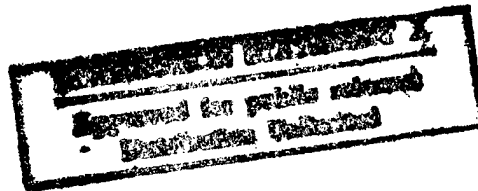


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CHINA REPORT
AGRICULTURE

No. 215

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I. GENERAL INFORMATION

FLOOD PREVENTION MEASURES EXAMINED

Beijing ZHONGGUO NONGMIN BAO in Chinese 16 May 82 p 1

[Article: "Overcome Paralyzed Thinking and Take Flood Prevention Work Firmly in Hand. Water Conservancy and Electric Power Ministry Deputy Minister Li Boning [2621 0130 1380] Makes Statement to Reporters"]

[Text] Water Conservancy and Electric Power Ministry Deputy Minister Li Goning issued a statement to the newspaper's reporters about this year's flood prevention work.

Comrade Li Boning spoke first about mental mobilization work. He said that during the 1981 flood season the upper reaches of the Chang Jiang, the upper reaches of the Huang He, southern Shaanxi, southern Liaoning, Heilongjiang and the southeastern seacoast were beset with floods, and that under the leadership of the CCP Central Committee and the State Council great achievements were won in the struggle against floods. Numerous water conservancy and hydroelectric power projects played a very great role in flood prevention. Now South China has entered the flood season, and soon the flood season for North China will arrive. Of extreme concern to all is that in the lower reaches of the Huang He, the middle and lower reaches of the Chang Jiang, in the Huai He, the Hai He, the Songhua Jiang, the Liao He, and the Zhu Jiang for more than 10 to 20 years to large floods have occurred. This situation deserves a high degree of vigilance.

Inasmuch as the wide plains areas of China have not experienced large floods for many years, and particularly since the North China region has had little rain and drought conditions for 4 to 5 consecutive years, some cadres and masses have developed paralyzed thinking about waterlogging and flooding. Some even feel that so long as there is no drought, even if a flood as big as the 1963 one occurs, there is no need to be afraid. In places where large floods occurred last year, some people supposed that floods will not occur again this year. Historical records show that in many areas drought occurred first followed by waterlogging, or that there were consecutive years of flooding. Consequently such a mentality of fearing only drought but not fearing floods, and a mentality of trusting to luck that no large floods will occur this year are extremely lopsided and harmful. All levels of flood prevention, water conservancy and electric power units must widerangingly arouse the masses and do effective mental mobilization work under the leadership of

local CCP committees and government, both to give attention to current work to fight drought and also to do a solid job of preparing to prevent floods. Only by being ever prepared can one be in an invincible position.

Comrade Li Boning continue by speaking about the several tasks currently requiring urgent attention.

1. Urgent Attention to inspection of Flood Prevention. Water conservancy projects such as water courses, dykes, culvert floodgates, and reservoirs, no matter whether flood inspected last year or no matter that there have been no floods and they have not been flood inspected for many years, must be inspected prior to the flood season for project safety, for project quality, and for ability to prevent floods. When deficiencies and problems are uncovered in the course of inspection, resolute action must be taken and conscientious handling done. When there are problems that genuinely cannot be readily handled before the flood season, provisional measures for quick protection and safety must be formulated in an effort to reduce damage in the event of a large flood. Emergency materials should be made ready before the flood season.
2. Firm Attention to the Removal of Obstacles That Block Water to Assure the Rivers Ability to Carry Flood Waters Away. In recent years some units have built structures that block the water, and have grown plants that block the water within watercourses or along their edges. They have built houses and industrial plants and have dumped ashes and refuse that block watercourses and impede movement of flood waters. Flood waters can be abruptly stopped and dikes breached to cause disaster. These lessons must be conscientiously absorbed. To this end, all levels of flood prevention units must conscientiously dispose of obstacles in the way of flood waters in water courses under the centralized leadership of CCP committees and government. They should adhere to a policy of "whoever has erected the obstacle shall remove the obstacle," and this work is to be completed before the flood season.
3. Preparatory Work on Arrangements for the Masses in Floodwater Storage, Flood Detention and Floodwater Movement Areas. In a spirit of a high degree of responsibility for the people, preparations for mass warning systems, dispersal, and movement of people living in floodwater storage, flood detention, and floodwater movement areas must be done to prevent loss of people's lives and property.
4. All Levels of Hydrology and Meteorology Units to Continue to Diligently Work at Meteorological and Hydrological Monitoring and Forecasting. All levels of flood prevention units and posts and telegraphs units should strengthen cooperation to do a good job in assuring communications, the upward transmission of information from below, the transmission of orders promptly and accurately, acting as staff officers for all levels of flood prevention command units.
5. Need for Coordinated Warfare in the Struggle Against Floodwaters. All flood prevention work involving neighboring areas of fraternal units anywhere should be done with unity and cooperation, with safety first, with concern

for the overall situation, and with obedience to the unified control of superior authority to achieve the goal of common protection and mutual benefit. Those who refuse to cooperate, shift troubles to others, show no concern for the overall situation and will not submit to control must be investigated and responsibility fixed or have responsibility fixed according to law.

