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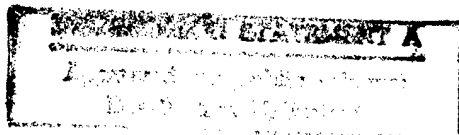
JPRS 82010

18 October 1982

# China Report

AGRICULTURE

No. 232



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18 October 1982

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No. 232

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NATIONAL

## I. GENERAL INFORMATION

### SOUTH CHINA REAPS BUMPER EARLY RICE HARVEST

OW171213 Beijing XINHUA Domestic Service in Chinese 0705 GMT 11 Sep 82

[Text] Beijing, 11 Sep (XINHUA)--Peasants in south China's early rice-producing areas have reaped a bumper harvest this year, thanks to their efforts to overcome the effects of heavy rain and waterlogging.

According to information released by departments concerned, it is estimated that the total output of early rice for this year has hit an all-time high, topping the 1981 figure by 3 billion jin or a little bit more, despite a reduction of 1.7 million mu in total acreage of this crop from the last year's total. Among these areas, Guangxi, Guangdong, Hubei and Hunan registered bigger margin increases in output while Anhui and Shanghai also increased some. Early rice output in Zhejiang and Yunnan remained at the 1981 level, and in Jiangsu, Jiangxi, Fujian, Sichuan and Guizhou it decreased slightly due to serious natural disasters.

This year's bumper harvest of early rice was achieved through efforts to stabilize and improve the various production responsibility systems, popularize agricultural science and technology and surmount the effects of various natural disasters. Guangdong Province planted 2.8 million mu of hybrid rice this year and the average per-mu yield topped that of the conventional variety by more than 100 jin. Many households engaged in early rice production on contract even registered per-mu yield of over 1,000 jin. The early rice-producing areas were hit by typhoon and torrential rain on many occasions during the crop planting and harvesting period in May through July. Crop damage was reduced to the minimum, thanks to efforts made by the peasants to help each other in their united struggle to drain the flooded fields, save the crop and exercise meticulous care in field management and harvesting. Bigger margin increases in early rice production were realized this year by areas of usually lower yield in output and areas not affected by natural disasters. All these factors made a nationwide bumper harvest of early rice possible despite the many natural calamities.

CSO: 4007/9

RURAL ECONOMIC OUTPUT, DEVELOPMENT DISCUSSED

HK020436 Beijing CHINA DAILY in English 2 Oct 82 National Day Supplement p 5

[Article by Du Runsheng, director of the Rural Policy Research Center of the CPCCC Secretariat: "Flexible Policies Are Key to Rural Wealth"]

[Text] The Chinese countryside is undergoing a period of reform which finds expression in two ways. One is the change in cooperative economic production methods. The other is the adoption of a diversified economic development policy.

A job-responsibility system also appears within the cooperative economy in the countryside to bring forth the initiative of peasants towards production and to strengthen the collective economy.

However, land still belongs to the state. The administrative organizations of the cooperative economy jointly manage and coordinate agricultural work like farmland planning, irrigation systems, adoption of large agricultural machinery, and production planning.

At the same time, organizations encourage the enthusiasm of the peasants towards production by allocating land and farm tools to them under job-responsibility contracts but letting them run their own production. The organizations share the products with the peasants according to the contracts.

The contractors share the collective expenses according to the quality of their individual plots and get what they produce. Collectively-owned businesses and sideline occupations are assigned to the peasants after agreement on output, investment and profits.

The agricultural cooperative system thus involves management at several levels. The unified management of brigades and communes meshes with the individual management of peasants. This has changed production methods. Under the general plan, each peasant household can arrange its yearly work as it wishes and family members can cooperate with each other in their work.

Productive Method

This method of production may seem backward compared with centralized management and general distribution of manpower, but it suits the production forces in the countryside and so promotes production.

It takes into account the interests of individuals and overcomes the shortcomings of egalitarianism in work payments. This method also gives peasants freedom in production, removing the likelihood of confused orders and other inefficiencies. It combines power, responsibility and individual interests, fanning the peasants' enthusiasm towards agricultural production.

In a developing country like China, socialist reform in agriculture is sure to be a long process. Since economic conditions in each part of the country are different, agricultural management must also take different forms during a certain process.

It will get us nowhere to go after equality in agricultural management. Therefore, any production method that can lead peasants to socialism should be adopted and encouraged.

China is a big country with a large population but a rather small amount of farmland. It is difficult to make the 800 million peasants rich quickly with limited farmland. For a long time we emphasized only the importance of grain production and neglected other crops. As a result, lots of forests and grassland were destroyed, and many lakes were filled in to produce grain. It did not increase the output of grain production but seriously broke the ecological balance.

In recent years, the party and government have called on peasants to develop agricultural production comprehensively. Apart from grain and cash crop production, animal husbandry, forestry and all forms of household sideline occupations, peasants have also established enterprises which process farm produce and have developed other small industries which require manpower rather than machines. They also set up service and commercial transportation businesses.

#### Diversified Economy

"We must positively develop diversified economic activity and pay close attention to grain production" is a slogan put forward by the party Central Committee and State Council. So we should develop mountainous or hilly areas, grassland and lakes by using our large labour force. This will have many benefits, raising peasants' income, accumulating agricultural funds, improving the diet of Chinese people and reducing the pressure of demand for grain. It will also use local labour forces in rural areas, thus avoiding further drift to China's already overcrowded cities, and will promote economic effectiveness by reducing the amount of transport needed.

It can be used to maintain the ecological balance of the environment and train a great number of people. It will heighten the material and spiritual civilization of Chinese people in rural areas, reducing the differences between two and the countryside.

On the basis of further diversifying economic activity, a great number of farm households which specialize in animal husbandry, forestry, small handicrafts, industry and transport have emerged. They are usually called "specialized families."

Some are contractors belonging to the collective economy compared with those who operate individually. Some join forces and operate within a group of several families. Although this new form of agricultural production is in an experimental stage, it has indicated the direction which will lead farm production to specialization and socialization.

These "specialized families" engage in commodity production and are quite different from self-supporting families of the past. As the members of "specialized families" are experienced in management and have production skills, so most of them achieve better economic results and are therefore better off than ordinary families.

It is natural for some peasants to become rich more rapidly than others through their labour and skills, and it is really a good thing to have richer peasant families under the socialist system--as long as they do not exploit others--because others can follow the same path.

In the course of economic development, many individual families will face common difficulties that will require joint efforts and cooperation in some phases of production. In that case, we can organize them well for production.

As is pointed out in a document from the 12th Party Congress, "it can be predicted that in the not too distant future, there will emerge in our rural areas an improved cooperative economy, with a diversity of forms, which will be able to capitalise on their advantages in the light of local conditions and facilitate the large scale adoption of advanced production measures."

By the end of this century, the lives of peasants in our country will reach a comparatively high standard, with their education and public health improved. Their consumption level of food and clothing and access to transport all also reach the world's medium level.

CSO: 4020/4

# DEVELOPMENT OF WATER ENERGY RESOURCES URGED

Beijing ZHONGGUO SHUILI [WATER CONSERVANCY IN CHINA] in Chinese  
No 3, 1982 p 25

[Article by Special Commentator: "Make the Most of Advantages, Hasten Development of the Country's Water Energy Resources"]

[Text] In the process of restructuring government organizations, the Water Conservancy and Hydroelectric Construction Company was formed. The company has been commissioned by the Ministry of Water Conservancy and Power to provide centralized leadership for national water conservancy and hydroelectric planning, surveying, designing, construction, and installation work, and for centralized management of manpower, financial, and material resources of subordinate units. This is a major result of the amalgamation of the Ministry of Water Conservancy and the Ministry of Electric Power, and it holds extremely important significance for the country's water conservancy and hydroelectric power construction.

China is a vast country with numerous rivers. Its water energy resources rank first in the world. It has theoretical reserves of 680 million kilowatts of which 370 million kilowatts may be developed for an electric power generating capacity of 1.9 billion kilowatt hours. Such an extremely abundant and valuable resource provides the country's water conservancy and hydroelectric power development endeavors with a vast field through which they may range. Our water conservancy and hydroelectric power construction corps possesses abundant technical strength, and it has accumulated rich construction experience. They are definitely skilled in their work. During the past more than 30 years they have built more than 20 million kilowatts of hydroelectric power stations, have excavated more than 500 million cubic meters of earth, have poured more than 50 million cubic meters of concrete, and have built a group of technically complex, remarkably beneficial large water conservancy and hydroelectric power projects such as the New Anjiang, the New Fengjiang, the Danjiangkou, the Liujiaxia, the Congzui, the Wujiangdu, the Bikou, the Fengtan, and the Gezhou dams. In 1981, hydropower generating output reached more than 65.5 billion kilowatt hours, an electric power equivalent to the burning of 40 million tons of coal. The broad masses of water conservancy and hydroelectric construction workers have struggled year in and year out in the deep mountains and gorges, arduously building and making a tremendous contribution to the country's water conservancy and hydroelectric power construction endeavors.

At the present time, extent of development of our water energy sources is still comparatively low amounting to only 3 percent of reserves, and project construction periods are relatively long. Construction costs per kilowatt are also higher than formerly. There are objective reasons for the existence of these problems such as increases in the price of materials, increased engineering difficulties, increases in the expense of resettling people, etc. There are also subjective reasons such as many problems in work during the initial stages, construction management, in the building of a corps, and in organizational structure. Now with establishment of the Water Conservancy and Hydroelectric Construction Company, conflicts of an organizational kind in water conservancy and hydropower work have been solved. Duplication of organizations has been reduced, overlapping of work has been avoided, and in planning and construction, a change has been made from "separate efforts" to "joint efforts." This reform has benefited unified planning and overall control of rivers; it has permitted comprehensive consideration of flood prevention, power generation, irrigation, navigation, aquatic products, and supply of water for urban industry and daily life, full development of water resources for use, and rational economic planning of project construction. As a result of centralized management and centralized assignment of water conservancy and hydropower construction forces, in future the role of specialized technicians, of surveying, designing and construction units, and of machinery and equipment will be effectively brought into play, to create favorable conditions for hastening progress on projects, for improving project quality, and for all around increase in economic effectiveness of water conservancy and hydropower projects. This is a new strength that is building today in the country's water conservancy and hydroelectric power construction. Leaders, cadres, and workers as a whole at all levels on the front line of our water conservancy and hydroelectric power construction should rally their spirits, seize opportunities, make the most of strengths, focus on improvement in economic effectiveness, and hasten the pace of development to create a new situation in the building of the country's water conservancy and hydroelectric power.

Making the most of strengths and improving effectiveness entails, first of all, further strengthening of work during the early stage. The re-doing of work, work stoppages, and the seeking of more investment funds in the course of construction of some projects in the past resulted from failure to have done a good job during the early stage of work through being overly anxious to get started. In future it will be necessary to devote much attention to this work and do a good job of planning. Every project to be constructed will have to be studied and a good job done of designing and surveying the project, so that water conservancy and hydroelectric power construction will rest on a foundation of data that are dependable and make economic sense. Apart from satisfying current construction needs, project designs should be stored up to create conditions for future large scale development of hydroelectric power endeavors.

It is necessary to make sure to select priorities for development. In laying out construction tasks, it is necessary to give priority to development of water conservancy and hydroelectric projects where the need for electricity is urgent, conditions superior, investment economical, effectiveness great,

and results quickly evident so that limited investment funds will bring maximum economic benefits. Low levels of administration and management, low labor productivity, and poor economic results are prominent problems in our water conservancy and hydroelectric power construction enterprises. An overall reorganization of enterprises centering on improved economic effectiveness should be done.

Leadership teams should be reorganized so that leaders of enterprises at all levels will be younger, better informed, specialized, and revolutionary for solution to the problems of laxity, weakness, overstaffing, and old age in teams. Economic responsibility systems will have to be established and perfected, and a construction organization management system that is scientific and cultured will have to be established. Cultural, technical, and vocational training will have to be given for all around improvement in the level of administration and management of enterprises.

Water conservancy and hydroelectric power construction is characterized by arduous environments and high labor intensivity. Many years' experience has shown that sole reliance on bonuses and reliance on money cannot make the construction teams good or project construction good. In addition to carrying out distributions according to labor, it is necessary that there be not the slightest bit of slackening of ideological and political work, vigorous development of campaigns to study the advanced and catch up with the advanced, to provide staff and workers with regular indoctrination in the proletariat being the masters of their own fate, and to give education in socialism, patriotism and situational education so that our construction corps will always maintain a vigorous fighting capacity, high revolutionary esprit, will unite to struggle, and work assiduously to make a greater contribution to water conservancy and hydroelectric power endeavors!

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CSO: 4007/577

## DEVELOPMENT OF RESERVOIR FISHING INDUSTRY URGED

Beijing ZHONGGUO SHUILI [WATER CONSERVANCY IN CHINA] in Chinese No 3, 82  
p 28-30

[Article by Li Boning [2621 0131 1380]: "Raise the Reservoir Fishing Industry to a New Level As a Promoter for Development of the Freshwater Fishing Industry"]

[Text] Since founding of the Chinese People's Republic, very great development of water conservancy construction has taken place. During the period immediately following Liberation, there were only 15 reservoirs in the entire country, but today there are more than 86,000. They have not only been effective in flood prevention, irrigation, power generation, in providing water, and in shipping, but they have also provided spacious water surfaces and conditions for development of the freshwater fishing industry. Reservoirs in the country in which fish may be raised have a water surface of 30 million mu, which is about 40 percent of the freshwater in the country in which fish may be raised. With steady future development of reservoir construction, the economic significance and tremendous potential of the reservoir fishing industry will certainly be increasingly manifest.

Since the Third Plenary Session of the 11th Party Central Committee, the Central Committee has formulated a series of programs and policies for development of the rural economy, and the State Council has promulgated "Regulations on the Breeding and Protection of Aquatic Product Resources," and "General Order on Protecting the Security of Reservoirs and of Aquatic Product Resources." It has approved and sent forward the "Report on the Raising of Fish in Reservoirs and Development of All Around Operations" from the Ministry of Water Conservancy, the Ministry of Finance, and the National Aquatic Products Bureau. Last year the CCP Central Committee and the State Council forwarded the State Agricultural Commission "Report on Active Development of Rural Economic Diversification," which has powerfully promoted development of the reservoir fishing industry. Quite a few provinces, prefectures, and counties have conscientiously made arrangements for special funds for reservoir fisheries handed down by the state, have increased disbursements of funds for support of water conservancy construction project development of economic diversification and the reservoir fishing industry, and have organized reservoir fishery technical training for several thousand attendees annually. New techniques for hatching, catching and preventing the

escape of fish have been promoted with benefit in many places. Many reservoir fish farms have instituted independent accounting, have adopted quota management, have linked calculation of remuneration to output, and have instituted production responsibility systems of various kinds for specialized contracting, and for hatching, raising, catching, and marketing in one continuous integrated process, which has stirred the enthusiasm of staff and workers. Today reservoirs under the administration and management of water conservancy departments have a fish raising water surface of more than 16 million mu. Thanks to the serious attention given by leaders at all levels, the cooperation of water conservancy and aquatic products departments, and efforts by reservoir fishing industry staff and workers, reservoir fishing industry output has steadily increased year after year. During the past 3 years, many places have experienced serious floods and drought, yet adult fish catches in the nation's reservoirs has continued to rise steadily year after year, reaching 120,000 tons in 1981 for an almost 30 percent growth over a period of 3 years. The extent to which reservoir management units and fish farms have been able to provide for their own expenses has improved remarkably. Substantial progress has been made in reservoir fishery techniques using the natural drop of impounded water to carry out high density raising of fish in running water, in use of net cages for overwintering and the raising of fish varieties of high quality, in the relocation and domestication of new varieties, as well as in making catches and preventing escapes.

