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AGRICULTURAL DEVELOPMENT SUSTAINED BY
CROP IMPROVEMENT IN CHINA

~~Source: Chugoku Sangyo Shashin Tsushin (Photos and Features on Chinese Industry), No 48, 15 July 1965, pp 1-9~~

The Japanese union of importers of Chinese rice recently signed a contract with the Chinese Food, Oil and Foodstuff Company for the import of 30,000 tons of fine grain rice and of 10,000 tons of regular rice, or of 40,000 tons altogether. Added to the 120,000 tons imported in April, this represents a total import of 160,000 tons of Chinese rice for 1966. On the other hand, China has taken great quantities of fertilizers from Japan, importing up to 1,100,000 tons of chemical fertilizers from Japan in 1966. Thus, Chinese agriculture has come to be a field that bears great influence on the Japan-China trade, even acquiring quite an influence on the whole Japanese economy.

For this reason, even though the news ~~concerns~~ concerns the Chinese agriculture, the report of the New China News Agency on 30 June issued from Peking that "the main food crops such as wheat, rapeseed, and various cereals as well as the oil and fat materials gathered during the summer harvest of this year have all increased with most regions giving the highest yield in recent years, surpassing last year's marks per area unit as well as in the whole" should be an extremely welcome news in Japan. In particular, the provinces of Honan, Shensi, Hupeh, Anhwei, Szechuan, Kiangsu, Shansi, Peking, and Shanghai have registered large increases of 10-20 percent over last year.

During the period of growth of this year's summer crop, the natural conditions were ~~not~~ not in any way as fine as one would hope. In fact, the ~~China~~ New China News Agency has this to say: "At the time of cultivation last fall, practically all the regions were visited by low temperatures and lots of rain, many regions did not ~~have enough~~ have any winter rain or snow while part of the country receives ~~by~~ but scant

rainfall even during the spring. Struggling under these unfavorable conditions, the broad masses of cooperative members have adopted a fighting posture and increased the food crops by promoting the spirit of revolutionary struggle under the leadership of cadres of various echelons."

For three straight years after 1959, the agricultural production of China ~~was~~ was visited with great natural calamities and underwent a great step backward. Thus, one can see that this year, China has overcome to some extent the unfavorable weather conditions and started to acquire fertility. In fact, there have been energetic efforts made to build up the agriculture in the last two, three years such as the movement for "maintaining the production level whether in conditions of drought or flood and for stabilizing it ~~to~~ since stability means high overall production." The import of large quantities of fertilizers amounting to over 2,000,000 tons from Japan and Western Europe is one expression of these efforts. Internally, the production of chemical fertilizers also keeps on expanding as it is accorded the greatest amount of attention. Moreover, the expansion and completion of farmland irrigation works ~~xxx~~ also have been astounding: in the Chou River Delta (Kwangung Province), in the delta of the Yangtse, in the vicinity of Tungting Lake in Hunan, on the Kwanchung plains of Shensi, in the area around Peking, and on the Liaoho plains of Liaotung province, etc. in all these commodity and provisions producing areas there have been formed large-scale rural electrification, water drainage and irrigation networks, thus greatly heightening the resistance capacity to natural calamities.

The Chinese agronomists have also made continuous and devoted efforts to expand agricultural growth, going out to the countryside with scientific measurement instruments and knapsacks on their backs, fixing themselves at the research bases, building pilot fields for the purpose of ~~propagandizing~~ propagating agricultural techniques, and acquainting the farmers with ~~the~~ modern scientific techniques, striving energetically to make these farmers adopt these techniques. These experts, working on the research bases and cultivating the pilot fields themselves, have now amounted to over 2,600 persons who have set up a total amount of 1000 research bases ~~xxxxxxxxxxxx~~ and pilot fields in various areas in the whole country. Astonishing results have been achieved on these bases and fields: for instance, on a pilot wheat land of 33,000 ha in Yunchiang Special Zone, Szechwan province, the astounding result of an increase of 70 percent over last year's production has been attained for 1966.

Thus, one can see that China has made truly major efforts to expand and improve ~~the~~ its agricultural production. What is worthy of attention in all these efforts, however, remains the effort to improve the quality of China's agricultural crops. Just as in the case of the

development of Japanese agriculture since the Meiji restoration, it is obvious that to get to the present high level the development of rice cultivation in Japan has been due ~~to~~ in no small part to the assiduous efforts at improvement of the quality of the paddy. These efforts do not yield results overnight and one must strive continuously over the years before seeing any: in China too, steady efforts have been made and already great results have started to show. For instance, the New China News Agency on 4 April 1966 reported from Peking that this year, the provinces of ~~the~~ Kwantung and Kiangsu have helped the province of Hupeh by supplying it with over 3,500 tons of superior rice seed, while in the province of Anhwei there have been ~~procured~~ procured from within and without the province over 10,000 tons of seeds for use in the spring crop and for distribution in various localities. Also, in the province of Honan it is reported that 27,000 tons of various fine crop and cotton seed have been made ready for sixteen ~~the~~ hsien alone. Thus, we can say that the vast procurement of good seeds indicates the steady large-scale advance on the part of China regarding the improvement and dissemination of good seeds. The steady success of seed improvement and its large-scale dissemination have therefore truly improved the nature of Chinese agriculture from the foundation up, so to speak. Hereunder, we would like to find out roughly the main ~~important~~ movements carried out in China recently to improve the quality of its crops.

