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SOYBEAN DEVELOPMENT PROJECT IN THAILAND

BRIEF REPORT

OF

SOYBEAN BREEDING EXPERT

(M. Saito)

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Brief Report

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Japanese Expert of Soybean
Breeding Development Project
in Thailand

I wish to express my most sincere appreciation to the Director General of the Department of Agriculture and other Officials concerned for the many kindnesses extended to me during my stay in Thailand as a soybean breeding expert.

In the rainy season of 1971, I, as a member of the Guidance Team on Soybean Development Project in Thailand, could have a chance to see the Soybean Project which has just started. I would like to express my high regards, as I have learned four years later today that the Project has made much progress.

I visited more than 20 experiment stations and I was impressed that the Department of Agriculture was assuming a tremendously positive posture for the Oil Seed Project. This posture reflected farmers and the soybean fields in the Sukhothai district were particularly splendid. For example, a farmer in this district told me that he had scattered seeds to all his own field of 40 rai with the purpose of harvesting 300 kgs of soybeans per rai. And this was considered to reveal that the farmer's volition was admirable.

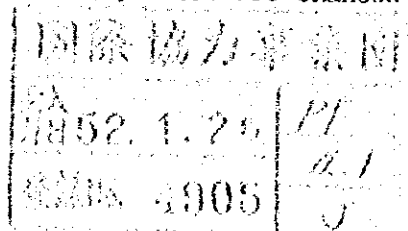
Now that the utilization of hand tractors and the spraying of agrochemicals have already been started, there are chances

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that cultivating technology will be improved to a great extent in the next several years.

However, the continuous cropping of soybeans tends to pose problems as to pests and noxious insects and other matters in the near future. Full care must be exercised in providing guidance to the farmers.

Here, I wish to express my candid opinion on the Soybean Project. As I must frankly admit that my stay in Thailand was short and there might be a lack of understanding on my part, I would appreciate it if Mr. Sasaki, another soybean breeding expert, could supplement my views.

1) Breeding Program

While surmounting many difficulties, the Breeding Project has been developed since 1970. It is indeed delightful that exceedingly promising lines have been selected and preparations have been made for the final phase of trials on the release of new varieties.

With respect to the promising lines, it is my understanding that there has been a lack of data on the rainy season. As efforts have been made at the Srisamrong and other agricultural experiment stations to irrigate fields with sprinklers this year, the germination and growth of plants are favorable and I am confident that fully reliable data will be obtained.

The new varieties must be fully endorsed by reliable data, and tests must be conducted in conditions similar to those in which noxious insects and diseases and the actual cultivating system of farmer's field are placed. Otherwise, the new varieties would lose the confidence of farmers,

when they were cultivated. For example, intertillaging by cows and hand tractors appear to constitute the core of the work system adopted at present for farm fields, and I would therefore consider it advisable to conduct yield trials in row width suitable for the work of farmer's field.

The Breeding program, as a whole, is being implemented at a smooth pace. The researchers in charge of each test have full knowledge and technology to grapple with the problems with which they might be confronted. It is really admirable that they have learned so much in a short span of time.

However, the breeding project is comprehensive in nature, and it does not mean that each task exists on an independent basis. For example, the existing hybrid yield trial is designed to check those selected from the primary hybrid yield trial which has already been conducted. This process goes back further to the selection of lines and individual plants. All these phases are tied in with one another, and there is a need to become aware of their interrelationships.

The promising lines included in the existing hybrid yield trials are also being tested at other agricultural experiment stations. Fixation tests, and reaction tests on resistance to noxious insects and diseases, planting density, fertilizer quantity and seeding time; tests on local adaptability; and seed multiplication are being stepped up at the same time. Consequently, the project should be promoted at a smooth pace, while paying heed to the trend of these programs.

To grasp the Breeding Program in a more effective manner, it is important that the researchers should be familiar with all aspects of the programs and also their interrelationships.

I would also stress that full understanding among the researchers is indispensable for a successful accomplishment of the project.

This project is based on the sharing of tasks by many researchers with a common objective and on their cooperation. It is only natural, therefore, that the knowledge, technology and judgment of each researcher should greatly influence overall achievements.

For this reason, it is necessary that efforts should be made to enhance the volition of each researcher. For instance, at the Agricultural Experiment Stations in Hokkaido, all researchers and assistants are provided with desks and chairs. Taking advantage of a little while between field workings, they are engaged in collecting information, calculating their data and bring to a conclusion. These endeavors will be of help in elevating the level of researchers, and I hope that this way will serve as a reference.

2) Breeding Aims

With full consideration given to the actual state of cultivation, the primary breeding aim is set in the rainy season and the secondary in the dry season. Judging from dehiscence, resistance to diseases and lodging, there will presumably be a need to prepare separate varieties for the rainy and dry seasons. It would be advisable to work for their separation in the next phase.

It is readily conceivable that the rust disease will give damage to soybeans at Sukhothal district in the rainy season. Consequently, it is quite appropriate that the existing resistant lines have been selected.

My observation of experiment stations revealed that there exist a fairly large number of plants which present symptoms similar to virus. Attempts should be made to verify these symptoms and at the same time it will be necessary to exercise full care on this matter in the future.

With respect of the quality of soybean, seeds emphasis should be put on the production of soybeans enriched with oil and protein, now that they are produced primarily for domestic consumption. When soybeans are to be exported in the future, it will become necessary to produce soybeans featuring large grains and seed coats in better color. As it requires many years to breed varieties, due attention should be paid to this point, when a breeding aim is set in connection with the quality.

3) Release of New Varieties

It is my understanding that the rules for the release of new varieties have already been worked out. However, I would consider it absolutely advisable to formulate a realistic program on the breeding of varieties derived from hybridization at once so as to facilitate the release of varieties and their subsequent diffusion.

4) Multiplication of Seeds

It is truly admirable that the multiplication of seeds under the Oil Seed Project including soybeans has been conducted by many institutions on a broad scale and steady achievements have appeared one after another. To conduct the multiplication of seeds in a more effective manner, it is desirable to select locations suitable for multiplication,

improve the cultivation method to heighten the seed yield and quality, and exterminate noxious insects and diseases.

5) Equipment Supplied

During my latest visit, I was able to see how the equipment which have been supplied for the project are put to use. The equipment are dispersed to many institutions which take charge of trial and seed multiplication, but I came to realize that the majority of the equipment are put to full use.

Some of the equipment, however, are unserviceable due to their malfunction or a lack of parts. There is a need to supply parts and repair these instruments to put the project on the right track. It is also desirable that the suppliers should pay more attention to the availability of spare parts.

6) Training of Counterparts

During the latest visit, I was given a chance to meet all of the counterparts who had been trained in Japan. I am deeply impressed that these people are already playing the role of a nucleus for the project and equipped to take the full burdens of the project on their shoulders.

I earnestly hope that the ties of friendship and cooperation between the Thai researchers and the Japanese experts and soybean researchers would become all the closer through that training program.

Last but not least, I wish to express my deep appreciation for the many kindnesses extended to me during my stay in Thailand for two months. I also wish Thailand's Soybean Project will be a great success.

August 1975