Formerly water conservancy departments have lacked confidence about reservoir fisheries. First, they were worried about too little experience; second about a lack of qualified personnel; third about being saddled with losses; and fourth they felt they would lose control as a result of taking up the fishing industry. After 3 years of experience their mental concerns have gradually dissipated and their confidence and determination about the reservoir fisheries have been strengthened. The facts tell us that in operating reservoir fisheries, water conservancy departments will benefit from full use of water and soil resources, will benefit from centralized project management that makes the most of all around effectiveness, and will benefit from management unit self-sufficiency in operating funds, and in expansion of reproduction to create wealth for the country.

Nevertheless, many problems still exist in the reservoir fishing industry. One is that water surfaces utilization rates and yields per unit of area are too low. No one is raising fish on almost 9 million mu of reservoirs administered by water conservancy departments, and where fish are being raised, yields average only a little more than 10 jin per unit of area. Secondly, in the reservoir fishing industry, capital construction including hatching, raising, catching, and prevention of escape are not integrated. There are great shortages of funds, organizations and systems are not well developed, material and feed channels needed by the fishing industry are blocked; there is a shortage of people qualified in aquatic products, and scientific raising of fish still awaits general upgrading. Third, fishing industry production is chaotic with poaching of fish, dynamiting of fish, theft of fish, and poisoning of fish frequently occurring. Not only does this destroy aquatic product resources, it also endangers the safety of reservoirs. We have to summarize experiences conscientiously, look for gaps,

formulate measures, and go farther in the raising of fish in reservoirs. This March the National Freshwater Fishing Industry Work Conference, convened by the National Agricultural Commission, called upon the reservoir fishing industry to bring about tremendous growth during the 1980's, asking that they strive for an output totaling between 400,000 and 500,000 tons. This is a glorious task.

We imagine that during the 1980's the almost 15 million mu of large reservoirs in the country will be fully used, and that average yields per unit of area will rise from the present 7-8 jin to 15-20 jin. Water surfaces on the approximately 15 million mu of medium and small size reservoirs that can be used will see average yields increase from the present 25 jin to between 40 and 50 jin. Total output of the reservoir fishing industry will rise from the present 120,000 tons to between 400,000 and 500,000 tons. During the past 3 years, the reservoir fishing industry in quite a number of provinces (or regions) has grown substantially. In Hubei Province, that land of fish and rice, it has grown 46 percent, in Sichuan, it has grown 70 percent; it has doubled in Jiangsu; and both Jiangxi and Guizhou have seen a more than twofold increase. We believe there are many factors favoring development of the reservoir fisheries, that there are large amounts of water surfaces capable of raising fish that remain unused, that the present production starting point is low; that conditions are good for raising high quality fish varieties, and that large quantities of fish food exist within reservoirs and bodies of water. What these areas have accomplished, other areas are also entirely capable of accomplishing, and are capable of surpassing.

Small reservoir fisheries require little investment and results may be seen quickly. Small pond-like reservoirs lend themselves particularly to development of "intensive raising," and within a short period of time, yields can increase by several tens of jin up to 100 jin per mu. While continuing to devote attention to large and medium reservoir commodity fish bases, water conservancy departments should make small reservoirs one of their major targets for attack. They should give strict attention to making overall plans taking all factors into account for both irrigation and the raising of fish for all around utilization.

For future accelerated development of the reservoir fisheries, the following views are offered:

- (1) Understanding of the importance of reservoir fisheries must be increased. Reservoir fisheries are a major aspect of the overall benefits derived from reservoirs, and also a major ingredient in management unit development of overall operations. It is hoped that party and government leaders at all levels will be able to make reservoir fisheries a part of planning, organization and implementation of local development of large scale agriculture. All levels of water conservancy and hydroelectric departments should devote attention to reservoirs as a major matter in overall utilization of water resources for the realization of increased output and increased earnings, to create prosperity for the people, to improve the livelihood of staff and workers, and to advance management.

The principle of "management by and benefits for the builder" should be adhered to, with perfection of management systems, defining the scope of management. In accordance with the principle of echelon by echelon management, plans for development of fisheries and annual plans should be drawn for each reservoir. There should be a determination to improve existing reservoir fishery facilities by stages and in groups. During the "65" period, throughout the country the fishing equipment needed by the more than 300 large and medium size reservoir commodity fish bases that have been already constructed or are under construction should be further developed and completed. While removing dangers and strengthening reservoirs, all jurisdictions should look after the need for reservoir fisheries, building them at the same time and inspecting them for acceptance. In future building of reservoirs, from design to construction and from management and use, consideration is to be given at the same time to facilities needed for a reservoir fishing industry and multiple uses, both being examined and approved at the same time. We walked a tortuous road in the past, and we should summarize the lessons of this experience very well.

(2) Active development of multiple operations, strengthening of economic accounting, and steady improvement in levels of self-sufficiency in expenses. Today, state-owned water conservancy project management units above the county level number nearly 10,000, and during the past 3 years units that have used water and soil resources within the scope of their management, and have adapted general methods to local situations for the launching of economic diversification and active collection of fees for water and electricity to achieve virtual self-sufficiency or some surplus in meeting expenses number 45 percent of this number. This includes a 55 percent self-sufficiency rate for water conservancy projects. In 16 counties, municipalities, or autonomous regions in the country, state-owned water conservancy project management expenses and total earnings are virtually balanced, or earnings are greater than expenditures. Inasmuch as most water conservancy project management units are entrepreneurial units that earn their own income and pay their own expenses and for which there is no mutual adjustment of profits and losses between one unit and another or one prefecture or county and another, annually the state has to provide a 100 to 200 million yuan subsidy from water conservancy enterprise funds or from funds that localities have contributed themselves. At the present time, more than half of management expenses for state-owned water conservancy projects derive from state support. The way to change this state of affairs is to increase income and reduce expenses. Water conservancy project management units have superior conditions for development of planting industries and breeding industries. In places in which reservoirs are situated at the foot of a hill and beside a stream, in particular, the raising of fish and afforestation should be the major emphasis of multiple operations. Right now all jurisdictions in the country are carrying out a campaign of obligatory tree planting by all the people, and our water conservancy and hydropower departments, particularly the water conservancy project management units, should stand in the forefront of this campaign, persevere in it, carrying on without let up for many years to do a good job of afforestation and beautifying the environment. Future inspection, evaluation and comparison of reservoir administration and management should have as its major ingredient the raising of fish and afforestation.

Water conservancy projects have numerous facets; operations are of many kinds; their product batches are small; the production cycle is long; and the rate of profits is fairly small. Unified planning must be done through adaptation of general methods to local situations for planned development of key areas in order to produce batch lot production as rapidly as possible to achieve economic benefits. For a long time supply channels for feed and materials needed in the fishing industry and that are related to reservoir fisheries have not functioned smoothly. After the National Freshwater Fishing Industry Work Conference made regulations to meet the problem, this kind of problem will henceforth be included with freshwater fishing industry channels and will be properly solved equally and without discrimination. In order to link production, supply and marketing channels, it seems that organization and establishment of various kinds of multiple operations companies is a necessity. Today, Nei Monggol, Jiangsu, Zhejiang, Jilin, and Beijing, as well as quite a few prefectures and counties have organized establishment of water conservancy project multiple operations companies, which have been very effective in promoting development of multiple operations. It is suggested that all provincial (municipal and regional) water conservancy departments (or bureaus) take action, in conjunction with system reform, to organize and establish multiple operations companies at all levels as soon as possible. At the same time it is hoped that all jurisdictions will give needed financial support to reservoir fisheries and to development of multiple operating endeavors so as to promote development of these endeavors with all possible speed.

(3) Take a firm grip on technical training and give attention to scientific raising of fish for consistently high yields from reservoir fisheries. At the moment, effective scientific techniques should be promoted; attacks on key problems should be organized; and personnel should be energetically trained. Water conservancy departments in all provinces (municipalities and regions) should be asked to send graduates of water conservancy institutions to enhance technical forces. Water conservancy departments at all levels should cooperate closely with aquatic product departments in the running of short specialized technical training classes, group after group and over a period of time. Special funds pertaining to scientific research and training should be provided in accordance with requirements of the 1979 notice from the former Ministry of Water Conservancy.

(4) Strengthening of fishery management and improvement in relations between reservoirs and the masses. During the past few years Yantai Prefecture in Shandong Province has taken action to help communes and brigades in reservoir areas to develop production and improve living conditions with very good results. The Prefecture CCP Committee has organized all units concerned to support reservoir area communes and brigades in expanding their cultivated land, in building water conservancy, in constructing roads and building bridges, in adapting general methods to local situations for development of economic diversification, and in arousing irrigation areas to support the building of production in reservoir areas, in readjusting reservoir area grain and oil state procurement quotas, in reducing or not collecting fees for water, and in lightening labor burdens to bring about great changes in reservoir areas. This has both improved relations between reservoirs and the

masses, and has also pretty well solved order problems in the fishing industry. Other provinces (municipalities and regions) have had similar experiences that are worth conscientious promotion. In addition, education in the protection of reservoirs and love for reservoirs, and respect for laws should be widely spread among grassroots level cadres and the masses. Reservoir teams should be organized for joint prevention and joint care for the common protection of reservoir safety to obtain benefits from projects. Large reservoirs and key medium size reservoirs having a great bearing on the national economy and the livelihood of the people should, following discussion with and agreement from departments concerned, establish public security outposts or economic police, personnel and expenses being the responsibility of water conservancy departments, public security departments conducting investigations, training, and providing equipment. For the small number of lawless elements who refuse to change despite repeated education, who destroy projects and aquatic product resources, and who beat custodial personnel, discipline must be meted out in accordance with the law. Major cases that have not yet been disposed of should be solemnly handled quickly.

In recent years many places have been organizing pilot projects in association with or jointly with reservoir fishery communes (or brigades) concerned. This new born creature should arouse the serious attention of leaders at all levels. Practice everywhere has shown that among state-owned reservoirs, those commodity fish bases that have already achieved consistently high yields and have achieved batch production should not lightly change their fishery organization. Reservoirs that straddle administrative zones of water surfaces not readily managed that have low yields, should adhere to the principle of "three no changes" (namely, no change in centralized management leadership authority for reservoirs, state ownership of water surfaces, and ownership by all parties to associated operations; no change in reservoir and commune and brigade voluntary participation for mutual benefit; and no change in joint investment and joint responsibility for profits and losses), and may, under the centralized organization of reservoir management units, selectively operate joint or associated pilot projects. Specific forms of organization and provisions may be adapted from general practices to specific reservoirs. In raising, catching, intercepting, or protecting, either individual or multiple joint operations or associated operations may be used with step-by-step summarization of experiences to effect improvements. It is necessary to run pilot projects, first of all, with no rash action being taken or no "arbitrary uniformity" practiced. In the protection of bodies of water and the development of aquatic product resources, everyone bears responsibility. Water conservancy and hydropower departments are even more duty bound, and they should be promoters of the development of the freshwater fishing industry. Following diligent summarization of the lessons of experience, the Ministry of Water Conservancy and Power has emphasized in pertinent documents and professional conferences the issue of "saving trees, saving boats, and saving fish," and has drafted corresponding regulations. This was reiterated at the 1979 national conference on exchanges of experiences and the raising of fish in reservoirs and in multiple operations, and at last year's national water conservancy management conference. Now, water conservancy departments everywhere are in process of a comprehensive "three inspections and three stipulations," and water conservancy facilities that genuinely

impede the "three saves" will be studied one after another, necessary remedial measures taken.

For many years water conservancy departments and aquatic products scientific research organizations and institutions at all levels have been very greatly concerned about water conservancy endeavors, and they have given extremely great support to reservoir fisheries. In the development of freshwater fisheries, water conservancy and aquatic products have a common goal and a common mission. Let us unite further and jointly make new contributions in the promotion of consistently high yields from the freshwater fishing industry.

9432

CSO: 4007/577

NATIONAL

BRIEFS

STATE FORESTRY FARMS--Since 1979, state forestry farms in China have produced an average of 4 million cubic meters of lumber each year, 70 million jin grain, 14 million jin fruit, 1.9 million jin tea and 700,000 jin medicinal herbs. [OW231311 Beijing Domestic Service in Mandarin 0400 GMT 8 Sep 82]

EDIBLE OIL RATION--The Ministry of Commerce and Ministry of Finance have instructed various areas to provide an additional ration of two jin of vegetable oil per head for non-agricultural people throughout the country in observation of National Day. This is the largest amount additionally provided for a festive occasion since the introduction of the planned purchase and marketing of edible oil. This shows that since the third plenary session of the 11th CPC Central Committee, the situation concerning edible oil has become increasingly favorable from year to year. [Text] [HK291157 Guangzhou Guangdong Provincial Service in Mandarin 2350 GMT 28 Sep 82]

CSO: 4007/9

## ANHUI

### BRIEFS

AGRICULTURAL MEETING--The Anhui Provincial CPC Committee sponsored a meeting in Guzhen County from 21 to 24 August to discuss matters concerning autumn planting. Wang Guangyu, secretary of the provincial party committee, and Meng Fulin, vice provincial governor, were present at the meeting, which was attended by 135 comrades in charge of agriculture in Hefei and other localities. It was reported at the meeting that output of the summer harvested crops in Anhui has exceeded 10 billion jin this year, mainly due to the implementation of the system of responsibility for agricultural production, improvement of soil fertility and the irrigation system. The meeting urged all areas to focus attention on wheat production this fall and fulfill various production quotas to insure greater wheat output next year. [OW231105 Hefei Anhui Provincial Service in Mandarin 1100 GMT 28 Aug 82]

CSO: 4007/9

BEIJING

# RURAL COMMUNE'S WORK SYSTEM ACHIEVEMENTS NOTED

HK020606 Beijing CHINA DAILY in English 2 Oct 82 National Day Supplement p 5

[Article by Hu Wenshun, secretary of the Shuangqiao People's Commune Communist Party Committee]

[Text] Shuangqiao People's Commune in the Chaoyang District is one of Beijing's rural communes. It has 12,846 households who make up 47,719 people, and 52,000 mu (3,466 hectares) of farm land. There are 14,000 laborers and 7,000 factory and sideline workers. It is composed of five rural management areas with 62 production brigades.

The commune's chief concern is agriculture but at the same time, it is trying to develop in many fields. It has set up offices or stations in charge of industry and sideline activities, animals and fishery, hydropower, science and technology. There is also a hospital and a school for workers.

Great changes have taken place since the third plenary session of the Communist Party's Central Committee in December 1978. The establishment of various kinds of responsibility system was what the people wanted.

In only 3 years, major economic gains have set historic records. Agricultural and industrial gross income in 1981 amounted to 72.94 million yuan, an increase of 78 percent over the 40.94 million yuan in 1978. Average annual distribution per capita was 370 yuan, increased by 90.7 percent (194 yuan in 1978).

For 3 years running, Shuangqiao's farming, tree planting, animal raising, fishery and sideline production have all expanded, while crop yield has stabilized above 35 million jin (17.5 million kilograms).

The year 1981 was the sixth that its per mu yield reached over one thousand jin (7,500 kilograms of grain from one hectare). The per unit area yield of 33,000 mu (2,200 hectares) of grain field was 1,067 jin (533.5 kilograms). Vegetable output has been 52 million jin (26 million kilograms) every year. Milk cows increased by 50 percent from 12,000 3 years ago to 18,000 now. Milk production was increased by 35.6 percent and pigs increased by 41.6 percent. The fish catch has doubled. Chicken farms, force-fed duck farms and orchards were expanded.

About 100 industry and sideline enterprises have been developed, run either by the commune, or by brigades. Gross income from these enterprises grew from 30 million yuan in 1978 to 50.13 million yuan, in 1981, an increase of 67 percent.

The commune has helped enrich Beijing's market by selling more produce to the state. Its commodity grain increased by 71.6 percent. It also provides the market every year with 45 million jin (22.5 million kilograms) of vegetables, 11.2 million jin (5.6 million kilograms) of fresh milk, 17,000 pigs, 230,000 jin (115,000 kilograms) of fresh fish, 500,000 jin (250,000 kilograms) of eggs, 60,000 ducks and 3.6 million jin (1.8 million kilograms) of fruits.