The New "Ai-chiao-nam-t'e" Breed of Early Rice

This is a superior variety of sturdy and short-stemmed, productive early rice grown by Hung Ch'un-li in collaboration with Hung Ch'un-ying--Hung Ch'un-li is the Party section secretary of Tung-ts'ang Brigade, T'u-p'u People's Commune, Ch'ao-yang ~~River~~ Hsien, Kwantung Province. Hung Ch'un-li started breeding this variety separately in 1956, which he succeeded after three-four years of experimental cultivation. During the period of separate breeding, only about 1000 grains were planted altogether, but last year the variety was propagated to over 6,000,000 mu (or over 400,000 ha) in the southern provinces of Kwantung, Chekiang, Fukien and Anhwei, etc: over 900,000 mu (or more than 60,000 ha) in the "home province" of this breed ("Ai-chiao-nan-t'e" [Translator's Note.- Literally means "Short-foot Southern Special"/]), Kwantung, and while its propagation ~~has started~~ over large areas has started only since last year in the provinces of Chekiang, Fukien and Anhwei, ~~by~~ over 4,300,000 mu (or more than 290,000 ha) have already been planted with this breed in the whole of the province of Chekiang ~~where~~, where the area of propagation has been largest. In the provinces of Hupeh, Szechuan and Kiangsu, the propagation of the breed has ~~been~~ started since last year to reach small extensions. Thus, this new breed has ~~spread~~ spread like ~~the~~ wildfire in Southern China, reaching over 10,000,000 mu (or more than 670,000 ha) by this year.

There are many warm and rainy ~~lowland~~ regions in southern China, but as the traditional breeds all are long-stemmed, they get broken during the growth period when ~~the area~~ visited with the frequent typhoons that rage through the area, thus bringing about a decrease in the production. Consequently, the key to increasing the early rice harvest in South China consists in solving the question of early rice dropping: this points right to the "Ai-chiao-nan-t'e" variety which ripens fast, is short-stemmed, takes vigorously to fertilizers, which does not droop and is highly productive. Thus, it is a revolutionary breed that helps solve the early rice problems of South China.

Grown in Kwangung province, the ~~the~~ "Ai-chiao-nan-t'e" variety ripens ten to twenty days earlier than the more common long-stemmed varieties, thus being able to avoid the violent storms and rains and attendant insect pests that usually come after the period of growth of early rice, to extend the period of water ~~of~~ of late rice, and ~~to~~ even to ease the contradictions between the labor outlay and cultivation ~~periods~~ seasons. According to investigations, one hectare generally produces from 4,500 to 5,250 kg, representing an increase of 10 to 30 percent over the figures for traditional long-stemmed varieties while in some exceptional localities where the cultivation techniques are fine, one hectare can even reach the record production of 7,500 kg over large areas.

The New "Lu-ts'ai-hao" Breed of Early Rice

This is a fine breed of early rice that Mr. Lu Ts'ai, who is now 69 years old, a conscientious farmer of Shang-wei Brigade, Lai-tien ~~Hsien~~ Commune, Hsien-yu Hsien, Fukien Province, succeeded in breeding in 1952. The name of the breeder was subsequently taken to name the variety. This variety has been introduced ~~to~~ from Fukien into seven ~~his~~ hsien of the provinces of Kiangsu, Chekiang, Hunan, Hupeh and Kwangung and propagated ~~over~~ to over 600,000 ha in the whole country by 1965. The Chinese Ministry of Agriculture has selected this ~~is~~ as one of the fine wetfield rice breeds of China, Mr. Lu Ts'ai himself has received certificates of praise over ten times, recently he has even been invited to become an official member of ^{the} Fukien Province Institute of Agricultural Sciences. In 1959, the "Lu-ts'ai-hao" variety was exhibited at the International Agricultural Exposition and since then, it has been ~~introduced~~ introduced into Korea, Vietnam and Cuba.

The "Lu-ts'ai-hao" is highly productive and tastes good when cooked. But besides these strong points, ~~it~~ it is long-stemmed, ~~it~~ droops easily, ~~and~~ while its grains shed easily also. Because of these shortcomings, Mr. Lu Ts'ai has struggled to overcome them, trying to crossbreed it with "Ai-chiao-nan-t'e" since 1965, obtaining already fine results, producing a small amount of a new breed that is shorter

than the original "Lu-Es'ai-hao", that carries longer ears with fuller grains.