9432

CSO: 4007/439

USE OF TRADITIONAL ORGANIC FERTILIZER ENCOURAGED

Beijing RENMIN RIBAO in Chinese 6 May 82 p 1

[Short commentary: "Develop the Tradition of Organic Farming"]

[Text] In agriculture, each locality in our country has accumulated some experiences in production suitable to itself after a long practice. We should highly regard these traditional experiences, assimilate their essence, and energetically popularize them in order to serve agriculture today.

Some people believe that since we are now striving for agricultural modernization, the old production techniques are no longer suitable and should be discarded to make room for modern techniques. This is a one-sided view. It must be admitted that some traditional agrotechniques and farming methods are backward and no longer useful. However, we must also be aware that there are others which are still very useful and which should be inherited and developed. For example, in either the north or the south, in the mountainous areas as well as the plains, and in dry land as well as paddy fields, the time-honored method of making organic fertilizers through energy recycling in agriculture, and the method of organic relationships in agriculture and so forth should be not only highly regarded now but also of great value in the fairly distant future. The immediate benefits of organic farming, which consumes less energy because of the recycling, are lower production costs and higher efficiency. In the long run, it will keep the land constantly fresh and reduce pollution, thus contributing to human welfare. This matter is now continuing to attract attention even among those countries where agrotechnology is fairly advanced.

Unfortunately, some localities do not attach much importance to the use and development of traditional agrotechniques. Because of the gradual increase in the output of chemical fertilizers, they have slackened their efforts in accumulating organic fertilizer. Also, some localities have cast aside their production techniques, which have proved to be effective, while paying their undivided attention to learning from advanced foreign techniques. Practice has proved these practices to be harmful. These localities should learn from the methods used in the Suzhou areas.

Traditional agrotechniques are closely related to the spirit of hard struggle. If we want to restore the fine traditions in agriculture, we should display the spirit of hard struggle. We must follow the example of the laboring people before us in our country, in order to win bumper agricultural harvests through hard work and sweating. As long as we highly regard our fine traditions and at the same time assimilate the advanced techniques at home and abroad, our agricultural production will certainly make quicker progress.

9411

CSO: 4007/418

BEIJING

BRIEFS

TYPHOON REDUCED TO LOW PRESSURE SYSTEM--The Central Meteorological Observatory this afternoon released the following information: This year's typhoon No 5 was reduced to a low pressure system this afternoon. The center of the low pressure system was located over waters off eastern Guangdong, and winds near the center still ranged from wind force 6 to 7. The low pressure system is slowly moving northeasterly. As a result of the low pressure system, winds will range from wind force 6 to 7 in the northern area of the South China Sea and Guangdong's coastal areas from tonight to tomorrow. There will be heavy to torrential rains in eastern Guangdong and southern Fujian. [Text] [OW301435 Beijing Domestic Service in Mandarin 1200 GMT 30 Jun 82]

CSO: 4007/459

CONFERENCE NOTES POOR STATE OF FLOOD PREVENTION

Fuzhou FUJIAN RIBAO in Chinese 10 May 82 p 1

[Article: "Much Rain During This Year's Flood Season. Need For Early Precautions Against Floods. Provincial Flood Prevention Conference Proposes Action to Overcome Paralyzed Mentality For Implementation of Flood Prevention, and Strict Attention to Project Safety Inspections Before Flood Season for Early Elimination of Hidden Dangers"]

[Text] According to meteorology department forecasts, rain volume will be fairly great during this year's rainy season and there will be appreciable flooding in the Min Jiang basin. How can a good job of flood prevention be done this year? The provincial flood prevention work conference which concluded not long ago, proposed a program to overcome paralyzed mentality for diligent action primarily in prevention, the emphasis on prevention rather than a crash program, and for intensification of water conservancy project management to assure project safety so that reservoir projects will have no dam collapses and so that no breaks will occur in major dikes.

This year when the nine planets line up is an extraordinary year for astronomy, and calamitous weather may occur. During the past several years quite a few places in Fujian Province have not experienced much flooding, and numerous projects have not had to withstand the test of floods; this, the problem of hidden dangers in quality have not been eradicated. For small (2) reservoirs with a capacity of 100,000 to 1 million cubic meters, in particular, the dangers are rather serious. Reports from Jinjiang Prefecture say that 59 of the 335 reservoirs of this type in the prefecture have low flood prevention standards; quality is poor; and problems with hidden flaws have not been taken care of. A similar situation exists elsewhere. More than half of the province's more than 1,800 reservoirs have no designated persons in charge. Standards for flood prevention dikes and for sea walls to prevent floods and brake the tides are even lower. Numerous flood prevention dikes have been built on a sandy foundation, and leaks in the foundations of the dikes and in the dikes themselves is serious. Some units and individuals erroneously suppose that they can rest easy without concern because year after year flood prevention is called for but floodwaters never appear. They enclose river shallows to make farmland, build plants and construct houses, and build roads on dikes at will, thereby seriously reducing abilities to drain away flood waters. In addition, silting raises the height of river beds, and flood

prevention standards become ever lower. In some places they dig away at the dike footings at will, remove stones from the dikes, and destroy dike works. Most small flood dike projects under control of communes and production brigades have had no one responsible for management for a long time. When small holes appear, no one repairs them. Delegates to the conference acknowledged that with the arrival of the flood season now, all jurisdictions should direct full attention to the aforesaid problems, should genuinely strengthen leadership, should institute measures to guard against floods, and take preventive measures against possible trouble.

