in the spheres of breeding and feeding of the different kinds of livestock will be conducted. By means of these experiments, information may be gained on the best breeding policy in different areas which are subjected to peculiar climatic and other conditions. Not only the breeding, but also the proper feeding of the animals at different stages of growth is of immense importance. The feeding experiments will have in view the development of a farm program which can be applied economically for the proper development of the animals from the calf stage until they are ready for the market. This will include, of course, the rearing of calves, the supplementary feeding of young animals to prevent a set-back during the critical period of development, and the fattening and preparation of slaughter oxen for domestic and export markets.

As funds for the works become available, the development of stock farms and breeding stations will be done with the aim in view of developing the type or breed of cattle, swine, and poultry best suited for the condition. More emphasis will be laid on those breeds

which thrive best in a given region. For the improvement of cattle, the schemes will be as follows :

1. Developing better cattle by selection from native stocks. Experiments will be conducted at the breeding stations to determine whether efficient cattle can be developed from the native stocks by careful breeding and selection. In all probability such a method offers less chance of important success, particularly in developing good milk cattle ; but for draft or for beef purposes, this might be a good policy.

While it does not seem that mere selection within the native cattle offers the best possibilities of developing a good dairy breed or a good beef breed, some progress could be made rapidly throughout the country by castrating undersirable male cattle, and retaining only the best males for breeding purposes. Every young bull that does not show promise, or have conformation or the desired type should be castrated at an early age. Only a limited number of bulls should be kept on each farm, the rest of the males should be fattened and sold as beef steers.

2. Test out the adaptability of various breeds of cattle that give pro-

mise of successful results.

This includes the introduction of new breeds of cattle from the other tropical countries.

3. Crossing of the introduced breed with the selected native cattle. This method of breeding, will be the possible way of making rapid improvements and might lead to developing a new breed or strain by breeding the cross-breds together and selecting the best offspring in each generation.

4. The distribution of improved stocks to farmers will be done after severe tests of adaptation, and the farmers will be required to use such animals as foundation breeding animals.

5. Each breeding station will keep some improved sires to give services to the farmer's female animals.

6. The practice of using artificial insemination.

The general conclusion about animals's improvement that is reached in all parts of the tropical world is that the permanent solution of the problem of animal improvement is not devising new methods of managing the old established breeds, but rather the development of new breeds, using the native type as foundation stock.