The "Kwang-ch'ang-ai" and "Chen-chu-ai" Breeds

With an eye on the development of sturdy and short-stemmed paddy breeds such as the above-mentioned Kwangtung-bred "Ai-chiao-nan-t'e", the farmers in that typhoon-infested province have spontaneously tried to shorten the stem of their paddy breeds by controlling the irrigation water dosage and the level of fertilizers, producing ~~such fine breeds as the "Ai-chiao-nan-t'e"~~ in the process fine "Ai-tzu-nien" farmers' breeds. Hung Ch'un-ying also has produced others ~~by picking out~~ still by picking out natural variants ears out of these breeds. The agricultural scientists, in their turn, have been greatly enlightened by many of these mass ~~experiments~~ experiments which they put to repeated investigation analyses. Besides, they have also come to recognize that the way to solve the problem of paddy dropping and low yields is to grow short-stemmed, robust and root-clustered breeds. Thus it is worth noticing that from 1956 on, ~~with the~~ starting with the study of short-stemmed paddy breeds, the Chinese have been able to overcome quite a number of shortcomings such as the vulnerability to diseases and late ripening by absorbing into many breeds the characteristics of "Ai-tzu-nien" and "Ai-chiao-nan-t'e" varieties such as their high yield, their resistance to fertilizers and their tendency not to droop. After painful research during a couple of ~~years~~ years, by 1959 finally they succeeded in breeding the "Kwang-ch'ang-ai" variety that answered all these requirements (resistance to fertilizers, tendency not to drop, few diseases, high yield and ~~short stem~~ short stem). After that, there followed a whole series of short-stemmed ~~some~~ fine breeds of early rice: "Chen-chu-ai", "Chiang-ai-tsao", "Chiang-nan-ai," and "Ehr-chiu-ai", etc.

During the period of experimental planting and the process of propagation of these fine breeds, the agronomists set up model bases in representative areas. While planting ~~these~~ the newly selected breeds at these bases on an experimental basis, taking ~~these~~ them as pilot propagation fields, the agronomists also listen to the opinions of the cadres and peasants, combining them with the results of scientific research and the realities of production. As a result, these new breeds do not merely get propagated fast, they also get improved ceaselessly.

In 1964, for a whole year, the agricultural ~~etc~~ sciences research branches of the provinces of Kwangtung, Kwangsi and Fukien ~~performed~~ carried out regional ~~experiments~~ experiments with superior breeds of South China paddy on 15 pilot projects centered around the Kwang-chou Shih-p'ai area of the province of Kwangtung, thus proceeding to an appraisal of a host of superior breeds of paddy. In addition twenty five fine regional breeds or ~~recently selected breeds~~ recently selected breeds, in-

cluding 12 breeds of early rice and 13 breeds of late rice, have also been planted. As a result of this, the conference of people connected with this project that met recently has unanimously decided that this year (1965) one can go ahead with the experimental propagation ~~of~~ on large areas of four breeds: the "Kwang-hsuan Number 3" bred by the ~~Kwanghsi~~ Kwangsi Institute of ~~Agricultural Sciences~~ Agricultural Sciences, the "Chen-chu-ai Number 10" bred by the Kwantung Province Institute of Agricultural Sciences, the "Kwang-ch'ang-ai Number 3784" and the "San-shu-tsaο 2843."

"Kwang-hsuan Number 3" is a superior breed of early rice requiring an average period for ripening and having all the required characteristics such as short stems, dropping with difficulty, resistance to fertilizers, great adaptability and steady high yields. Estimated to be fine for experimental propagation in various localities of Kwangtung province, the breed has been made ready ~~to~~ for introduction into and experimental cultivation in the southern and northwestern parts of the province of Fukien.

"Chen-chu-ai Number 10" and "Kwang-ch'ang-ai Number 3784" are superior breeds of early rice requiring average periods for ripening and having all these characteristics such as short stems, dropping with difficulty, shortening with the application of fertilizers, relative invulnerability to diseases, and steady high yields. Having been planted in the regions of Liao-chou, Nan-ning, Pai-she, and Yu-lin of Kwangsi, the breed has been recognized by the conference as fine for replacement of the ~~xxx~~ majority of the traditional long-stemmed breeds.

Cultivated over large areas for the last two years in Hainan Island (Kwangtung province), the "Chen-chu-ai" breed has produced remarkable yields. Grown in the same conditions, this breed gives an increase of 20-30 percent over the other breeds. In Ch'iung-hai Hsien of the same island, this year "Chen-chu-ai" has been ~~planted~~ cultivated over vast areas, yielding large increases, and as 2,750 tons of the breed already harvested in June have been sent to Chekiang province, it is expected that it will be cultivated widely in Chekiang in 1966.