The increases are attributed to the responsibility system. The Wuliqiao brigade is an example. It contracted 54 mu of land (less than 4 hectares) to 28 commune members for specialized production. The total output was 62 percent higher than the previous year and the members' income quadrupled. The average value of production per mu (1/15 of a hectare) rose to 1,144 yuan. The average annual distribution to each laborer was 1,370 yuan with the highest more than 1,800 yuan.

In the last 2 years the living standard of the commune members has been improved. According to a survey, some 1,900 households have built 6,000 new houses. Fifty percent of the households have bought TV sets. Thirty percent of the brigades have set up pensions for elderly members over the age of 60, ensuring the livelihood of the commune members when they lose their ability to work.

Shuangqiao People's Commune is looking forward to an even brighter future in 1983.

CSO: 4020/4

GANSU

BRIEFS

WINTER WHEAT SOWING--Qingyang Prefecture, Gansu Province, has basically completed the winter-wheat sowing operation. As of 18 September, the prefecture had sown over 2.9 million mu of winter wheat. [SK250741 Lanzhou Gansu Provincial Service in Mandarin 1125 GMT 23 Sep 82]

SUMMER GRAIN PROCUREMENT--Gansu Province's Zhangye Prefecture implements the guidelines of the 12th Party Congress by marketing more good grain to the state. As of 15 September, the prefecture marketed 80 million jin of summer grain to the state. [SK231308 Lanzhou Gansu Provincial Service in Mandarin 1125 GMT 19 Sep 82]

CSO: 4007/9

GUANGXI

BRIEFS

NANNING PREFECTURE SILKWORM PRODUCTION--Nanning Prefecture in Guangxi region has developed silkworm production and reaped a bumper harvest. By the end of August, the amount of silkworm cocoons procured by the prefecture was some 5,500 dan and was 39.5 percent more than in the corresponding period last year. The prefecture overfulfilled its quota for procurement for the whole year by 28 percent 4 months ahead of schedule. [Nanning Guangxi Regional Service in Mandarin 1130 GMT 25 Sep 82]

CSO: 4007/9

HEBEI, HENAN WATER CONSERVANCY PROJECTS ASSESSED, FOUND WANTING

Beijing CAIZHENG [FINANCE] in Chinese Nos 7 & 8, 5 Jul, 5 Aug 82

[No 7, 5 Jul 82 pp 1-3]

[Article by Survey Unit, Ministry of Finance: "Survey Report on Questions of Investment Benefits From Water Conservancy Construction in Hebei and Henan"]

[Text] Editor's Note: During the last half of last year, on instructions from Central Committee leadership comrades, the Ministry of Finance sent a survey team headed by Comrade Jiang Dongping [3068 2639 1627] to 14 counties in Hebei and Henan provinces to conduct a more than 3 month long survey of economic benefits derived from investments in water conservancy there. The survey team held informal discussions with local leadership comrades at all levels and with comrades in finance and water conservancy departments. They listened to the views of some water conservancy specialists, asked questions of commune and production brigade grass-roots cadres and commune members, inspected some water conservancy projects and the transformation of water sources, and wrote a survey report. Central Committee leadership comrades made some important written comments on the survey report and instructed departments concerned to study the report seriously and to provide a water conservancy program for North China and major actions to be taken. This survey report will be published in two separate issues of this journal.

The new circumstances and new problems public financial work now faces are very numerous and require that we vigorously intensify our investigation and study work. It is hoped that government financial departments everywhere will be able to identify some topics and organize forces to carry out an investigation and study of them, and it is hoped that they will also select some survey reports for mailing to us so they may be published in this journal for an exchange.

Water conservancy construction achievements in the two provinces of Hebei and Henan have been very great. In the 30 years between 1951 and 1980 payments for water conservancy construction in these two provinces amounted to about 45 percent of payments made for support of agriculture. The two provinces used this investment to do many things. As compared with the period immediately following Liberation, the irrigated farmland area in Hebei Province increased from 11 million mu to 54 million mu; in Henan, it increased from 6.35 million mu to 58 million mu. Following the testing that the last several years of drought have provided, the area of each of the two provinces that can be fairly well assured of irrigation has been shown to be about 30 million mu. Expansion of the irrigated area has given powerful impetus to development of agricultural production. Some water conservancy projects have played a very good role as well in the prevention of floods, elimination of waterlogging, and reducing soil alkalinity as well as providing cities water for use. However, as a result of this survey we also feel that considering the tremendous cost to the country and the people, benefits from investment in water conservancy construction in these two provinces have not been all that they should have been. This is particularly true of some projects from which anticipated benefits were not derived following their construction. In order to conscientiously summarize the lessons of experience so that water conservancy construction will "genuinely proceed from realities," every available means used to increase economic benefits," and so that "the people will derive greater material benefits" from them, several problems deserve careful study for gradual solution.

#### 1. The Question of Benefits From Reservoir Construction

Investment in the building of reservoirs constituted a very large proportion of water conservancy construction in the two provinces amounting to about 40 percent of total water conservancy expenditures. Total design capacity of reservoirs already constructed was for 9.5 billion cubic meters in Hebei Province and 13.3 billion cubic meters in Henan Province, and they were definitely effective in flood prevention and irrigation. However, for many reservoirs, economic benefits were not sufficient. Their actual water storage capacity was vastly lower than design capacity to the detriment of their effectiveness in irrigation and flood prevention. Among the several reservoirs that the survey team visited, except for individual reservoirs in which the water storage situation was fairly good, in most the actual current storage capacity is only about 10 percent of design storage capacity.

Why is it that actual reservoir storage capacity is vastly lower than design storage capacity? Aside from the protracted drought in North China during the past several years, one major reason is the poor quality of engineering. Faulty and dangerous reservoirs are numerous and they are thus unable to meet designed standards for impounding water and for holding back flood waters. For example, a reservoir in Lin County, Henan Province was started in 1958 and completed in 1960. It had a design storage capacity of 66.9 million cubic meters for a planned irrigation area of 100,000 mu. After it was completed, the dam leaked seriously and water could not be impounded in it. For 20 years it has been fixed year after year at a total investment of 70 million

yuan (including a national investment of 20.93 million yuan), and today it is still a faulty reservoir that cannot impound water. According to a briefing provided by water conservancy departments in Henan, 10 of the province's 19 large and medium size reservoirs are faulty or dangerous, and 540 million yuan has already been invested in these reservoirs. Another 500 million yuan will have to be spent strengthen them and eliminate danger. In August 1975 following the collapse of a dam in Henan Province, water conservancy departments proposed the principle for water conservancy projects of "designed for 1,000 years, and checked for 10,000," with existing reservoirs being reinspected using the rains of "August 1975" as the criterion. As a result, some reservoirs of fairly good quality were put on the list of faulty and dangerous reservoirs in a situation in which every reservoir posed some danger. As a result of erosion and the serious silting of reservoirs as well, for many reservoirs urgent action had to be taken for "emptying reservoirs in advance of the flood season and releasing flood waters without impounding them." Before the advent of the flood season, water was flushed from the reservoirs and they were cleaned out, and during the flood season they dared not be used either to hold back flood waters or for storage. After the flood season had passed, there was no water to be stored; consequently, their effective usefulness was impaired.

Another major reason is that too many large scale projects were started. As a result, large numbers of projects were never completed or were not fully equipped. Hebei Province has reported a total of 133 half finished reservoir or irrigation ditch projects throughout the province (not including add-on projects started by prefectures and counties). After eliminating 22 of these that were duplicatory and to be "dismantled," an investment of 870 million yuan would still be required to finish construction of the others. For half finished water conservancy projects in Henan Province, an additional investment of 2 billion yuan would be required to complete construction. At the two province's current levels of investment, even if all new projects were to be halted, it would still take from 20 to 40 years to complete these leftover projects. Despite the very many problems with leftover water conservancy construction, some places have not learned the lesson. Seeing the good current rural situation, they want to continue overbuilding. After rural production responsibility systems were set up last year, in one county in Henan Province communes and brigades grew more tobacco to increase production and increase earnings. County public revenues also experienced a surplus, so it was decided to build six more reservoirs. The county arranged for Chengguan Commune to build one reservoir, and the commune did not wait until the fall harvest was in to begin construction of three additional reservoirs assigning responsibility for work on them to households on the basis of the average number of people in them. For households having few working members, harvesting of the peanut and sweet potato crops had to be left unfinished, and during fall and winter the soil could not be turned over nor manure collected. Embankments along fields could not be given any repairs, and there was fear that during the following year households might not be able to fulfill their fixed output quotas.

On the basis of the situation in the two provinces of Hebei and Henan, many problems requiring serious study exist in future water conservancy construction. Since Liberation, the state, communes, brigades, and peasants have

invested large amounts of manpower, material, and financial resources in the building of reservoirs and large irrigation ditches. It has been estimated that for every yuan of state investment, the masses have to add two. In virtually every place where a reservoir should be built, one has been built, so henceforth aside from the reservoirs necessary to assure the water needs of urban industrial production and of the daily life of residents, no further large or medium size reservoirs should be built. The focus of efforts should be shifted to making the most use of and improving benefits derived from existing reservoirs. In addition, existing reservoirs should be classified in order of priority. Where reservoir quality and water resources are fairly good, these should be genuine strengthening of safeguarding and management to make full use of their effectiveness for irrigation and flood prevention. Some of these will require more construction and equipping, and arrangements should be made for this in a planned, step-by-step way insofar as financial and material resources permit. When reservoir quality is fairly good but water sources inadequate, the originally designed irrigation area will have to be revised, and the volume of water actually available taken into consideration in equipping them. Where reservoir quality is poor and water sources fairly good, the reservoir should be made safe, first of all, and in the strengthening and elimination of danger in faulty and dangerous reservoirs, specific requirements that are realistic will also have to be worked out. When water sources are insufficient, and reservoir engineering quality is poor as well, and there is no way to effect fundamental improvements, further construction and equipping should be halted or the reservoir should be scrapped. While guaranteeing the safety of places downstream, proper handling of the existing project should be done. In order to protect and make the most of the effectiveness of existing reservoir projects and facilities, firm grip has to be taken on soil and water conservation work in the areas of rain concentration in the upper reaches and in the reservoir area. When building new reservoirs, provisions for commensurate soil and water conservation projects should also be made part of plans. Continued future mobilization of the masses to build some small reservoirs that hold genuine benefits for the promotion of production is necessary, but the principle of voluntary participation by the masses is to be adhered to, construction tasks assigned on the basis of the size of benefits to be gained. When communes and brigades that will not benefit help with construction, they should be paid fair compensation.

## 2. Problems in Doing a Good Job of Water and Soil Conservation

For a long time great attention has been given to engineering measures for water control while the planting of trees, the growing of grass and such biological measures to preserve the ecological balance of the land have been neglected. Action has not been taken to get at the root causes of floods, and this has been a mistake. Water conservation funds from these two provinces used for water and soil conservation amounted to 0.6 percent of the total investment in water conservancy for the same period, and most of this money was also used in engineering measures to conserve soil and water, with very little used on biological measures.

On the one hand the planting of trees and the growing of grass for water and soil conservation and to hold water has been neglected, while natural forests and ground cover have been destroyed on the other, many grave consequences resulting. Destruction of the original forests in the mountain regions of these two provinces has been serious as a result of the large scale steel making efforts of 1958 and the cutting off of "vestiges of capitalism" in 1970, large scale felling of timber having been done both times, including the use of timber forests and economic forests (such as persimmon trees, walnut trees, Sichuan pepper trees, and apricot trees). For example, somewhat more than 160 households in Zhangjiazhuang, Paihui Commune, Wuan County in Hebei Province formerly had an average of somewhat more than 100 persimmon and walnut trees per household, and the masses there had a saying that, "persimmons and walnuts are like a crop of grain." Today only somewhat more than 700 trees remain in the entire village. Formerly the masses in mountain regions lived off the mountains where they lived, but after several major timber cuttings, the livelihood of the masses is hard, and they have no choice but to live off of the relief provided by the state.

As a result of the destruction of the ground cover, which make it impossible for the soil to hold water, plus drought, some of the streams in these two provinces have become waters without a source. In Hebei Province many of the more than 600 streams have stopped flowing. Some streams have been cut off inch by inch, seriously impairing irrigation and navigation. In Henan Province, navigable waterways have declined from 3,839 kilometers to somewhat more than 800 kilometers. Between Taihang Mountain and Chong Mountain, everywhere there are barren hills and mountains, soil erosion, and serious silting of reservoirs. In 1963, after holding back flood waters just once, silting of the Yuecheng Reservoir ran to 50 million cubic meters. In Luoyang Prefecture after about 10 years, 16 reservoirs have become entirely filled with silt and abandoned.

In order to improve China's natural climatic conditions and do a good job of further water conservancy construction, it is necessary to begin right now to treat vigorous intensification of water and soil conservation work as a strategic task that bears on the fundamental welfare of future generations of the Chinese race. In building water conservation, it is necessary to closely combine both engineering measures and biological measures. Distribution of funds for water conservancy must also be correspondingly readjusted on the basis of the foregoing. In view of the present state of soil erosion and the need for control by stages, in future the proportion of water conservancy must also be correspondingly readjusted on the basis of the foregoing. In view of the present state of soil erosion and the need for control by stages, in future the proportion of water conservancy expended will have to be increased for soil conservation.

The problem of a future source of funds for conservation of soil and water may be solved by cutting back on or readjusting water conservancy construction projects, and will not necessarily require increases in new expenditures of public funds. For example, in order to prevent flood waters from flowing into the Huang He, Henan Province is in process of building a reservoir with

a design capacity of 1.2 billion cubic meters on the Luo He. Since the beginning of construction of this reservoir in 1958, it has gone through several ups and downs and more than 30 million yuan has been spent. If work continues, units concerned figure that an investment of about 1 billion yuan will be required (including an associated irrigation ditch system). Reportedly the geology for this reservoir is uncertain and there is serious fracturing of the bedrock for the dam. Even if completed, it might not meet standards because of safety and would not dare be used to hold back or store flood waters. It also might become silted as a result of serious erosion upstream. Some comrades have noted that expenditures of these funds on soil and water conservation in the mid and upper reaches of the Huang He and in the Luo He region would be more beneficial. They have figured that were these funds used to subsidize communes and brigades, 100 million mu could be afforested. If used as investment in a state-owned forest farm, 25 million mu could be afforested. Figuring 20 cubic meters per mu of water retained by a canopy forest, the economic benefit derived from this measure alone would be the equivalent of that derived from a more than 500 million cubic meter green reservoir that would long endure and from which waters would long flow. Some experts have suggested that the state annually allocate special investment to undertake comprehensive control of the middle and upper reaches of the Huang He, starting with the 100,000 square kilometer area where erosion is most serious in the gorges in Shaanxi and Shaanxi and in the basins of the Jing and the Wei, so that after between 10 and 20 years of unremitting efforts the amount of silt entering the Huang He will be reduced by 50 percent, and the coarse sand that causes most damage reduced by 60 percent. This is a program that goes to the root of the problem that merits serious attention. A good job of water and soil conservation will require the concerted efforts of water conservancy, forestry, agriculture, and planning commission departments, as well as all the provinces concerned making cooperative efforts and working in common. This is the only way in which to derive greater effectiveness, and it is suggested that the state designate a department possessed of authority the responsibility for carrying out this task.

[No 8, 5 Aug 82 pp 1-3]

[Text] 3. Problems in Developing Pump Well Irrigation and Overcoming Excessive Extraction of Ground Water

Through the ages the two provinces of Hebei and Henan have had a tradition of using well water to irrigate the land. Today Hebei has 560,000 pump wells, and Henan has 500,000, which are outstandingly successful in developing irrigation and promoting production. Over the years Hebei Province has subsidized the sinking of wells with an investment of 730 million yuan to develop an irrigation area of 40 million mu, which is 74 percent of the irrigated area. Over the years Henan Province has subsidized the sinking of wells with an investment of 487 million yuan for development of an irrigation area of 34 million mu, which is 58.6 percent of the irrigated area. "With wells all is green; without wells all is brown." Well irrigation has truly caused agricultural production to go up in many places. As a result, enthusiasm for sinking wells is very high in these places.