The conference emphasized the importance of reservoir and dike work safety as the focal point of anti-flood work, and the need to establish responsibility systems. In Shaowu and Songqi counties, the county people's government's assignment of responsibility for each and every reservoir and for dike sections to principal leadership cadres in the county, communes, and brigades is a workable method. A technical appraisal of every reservoir project should be made, and where problems with hidden flaws in quality exist, water storage should be limited. Storage of water should not be allowed in dangerous reservoirs. Where structures have been built in watercourses that impede the flow of water, anti-flood command units are responsible for clearing the obstacles. They should conscientiously study the problem and formulate plans in accordance with the principle of "whoever put up the obstacle is responsible for taking it down" to remove obstacles over a period of time to assure that flood water safely pass through reservoirs and major dike projects.

The conference noted that management of existing water conservancy projects must be improved, the focus of water conservancy work being solidly shifted to management. Reorganization of water conservancy management units should be done one by one over a period of time in the same way that enterprises were reorganized. Leadership teams should be augmented, labor discipline should be strengthened, responsibility systems should be established, regulatory systems should be improved, and a good job of economic accounting should be done.

9432

CSO: 4007/439

BUMPER WINTER WHEAT AND BARLEY HARVESTS REPORTED

Fuzhou FUJIAN RIBAO in Chinese 15 May 82 p 1

[Article: "Much Planting of Wheat and Barley Last Winter for Bumper Harvest This Spring. Wheat and Barley Total Output and Per Unit Yields Reach All-time Highs in Longhai, Fuqing, Shanyou, and Dongshan"]

[Text] Last year Longhai, Fuqing, Shanyou, and Dongshan counties made winter planting a major crop. They strengthened leadership, obtaining bumper harvests of barley and wheat this spring. In these four counties, both total output and yields per unit of area of wheat reached all-time highs. In Fuqing County, output totaled more than 10 million jin more than last year, an increase of 27 percent. Donghsan County's yields per unit of area increased by 106 jin over last year for a 57 percent increase.

These four counties have been in the habit of doing winter planting, but last year when they put into effect their barley and wheat planting plans many commune members had only a feeble conception of the country and there were problems about fulfillment of barley and wheat growing plans. Leaders in all of the counties focused on this situation, leading cadres into communes and brigades to conduct socialist indoctrination of the peasants to induce them to plant according to state plan. Longhai County adopted measures whereby leaders assigned sole responsibility for individual tracts, and county leadership comrades led cadres and farm technicians into communes and brigades to carry out ideological and political work. They repeatedly publicized the favorable conditions for the growing of winter barley and wheat, and very quickly implemented plans for the growing of 133,000 mu. In view of the existence in Fuqing County of a mentality of "growing wheat and barley is not worthwhile," leaders educated commune members in the advanced experiences of Yutang Brigade in the county, which last winter fertilized with more barnyard manure than usual producing yields of more than 420 jin per mu of wheat and 1,000 jin per mu of early paddy. This increased everybody's confidence about engaging in production of barley and wheat. Barley and wheat growing in the county increased from 170,000 mu to more 906,000 mu, exceeding plan by more than 6,800 mu. Dongshan County instituted its barley and wheat growing plans in every peasant household, and also organized the signing of planting agreements between individual peasant households and production teams, thereby smoothly fulfilling planting quotas handed down by higher authority.

Scientific growing of wheat and barley to increase yields per unit of area was yet another major reason for these four counties bumper barley and wheat harvests this year. Longhai County and Shanyou County promoted the wide area growing of "Furong 16 (or 17)," and Fuqing County's seed company bought and allocated Jin line superior wheat varieties for the sowing of 63 percent of its area. In addition, the county planted Zaoshu No 3 barley, the area of the county planted to fine varieties totaling 85 percent. Longhai and Donghsan counties changed from their former sowing method of "narrow plots with wide and shallow furrows" and promoted the advanced technique of "wide plots with narrow and deep furrows". This not only increased the soil utilization rate, but also lowered the ground water table and avoided disintegration of roots and premature plant deterioration during the late stage. Fuqing County also promoted Jiangjing Commune's experiences in obtaining bumper harvests through the mixing of nitrogenous, phosphate and potash fertilizers in a change from its former habit of overfertilization with nitrogeous fertilizer. This made the barley and wheat stems sturdy, the heads large, and the grains numerous. In addition, ever since the lunar new year both temperatures and quantity of rainfall favored crop growth. As a result, harvest of barley and wheat this year have been particularly bumper. Longhai County's yields reached 320 jin per mu, 50 jin more than last year. At Jiaomei Commune in that county, total output of barley and wheat this year broke 10 million jin for the first time in a 23 percent increase over last year. Shanyou County's yields also reached 320 jin per mu, 30 jin more than last year. All smiles, commune members said, "This year harvesting barley and wheat was like cutting rice; truly such a bumper harvest year has never been seen." However, there were also some commune members who had not grown barley and wheat who said with a sigh, "Had we known that this year's harvest would be this good, we would have listened to what the cadres said in the first place."