"San-shu-tsaο 2843" is a superior breed of late rice requiring an average period for ripening, producing large ears, yielding high rates, showing little vulnerability to diseases and giving good quality rice. At the above-mentioned conference, it is recognized as being fine for experimental cultivation over large areas in the provinces of Kwangsi and Fukien. According to the experiences gathered in Hainan, this breed can be sown and harvested early in three-crop and two-crop areas, thus raising the abundance index, solving the contradictions between the ~~lack~~ shortage of manpower and the farmers' busy season while reducing the damage that typhoons might inflict.

The "T'u-chuang Early Rice" Mountain Breed

Above we have all dealt with ~~the~~ new breeds of wetfield rice found in South China. In fact, in North China, rice cultivation has ~~progressed~~ also progressed rapidly as a great effort has been devoted to the improvement and selection of northern breeds. One instance of this is to be found in the breeding of the fine mountain breed called "T'u-chuang Early Rice" and grown by Mr. Chao Huai-p'ing, a farmer from Chin-huang-tao ~~district~~ in Hopeh province. Mr. Chao ~~was~~ Huai-p'ing was a member of the "T'u-chuang production brigade in the commune of Ma-fang, Chin-huang-tao city. At harvest time in the fall of 1960, Mr. Chao discovered several ears of rice with large ~~grains~~ white grains that did not shed easily. This was in contradiction with earlier experience where the paddy grown on this land used to shed the grains at harvest time. Consequently, Mr. Chao picked out only the above-mentioned sturdy ears and grew them the following year, reaping 4-5 kg of paddy. Continuing with the experimental cultivation, ~~next year~~ in the third year he harvested 200 kg. By 1963, cultivating the same breed on 1.9 ha, he reached a production of 3000 kg per hectare, representing an increased yield of 30 percent as compared to the regular mountain breeds cultivated on the same land. As a result of these experimental cultivations, this particular breed has been found to be resistant in regard to diseases, to ripen about 20 days ~~sooner~~ faster than the other regular mountain breeds, and to produce fine quality rice when cooked. Acknowledged to be a superior breed for the locality by the authorities concerned, this new breed has been called "T'u-chuang Early Rice". The whole ~~of~~ T'u-chuang brigade has ~~shifted~~ shifted in 1965 to the cultivation of this superior breed.

A Breed Geared Towards the Cold Climate of the North, the "Ch'ang-feng-hao"

On coming home in 1956, Mr. Liao Ch'ang-yin (at present 29 years old), a senior high school student, member of the First Production ~~Team~~ ~~Team~~ Team of the Hsin-hsing Production Brigade, Wan-pao People's Commune, An-t'u Hsien, Chi-lin province, devoted himself to the study of various wetfield rice breeds. By now, he has produced two cold-resistant, early ripening and high-yield superior ~~rice~~ rice breeds: the "Wan-pao Number 6" and the "Wan-pao Number 11." These give a ~~yield~~ yield superior to that of the more traditional breeds by 20 to 30 percent. In the last few years, these two breeds have been propagated to the various hsien at the foot of the Ch'ang-pai-shan such as An-t'u, Hua-lung, Yen-chi, Tun-hua, and Wang-ch'ing. In 1961, Mr. Liao Ch'ang-yin ~~picked~~ selected 40 plants from ~~a~~ a "Wan-pao Number 11" breeding field. He then carried out comparative ~~experiments~~ experiments on breeding fields for two consecutive years starting from 1962 until he discovered a new breed of high and stable yield. This new breed not only gives an increased yield of over 10 percent more than the "Wan-pao Number 11" breed, it also ripens faster

while being more resistant. This new breed is called "Ch'ang-feng-hao". Last year (1964), the production team to which Mr. ~~Li~~ Liao Ch'ang-yin belongs planted "Ch'ang-feng-hao" on 3.8 ha and harvested 6052.5 kg of paddy on the average per hectare, representing a new record yield for wetfield rices cultivated on high cold mountain lands. This year (1965), practically all the fields of the above-mentioned production team are planted with "Ch'ang-feng-hao" while it is at the same time planted over large areas by other production teams in the region as well.

A Superior Breed of Wheat

Among the fine breeds of wheat in China, we have the "Pi-ma" variety that is ~~is~~ widely propagated in many areas, but recently there has been discovered and introduced a new fine breed that even surpasses the "Pi-ma" variety.

For instance, the Crop Research Bureau of the Agricultural Sciences Institute ~~in the~~ of Honan province, the center of wheat production of China, has crossbred "Pi-ma Number 4" with early ripening foreign wheat breeds to produce "Cheng-chou Number 4." This is a breed that breaks with difficulty, that is resistant to the cold, that is not vulnerable to diseases and that does not drop easily. As a result of continuous experimentation during three years in Cheng-chou localities that have fine fertilizer and irrigation conditions, yields of 3112 kg to 5490 kg have been reached for one hectare, representing an average increase of 21.7 percent over those of "Pi-ma Number 1" and "Pi-ma Number 4." Similarly, Mr. Kung Wen-sheng, a breeder of Nei-hsiang Agricultural Experimentation Station in ~~the~~ Honan Province, has bred ~~the~~ the "Nei-hsiang 36" variety that is resistant to "rust", that ripens fast, that ~~is~~ carries large grains and that is of fine quality. Cultivated on an experimental basis in many localities in various regions such as Cheng-chou, Hsü-ch'ang, and Nei-hsiang, this breed has given an increased yield by more than 15 percent over that of ~~the~~ "Pi-ma Number 1" and "Pi-ma Number 4."