A current problem deserving of attention is that wells are being sunk in ever increasing numbers to ever increasing depths, and the water table is sinking dramatically occasioning a series of problems. In Hebei Province the conflicts are extremely prominent. Measurements recorded at Xinhe, Wei, and Nangong counties show a general 20 to 30 meter decline in the water table in deep strata during the past 10 years. In Hengshui and Cangzhou prefectures, the water table has dropped an average 3 to 5 meters annually in places of high deep well density. Seven funnel areas have occurred in the province affecting 47 counties and municipalities over an area of 7,000 square kilometers. In Henan Province, the water resources are somewhat better than in Hebei; however, there too water tables are steadily on the decline, and 16 funnel areas have occurred over an area of 2,200 square kilometers. Analysis of measurements shows natural replenishment of deep strata ground water to be extremely difficult, every little bit pumped out means a little bit less. At Cangzhou, Hengshui, Tianjin, and Handan partial soil subsidence has occurred as a result of the lowering of the water table, and future trouble is a worrisome possibility. The suddenness of the drop in the water table has forced the frequent changing of pumps and constant removal of pump wells from service for very great losses to the country and to communes and brigades. Reports from Nangong County tell of the replacement of five different generations of pumps in less than 10 years. Changes have gone from centrifugal pumps to simple deep well pumps, to deep well pumps, to phreatic water pumps, to JD-type industrial deep well pumps. The height water has to be raised has gone from about 10 meters to 40 meters, or as high as 60 meters. Cost of raising a ton of water has increased from 0.0054 yuan to 0.021 yuan, a threefold increase. Statistics show the abandonment of 228,000 pump wells in Hebei Province between 1973 and 1978, 61,569 of them in 1978. In Xinhe County, between 1970 and 1980 a total of 1,730 wells were sunk, and during the same 10 year period 1,128 were abandoned.

Leadership comrades in some prefectures have pointed out the need for strict future control over the extraction of water from deep strata and full use of water in shallow strata, using water in deep strata for strategic conservancy, and permitting public funds subsidies intended for investment in deep wells to be used to subsidize shallow wells or other small water conservancy facilities. This is a sensible idea. Replenishment of water in shallow strata through precipitation is easy, and such wells can be continuously used, are easy to tap, and require small expenditures. Following institution in rural villages of production responsibility systems, in some places a single household or a combination of several households of commune members put to use old abandoned dug wells or bricked wells. They used manpower, animal power or small pumps to lift water, or sometimes they used hand operated pumps (that the masses call "old man happy" [pitcher pump] to raise water with very good results for watering the fields to combat drought. In a situation of surplus rural manpower, full use of manpower, using water in shallow strata to the greatest possible extent, saving energy for the country, saving expenses for commune members, and increasing income should be encouraged and supported.

In most parts of North China the amount of water required to grow 400 jin per mu of wheat or 100 jin per mu of cotton is about 400 cubic meters. It has been calculated that in Hebei Province, under normal weather conditions,

water resources amount to an average of only 188 cubic meters per mu of cultivated land so for every person in the province to water a mu of land is, in fact, impossible to achieve. Any forced efforts to achieve it would inevitably lead to overtapping of ground water causing disastrous consequences. In addition to drought, changes in the growing of crops have also artificially increased the shortage between supply and demand of water. Under the guidance of the former mentality of "reversing the transfer to the north of grain from the south," the area sown to wheat in Hebei Province rose from 27 million mu during the 1950's to 42 million mu in the 1970's, and cotton declined from 15 million mu to 8.2 million mu. The growing season for wheat takes place almost entirely during the dry season and it is dependent on irrigation for two-thirds of its water needs. The growing season for cotton occurs during the rainy season, and rainfall substantially satisfies its needs. Drought tolerant millet and gaoliang cultivation declined from 46 million to 14 million mu, and corn, which takes a lot of water, increased from 20 million mu to 35 million mu. In a situation in which water resources could not be assured, large scale development of water loving crops meant inconsistent harvests. In 1979, wheat output in Hebei Province amounted to 12.68 billion jin, but in the 1980 drought year they plummeted to 7.98 billion jin, yields falling from 298 to 185 jin per mu. The ratio of water loving to drought tolerant crops should be decided on the basis of the possibility of tapping water resources for use. Places having fairly good water resources should actively develop irrigation; however, areas in which water resource conditions are arid or semi-arid should not push for a large irrigated area; instead, they should give greater attention to development of drought tolerant crop agriculture. In order to ameliorate the ever sharpening conflict between water resources supply and demand, both Hebei and Henan should study suitable readjustments of their crop growing structure. Mountain regions should also encourage the building of "three conservation fields," and study the spread of drought tolerant high yield crop varieties.

The year after year drought in Hebei Province and Tianjin Municipality has meant a shortage of water for the cities and countryside, making necessary the diversion of the Huang He over great distances. While Hebei is experiencing a water shortage on the one hand, it is making a "fundamental solution to the Hai He" on the other, annually discharging between 6 and 7 billion cubic meters of water into the ocean. In 1977 the Wenan lowlands stored 1.1 billion cubic meters of excess rainwater that caused waterlogging, but subsequently spent 20 million yuan for 250 pumping stations to drain it all away in order to grow wheat. In discussions with local comrades, some comrades had the idea of diverting some flood waters and excess rainfall that caused waterlogging into natural depressions (such as the Wenan lowlands, Baiyangdian Lake, Dalangdian Lake, the Jiakou lowlands and Tuanbo lowlands) for storage, this way impounding between 4 and 5 billion cubic meters of water, which would not only replenish the plain's ground water and reduce the fall in the water table, but could also supply water to the nearby industrial cities of Tianjin and Cangzhou. Use of natural depressions and lakes would require only a little changing around; it would not require moving people nor would the state be required to invest much. Impounding of water would result in a reduction in the amount of cultivated land, but water surfaces

could be used for production to increase income. This is possibly a sensible idea, and it is hoped that those concerned with give it study and examination.

#### 4. Use of Cisterns to Solve the Drinking Water Problem for Mountain Region People

In order to solve the problem of storing drinking water for people in mountain regions, Hebei and Henan provinces have allotted 90 million and 76 million yuan respectively over the years, but the problem has yet to be solved completely. Every year it is difficult for between 2 and 3 million people to get drinking water. The survey team came to realize as a result of visits to several mountain villages, that one major reason accounting for drinking water problems is that under the former erroneous leftist guiding mentality the dry wells used for storing water (sometimes called cisterns or water storers), which were built generation after generation as mountain region droughts required, had been largely cut out as a vestige of capitalism. Collectives took to drinking "water from a large common pot," and when they could not get it, they had no choice but to mobilize an entire county's vehicles to haul drinking water. In Jingxing County in Hebei Province, 119 households consisting of 520 people in the Lianjiayao Production Brigade abandoned their dry wells one after another after they had been made public property. During a period of more than 10 years, the state has made a 66,000 yuan subsidy; brigades have invested 28,000 yuan, and commune members have devoted 100,000 workdays to sink four deep wells (40 to 160 meters deep), without finding water and causing a very great waste. This production brigade has built a pumping station to lift water in three stages 177 meters, has installed 175 horsepower of machinery, and has laid more than 20 li of pipe. Cost of raising 1 dan of water amounted to more than 0.10 yuan, which the production brigade and commune members could not afford, so they had to dismantle the machinery and put it in safe storage, abandon the project, and continue to haul drinking water in from elsewhere.

Drinking water problems in arid mountain regions have been solved well in some places. Songshuling Production Brigade in Jinxing County has 26 households containing 100 people. They assiduously summarized the lessons of past experience and, in 1972 they began to continue the digging of dry wells to store water. The wells dug by the collective were assigned to the care of a specially designated person, and the wells dug by commune members were owned and used by those who dug them. Today the collective has 26 dry wells capable of storing 3,300 cubic meters of water, and commune members own 20 dry wells capable of storing 610 cubic meters of water for a total of 3,900 cubic meters. Despite continuous drought since 1978, there has been no shortage of water. In the spring of 1980 they used the dry wells to store water to fight drought and managed to dibble seeds at the proper planting time for 40 mu of crops as well as to provide drip irrigation for 12 mu to assure a harvest. Though Lin County has built the Hongqi channel to divert the waters of the Zhang He, the drinking water problem has still not been entirely solved there, and in mountain region communes and brigades, and rural villages far away from the channel, 170,000 people still have problems with drinking water. Year after year the county mobilizes up to 100 trucks to

deliver drinking water to places lacking it. Following examination and study plus summarization of experiences, the County CCP Committee and county government decided in 1980 to adopt the method of commune members digging dry wells, with the state providing a suitable amount of subsidization (a subsidy of 30 yuan for each well dug), those digging the wells owning them and the county government issuing certificates of ownership. The enthusiasm of the masses was consequently very high and within the space of just a little more than a year, 8,000 dry wells were dug. In 1981, 6,000 such wells were full of water and able to solve the drinking water problem for 30,000 people. The county plans to dig another 30,000 such wells between 1982 and 1984 for gradual solution of the drinking water problems for mountain region communes and brigades.

Practice has shown that in most mountain regions of North China in which ground water is buried very deep, the digging of dry wells to store water is an effective and reliable means for solving the drinking water problem. Though North China is arid, in summer rainfall is concentrated and runoff is considerable. All that is required is to make ready before the rains fall, to manage carefully, to give attention to diversion and storage, and wells will be ready before one is faced with thirst. In winter ice can be cut and snow stored in the dry wells too. Water stored in these wells does not evaporate very much, and it can be stored for a long time. A well that stores 30 cubic meters of water can provide a household with enough drinking water for a year. At the present time the state annually disburses special funds to solve the problem of drinking water storage for people. In future, some of these funds should be used to help commune members and production teams dig dry wells. In addition some cement and other needed building materials could be supplied. State subsidies could be distributed to production brigades to be provided to households, or they could be directly sent to households. Policies could be clearly formulated providing that dry wells used for drinking water would be a means of production under the ownership of commune members. Dry wells dug by the collective should definitely have a person appointed responsible for them so they receive regular maintenance and have water channeled into them when it rains.

##### 5. The Problem of Centralized Planning of Water Conservancy Construction

Survey of both banks of the Zhang He brought the realization that for many years each province has competed to build irrigation ditches and reservoirs on the Zhang He, and that construction has been duplicatory. They have both destroyed water resources and impaired water conservancy benefits, and have created a great waste of manpower, material, and financial resources. In 1959 the Ministry of Water Conservancy directly invested 750 million yuan in the building of Yuecheng Reservoir (including an associated irrigation ditch system) with a reservoir capacity of 1.09 billion cubic meters. After construction was finished in 1962, as designed, 2.4 million mu in Ci and Handan counties in Hebei Province was to be irrigated, but the actual irrigated area was 2 million mu. In Henan Province, a 1.2 million mu area was to be irrigated in Anyang, but the actual irrigated area was 1 million mu. The benefits were not bad. Later, however, Lin County built the Hongqi Irrigation Channel; Anyang County built the Yuejin Channel; Ci County built the

Xiaoyuefeng Channel, and Handan Prefecture built the Dayuefeng Channel. In addition, Changzhi Prefecture in Shanxi Province built three large reservoirs and two diversion channels on the Zhang He and its tributaries, each reservoir having a capacity of 1.356 billion cubic meters. Irrigation ditches could annually divert 2.774 billion cubic meters. The capacity of both totaled 4.13 billion cubic meters, greatly exceeding the annual 1.6 billion cubic meter volume of flow that the Zhang He basin above the Yuecheng Reservoir had averaged for many years. Investment in projects by Henan and Hebei amounted to somewhat more than 1 billion yuan. When the final accounting was in not only was there no increase in the irrigated area, but rather a decrease. The area that the Yuecheng Reservoir could effectively irrigate had been 3 million mu, but because of the interdiction of water sources in the upper reaches, for several years in a row there has been no water for irrigation. Taken together, the Hongqi Channel, the Yuejin Channel, the Dayuefeng Channel, and the Xiaoyuefeng Channel in the upper reaches can irrigate only between 740,000 and 990,000 mu, or one-third the irrigation area of Yuecheng Reservoir. The survey team went to the site where it saw that some project channels cross mountains, traverse rivers, and vault gorges. There are huge tunnels, and great aqueducts that span distances of more than 120 meters. There are also inverted siphons, and sluice gates. But because the water has been intercepted in the upper reaches, they stand there doing nothing. Some comrades have sighed and said such great efforts exerted in duplicatory construction, mutual competition for water, transfer of ditches, movement of water conservancy, and damage to the working people's wealth has caused a loss that has outweighed the gain! In the Zhang He basin where 9 out of every 10 years are drought years, the competition for water has gone on for generations, but for it to grow to such a large scale has been unprecedented. Formerly, unconcern for the overall situation, each jurisdiction being a government unto itself, and the building of projects to suit oneself was not only not controlled but was widely touted as being "activist." As a result, everyone competed, and the longer it went on, the less it could be curbed.

With the development of industrial and agricultural production, the very great increase in use of water, and the ever increasing competition for water between city and countryside, industry and agriculture, production and daily life, it will be necessary to adopt proper regulatory measures. Reports from Ci County tell of how in order to assure water for Handan industry, last July and August Ci County had to assign two deputy county heads responsible for leading more than 200 cadres to guard the Fuyang He channel night and day. They did not permit communes and brigades to pump water to irrigate farmland, so agriculture sustained major losses and feeling ran high among both cadres and the masses, which hurt relations between industry and agriculture and impaired stability and unity. One thing deserving of attention is that a shortage of water exists on one hand while water is being wasted on the other, and pollution of water resources is serious. In order to conserve water, agriculture has to irrigate sensibly, and industry has to recycle water (By recycling water, the Anyang Steel Mill has been able to save three-fourths of its water). The situation in some places of drinking "from a large common pot" has to be changed, with water used in production and daily life being metered and paid for. In addition, standard fees for water

will have to be hiked. Vigorous efforts will be required to purify contaminated water in order to effect control within a limited period of time. Hebei Province's industry annually uses 2 billion cubic meters of water and discharges 1.5 million cubic meters of waste water that seriously pollutes the environment and endangers the health of the people. Shanxi Province plans to build a large chemical fertilizer factory on the upper reaches of the Zhang He; and the people in Lin County, Henan Province are frightened. They fear pollution of water sources that will affect the drinking water for people and livestock. Some cadres and people say: "Agriculture uses water to support industry, but industry discharges water that harms agriculture." This problem has truly reached the time when it must be solved. Propaganda appeals that attract everyone's serious attention have to be made, and industry has to be willing to part with some money to do this. In order to solve the conflict over water, centralized planning that is scientific and that takes the needs of all parties into account is urgently needed. No longer can each party do as it pleases or indulge in the waste of precious water resources.