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CSO: 4007/439

MEETING HELD ON EXPERIENCES IN FORESTRY

SK240331 Lanzhou Gansu Provincial Service in Mandarin 1125 GMT 23 Jun 82

[Text] The provincial CCP Committee and government held an on-the-spot afforestation meeting in Jingchuan County from 9 to 16 June to introduce the county's experiences in forestry development and discuss ways to accelerate the province's forestry development. Through visits, the participants felt that Jingchuan County had made a heartening start and had set an example in changing the vicious cycle of agricultural production into a good one by attending to agricultural water conservancy and water and soil conservation to improve vegetation instead of merely to water conservancy. At present, the county has basically planted trees along roads and rivers and around houses and villages, built in fledgling form shelterbelts around farmlands, built protective belts along embankments, scored initial achievements in harnessing small rivers and attained self-sufficiency in sapling supplies. The participants were deeply impressed by the county's achievements in improving the economic results in forestry production, by its spirit of self-reliance and hard work and by its practice of having leaders personally join in tree planting. They thought that Jingchuan County's experiences in afforestation were worth learning from. Having a goal to fight for, they were determined to successfully learn from, apply and publicize the experiences enabling them to achieve results everywhere in the province.

In addition to studying the county's experiences in forestry development, the meeting participants summed up the province's spring afforestation work. They held: Although the province overfulfilled by 14.3 percent its annual afforestation plan, it has done a poor job in sapling nursing and forest protection, which lags behind forestry development. Besides, the province has failed to pay sufficient attention to forestry scientific research and grass planting.

The meeting stressed: Tree and grass planting is a strategic task. Leading cadres should be promoters of turning their sole attention to grain production into dual attention to grain production and a diversified economy and sole attention to water conservancy into dual attention to water and soil conservation and water conservancy to improve vegetation, so as to accelerate afforestation and strive to expel drought from our province.

CSO: 4007/459

STRENGTHENING OF WINTER WHEAT MANAGEMENT URGED

Lanzhou GANSU RIBAO in Chinese 10 Apr 82 p 1

[Article: "Seize the Opportune Time to Strengthen Winter Wheat Management"]

[Text] Recently, in order to do a good job of reporting on the question of winter wheat production in our province this year, this reporter interviewed responsible comrades of the provincial agricultural department. They said: We are now seizing the opportune time to strengthen winter wheatfield management so as, by every possible means, to wrest a bumper harvest of winter wheat this year.

Question: What is the situation with regard to winter wheat production this year?

Answer: This year our province has a total of nearly 11 million mu planted in winter wheat, or an expansion of more than 1 million over last year's acreage. If we add to this the other winter grains in addition to wheat and rice, the entire acreage of overwintering grain crops is 12 million mu. Due to implementation of the production responsibility system, the enthusiasm of the cadres and masses was aroused, last year's soil moisture was increased, preparations for plowing and sowing were done in a relatively solid manner, the sowing was fairly good, and seedlings have emerged all over the fields. Since the beginning of spring, rain or snow has fallen continuously in eastern and southern Gansu, and the amount of water contained in the plowed layer of wheatfields for the most part is about 20 percent. This good situation in soil moisture has rarely been obtained in the past several years. At present, the winter wheat has already turned green, most of the sprouts are in good condition, and in many places the young wheat plants are growing healthily and strongly. For example, there are the results of a general survey of the over 858,000 mu of young winter wheat seedlings sown this year in Wudu Prefecture: first-category seedlings accounted for 40 percent, second-category 44 percent and third-category 16 percent. Compared with the corresponding period of last year, the acreage of third-category seedlings was reduced by 20 percent.

Question: What problems are there in this year's winter wheat production?

Answer: From our present understanding of the situation, the several main problems existing in this year's winter wheat production are as follows: First, in some places in eastern Gansu and west of the [Wei] River, from the first part of October to the first part of November last year temperatures tended to be low as if winter