Also, in the province of ~~the~~ Anhwei, fine breeds of wheat ~~are~~ introduced from Albania have also started to be cultivated on a large scale. In the fall of 1964, in the province of Anhwei, from the Huai-pei ~~the~~ plain to the regions bordering the Yang-tzu river, many people's communes planted the three breeds of wheat imported from Albania, ~~the~~ "Chiri," "Af," and "Apo," over a total area of 10,270 ha. According to sample investigations after the summer harvest this year (1965), the yield has proved to be about 20 percent above the ~~the~~ traditional breeds.

In the suburbs of Peking also, ~~the~~ since the fall of 1962, there have been grown such fine wheat breeds as "Nung-ta 311", "Peking Number 8", "Peking Number 5", "Peking Number 6", and "Peking Number 7." Fine seeds have also been selected and supplied to various localities, having been

2500 tons

sent to eight provinces ~~altogether~~ during 1965: Hopeh, Shansi, Shensi, Shantung, ~~and~~ Honan, Kansu, Anhwei and Kiangsu. As shown by the results of cultivation in the suburbs of ~~and~~ Peking, these fine seeds are relatively resistant to ~~the~~ diseases and insects, they do not droop easily and produce grains the weight of which comes up to ~~about~~ a maximum of 47 kg per 1000 large ones: these are found to be the common characteristics of the new breeds. Of these, the "Peking Number 8" variety, besides having ~~the~~ such characteristics ~~is~~ common to the other breeds such as high yield, resistance to disease and little ~~is~~ drooping, also presents superior qualities such as ~~and~~ quick ripening, having white grains, and being of fine quality when cooked.

Moreover, in the 50-odd large-scale mechanized ~~and~~ State farms of ~~and~~ Heilungkiang province, this year there have been selected for cultivation fine breeds grown by the farms themselves, representing 24 breeds altogether (possessing all the characteristics of early, average and late ripening ~~is~~ such as "Liao-ch'un Number 1", "Tung-nong Number 1", and "K'o-chiang") in the ~~and~~ spring wheat crop which accounts for about half of the total sown area of the farms. As there are both kinds, the breeds that ripen fast and those that ripen ~~is~~ late, harvest time does not come all at once, the majority of the ~~and~~ wheat crops being over before the rainy season, thus avoiding losses.

In the breeding of fine wheat varieties, we have a farmer, Mr. Sheng Kuo, who has been nicknamed "the breeding maniac." He is a farmer from the province of Hopeh and the "wheat king" variety that he introduced from the province of ~~the~~ Tsinghai is very interesting. This variety called the "king of wheats" grows on the Tsinghai plateaus at over 2800 m above sea-level, yielding up to over 200 stems from one stump with every one ~~and~~ bearing long ears. It is a kind of phantom wheat variety that yields up to over 500 g of wheat per plant. When he heard of this Mr. Sheng Kuo immediately ~~and~~ acquired some ten grains of ~~and~~ this seed from Tsinghai, three of which he sowed in Tientsin and reaped the seeds. When the breed was cultivated the following year on an experimental basis at the Ch'in-t'ai People's Commune in Ningho province, it produced an effective number of 90 tillers and ripe ears that were ~~and~~ much bigger than those of the "Pi-ma Number 1" variety. In 1963, experimental cultivation was carried out with this variety at many points in the suburbs of Ts'ang-chou. By last year (1964), the area of cultivation ~~and~~ had expanded to about 70 ha. As the breed tillers in great quantity, one needs to sow one plant every 3-4 sun or even 5-6 sun /Translator's Note.- One sun roughly equals ~~and~~ 3 cm./ only, thus economizing a great deal on the seeds while yielding a unit production ~~of~~ ~~50 percent or over twice the~~ representing an increase of 50 percent or over twice the regular yield of such breeds as "Hsiao-hung-mang" and "Tsao-yang Wheat" usually cultivated in Ts'ang-chou region of Hopeh province. The ~~and~~ leadership of Ts'ang-chou Special Zone have recognized this ear-rich

variety as a superior breed and decided to gradually propagate it depending on the ~~low~~ quality of the land and its appropriateness.