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CSO: 4007/558

HEBEI

BRIEFS

COTTON OUTPUT--By 13 September, Hebei Province had purchased 26.36 million jin of cotton from 100 cotton-producing countries having a total of 10.41 million mu of cottonfields. This purchase is 15.5 times the quantity bought during the same period last year. Some countries sold as much as 400,000 jin each in a day. To help cotton-growing peasants, 455 purchase points were added and another 7,000 cadres trained specially for the purpose of purchasing. [OW231129 Beijing XINHUA Domestic Service in Chinese 0111 GMT 19 Sep 82]

COTTON PROCUREMENT--By 13 September, 100 cotton production counties in Hebei Province had sold to the state some 26 million jin of new cotton, which was equal to 1,550 percent of the amount of cotton sold to the state by 13 September last year. The province's cotton-growing area this year is approximately 3 million mu larger than last year. [Shijiazhuang Hebei Provincial Service in Mandarin 0400 GMT 18 Sep 82]

CSO: 4007/9

## HEILONGJIANG

### BRIEFS

WHEAT PROCUREMENT--Harbin, 9 Sep (XINHUA)--As of 4 September, the state-run farms in Heilongjiang Province turned 700 million jin of spring wheat over to the state, overfulfilling this year's procurement task by 16.6 percent. The total area of fields sown to spring wheat reached 12 million mu, reducing by nearly 4 million mu over that of 1981. However, the average per-mu output increased by 24.6 percent over that of 1981 and the average per-mu output surpassed 300 jin at 18 farms. [OW291151 Beijing XINHUA Domestic Service in Chinese 0142 GMT 9 Sep 82]

WHEAT SELLING--Inspired by the guidelines of the 12th CPC National Congress, reclamation area in Heilongjiang Province has vigorously marketed wheat to the state. As of 25 September, the reclamation area marketed 800 million jin of wheat, overfulfilling the wheat procurement target by 33 percent. This year the reclamation area had decreased the sown area of wheat due to serious waterlogging in spring. Therefore, efforts were made to increase the per-mu yield of wheat. Average per-mu yield of the 12 million mu of wheat in the area increased 24 percent over the past year. Eighteen state farms have surpassed their average per-mu yield of 300 jin. [SK280922 Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 27 Sep 82]

SUCCESSFUL TREE PLANTING--Harbin, 27 Sep (XINHUA)--Shelterbelts, timber forests and fuel woods totalling 229,000 hectares have been planted since 1979 on the Sanjiang Plain--a triangular area near the confluence of the Heilong, Songhua and Wusuli Rivers in northeastern Heilongjiang Province. This amounted to 46 percent of the total area afforested in the preceding three decades. Officials from the Provincial Forestry Department said this can be attributed to such new forestry policies as trees belong to the "planters"--the state farms, communes or individual peasants--and tree-planting responsibility system. Peasants and farm workers are responsible for the tree growth under contracts signed with production brigades and farms. The survival rate of the trees planted in the past 3 years by peasants averages 73.1 percent and the rate by the state farms reaches 91 percent, both new records, they said. In the past, stress had been placed on land reclamation with little regard to afforestation, thus causing severe soil erosion that affected farm production. The farmland shelter-forest on the plain covered an area of 16,600 hectares up to 1978, 0.76 percent of the total cultivated land of the plain. [Text] [Beijing XINHUA in English 0706 GMT 27 Sep 82]

CSO: 4007/9

## BRIEFS

ZHOUKOU PREFECTURAL DEVELOPMENT--Zhengzhou, 21 Sep (XINHUA)--Since the third plenary session of the 11th CPC Central Committee, Henan's Zhoukou Prefecture has made rapid development in agriculture, forestry and animal husbandry. The total output of wheat reached 3.355 billion jin this year. The total output of cotton and oil-bearing crops in 1981 increased by 250 and 85 percent over the output in 1978 respectively. The number of draft animals increased from 527,000 head in 1978 to nearly 900,000 head in August this year. During the past 3 years, the prefecture turned in to the state 3.02 billion jin of wheat, 370 million jin of ginned cotton and 100 million jin of edible oil. The prefecture has 190 million trees at present. [OW281113 Beijing XINHUA Domestic Service in Chinese 0030 GMT 21 Sep 82]

WATER CONSERVATION MANAGEMENT--Since the third plenary session of the 11th CPC Central Committee, Henan Province has strengthened water conservation management. In the past, the water conservation system in the province attached more importance to building water conservation projects and less to their management. The system did not emphasize economic returns. As a result, the state had to appropriate a large amount of funds to consolidate and repair dams each year. The number of water conservation management units which are financially self-sufficient has increased by 11.4 percent. These units earned profits of 5.98 million yuan. No county water conservation management unit was financially self-sufficient in 1979, but in 1981 there were 20 counties and municipalities which were financially self-sufficient. In the first half of this year, water conservation management units in the province earned profits of 1.16 million yuan. [Zhengzhou Henan Provincial Service in Mandarin 1100 GMT 23 Sep 82]

CSO: 4007/9

HUBEI

FOOD DEPARTMENTS FINANCE SYSTEM REMAINS UNCHANGED

HK300919 Wuhan Hubei Provincial Service in Mandarin 1100 GMT 29 Sep 82

[Text] At a conference on strengthening financial management held by the Provincial Finance Bureau, Vice Governor Tian Ying announced that the policy on assuming responsibility for finances in grain, edible oil, and foodstuffs being implemented by our province's grain and foodstuffs departments will remain unchanged.

In spring this year, the provincial people's government decided that the policy on assuming responsibility for finances in grain, edible oil and foodstuffs be widely implemented in all grain and foodstuff departments in our province. Practice in the past few months has proved that this policy has played a relatively great role in giving play to the initiative of local departments, putting an end to the losses that these departments have long suffered and bringing about greater economic returns. According to statistics of the Provincial Finance Bureau, in the first half of this year, losses caused in handling grain and edible oil decreased by 17 million yuan over the same period last year, and losses in pigs also decreased.

Recently, some basic-level grain and foodstuffs departments and some local finance departments have been concerned about the question of whether this policy will be continued. In answer to this question, the vice governor announced that this policy will remain unchanged. He hoped that comrades in grain and foodstuffs departments at all levels in the province would make continuous efforts to reduce losses and increase profits for the state.

CSO: 4007/9

HUBEI

BRIEFS

FARM PRODUCE PROCUREMENT--The Hubei Provincial CPC Committee recently made a decision urging various localities to increase purchasing outlets for procuring grain and sideline products from the peasants to avoid losses. [Beijing Domestic Service in Mandarin 0400 GMT 8 Sep 82]

CSO: 4007/9

## HUNAN

### BRIEFS

CAPITAL CONSTRUCTION--From January to August, Hunan Province completed capital construction in which the amount of investment was some 728 million yuan, which is 75 percent of the quota for investments for the year and 38 percent more than in the corresponding period last year. In the province, 218 projects have now been completed and put into operation. These projects include 238 km of 220,000-volt electricity transmission lines, 90,000-kilovolt-ampere transformer equipment, coal mines with an extraction capacity of 100,000 tons, water facilities with a daily supply capacity of 230,000 tons and cold storage with a capacity of several thousand tons. [HK281219 Changsha Hunan Provincial Service in Mandarin 2310 GMT 23 Sep 82]

PREFECTURAL GRAIN PRODUCTION--Changsha, 21 Sep (XINHUA)--Hunan's Yueyang Prefecture reaped a bumper harvest of early rice this year as a result of promoting responsibility system in production. As of early September, this prefecture had turned in to the state over 610 million jin of grain, thus overfulfilling the procurement plans for the summer harvesting. [Beijing XINHUA Domestic Service in Chinese 0020 GMT 21 Sep 82]

CSO: 4007/9

NANJING AGROBIOLOGICAL SCIENCE INSTITUTE OPENS

OW211753 Beijing XINHUA in English 1533 GMT 21 Sep 82

[Text] Nanjing, 21 Sep (XINHUA)--China's first institute of agrobiological genetics and physiology opened today in Nanjing, capital of Jiangsu Province.

The new institute, under the Jiangsu Provincial Academy of Agricultural Sciences, is one of China's nine key projects for agricultural scientific research. The institute was built with joint investment by the Ministry of Agriculture, Animal Husbandry and Fishery and Jiangsu Province.

The institute has three research sections--genetics, physiology and biochemistry--and 43 research workers. Its main building, with a floor space of 4,200 square meters, houses 73 laboratories equipped with 107 instruments, including electron microscopes, atomic absorption and flame spectrophotometers, gas chromatographs and amino acid analyzers.

"We shall work to improve the material and technical conditions for the country's agricultural scientific research and strengthen applied and basic researches in agro-genetics, physiology and biochemistry," said Professor Xi Yuanling, director of the institute.

"We'll concentrate on working out new approaches and methods and providing new materials for the development of new crop strains and cultivation techniques," he said.

The institute will also train scientists specializing in agro-genetics, physiology and biochemistry, the director added.

Since preparations for the institute began in 1979, scientists have completed seven major research projects, including the technology of regeneration of rape plant from tissue culture through embryos and technology for photosynthetic breeding of rice.

CSO: 4020/4

ECONOMIC EFFECTS OF COMMUNE, BRIGADE ENTERPRISES NOTED

Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese, No 7, 1982, pp 40-44

[Article by Gu Songnian [7357 2646 1628] and Ren Xinbao [0117 2450 0202] of the Jiangsu Provincial Social Sciences Institute: "The Relationship of Commune, Brigade Enterprises with Small Market Towns and Key Cities"]

[Excerpt] Commune and brigade enterprise development in Jiangsu has been rapid and is well-known throughout the whole nation. During the last two years, when the process of adjustments to the national economy encountered many contradictions and hardships, Jiangsu's commune and brigade-run enterprises still made considerable progress. By September of last year the commune and brigade enterprise production value throughout the province was 17.4 percent higher than the same period last year, which greatly exceeded the speed of increase for industrial enterprises throughout the province. It is now becoming more and more apparent that the flourishing development of commune and brigade enterprises throughout the broad countryside is an expression of the results of the economic rules determined by our country's objective economic conditions. We must work not only with the countryside itself but also with the links between urban and rural areas in coming to understand the strategic significance of developing commune and brigade enterprises and in summing up their practical experiences, coming to grips with their rules of development and promoting their continued progress.

Development of Commune and Brigade Enterprises Depends Upon Aid From Key Cities

The total production value of commune and brigade enterprises in Jiangsu was .69 billion yuan in 1970 and 10.94 billion yuan in 1980, a 14-fold increase in 10 years. A look back at the process of commune and brigade enterprise development in Jiangsu shows that: from its very inception, a commune and brigade enterprise develops in close accordance with the needs of agricultural production. The needs of agricultural development consist not only

of the needs for agricultural production and agricultural mechanization but also include such agricultural needs as the transfer of large amounts of excess labor force, increased agricultural accumulation and improvement of commune members' income. Therefore, the sharper the contradictions of many people and little land and much labor and few fields the faster the development of commune and brigade enterprises will be.

Commune and brigade enterprises do not develop merely because of need but also must have certain material and technological conditions. Jiangsu has many mid-sized cities and also is very near to the nationally important key city Shanghai. Cities are specially designated areas which are centers of economic development. They contain concentrations of economic activity, such as production, exchange, distribution and consumption. They all were formed naturally during the process of developing the social division of labor and a commodity economy. The commodity economy in Jiangsu is relatively well developed and the historical process of development of this economy gradually formed a number of large, medium and small cities. The provincial level cities consist of Nanjing, Wuxi, Xuzhou, Changzhou, Suzhou, Nantong and Lianyungang. In addition, there are the four prefectural municipalities Zhenjiang, Yangzhou, Qingjiang and Taizhou. These cities of varying scope constitute economic centers of differing levels. As far as the countryside is concerned, besides being heavily populated, they all are places of concentrated industry, convenient transportation, flourishing markets, concentrated wealth, and advanced civilization, science and technology. These cities provide precisely the variety of aid and assistance needed for speedy development of flourishing commune and brigade enterprises.

Factories and enterprises cannot operate without machinery and equipment. Jiangsu cities have a rather strong foundation in the machinery industry, in 1970 there were 68,000 machine tools which could produce a great variety of machine products and were capable of performing the complete manufacturing process. To a great extent, commune and brigade enterprises rely on the equipment provided by the municipal machinery industry. For example, in the Wuxi county commune operated farm machinery plant, over half of the machine tools are provided by the municipal machinery industry.

In solving their problems of technological strength the commune and brigade enterprises also cannot do without the municipal industries. The process of development of the Jiangsu commune and brigade enterprises clearly shows that the core technological strength for the commune and brigade factories is provided by retired workers and rusticated workers from municipal factories. In the years around 1970 when the Wuxi county commune and brigade enterprises made great progress the great majority of the technological backbone operating the factory consisted of rusticated

workers from the municipal factories. Even after the commune and brigade enterprises had taken a step forward they all continued to introduce great amounts of technological strength from the municipalities. According to incomplete statistics from the prefectures of Nantong, Yangzhou, Huaiyang, Xuzhou and Yancheng, the counties of Taicang, Wujin and Yixing as well as the suburban areas of Wuxi, Suzhou, Nantong and Xuzhou, in 1980 commune and brigade enterprises hired personnel from various Jiangsu municipalities as well as Shanghai, including 91 technicians who were first class engineers, 336 technicians and 7,998 highly trained retired workers.

Because the municipal factories continually progressed in improving the levels of professional cooperation, the municipalities are adopting such practices as "product culling" and factory-commune combined operations to assist in the development of commune and brigade enterprises in the surrounding countryside. Certain mid and low demand products are "culled" out and produced by the commune and brigade factories and certain parts or components are sent to the communes and brigades for processing. This is necessary for the development of municipal industries and provides more direct and more useful aid to the commune and brigade enterprises. For example, the Hangzhou Embroidered Handkerchief Plant managed to expand cooperation between cities and the countryside, organize plant and commune joint operations and promote production development without any additional buildings, labor forces, capital or equipment. During the first half of last year, the quantity of machine embroidered products was 88 percent higher than the same period the previous year. Ten counties including Wujin, Yixing, Jintan, Danyang and Jiangyang developed 251 commune and brigade enterprise processing stations employing 3,400 persons. This cooperation and joint operation permitted the commune and brigade processing enterprises for the above counties to make stable progress and provided the workers with approximate annual income of 500 yuan, thus increasing the household income of commune members.

In the cities the number of scientific research units and professional schools having advanced scientific and technical knowledge and equipment provide a string backup for commune and brigade enterprises. According to statistics for the first half of 1980, there already are over 130 scientific research units and professional schools both within and outside of the province which have formed links to cooperate with commune and brigade enterprises throughout the province. They have developed 130 new, high quality and technically advanced products in the areas of machinery, electronics, chemical engineering and light textiles. For example, in Wujin county the Hengshan Commune Radio Component Plant and the Nanjing University Computer Science Department cooperated in successfully developing an electronic computer bilateral miniature socket series, filling a void in the domestic

miniaturization of such socket series and satisfied the urgent needs of scientific research and production units.

Most commune and brigade enterprises are non-plan production. Therefore, the commune and brigade enterprises had to go through all of the various cooperative avenues of exchange of materials in cities both within and outside of the province in order to obtain the fuel and materials necessary for production, including left over bits and pieces of material.

Obviously, the development of commune and brigade enterprises in Jiangsu has been relatively fast and, objectively, this is due to its advantageous situation, namely, the great number of large and mid sized cities which provided powerful support for the development of rural commune and brigade enterprises. The process of commune and brigade enterprise development actually is a process of the key cities transmitting to the backward areas of the broad countryside materials and technology and promoting the development of social production forces.

#### Commune and Brigade Development Brings Changes to Small Cities and Towns

With cooperation between the cities and the countryside the Jiangsu commune and brigade enterprises not only had rapid increases in quantity but also made great improvements in quality. In response to improved conditions in the comprehensive development of agriculture, industry and sideline occupations as well as improvements in the peasants' economic, material and cultural living standards, the ways of production for all professions and industries in the commune and brigade enterprises gradually began to increase. At the same time, because of requirements for production cooperation and management, the great majority of commune and brigade enterprises are concentrated in areas of convenient communications. This naturally occasioned the revival and development of some former market towns and promoted the formation of some new market towns.

Small market towns dot the broad countryside. They are outposts for purchasing agricultural sideline products and are basic links for downward movement of industrial products. Moreover, they are centers of the peasants' cultural and spiritual life. They also are necessary products of commercial and economic development, just like the large and mid size cities. The commercial economy of the Jiangsu countryside is relatively well-developed, so before Liberation there already were over 400 small market towns. At that time, however, except for a few small handicraft industries the rural market towns had no industry to speak of and mainly were collection and dispersal points for urban and rural commodities. After Liberation, and especially after the socialist reforms, state operated commerce monopolized sales and purchases and changes took place in the paths of flow, collection and

dispersal of commodities. The role of these commercial market towns was then greatly weakened. Later, under the mistaken influences of "leftism," the commercial economy was rejected, the role of the marketplace was eliminated and there were overly strict controls on marketplace trade. During the collectivization movement a large number of market towns were merged together. The period of difficulty reduced the population of most small market towns and the great majority of them went into decline. At their lowest point there were only 100-some small market towns in the entire province.