had come 7 to 10 days earlier than normal, which caused the winter wheat to have insufficiently warm temperatures before winter actually began. The growing period was shortened, particularly for some rotation-crop wheat that had been sown late when planting had been expanded, so that everywhere the growth of the crop was slow, there was little tillering and secondary roots, and the wheat seedlings grew fairly weakly. According to an investigation made by the Agricultural Department of Qingyang Prefecture, the primary and rotational wheat timely sown in the middle of September on the average had two to three tillers before winter, about three less than in previous years; the wheat seedlings planted late, at the end of September or afterward, both primary and secondary, were thin and weak with very few tillers and secondary roots, and some even had none. Second, in areas of southern Gansu wheat rust, and in some areas wheat aphid, leafhoppers and planthoppers, occurred in succession and harmed the crop. According to an investigation made by the Agricultural Department of Wenxian County, winter wheat rust has already begun to spread: On 10,000 mu, the general proportion of highly affected strains has reached 40 percent--in specific places 100 percent of the wheat has caught the disease--and on the average 25 percent of the crop has been affected to a serious degree. It is estimated that in the first part of May the disease will have spread to the Wei River basin. By the middle and last parts of May, it will have spread to eastern Gansu and the central areas, and this should draw our attention to a high degree. Third, in some places, because there was much rainwater the soil moisture content is high, so that in the wheatfields weeds have multiplied and spread, competing with the wheat seedlings for water and fertilizer, which is extremely detrimental to the healthy and sturdy growth of winter wheat. Fourth, in some places, because last autumn was excessively overcast and rainy, the accumulation and shipment of fertilizer was adversely affected, and there was insufficient base fertilizer in the wheatfields, and in a small number of wheatfields the seeds were even planted during rain, so that the strengthening of field management and other measures is urgently needed in order to promote the healthy and sturdy growth of wheat seedlings. Moreover, looking at the situation in our province over the years, there is a big threat to wheat growth posed by freeze damage from a late frost, and we should watch out for this closely.

Question: What measures must be taken now to do a good job in wheatfield management?

Answer: At present, winter wheat in the plains of eastern and southern Gansu has already entered the jointing stage, and winter wheat in the mountain and plateau areas as well as the large acreage in the central areas and the areas west of the Wei River is now in the greening and sprouting stage. All these places should focus on their weak links, take effective measures, and strengthen field management.

First, for wheatfields that have not yet sprouted, the peasants should continue to topdress and expand the area on which fertilizer is applied, especially on those wheatfields where the base fertilizer is insufficient or where seeds were sown in the rain, and they must especially topdress and apply chemical fertilizer so as to do all they can to topdress all wheatfields once before the jointing of winter wheat begins. In places where the necessary conditions exist, irrigation and fertilizer application should be combined, and in wheatfields running to weeds or

with a high moisture content, timely loosening of soil and weeding should be carried out and temperatures should be increased to preserve soil moisture, all of which will promote the development of root systems and insure the sturdy growth of wheat seedlings.

Second, the management must be classified according to the condition of the seedlings. Weak seedlings and rotational-crop wheat must receive favored treatment. With regard to wheat seedlings that are growing luxuriantly, the water and fertilizer should be controlled, and such measures as timely rolling and cycocel spraying should be taken so that the seedlings are controlled but not weakened, grow vigorously but do not topple over. Practice has proved that an effective measure to increase wheat output is to spray the leaves of the wheat plant in the latter stage of its growth with potassium dihydrogenphosphate. Various places may suit measures to local conditions, energetically propagate the measures, and work hard for large and plump ears on and high output of winter wheat.

Third, in order to strengthen the prevention and control of plant diseases and insect pests, they must conscientiously do a good job of preestimating and forecasting plant diseases and insect pests, and handle well the "two checks and two fixes" (check on the course of outbreaks and fix times for prevention and control; check on the number of outbreaks of plant diseases and insect pests and fix plots on which to carry out prevention and control). The southern part of our province suffers much from wheat rust, which has already begun to spread. We must organize our forces and take effective measures to quickly stamp it out and prevent its spread. A specific method for prevention and control is: Under the premise of undertaking good prevention and control in agriculture, one should pay attention to eliminating the source of the bacteria that causes early spring rust, and spray on every mu a liquid agent composed of 1 percent sulfur ammonia water, or one part fresh water to one part urine, or 3 percent ammonia water, and 100 grams of sodium fluoro-silicate in order to control the center of the disease. During the period when the rust is spreading and 1 percent of the leaves are diseased, in the initial period the leaves can be sprayed with 0.5 to 0.8 degrees of lime sulfur, or each mu can be sprayed with 3 to 4 jin of sulfur powder, or each mu can be sprayed with half a jin of rust-resistant sodium liquid agent, or with 200 grams of bacteria-destroying powder made into a liquid agent. As for insect pests, such as wheat aphid, leaf-hopper, planthopper and wheat waterfly, they can be sprayed with emulsified Rogor, 50 grams per mu when added to water to form a liquid agent; or sprayed with DDVP and malathion or xinliulin [6580 4288 4340]--they are all highly effective. For the specific methods of preparing and using the agricultural chemicals, the various areas can request guidance from the scientific and technical personnel of the agro-technical plant protection departments.

Fourth, prevent freeze damage from a late frost. The fundamental freeze-prevention measures are the selection of freeze-resistant strains, the strengthening of field management, and the cultivation of sturdy seedlings. For this the various areas have some specific methods, and they should pay close attention to the forecasts of the local meteorological departments, adopt measures suited to local conditions and protect the wheat by preventing freezing.