Fine Breeds of Soy Bean and Other Cereals

~~As~~ For ~~as~~ the production of soy bean ~~in~~ Heilungkiang in the Northeast has long been famous. The fine quality of this soy bean is a common knowledge both at home and abroad. The cultivation of soy bean occupies about one fifth of the total cultivation area of the province every year, accounting for about 1,330,000 ha in 1965. The cultivated soy bean is uniformly of fine quality, including such breeds as "Rich Harvest Number 2", "Rich Harvest Number 4", "Rich Harvest Number 6", "Tung-nung Number 1", "Tung-nung Number 4," and "Pei-liang"--these varieties have been bred by the Agricultural Sciences Research Department ~~of Heilungkiang~~ and the Agricultural Institute of Heilungkiang--plus such local farmers' fine breeds as "Leap Forward Number 1." These varieties are all of fine quality, they yield large crops and besides having a rich oil content, they have fine stems that do not drop easily and are appropriate for mechanized harvesting.

Besides, in the two provinces of Kiangsu and Shantung, there are bred also two fine breeds of soy bean, "Hsiao-tsa 14" and "Ch'i-huang Number 1". In 1964, ~~the~~ the cultivation of soy bean in these two provinces has spread to cover 6700 ha. The regular crop yield of these two breeds come to about 50 percent or more than ~~the~~ that of the more traditional breeds.

As far as the other cereals are concerned, in the province of Liaotung, ~~the~~ Professor Kung Chi-tao and others of the Shen-yang Agricultural ~~Institute~~ Institute have bred the "Fen-chih Ta-hung-sui /Translator's Note.- Split branch, Large red ears/ kaoliang" (also known as ~~the~~ "Kaoliang Number 95") which yields an increased production of 50 percent or more than the regular fine breeds of the region such as "Man-t'ien-hung" or "Kwan-tung-ch'ing". In 1965, "Kaoliang Number 95" has already been propagated to 67,000 ha of land in the province of Liaotung alone.

In the province of Honan, the young agricultural technician, Mr. Chang Li-p'eng succeeded in breeding three new breeds of millet, "Hsin-nung Tung-ehr", "Hsin-nung 30" and "Hsin-nung 724" which yield an increased production of about 30 percent over the farmers' fine breeds of the same region: these new breeds have been propagated fast to various localities of the countryside. Also in the province of Shantung, the fine peanut breed called "Fu-hua-sheng" which was bred by some farmers was propagated to ~~more than~~ 67,000 ha in 1964 in the same province alone, giving an increased production of 10 percent over regular years. Other varieties of cereals such as corn have also been the subject of breed selection: the fine breeds subsequently ~~get~~ have all been cultivated and widely propagated.

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Next 9 Page(s) In Document Exempt

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Picture showing soya bean harvested by the state farms in Heilungkiang, ~~from~~ last year. Thirty or more state farms under the Northeast Agricultural Reclamation General Bureau of Heilungkiang produced, despite ~~heavy~~ drought and flood calamities, about 10 percent more grains last year than in 1963 and the amount of commodity grain deposited to the state last year was 20 percent more than the previous year. At these farms this year, soya bean under cultivation are "pei-liang" and "feng-shu" -- good quality seeds that give higher yield, that mature faster, that have higher/longer pod to permit better harvest by machinery.

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Heilongjiang Province

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Bayan 1964 grain harvest at a
NE Land Reclamation Bureau - administrative
& state farm.

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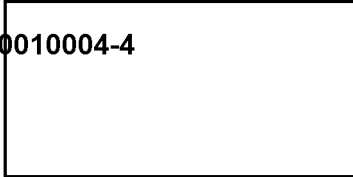
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Picture showing the use of vinyl sheeting to insulate rice-seedling beds at the C_h'un-chiang Commune in Fu-yang Hsien, Chekiang. The use of vinyl sheetings for insulating rice-seedling beds in China was started not too long ago, but its popularity is expanding by leaps and bounds. For example, in Kwangtung Province, the dimension of insulated beds showed a 34-fold increase last year over the previous year; this year, the increase over last year is more than 7 times (about 2,300 hectares); in Hunan, this year's increase over last year is 7 times, and in Chekiang, 11 times.