During the last ten years and especially since the 3rd Plenum of the 11th Party Congress there has been a large increase in the number of commune and brigade factories throughout the province, and enterprises in other professions and industries also developed during this same period. By 1980, there were 75,575 commune and brigade enterprises in the province, including 59,414 industrial enterprises, 3,586 communication and transportation enterprises, 2,596 construction enterprises, 3,623 tea and other plantation enterprises, 2,563 hog, domestic animal and water product breeding enterprises as well as 3,793 other enterprises. A look at the commune and brigade enterprises throughout the province shows that they are basically complete in the areas of light industry, textiles, machinery, electronics and chemical engineering. These commune and brigade enterprises are scattered throughout the countryside and relatively concentrated in the market towns. This has brought about the revival of a large number of the original, old market towns and has shaped a great number people's communes into a new type of market towns having both industry and agriculture. The renewed concentration of commune and brigade enterprises is an internal requirement of agricultural production development and is the economic foundation for the restoration and development of small cities.

According to statistics the province has 115 county cities and county controlled towns, and over 1,800 commune market towns. The county cities and county controlled towns generally have populations of 20-30,000 people, with large towns having nearly 100,000 people. Commune market towns generally have 2-10,000 people. In southern Jiangsu there are market towns at about every 3-5 kilometers, while in northern Jiangsu there are about 8-10 kilometers between the market towns. The industrial production of small cities and towns currently stands at about 30-plus percent of the entire province's total industrial production value. The province's small towns now have over 2,300 complete middle schools, 40 percent of those in the province; there are over 2,100 culture centers, 45 percent of those in the province; there are 60 libraries, 80 percent of those in the province; there are 200 theaters, 62 percent of those in the province; and there are over 2,200 hospitals, 82 percent of those in the province.

These facts show that the development of commune and brigade enterprises and the relative concentration of market towns in the countryside strongly promotes the construction of small towns. The increase and the broad distribution of market towns simultaneously change the old market towns into new commercial towns, they primarily engage in commodity exchange and provide broader capabilities. The small towns of today not only have begun to form centers of rural economic activity which have suitable production force standards, they moreover are becoming established as centers of peasant cultural and educational affairs, so that the peasants have the potential of deriving a degree of "urban culture" from the small towns.

#### A Suitable Path for Common Rural and Urban Economic Development

An overview of the process of commune and brigade enterprise development presents us with the following picture: Large and mid-sized cities such as Nanjing and Wuxi fulfil the role of forming bridges and links between the nearly 2,000 small towns scattered everywhere in the countryside. They form close links between the province's over 1,800 communes, over 34,000 production brigades, 320,000 production teams and over 7,000 commune and brigade enterprises. These links form a tightly woven economic network which unifies the urban and rural economic activities. Of course, this economic network is not limited by local boundaries, but is tied in with the nation's large, mid and small sized cities as well as a great many more small towns, thus forming an economic network having even greater scope and more levels. This can be seen as a new path which suits our province's objective conditions for development of socialist construction of modernization.

1. This is a new path to carry out the balanced, overall arrangement in the cities and the countryside and still avoid excessive industrial concentration and excessive urban population growth. Seven Jiangsu province controlled cities have a population reaching 5.37 million, 63 percent of the province's town-dwelling population. Of these, the population of Nanjing has already reached 2 million, nearly double that during early Liberation. Even after the centralization of industries, the present population of the cities still has a tendency toward excessive increases. Moreover, the large cities are mainly concentrated in southern Jiangsu. The five cities of Nanjing, Zhenjiang, Changzhou, Wuxi and Suzhou on Shanghai-Nanjing Railway Line have concentrations totaling 45 percent of the province's industry and 40 percent of the province's population. In terms of the textile industry, the four cities of Wuxi, Changzhou, Suzhou and Nantong have about one-half of the province's total textile industry production value. Even though industry and the urban population are relatively concentrated, the urban population is still only one-seventh of the rural population. The concentration of the urban population and the spread of the rural population fundamentally represent the

low level of economic development and are an expression of the extremely uneven distribution of industry and towns. With the development of commune and brigade enterprises changes are now beginning to take place. By 1980, the total industrial production value for commune and brigade enterprises had already increased to 24 percent of the province's total industrial production value. Therefore, following this new path will aid in promoting the tendency toward balancing the distribution of industry and towns, and will be beneficial in realizing the potentially great superiority of the countryside. They obviously are necessary for accelerating construction of modernization.

2. This new path is an active force for the consumption of excess agricultural production, for making use of the abundant rural labor resources and for carrying out the rationalization of the rural economic structure. There are less than 70 million mu of arable land in Jiangsu and the agricultural labor force is 19.52 million people, an average of 3.5 mu of land for each person in the labor force. According to calculations from Wuxi county and according to present production conditions, a single labor force can handle 4.5 mu of arable land. According to these figures, over 4 million labor forces should be transferred from the countryside. Obviously, it does not suit our national conditions to have this many rural labor forces flooding into the cities. The more realistic method is to use the development of commune and brigade enterprises to strengthen construction in small towns. The commune and town industries of Suzhou prefecture alone had already absorbed 300,000 laborers by the end of 1980, fully 9 percent of the prefecture's entire labor force. In Wuxi and Wujin counties the communes have each absorbed an average of over 2,300 people. If the nearly 2,000 small towns in the province all are fully constructed, by the end of the century each small town will absorb 2,300 people, which will provide employment opportunities for the 4 million excess labor forces. This method will not only solve the problem of the excess agriculture forces, it avoids having a large number of the rural population flood the cities. Moreover, this eventually will make the rural small towns into centers which will attract people to work and live there. This will truly change the face of the countryside and provide an advanced base for carrying out agricultural modernization.

The process of developing commune and brigade enterprises is the operation of an enterprise in addition to the agricultural operations and is a process of changing the solely agricultural economic structure into one having comprehensive development of agriculture, sideline occupations, industry and commerce and by developing a commodity economy. The statistics for 1980 show that 44.7 percent of the province's diversified economy production value (including brigade operated industries) was filled by the total production value for agriculture, an increase from the 22 percent of 1970. Because of changes in the structure of the

agricultural economy potential rural labor forces could be used and the peasants' income generally was increased. At the same time, because of developments in commune and brigade enterprises, small towns increasingly flourished, there were gradual increases of the installations in the rural commercial network, there was progress in broadening the avenues of rural commodity flow, there were increased exchanges of materials and goods between the country and the cities and the rural marketplaces flourished. These are precisely what was needed for the development of agriculture and the enrichment of the countryside.

3. This also is a new path for overcoming prefectural and departmental divisions, dispersing urban industries into the countryside and uniting the cities and the countryside to develop modernization. For a long time, our system of economic management has primarily been administrative management, it is divided by administrative divisions and the administrative system is cut up into bits and pieces. The industrial enterprises do not belong to prefectures. These are manmade divisions which cut the economic connections between the prefectures and between the departments and which severely restrict the development of the socialist commodity economy. At present, the rise of commune and brigade enterprises has stimulated the revival and development of small market towns and has made this economic center of the most basic level of the national economy together with large, mid and small sized cities both in and out of the province into a lively economic network according to the natural needs of economic development. After the gradual formation of this network style of economic structure, a number of city industries and commune and brigade enterprises began to break down the barriers between the prefectures and the departments and strengthened the mutual connections in their commodity economy. In the last two years there have been more and more instances of various forms of economic unity between large and mid sized cities on the one hand and small market towns on the other hand, thus cutting across departments and prefectures. As far as the countryside is concerned, the rise of economic unity between the cities and the countryside has been a process of organizing the abundant rural local resources, including labor resources, for centralization in the small market towns and for cooperation with the large and mid sized cities. As far as the cities are concerned, it is a process of carrying out dispersal of commodities, capital, technology and equipment and management experience into the countryside and small market towns. The joining of these two sides permits the utilization of heretofore unused rural resources and permits the shouldering of an originally small scale but difficult task. This will enable the urban industries to overcome the difficulties of small space and inadequate labor forces, enable them to put their best hand forth and concentrate their strengths on utilizing advanced technology to reach new heights in commodity production.

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CSO: 4007/567

JIANGSU

BRIEFS

HUAIYIN PREFECTURE GRAIN HARVEST--Jiangsu's Huaiyin Prefecture reaped 8.05 billion jin of grain in 1981, an increase of 1.7 billion jin, or 27 percent, as compared with the 1978 crop. [Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 12 Sep 82]

YANGZHOU PREFECTURE CROPS--Jiangsu's Yangzhou Prefecture in 1981 harvested 7.7 billion jin of grain. [Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 12 Sep 82]

CSO: 4007/9

JILIN

BRIEFS

CAPITAL CONSTRUCTION--Jilin Province scored achievements in developing capital construction projects since the third plenary session of the 11th Party Central Committee. By the end of 1981, the number of projects under construction was 1,070, of which 50 were big and medium-sized projects. In the past 3 years, 22 big and medium-sized projects have been cancelled or suspended, curtailing 880 million yuan of investments. The ratio of investments in building non-productive projects, which are used to enrich people's material and cultural livelihood, increased from 17.4 percent in 1978 to 43 percent in 1981. The ratio of investments in light industrial projects increased from 4.3 percent in 1978 to 11.7 percent in 1981. [SK231305 Changchun Jilin Provincial Service in Mandarin 1100 GMT 19 Sep 82]

CSO: 4007/9

DELEGATE SPEAKS ON INDUSTRY, AGRICULTURE

SK292243 Shenyang Liaoning Provincial Service in Mandarin 1100 GMT 28 Sep 82

[Recorded talk by Zhu Chuan, "delegate to the 12th CPC Congress, Standing Committee member of the Liaoning Provincial CPC Committee and deputy governor," entitled: "Liaoning Should Make New Contributions in the Socialist Modernization Drive"--date not given]

[Text] Comrade Hu Yaobang set forth in his report a fighting goal of China's economic construction for the coming 20 years, that is, while steadily working for more and better economic results, to quadruple the gross annual value of industrial and agricultural production--from 710 billion yuan in 1980 to 2,800 billion yuan or so. This is a great strategic policy decision, an inspiring grand objective. With the objective realized, China will be placed in the front ranks of the countries of the world in terms of the output of major industrial and agricultural production and gross national income; its urban and rural population will have their income increased several times over and its people will be comparatively well-off both materially and culturally in terms of international standards. By that time, our material and spiritual civilizations will certainly take on a new look. In front of the new historical task, Liaoning, as an old industrial base, and its 35 million people should all the more raise their spirit to make new and greater contributions to creating a new situation in all fields of socialist modernization and to the accomplishment of the grand objective of our economic construction.

The superiority of the socialist system and the party's correct leadership imbue us with full confidence to accomplish the objective. Viewing our situation, Liaoning is provided with many favorable conditions.

1. We have a fairly substantial economic foundation. Over the past 30 years and more, the state has invested about 50 billion yuan in our province. By the end of 1980, the fixed assets of our industrial enterprises amounted to 10 percent of the nation's total, ranking first in the country. Through many years' consistent efforts in replenishment and improvement, our province has gradually become a heavy industrial base with comparatively comprehensive branches, among which iron and steel, machinery and petrochemical industries are the key, of fairly high levels.

2. Our natural conditions are comparatively good. Our coastline is long and 60 percent of our land is mountains and 10 percent water. Mineral and other resources which can be comprehensively utilized to develop a diversified economy are fairly rich.

3. Our transportation is fairly developed. Railways have been built and highways link up all parts of the province. We have transportation lines to connect with various provinces, municipalities and autonomous regions and have Dalian, Yingkou and Dandong ports to connect with other coastal areas of our country and large ports of the world.

4. We have a comparatively large number of scientific and technical specialized cadres and a fairly high capacity of scientific research. We have more than 300,000 scientific and technical specialized cadres, ranking second in the country. Our natural science research institutes total 309 staffed with 16,000 research personnel. Our research capacities in metallurgical, machinery and petrochemical industries are also ranked as leaders in the country. With these favorable conditions, Liaoning, as an old industrial base, is duty-bound to make new contributions in the socialist modernization drive.

In line with the general principle and plan for economic construction set forth at the 12th CPC Congress and with the actual economic situation in our province, I think we should emphasize the following tasks:

1. We should accelerate our efforts to solve the problems in the three key links--energy, water sources and communications and transportation. We should adopt the principle of paying attention simultaneously to exploration, conservation and [word indistinct] with emphasis placed on conservation to solve Liaoning's energy problem. Our province's energy consumption is high. We have many great coal and electricity consumers and our energy waste is tremendous. Our potential in energy conservation is also great. Provided we raise our energy utilization rate by 1 percent, the province will be able to save some 2 million tons of coal annually. Provided we raise our energy utilization rate from the present 28 percent to more than 35 percent in the coming 10 years, we will be able to save 15 million tons of coal annually. Therefore, we should resort to all possible ways to conserve energy.

2. We should carry out technical innovations in a planned way and with emphasis pinpointed to upgrade our technological standard. Our technological standard is still very low and our equipment, materials and processing techniques are rather backward. Generally speaking, they are of the standard of the 1950's or 1960's. However, science and technology are the key to our modernization. Therefore, we must strengthen our scientific and technological work and conscientiously carry out technical innovations.

3. We should develop the range and quality of production by developing comprehensive utilization in industry and by developing a diversified economy in agriculture. Because our heavy industry occupies a greater proportion with many raw material industrial and large enterprises, our material resources which can be comprehensively utilized are rich. For instance, tailings from

metallurgical industry, tail gas from petroleum refineries and waste gas, waste water and industrial residue from the entire industry are valuable resources for comprehensive utilization. In particular, petrochemical industry is our key point of development which has bright prospects. In developing agriculture, we should bear in mind our characteristics, such as large population and limited land; many mountains and limited plains; and long coastline. On the premise of successful grain production, we should exert great efforts to develop diversified production. We should promote garden-style cultivation of farmland and forests, animal raising and industrialization in agricultural production, and increase step by step the proportion of forestry, animal husbandry, sideline production and fishery in the entire agriculture.

4. We should successfully carry out reorganization of departments and reform of the economic managerial system. Our administrative departments should be streamlined, so that organizational overlapping and the situation of too many policy-making departments can be corrected. We should also reform current economic managerial system. First of all, we should break down the barriers between different administrative departments, reorganize industry in accordance with the principles of specialized cooperation, developing joint enterprises and improving economic results and establish various types of specialized companies and economic complexes. Next, we should formulate policies and establish organs in accordance with our country's distinguishing feature of the coexistence of diverse economic forms with the public ownership of the means of production playing a leading role and with the principle of the leading role of the planned economy and the supplementary role of market regulation, and adopt different measures to successfully manage the different situations in the state, collective and individual sectors of the economy.

In a word, the 12th CPC Congress set forth a definite fighting goal and a series of principles and policies for the future socialist economic construction of our country. As long as we conscientiously study and implement these principles and policies, fully tap our potential, fully boost the masses' socialist enthusiasm and give full play to the superiority of our socialist system, our Liaoning Province will surely make new contributions to the economic development of the country and to the accomplishment of the party's grand objective by the end of this century.

CSO: 4007/9

CHAIRMAN REVIEWS ADVANCES IN REGION

OW191305 Beijing XINHUA in English 1211 GMT 12 Sep 82

[Text] Beijing, 19 Sep (XINHUA)--Inner Mongolia, China's leading stockraising area, has increased the total number of its livestock to more than 42 million head, an all-time record. This is written by Kong Fei, chairman of the Inner Mongolia Autonomous Region, in an article carried by today's WORKERS' DAILY.

He says the autonomous region reaped good summer crops this year and there are good prospects for making the whole of 1982 a successful farming year. The income of the peasants and herdsmen has registered big increases.