Finally the responsible comrades of the provincial agriculture department emphatically pointed out: Looking at the present situation, this year's weather will be comparatively good, which will be extremely advantageous for the growth of winter wheat. But we certainly cannot lower our guard and become careless, be blindly optimistic, and treat the situation lightly with regard to obtaining a bumper harvest of winter wheat. We must still put in a lot of hard work and get a tight grip on wheatfield management in order to strive hard for a bumper harvest of winter wheat.

9727

CSO: 4007/398

PREVENTION OF WHEAT MIDGE BEGUN

Lanzhou GANSU RIBAO in Chinese 15 Apr 82 p 2

[Article by Li Cheng [2621 2052]: "Prevention and Control of Wheat Midge"]

[Text] Based on the serious harm done by the wheat midge over the past several years in the Hedong Production Brigade, Hetan Commune, Dongxiang Autonomous County, the production brigade, during this year's spring plowing and production, signed a contract with the Plant Protection Station of Linxia Autonomous Prefecture for the active prevention and control of the wheat midge. Since the production brigade put into practice the production responsibility system of contracting production to households 2 years ago, because the contracting households lacked the strength for prevention and control on connected strips of land and the brigade did not organize the masses very well for this purpose, the midge infestation has become quite serious. In 1981, on 1,000-odd mu of wheat there was a steep drop in production. The masses urgently requested help from the agriculture technology departments. In line with the masses' request, the Plant Protection Station of Linxia Autonomous Prefecture and the Agrotechnical Station of Dongxiang Autonomous County, with production teams, signed plant protection technology contracts linked to output. Under the terms of the contracts, the technical departments are responsible for pre-surveying and forecasting the midge situation, for training technicians for the production teams, and for supplying agricultural chemicals and maintaining machinery, and if crop damage occurs from the use of the agricultural chemicals or if the prevention and control measures are ineffective and production falls, the technical departments will make up for the loss of output; the production teams must respect the technical guidance, are responsible for organizing and leading the contracting households, and shoulder the expenses.

Prevention and control has been carried out once by the production brigade on 2,500 mu of the 2,800 mu of wheat acreage, and a second round of prevention and control will be carried out when the wheat is in the earing and milking stage, so that midge damage can be basically avoided. The cadres and commune members are generally satisfied with this contract system. The sense of responsibility for work on the part of agrotechnical cadres has been greatly strengthened, and they have gone into the fields and to the edges of the fields in time to get a good idea of the midge situation and to guide the masses in scientifically tilling the land.

9727

CSO: 4007/398

QINGYANG PREFECTURE WINTER WHEAT MANAGEMENT STRENGTHENED

Lanzhou GANSU RIBAO in Chinese 15 Apr 82 p 2

[Article by Gong Shifeng [0501 0013 6912]: "Qingyang Prefecture Strengthens Winter Wheatfield Management"]

[Text] In Qingyang Prefecture, the vast rural areas have got a tight grip on spring field management of winter wheat and are determined to wrest a bumper harvest of wheat this year.

In Qingyang Prefecture, since spring began, because there has been a fairly large amount of snow and rain and temperatures have been inclined to be low, there exists widespread detrimental factors for the wheat, such as little tillering, small colonies and rather poor seedling conditions. Throughout the prefecture, the communes and production teams focused their wheatfield management on the problems that had appeared and first of all applied chemical fertilizer with drill barrows. Once the ground had thawed, the commune members went into action. In places where animal power was insufficient, kinsmen and neighbors helped each other to do the work; in places that were short of drill barrows, the commune members exchanged draft animals so that the drill barrows did not stop working and the tempo of the work was quickened. As of now, throughout the prefecture chemical fertilizer in drill barrows has been applied to over 1.84 million mu, or more than 80 percent of the planned acreage. Second, they intertilled and dug up weeds with hoes. Some communes and production teams on flat land in the counties of Ningxian, Heshui, Zhengning and Zhenyuan, where the weather has been fairly mild, have begun to intertill and to hoe weeds. Some production teams on flat land in the Chengguan Commune of Ningxian County have already completed two hoe-weedings. Third, they have timely prevented and controlled wheat rust, wheat aphid, red spider mite and other plant diseases and insect pests. Throughout the prefecture many commune members' households have prepared adequate amounts of plant ash, and some households of communes and production teams on the Qian Plateau have already sprinkled plant ash on the wheat land. The greater part of the communes and production teams have purchased agricultural chemicals and have made preparations to prevent and control diseases and insect pests that affect wheat.

9727

CSO: 4007/398

INCREASED USE OF PLASTIC FILMS IN AGRICULTURE IN GANSU

Lanzhou GANSU RIBAO in Chinese 24 Apr 82 p 1

[Article by GANSU RIBAO correspondent: "Plastic Mulch Acreage Nearly Doubled in Jiuchuan Prefecture--Popularization of Last Year's Experiments Welcomed This Spring"]

[Text] From the experiments conducted at 18 different locations last year, the broad masses of cadres and commune members have witnessed the economic results from the use of plastic films for the crops. This spring, the relevant departments in the prefecture and the county popularized this method, which was warmly welcomed. By now, the plastic mulch acreage in the prefecture has been increased to more than 4,800 mu, or more than 32 times the experimental acreage.