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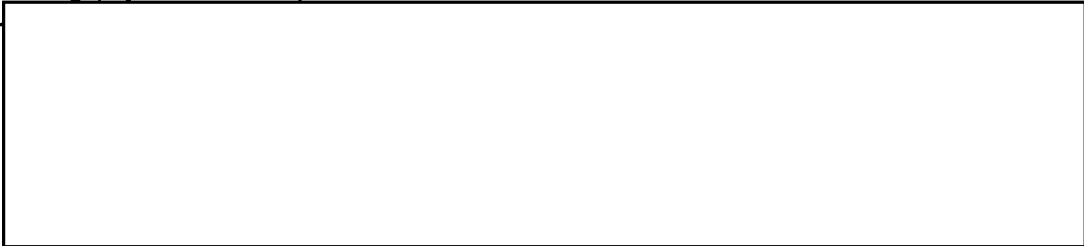
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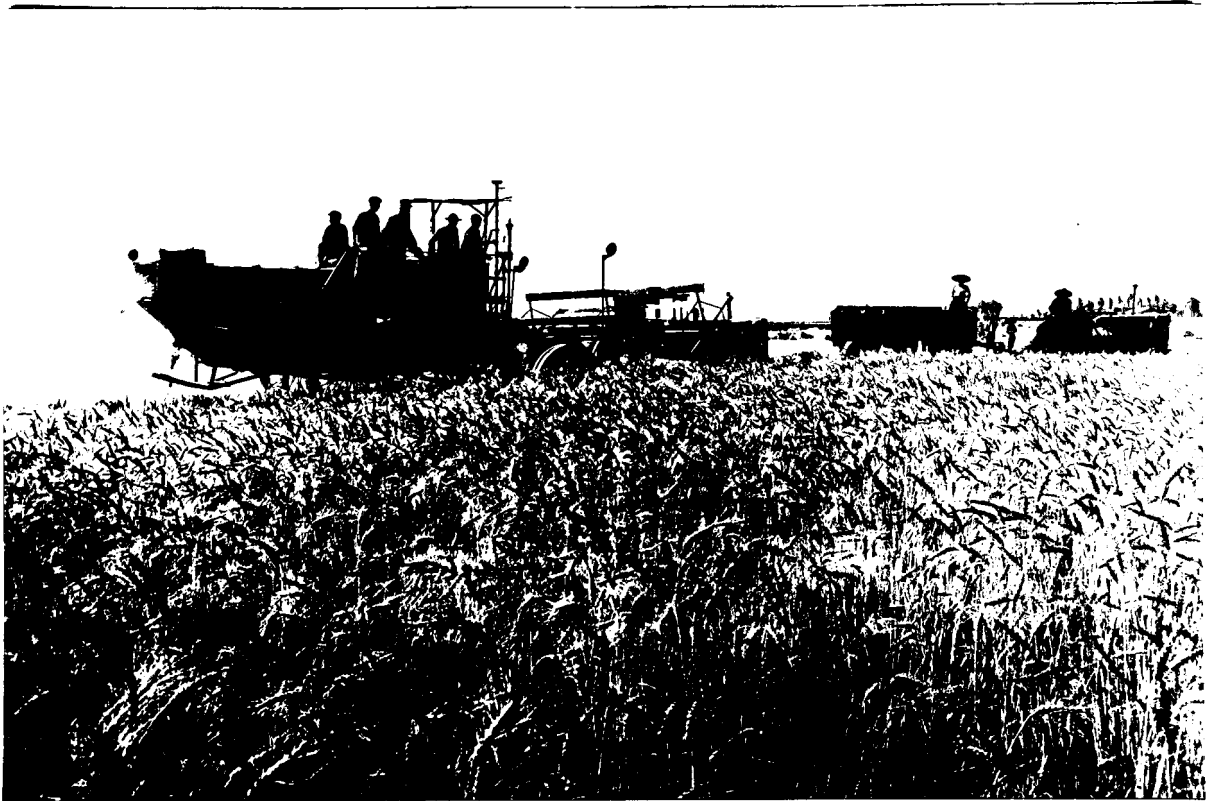
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CHINA WAC 494B HUPEH PROVINCE
Harvesting wheat with combine at 66-hectare model wheat field, Tung-hsi-
hu Farm. Under Prov Agr Sci Inst. 1965.
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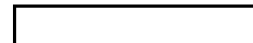


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Picture showing a combine harvesting wheat at the 66-hectare model wheat field of the Tung-hsi-hu Farm in Hupeh Province. This model farm was set up through the joint efforts of the Hupeh Provincial Agricultural Science Institute (tung-yeh kuo-hsueh yen-chiu-so) and farm workers and cadres; it is engaged in conducting scientific experiments on types of seeds, cultivation techniques, mechanized cultivating, etc., and is responsible for popularizing advanced experiences in obtaining higher yield wheat by the various farms.