The people of Mongolian, Han and other nationalities are striving to build Inner Mongolia into a prosperous area with a high level of culture and unity among the various nationalities, he writes.

He says Inner Mongolia, inhabited by people of Mongolian, Han, Daur, Ewenki, Oroqen and other nationalities, covers 1.183 million square kilometers of land, three-fourths of it being grasslands, accounting for 30 percent of China's total. The forests in the greater Hinggan Mountains and other parts of Inner Mongolia have 900 million cubic meters of timber reserves, one-tenth of the national total. Fertile farmland spreads along the major rivers and at the foot of the mountains. The region ranks first in the reserves of rare earth metals, niobium and natural soda and second in coal, zinc and chromium reserves in China. It is also rich in iron, lead, gold, graphite, mica and other minerals.

Compared with 1947, the year when this China's first autonomous region was founded, the total number of herds in Inner Mongolia in 1981 went up 5.7 times and grain output nearly trebled.

Rapid progress has also been made in industry, trade, education, science, culture and public health. Large numbers of minority people have been trained in various fields of work. The region has become a stockraising and forestry center and occupies an important place in the production of sugar beet, woollen textiles, iron and steel, coal and rare earth metals.

Since the third plenary session of the 11th Central Committee of the Chinese Communist Party in December 1978, Kong Fei writes, efforts have been made to bring order out of chaos, rehabilitate the economy and implement the policies of the party, thus mobilizing the initiative of the cadres and the people.

The party Central Committee has put forward the principle of "giving primary importance to forestry and stockraising while developing a diversified economy" for Inner Mongolia, and set the goal of bringing the region into the ranks of the advanced areas in China in a few decades.

The chairman of the Inner Mongolia Autonomous Region writes: "We will further develop the relations of equality, unity, mutual assistance, fraternity and mutual reliance among all nationalities. We will make use of the existing economic base and promote economic and technical cooperation with other parts of the country so as to develop the region's rich natural resources and speed up its economic construction and cultural development."

CSO: 4020/4

## BRIEFS

HAYING OPERATIONS--Jirem League, Nei Monggol Autonomous Region, is vigorously engaging in cutting fodder grass and putting it into storage. As of early September, the league cut over 515 million jin of fodder grass and put over 100 million jin of it into storage. The league plans to cut 1.2 billion jin of fodder grass before the winter. [Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 19 Sep 82]

LIVESTOCK COLLEGE ANNIVERSARY--On 18 September the Nei Monggol Autonomous Regional Agricultural and Livestock College marked the 30th anniversary of its founding. Arriving at the college to extend congratulations were leading personnel of the regional party and government organs, including Kong Fei, Bu He, Ba-tu-ba-gen, Gao Zengpei, Hao Xiushan, Shi Guanghua and Wu Daping. Over the past 30 years, the college, which was the first agricultural and livestock institute in the region, has had 5,264 graduates; of those, 886 graduates are of minority nationalities. It has provided 259 scientific research projects for agricultural and livestock production. [Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 19 Sep 82]

GRAIN PROCUREMENT--Wuyuan County, one of the counties in New Monggol Autonomous Region that began to implement the responsibility system rather earlier, had fulfilled ahead of schedule the annual procurement task of 45.5 million tons of grain as of 14 September. Of the grains purchased, 40.7 million tons were wheat, overfulfilling the wheat procurement plan by 150 percent. [Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 21 Sep 82]

HARVESTING OPERATION--According to statistics compiled by the departments concerned in the middle 10 days of September, Nei Monggol Autonomous Region harvested 21.51 million mu of crops sowed in the spring, brought 12.35 million mu of crops under threshing operation and threshed 8.52 million mu of crops. In Ulanqab League alone, there are over 760,000 labor forces engaged in autumn harvesting production. [SK301304 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 29 Sep 82]

WHEAT PROCUREMENT--As of 15 September, Ih Ju League, Nei Monggol Autonomous Region, sold 6.15 million jin of wheat to the state and overfulfilled its wheat procurement plan by 2.5 percent, a 2.12 million jin increase over the figure of the corresponding 1981 period. [Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 19 Sep 82]

AGRICULTURAL TAX--As of 20 September, Bayan Nuir League, in Nei Monggol, had turned over to the treasury agricultural taxes totaling 7.15 million yuan, up 78 percent over the corresponding 181 period and overfulfilling the annual plan by 5 percent. During this year, leaders at all levels in the league have strengthened leadership over the collection of agricultural taxes and improved management in this work. All the peasants, inspired by the 12th CPC National Congress guidelines, have fallen over each other to turn in agricultural taxes. [SK271245 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 26 Sep 82]

AFFORESTATION CONFERENCE--On the evening of 27 September, the Nei Monggol Autonomous Regional Afforestation Committee held a telephone conference to make arrangements for autumn tree-planting work and to call on large numbers of cadres and the masses to promote the region's forestry construction. Speaking at the conference were Kong Fei, secretary of the regional CPC Committee; Ba-tu-ba-gen, Standing Committee member of the regional CPC Committee; and (Ha Lun), vice chairman of the regional Afforestation Committee. The conference pointed out: In developing autumn tree-planting work, we should provide guidance according to local conditions, encourage and support commune members to plant trees individually, concentrate on the quality of afforestation, strengthen the management, protection and fire-prevention of forests and implement the responsibility system in forestry. [SK300031 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 28 Sep 82]

CSO: 4007/9

QINGHAI

PROVINCE EMPHASIZES IMPROVEMENT OF RURAL PUBLIC SECURITY

SK240515 Xining Qinghai Provincial Service in Mandarin 2330 GMT 23 Sep 82

[Text] The Provincial CPC Committee held a provincial public security work conference in early September. Participants at the conference conscientiously studied and thoroughly discussed the documents of the 12th CPC Congress and clearly defined the tasks for public security in the new period.

The conference noted: It is essential to deal resolute blows at serious criminal activities which undermine socialism in the economic as well as political and cultural fields, and to attach importance to the improvement of public security. While improving urban public security, great efforts should be made to strengthen the public security work in rural and pastoral areas. Comprehensive measures should be taken to consolidate public security and all measures should be implemented conscientiously.

The conference held: The emphasis of comprehensive means should be placed on helping and educating juvenile delinquents. We should adopt various methods to train them into a new generation who have ideals and moral character and who abide by discipline.

With regard to the consolidation of rural public security, the conference noted: We should attach importance to and greatly strengthen the work to investigate and handle public complaints over civil disputes and nip these in the bud. Resolute blows should be dealt to criminals who damage collective property to a serious extent and those who cause deaths with feudal and superstitious activities for money.

The conference also studied ways to further restore, consolidate and improve grassroots public security organizations, deepen the education in the legal system and [words indistinct].

Comrade Zha-xi-wang-xu spoke at the conference.

The Qinghai Provincial Military District also held a public security work conference in early September.

CSO: 4007/9

## BRIEFS

YANAN PREFECTURE AGRICULTURE--Yanan, 21 Sep (XINHUA)--Shaanxi's Yanan Prefecture has developed agricultural mechanization with good results. In the first 8 months of this year, the number of walking tractors sold in the prefecture increased by 141 percent over the same period in 1981. At present, the work for sowing 127,000 mu of rapeseeds has been completed and preparations are under way for sowing 1 million mu of wheat in the prefecture. Some 8.5 million jin of fine seeds of wheat has already been prepared by the seed supplying department. [Beijing XINHUA Domestic Service in Chinese 0011 GMT 21 Sep 82]

AUTUMN SOWING--Shaanxi Province has started autumn sowing. Up to the present, the province has sown wheat on some 5.5 million mu and Yulin Prefecture and the northern part of Yanan Prefecture have basically completed autumn sowing. This year, all places throughout the province have set up some 430 information offices of agricultural technology and some 10,000 specialized wheat production households. [HK281133 Xian Shaanxi Provincial Service in Mandarin 0500 GMT 25 Sep 82]

CSO: 4007/9

## SHANDONG

### BRIEFS

PRODUCTION PROGRESS--In the 20 years before the third plenary session of the 11th CPC Central Committee, Dezhou, Jining, Heze and Liaocheng prefectures, Shandong Province, received over 7 billion jin of subsidiary grains from the state and over 800 million yuan of state relief funds and owed the state over 600 million yuan of loans. However, since the third plenum of the 11th CPC Central Committee, these prefectures have made rapid progress in agricultural production thanks to enacting responsibility systems. Over the past 3 years, they have scored a 480 percent increase in cotton output and an over 100 percent increase respectively in grain and peanut output, and scored an 87 percent increase in incomes amassed in developing a diversified economy. In 1981, they scored an almost 200 percent increase in per capita income over the 1978 figure and a 670 percent increase in the people's bank deposits over the 1978 figure. In 1978, there was not a single brigade among these prefectures that could score over 200 yuan in per capita income. However, there were over 6,300 brigades that scored over 200 yuan in per capita incomes. Of these brigades, those who scored over 500 yuan in their per capita incomes accounted for more than a half of such brigades throughout the province. [Jinan Shandong Provincial Service in Mandarin 2300 GMT 27 Sep 82]

AUTUMN FARM WORK--Inspired by the guidelines of the 12th CPC National Congress, cadres and peasants in rural areas of Shandong Province the plunged into autumn harvesting, ploughing and sowing with great zeal. By 15 September, the province has harvested 28.2 million mu of farm crops and sown 350,000 mu. To date, the province has accumulated 150 million cubic meters of mud fertilizer and 2.48 million tons of chemical and phosphate fertilizer. Over 94 percent of units in the province has introduced the system of responsibility in wheat production. [SK231307 Jinan Shandong Provincial Service in Mandarin 2300 GMT 20 Sep 82]

CSO: 4007/9

SHANGHAI

BRIEFS

COMMUNE INDUSTRY GAINS, AGRICULTURE LOSES--In the last few years, while industry has expanded rapidly in Malu Commune, Shanghai, agricultural production has decreased. The figures are very convincing. In 1957, the commune's total industrial income was merely 10,000 yuan; by 1980, it had jumped to 38.36 million yuan, a 3,836-fold increase. Sideline production in the same period leaped from 5,000 yuan to 10.59 million, a 2,118-fold increase. From 1978 to 1980, crop yield declined by a big margin. Total grain output dropped from 15 million kilogrammes to 9.7 million, a decrease of 36.4 percent. (The per-mu yield had decreased from 963 kilogrammes to 632 kilogrammes, 34.3 percent less.) In addition, both the total and per-mu yield of cotton and rape were also lower. Malu Commune is well-known throughout China for its high yields. Therefore, this warrants our attention. [Text] [HK260426 Beijing CHINA DAILY in English 26 Sep 82 p 4]

CSO: 4020/4

## SICHUAN

### BRIEFS

GRAIN, OIL TRANSPORT--On the basis of the retention of profits last year, grain and oil transport enterprises in Sichuan Province have adopted the method of assuming responsibility for submitting profits to the state for the whole year. By the end of August, they had submitted fixed profits of 2.57 million yuan to the state and overfulfilled their quota for submitting profits for the whole year to the state by 51 percent 4 months ahead of schedule. The amount of profits submitted in this period was 77.9 percent more than in the corresponding period last year. [Chengdu Sichuan Provincial Service in Mandarin 0030 GMT 23 Sep 82]

MIANYANG PREFECTURE PADDY RICE--After reaping a big bumper harvest of spring-harvested crops, Mianyang Prefecture has also reaped a bumper harvest of paddy rice. The per mu yield of the 4.79 million mu of paddy rice is 890 jin. The prefecture's total output and per mu yield of paddy rice are 10 percent more than last year and exceed the previous highest levels. The number of peasants in the prefecture is some 11 million. The per mu yield of the 3.2 million mu of hybrid rice in the prefecture this year is 988 jin. Total output of hybrid rice accounts for 44 percent of the total output of paddy rice. [HK290839 Chengdu Sichuan Provincial Service in Mandarin 0030 GMT 26 Sep 82]

CSO: 4007/9

TIANJIN

MINISTRY MEETING HELD ON DIVERTING WATER

SK250731 Tianjin City Service in Mandarin 0030 GMT 25 Sep 82

[Excerpts] According to TIANJIN RIBAO, acting on a State Council instruction, the Ministry of Water Conservancy and Power has held a meeting this month from the 22d to the 24th to discuss and make arrangements for diverting Huanghe River water to Tianjin again this winter. The amount of water to be diverted to Tianjin this winter will not be less than that of last year. People in our city will be able once again to use river water diverted into our city from a thousand li away by people in Shandong, Henan and Hebei.

From mid-October to mid-January next year, water will be diverted into our city from Weishan Cistern in Liaocheng Prefecture, Shandong Province, and (Panzhuanggan) pool in Dezhou Prefecture. Before that, beginning 1 October water will be drawn off from a Yuecheng reservoir and be diverted into Tianjin through the Zhanghe and Weihe rivers and the southern channel.

The CPC Central Committee and State Council have shown great concern about the water shortage in Tianjin and instructed the Ministry of Water Conservancy and Power to make arrangements for diverting water from the Huanghe River and Yuecheng reservoir in good time. At its meetings in Tianjin, the Ministry of Water Conservancy and Power worked out specific plans for the time, amount of water and management measures regarding the diversion of water.

Li Boning, vice minister of water conservancy and power, presided at the meeting. While the meeting was in session, leading comrades of the municipal CPC Committee and government including Chen Weida, Li Ruihuan, Wu Zhen, Zhao Jun and Liu Jinfeng went to the meeting place to offer their regards to the meeting participants.

CSO: 4007/9

TIANJIN

BRIEFS

YELLOW RIVER WATER DIVERTED--Tianjin, 27 Sep (XINHUA)--Yellow River water will be again diverted this winter to China's third largest city--Tianjin which is suffering from a chronic water shortage, according to a recent State Council decision. The first diversion was concluded in January and a total of 450 million cubic meters of water was diverted from the Yellow River last winter. And then rainfall during the summer helped ease the shortage temporarily. However, the city now has a total supply of only 40 million cubic meters, which will last to the end of October. The State Council decision says another 450 million or 500 million cubic meters will have to be diverted from the Yellow River and the Yuecheng reservoir in the upper reaches of the Hai He in Hebei Province in order to avert a shortage this winter. Shandong, Hebei and Henan provincial leaders, plus Tianjin officials, all of them involved in the first water diversion project, recently met in the city to discuss implementation of the State Council decision. [Text] [Beijing XINHUA in English 0241 GMT 27 Sep 82]

CSO: 4020/4

## XINJIANG

### BRIEFS

CHEMICAL FERTILIZER PLANT--Urumqi, 17 Sep (XINHUA)--Construction of the largest chemical fertilizer plant in Xinjiang, a major one in China to be equipped with imported installations, is in full swing, according to the Regional Chemical Industry Department. Located in Miqian County near the regional capital of Urumqi, the modern plant is scheduled to be completed and put into operation in 1985. The plant will use residual oil as raw material and produce annually 520,000 tons of urea. Major equipment for the plant is imported from Japan and West Germany. Construction began on the plant in 1980. Now 58 pieces of equipment, including a methanol washing tower, have been installed, and 27,000 meters of pipes laid. More than 4,000 technicians and workers have been sent by the state from Sichuan and Gansu provinces and other parts of Xinjiang to the construction site to help build the plant. [Text] [OW231301 Beijing XINHUA in English 1233 GMT 17 Sep 82]

EDIBLE OIL SUPPLY--In accordance with the decision made by the State Planning Commission and State Economic Commission at a joint meeting and with the circular of the ministries of commerce and finance, Xinjiang Region decided to supply every commodity grain consumer with an additional 2 jin of sunflower oil besides 5 liang of edible oil as a measure to celebrate the National Day and the (Guerbang) festival. In response to this decision, the regional Grain Department and Financial Department have already issued a circular accordingly. [Urumqi Xinjiang Regional Service in Mandarin 1300 GMT 28 Sep 82]

CSO: 4007/9

XIZANG

BRIEFS

GRAIN, LARD PROCUREMENT--The Xizang Regional People's Government recently decided to increase the prices of grain and lard and to procure them in a planned way from 1982. The regional people's government pointed out that communes and brigades which reap a bumper harvest must sell more grain and lard to the state and places where production drops due to natural disasters must not be forced to sell grain and lard. Those who volunteer to sell more grain and lard must be welcomed and encouraged. [Lhasa Xizang Regional Service in Mandarin 0000 GMT 27 Sep 82]

CSO: 4007/9

YUNNAN

MEETING DISCUSSES AGRICULTURAL DEVELOPMENT

HK280715 Kunming Yunnan Provincial Service in Mandarin 1100 GMT 25 Sep 82

[Summary] The Yunnan Provincial Agronomist Institute, together with the Provincial Economic Research Institute and the Provincial Agricultural Economic Institute, recently held a joint discussion meeting in Kunming on the strategic problem of agricultural development in Yunnan. The meeting took the party's general objective as the guideline and analyzed the existing problems in Yunnan's agriculture. The participants held: "Proceeding from the basic conditions of this province and working out an agricultural development strategy which conforms with the specific conditions of this province is very important and necessary. The reason why agriculture in this province is backward and the agricultural environment is damaged lies in the fact that we have not fully realized the basic role of agriculture in the national economy. In developing agriculture, we once maintained the erroneous guideline of putting lopsided stress on major areas, immediate interests and grain production while neglecting mountainous areas, long-term interests, forestry and animal husbandry." "All this must get close attention."