Last year, the county (municipal) stations for the popularization of agro-techniques in Jiuquan Prefecture planted cotton, watermelons, cucumbers, bailan melons, bottle gourds, beans and so forth, under the cover of plastic films, at 18 experimental spots, totaling 146 mu. Except for a small number of failures caused by typhoons, most of these experiments resulted in greatly increased outputs. At the three experimental spots in Dunhuang County, the average per-mu output of cotton was 267 jin and 4 liang. In the county fine-strain farm, where 4 mu was covered by plastic films for the production of bailan melons, the average weight of each melon was 4.5-5 jin, with the heaviest one at 6 jin and 8 liang. The average per-mu output was more than 5,000 jin, a 67 percent increase over the yield with the uncovered method, meaning an additional income of 168 yuan.

Early last March, after summing up and exchanging experiences in last year's experiments, the Jiuguan prefectural and county agrotechnical stations discussed their plans for expanding the plastic mulch acreage. Then the county (municipal) agrotechnical stations signed a number of contracts with the communes and production brigades on the combination of technology and production. According to statistics available in mid-March, all the communes, production brigades, county horticultural farms, and fine strain farms in the prefecture had already bought more than 48 tons of plastic films, while Dunhuang, Xian and Jinta counties planned to cover nearly 1,000 mu of cotton with plastic films. Many communes and production brigades are still buying plastic films to be used on various types of melons and vegetables in addition to the 3,500-odd mu already covered. It is estimated that the total acreage may exceed 5,000 mu.

9411

CSO: 4007/418

PLANTING OF SAFFLOWERS WIDELY POPULARIZED IN GANSU

Lanzhou GANSU RIBAO in Chinese 21 Apr 82 p 1

[Article by GANSU RIBAO correspondent: "Planting of Safflowers for Oil Extraction Widely Popularized in Zhangye Prefecture"]

[Text] After nearly 2 years' demonstration at designated spots, the planting of safflowers for oil extraction is now widely popularized in Zhangye Prefecture. At present, more than 800 mu has been planted with safflowers, and sowing has continued since early April.

The safflower is valuable as a cash crop because of its oil and flower petals. Among its special features are its high output, its high percentage of oil content, and its wide range of utility. Besides being edible, it has high medicinal value and is an important industrial raw material. Its stems contain a great deal of albumen and are excellent fodders for domestic animals. Zhangye Prefecture has favorable conditions for planting safflowers because of its dry climate, large temperature fluctuations and abundant sunlight. Furthermore, the people here have been all along fond of, and are experienced in, planting safflowers. In 1980, the botany institute of the Chinese Academy of Sciences designated Zhangye Prefecture as one of the main safflower production areas of the country, and the prefectural agriculture institute undertook the task of nurturing and propagating safflowers. These institutes have on different occasions brought in from Beijing more than 60 fine varieties of safflowers of American, Mexican and domestic origins, and planted them at different designated spots in the irrigated and the high and cold mountainous areas. They achieved fairly good results after 2 years' experiments. Last year, more than 170 mu was planted with safflowers in the prefecture. The highest per-mu output was 500 jin, and the lowest was 300, with an oil extraction rate of approximately 40 percent. This year, in addition to those areas in state farms and communes and production brigades, nearly 500 mu along the banks and on the deserted beaches was used by the commune members for planting safflowers.

9411

CSO: 4007/418

BRIEFS

GANSU SPRING WHEAT SOWING--According to data supplied by the agricultural departments in the province, sowing for spring wheat and miscellaneous summer crops has been basically completed over an area of 14 million mu, an increase of 2 million mu over last year, in the countryside of the province, according to this year's plan. All rural areas are more practical in their farming preparations this year; thus the sowing was timely and its quality is good. Sowing for spring wheat was completed by the end of March in Jinta County, Dunhuang County, the various counties in the Heihe irrigated area, the Jingdian irrigated area, the Shiyanghe irrigated area, and the Lintaochuan irrigated area. [Text] [Lanzhou GANSU RIBAO in Chinese 18 Apr 82 p 2] 9411

EXPERIMENTAL WATER DESALINIZATION PLANT--Lanzhou, 29 Jun (XINHUA)--China's first experimental water desalinization plant will be built on the banks of the Yellow River in Lanzhou, capital city of Gansu Province, according to the Gansu Provincial Academy of Sciences here today. The plant will help assess water desalinization methods applicable to China. More than 100 million people in China live in areas with saline or alkaline water, academy sources said. The pilot plant will process 1,000 tons of alkaline water daily. Started in 1980, its major buildings will be completed this year. [Text] [OW010453 Beijing XINHUA in English 0725 GMT 29 Jun 82 OW]

CS0: 4006/418

IMPROVED FOREST MANAGEMENT REPORTED

Guangzhou NANFANG RIBAO in Chinese 11 May 82 p 1

[Article: "Timber Procurement in Province During First 4 Months Increased By More Than 10 Percent Over Same Period Last Year. Implementation of Timber Production Policies and Strengthening of State Plan Concepts"]

[Text] Following the practice in all prefectures of the province of centralized administration and management of timber, initial successes have been realized in the strengthening of state plan concepts, early institution of this year's timber plan quotas, and active launching of contract agreements for procurement work. Statistics show that during the first 4 months of this year, quantity of timber procurement for the province amounted to 533,000 cubic meters, a 10.9 percent increase over the same period last year.