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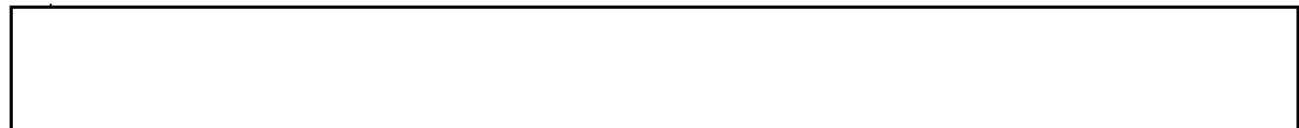
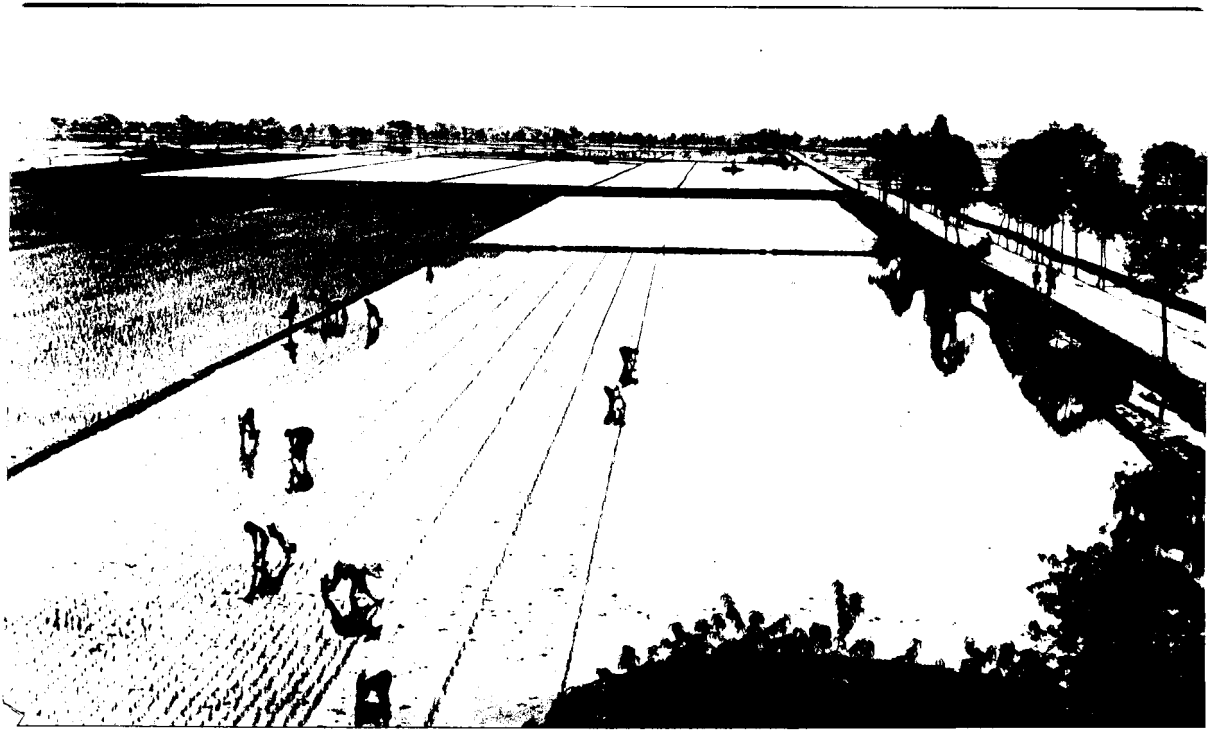
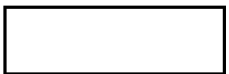
CHINA WAC 498C LUNG-CHI HSIEN 24 31 N 117 40 E
Paddy planting at Lien-hua People's Commune. 1965.
Confidential (1-24)



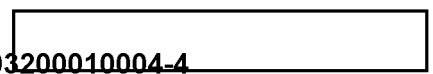
CIA 1069626

25X

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Picture showing paddy planting at the Lien-hua People's Commune in Lung-hai Hsien, Fukien. Since communization, these paddy fields have been enlarged and partitioned.

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CHINA WAC 615B PING-NAN HSIEN 23 33 N 110 23 E
Planting rice with machine at Fu-cheng commune. 1965.
Confidential (24)



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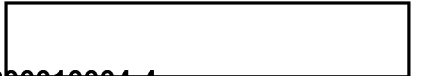


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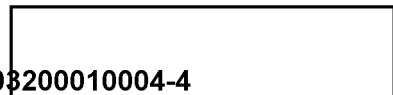
Picture showing mechanized paddy planting at the Fu-ch'eng Commune in Ping-nan Hsien, Tung Tribe Autonomous District, Kwangsi. The mechanized paddy planting equipment shown here was successfully trial produced during the agricultural technical reform drive launched in 1959 in this autonomous district.

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Picture showing Lu Ts'ai, who cultivated the early-rice "Lu-Ts'ai Wu."
He is now engaged in leading the young seed developers of Shan-yu Hsien,
Fukien Province, his birthplace.

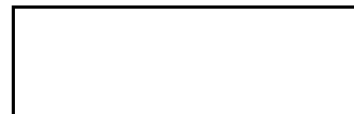
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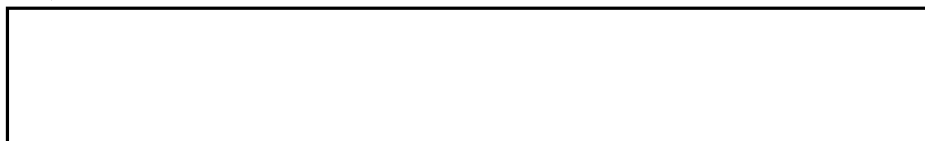
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Picture showing the new early-rice, "Lu-Ts'ai Wu", developed by conscientious farmer, Lu Ts'ai, of Shan-yu Hsien, Fukien, and now being popularized rapidly .

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