The participants unanimously held that "if we want Yunnan to become rich, efforts must be made to develop the mountain areas." They said that Yunnan "is a province where mountainous areas account for 90 percent of the total areas. This determines that agriculture is always the foundation for the whole economy in this province and must be strengthened. The province's economic development strategy must give prominence to agriculture, especially to agricultural development in mountainous areas."

CSO: 4007/9

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ORG: Both of Research Institute of Crop Breeding and Cultivation, Chinese Academy of Agricultural Sciences

TITLE: "Studies on High Lysine Maize With Hard Endosperm"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese No 4, 20 Aug 82 pp 1-6

TEXT OF ENGLISH ABSTRACT: In the course of converting opaque-2-gene into different background of maize inbreds, we found in some of the derivative lines semi-hard kernels were invariably higher in grain density (i.e. weight/volume) than the ordinary opagues. Both of the kernel types were proved to be homozygous O-2, as shown by their higher lysine content than the dents. The highest level of lysine per kernel ever obtained in one of the semi-hard O-2 inbred was 0.6 percent (see Table 1.) To develop hard endosperm O-2 lines a common source of Mexican Yellow Hard O-2 population obtained from CIMMYT was used as donor parent in crossing with 3 typical O-2 inbreds. The hard endosperm kernels derived from  $S_1$  through  $S_4$  generation were shown to be slightly higher than or nearly equal to the donor parent in lysine content of the kernel. This was also true for lysine/protein ratio and all the other amino acids except glutamic acid, leucine, arginine, and histidine which showed some variation among the combinations (refer to Table 2.) For immediate commercial

[continuation of ZHONGGUO NONGYE KEXUE No 4, 1982 pp 1-6]

use, we have developed a few opaque-2 hybrids with soft and semi-hard endosperm. The physical and chemical properties of different kernel types of these hybrids and their yield performance were compared with their inbred parents (Table 4.) The data presented here are to be completed further more.

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TITLE: "Effects of Rice Male Sterile Cytoplasm on Major Characters of  $F_1$  Generation"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese  
No 4, 20 Aug 82 pp 7-13

TEXT OF ENGLISH ABSTRACT: Thirteen male-sterile lines of heterocytoplasm-homokaryon and their maintainer lines were mated to 2-restorer lines. Preliminary result showed that most of the  $F_1$  generation of sterile cytoplasm had positive correlation on spikelet per plant and total grains per spikelet, negative correlation on setting percentage and weight of 1,000-grains, and no relation on plant height, growth duration, and resistance to rice blast and bacterial blight with the  $F_1$  of their corresponding maintainers. The comparison of the  $F_1$  of sterile cytoplasm in some of the wild rice aborted pollen (WA) and Chinsurah Boro II, which have been widely used in China's rice production, to the  $F_1$  of their maintainers showed an insignificant difference in the following principal traits: grain yield per plant, spikelet per plant, total grains per spikelet, filled grains per spikelet, fertility, weight of 1,000-grain, plant height, growth duration, and resistance to rice blast and bacterial blight. The effects of sterile cytoplasm on the  $F_1$  included not only those on the sterility and cytoplasm but also those on the combination of karyons concerned. The best cytoplasm for production must be selected from the correct combinations by a series of trials so that the influence of sterility on the  $F_1$  generation can be avoided.

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TITLE: "A Preliminary Study on the Hereditary Variations of Yield Components and Plant Height of High-yielding Wheat Varieties Grown in the Lower Yangtse Valley"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese  
No 4, 20 Aug 82 pp 13-19

TEXT OF ENGLISH ABSTRACT: Seven high-yielding varieties of wheat (*Triticum aestivum* L.) grown in the lower Yangtze Valley were used in this study to investigate the hereditary variations of 4 yield component characters and plant height. Four row plot with 4 replications in a dibble seeding were studied to determine the genetic variation coefficients (GCV), broadsense hereditabilities, relative genetic advances (GS'), genotypic correlations, and selection indexes. The broadsense hereditability estimates are high for plant height and number of grains per spike, moderate for spikes per plant, and low for weight of 1,000 kernels, and grain yield per plant. The GCV are higher for spikes per plant, moderate for the number of grains per spike, and low for plant height. Since the hereditability estimates and GCV for spikes per plant and the number of grains per spike were higher, single plant selection on these two characters from the 7 varietal populations would be effectual.

[continuation of ZHONGGUO NONGYE KEXUE No 4, 1982 pp 13-19]

The magnitude of relative genetic advance predicated by the population of 7 wheat varieties showed that the spikes per plant had higher GS', number of grains per spike and grain yield per plant had median GS', the weight of 1,000 kernels and plant height had lower GS'. The number of grains per spike was positively and significantly correlated with grain yield per plant. Weight of 1,000 kernels was negatively and significantly correlated with the spikes per plant. The genotypic and phenotypic variances and covariances entering into the computation of the correlations were used to illustrate the construction of selection indexes in wheat. Various selection indexes were constructed and the expected genetic advance from the use of each was determined. The relative efficiency from the use of the various selection indexes compared with selection for single plant grain yield alone. The efficiency of selection index for single plant yield with single correlated character was not high enough, but with two or more characters included the efficiency was well raised. When a selection index includes the single plant yield itself and other correlated characters, its efficiency is better than that without the single plant yield.

AUTHOR: None

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TITLE: "Regionalization of Cropping Systems in Rice-growing Regions in South China"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese No 4, 20 Aug 82 pp 35-42

TEXT OF ENGLISH ABSTRACT: In this study 2 main factors, agroclimate and topography, are combined to elucidate the geographical distribution of cropping systems existing in the southern provinces of China. The meteorocological models are used for evaluating the rice duration in different cropping systems. Climate guarantee probability (CGP) is calculated by the following formula: 
$$CGP = \frac{\text{rice duration}}{\text{rice growing season}}$$
 which makes clear the availability of climatic condition to certain cropping systems in southern provinces. According to climatic and topographic conditions, the southern part of China is divided into 3 agroclimatic zones, i.e. (1) double and single cropping zone; (2) double and triple cropping zone; (3) triple and double cropping zone. In these zones, 9 agroclimatic regions and 23 sub-regions are further separated. Climatoecological analyses are made for each zone and region.

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TITLE: "Environmental Effects of Plastic Film for Cotton Field Covering"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese  
No 4, 20 Aug 82 pp 43-50

TEXT OF ENGLISH ABSTRACT: The transparent polyethylene films for cotton field covering produce various effects on the environment. The main effects are decreasing the consumption of the soil heat while increasing the accumulated temperature in the tilth layer and having a compensative effect on the accumulated air temperature. All these contribute to the normal growth and development of cotton during the growing season even under lower temperatures. Therefore, it is suggested that in the first place, the use of the accumulated soil temperature in the tilth layer as an thermal index of the heat necessary for the cotton during its developmental stages may approach more closely the actual state of heat existing in soil. Secondly, the main role played by the plastic film in improving the soil moisture and

[continuation of ZHONGGUO NONGYE KEXUE No 4, 1982 pp 43-50]

heat results in a series of changes to the environment chemically, physically, and biologically. The plants can develop its yield potential to a maximum under the relatively stable growing conditions recognized as the relatively stable effect. Thirdly, thanks to the comprehensive effects of plastic films such as increasing the total heat in the field soil, promoting the efficiency of water use from soil, adding the supply of carbon, and letting down more sunlight to the soil surface, improving the solar light utilizing efficiency and significant yield increase; the lint yield increase averages 40-60 jin/mu for the irrigated fields and 30-50 jin/mu for the nonirrigated fields.

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TITLE: "A Study on the Fundamental Rules and Main Technique of High Yield in Jute"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese  
No 4, 20 Aug 82 pp 51-57

TEXT OF ENGLISH ABSTRACT: The experiment has been conducted for 5 years. The fundamental rules and technique of high yield (1000 catties of raw fiber per mu) in jute can be summarized as follows: An effective density of 15,000-16,000 plants per mu and the production of 14-15 g dry fiber per plant at the harvest stage appear to be crucial problems of high yield in jute. The main techniques of high yield in jute culture are as follows: (1) Choose fertile soil under proper irrigation condition; (2) Use prolific varieties of jute and maintain their growing stage up to 150 days; (3) Apply more manure fertilizer so as to increase the weight per plant; (4) Ensure suitable plant density to get more effective plants (planting density set at 20,000 plants/mu); (5) Prevent lodging for the sake of promoting the development of fiber.

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TITLE: "Experiments on Seed Vigor of Some Vegetable Crops"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese  
No 4, 20 Aug 82 pp 58-64

TEXT OF ENGLISH ABSTRACT: Various methods to test seed vigor of bean, Chinese cabbage, and radish were examined including germination speed, root elongation, dry weight, TTC conductivity, fluorescence, and ATP. All of them showed various degrees of relation to their field performance such as seedling establishment and its growth rate, i.e. the stronger the seed vigor the more uniform the seedling stand. A pronounced effect of seed vigor on field product was shown in the cabbage. A series of experiments have indicated that both the germination speed and root elongation are more correct, reliable, and convenient criteria than the others; the dry weight (to measure the consumption of stored foods in seeds,) though also correct in itself is not so convenient because it is time consuming; the ATP is correct and rapid and

[continuation of ZHONGGUO NONGYE KEXUE No 4, 1982 pp 58-64]

may possibly be used in practice in the future. Because of the complexity of the factors influencing seed vigor and the wide variation in field conditions, the authors have considered that no one test is likely to serve best for all crops and, therefore, tests will probably be on a crop-by-crop basis, and even with one crop a combination of several methods may be preferable in some cases to a single one.

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TITLE: "A Preliminary Study on the Take-all of Wheat"

SOURCE: Beijing ZHONGGUO NONGYE KEXUE [SCIENTIA AGRICULTURA SINICA] in Chinese No 4, 20 Aug 82 pp 65-73

TEXT OF ENGLISH ABSTRACT: Take-all of wheat caused by *Gaeumannomyces graminis* var. *tritici* was reported in our country round about 1952. We have studied all aspects of this disease and its pathogen for 13 years (1969-1982). The typical symptoms of the take-all in different stages of wheat development are described. Black root, black foot (the basal stem), and white head are the principal characteristics for the diagnosis of this disease in the field. The morphological characteristics of the pathogenic fungus, both the vegetative and the sexual stages, are described. The infections of hyphae and ascospores in nature, the isolation and cultural techniques of the pathogen together with its infection, parasitism, temperature-tolerance, distribution in soil, and survival-time have been studied also. Besides,

[continuation of ZHONGGUO NONGYE KEXUE No 4, 1982 pp 65-73]

the take-all decline phenomenon and the integrated control, including rotation, supplementation of phosphorus fertilizer, tolerant varieties, fungicides, and so on, have been investigated and studied.

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CSO: 4011/1

Conservation

AUTHOR: PENG Lin [1756 3829]  
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TITLE: "The Content of Soil Nitrogen and Ways of Improvement in the Loess Region"

SOURCE: Xian SHUITU BAOCHI TONGBAO [BULLETIN OF SOIL AND WATER CONSERVATION] in  
Chinese No 4, Jul-Aug 82 pp 30-35

TEXT OF ENGLISH ABSTRACT: The nitrogen content of soils in the loess region has an obvious range of variation. The average of the nitrogen content is from 0.01 to 0.094 percent. The annual loss of soil nitrogen is estimated at about 5.775-40.65 kg/ha. Based upon the total nitrogen content and the amount of loss, the loess region is divided into 6 zones. Ways of increasing the nitrogen content of the soils are suggested to be growing leguminous crops, developing animal husbandry, and adding chemical fertilizers.

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TITLE: "A Preliminary Study on the Silt Carrying Capacity of the Water System of Dongting Lake"

SOURCE: Xian SHUITU BAOCHI TONGBAO [BULLETIN OF SOIL AND WATER CONSERVATION] in  
Chinese No 4, Jul-Aug 82 pp 48-56

TEXT OF ENGLISH ABSTRACT: The annual average of the silt carrying capacity of the water system of Dongting Lake is about 40.593 million tons. The water area of the lake is being gradually reduced due to the serious condition of silt deposit. Dongting Lake, originally the largest freshwater lake of China, is being downgraded to the second place behind Poyang Lake in the matter of size. The trend of the quantity of silt carried by Dongting Lake is rising steadily. In the 70's, it almost doubled that of the 50's. A comprehensive harnessing of small watersheds is the fundamental measure for controlling the silt carrying capacity of the lake.

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CSO: 4011/235

Economic Problem

AUTHOR: ZHAI Zhongqi [5049 0022 7871]  
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TITLE: "Method of Evaluating the Economic Benefit of Field Protected Forests"

SOURCE: Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No 8, 23 Aug 82 pp 26-32

ABSTRACT: The major objective of protective forest belts is to protect the fields, which are materials of agricultural production. The goal of the belts is to improve the ecological environment of agriculture so as to increase production. The economic benefit of the belts include the increase of agricultural production and the quantity of forest products of the belts. The benefit increases with the formation, coverage, and density of the forests. Thus, the belt is a comprehensive system of complex and multiple functions and when its economic benefit is calculated, considerations must be given to the following: (1) The yield increase of the unit land area; (2) The cost reduction of unit agricultural products; (2) The unit yield increase of fields in a renewal cycle of the forest belt; (3) Other benefits, such as the losses from wind and sand erosion damages prevented by the forest belt. On the other hand the resources and labor consumed by the protective belt must also be taken into consideration. This cost of constructing and managing the forest belt must be distributed from the various benefits, while differences in the species of trees, the structure of the belt, and the technique of pruning, logging, etc. also influence the economic benefits. Equations for calculating all these factors are introduced.

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TITLE: "Several Problems in the Development of the Work of Cost Computation of Agricultural Products"

SOURCE: Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No 8, 23 Aug 82 pp 50-55

ABSTRACT: Cost computation of agricultural products is an important measure of monitoring and controlling production expenditure and a comprehensive index for evaluating the economic benefit of agricultural production. In the past 2 years, the work of the majority of the cost computation test points has been satisfactory. Under the natural disaster condition of 1980, the grain production of 6 test points remained 636,781 jin, an increase of 0.95 percent over the high yield year of 1979, to demonstrate the effect of the work in promoting yield increase. In the opinion of the author, the following problems still exist, however: (1) The definition of cost of agricultural products; (2) The contents of calculation; (3) The calculation of labor cost; (4) The distribution of labor and materials in the cost; (5) relationship between the major and the auxiliary products in the cost; (6) A cost computation method to suit the responsibility system. Details of these problems are expounded.

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CSO: 4011/234

END