Because of the influence of "leftist" mentality, inconsistency in mountain forest ownership rights, and turmoil in forest area production for many years, state plan concepts and legal concepts of numerous cadres and commune members became increasingly diluted, and reckless cutting and denudation of forests, plus meddling in timber administration by many parties could not be stopped. This led to the province being unable to fulfill its state timber quotas for 4 consecutive years.

Since last year, all jurisdictions in the province have implemented the Central Committee and State Council "Decisions on Various Problems Relating to Forest Protection and Development," and have taken firmly in hand the "three fixed" tasks in forestry. They have diligently put into effect the central government and provincial government decisions and methods of implementation pertaining to centralized and unified management of timber. With this, most forest region communes and brigades in the province have regularized forest and mountain rights, and the tumultuous situation of multiple administration and management of timber has been corrected. Most prefectures and counties have virtually put an end to reckless cutting and denudation of forests. They have closed down the free market in timber, have struck at speculation and profiteering in timber and have brought order to forestry production in forest areas to assure the normal production and supply of timber. After all forest areas in Huiyang Prefecture instituted centralized administration and management of timber, the signing of contract agreements for timber procurement proceeded smoothly. Quantity of timber

procured during the first 4 months of this year was more than 37,000 cubic meters more than for the same period last year. Xingning County investigated and disposed of a group of cases involving reckless cutting and denudation of mountain forests, attacked violators, brought order to production, and during the first 4 months of this year provided the state with more than twice as much timber as during the same period last year.

In the process of instituting centralized administration and management of timber, forest areas in all jurisdictions diligently put into effect various specific policies pertaining to timber production and management. They set the rights, responsibilities, and benefits for all counties, communes, brigades, commune members, and administrative units involved in the production of timber so that they would produce timber in accordance with state plans. In addition, state readjustment of timber prices brought material benefits to the masses in forest areas throughout the province. This played a positive role in arousing the enthusiasm of the masses in forest areas for the production of timber and in assuring fulfillment of state procurement plans.

Timber is an important material in national construction and the livelihood of the people. In the current situation of a scarcity of forests, if forest resources are to be effectively protected and rationally used, centralized and unified management of timber is completely necessary in order to change the chaotic situation of the past in which there was multiple management and multiple meddling, "forests being created with a single hoe and trees being cut down with 100 axes." While implementing the "three fixed" in forestry this year, all forest areas have strengthened centralized management of timber. The substantial increase in timber procurement throughout the province during the first 4 months of the year provides powerful testimony to this.

Deserving of attention is the failure of individual places to proceed from the overall situation, wilfully increasing timbering outside of plan. In some places, most of the timber procured is retained for local use, very little of it being surrendered to the state. Alternatively, they keep the large timber of good quality, surrendering to the state small timber of inferior quality. This is a manifestation in the economic realm of selfish departmentalism and decentralism, which should be resolutely corrected. In still other places, because policies have not been implemented and concepts of law are weak, a rather serious situation of reckless cutting and denudation of mountain forests continues to exist, and this too requires effective action to bring it to a halt.

9432

CSO: 4007/430

CONTROL OF RICE DISEASES DISCUSSED

Guangzhou NANFANG RIBAO in Chinese 24 Apr 82 p 2

[Article: "Need for Strong Action To Prevent and Control Rice Blast"]

[Text] Provincial Academy of Agricultural Sciences plant protection experts believe that rice blast will be rather serious in Guangdong Province this year. The evidence is as follows: 1) Last year rice blast occurred on 4 million mu throughout the province, and there is a large accumulation of bacteria sources. 2) During the seedling propagation season this year, temperatures tended to be low, and everywhere seedling quality has been rather poor; this helps the spread of bacteria. 3) Most early rice varieties being promoted are disease-prone varieties. 4) In recent years fertilization has increased everywhere, nitrogenous fertilizer being particularly ample. 5) Rice leaf-blast disease has broken out everywhere among early crop seedlings. Monitoring reports from provincial crop disease and insect pest monitoring and reporting stations tell of the occurrence of rice leaf-blast disease in seedling fields in Panyu, Huaxian, Taishan, Xinhui, Meixian, Wuhua, Jiaoling, and Yangjiang counties, and it has now gone into the open fields. A similar situation exists elsewhere throughout the province. Unless timely preventive measures are taken, rice-leaf-blast will develop further during April and May. By early or mid-June, if there is a lot of rainfall, outbreaks of rice neck blast will be fairly serious.

In order to prevent and control rice blast, emphasis on scientific fertilizer and water management is necessary right now to increase the rice plants' resistance to disease. In fertilizing, the principle of "heavy early" (within 20 days after transplanting), "late light" (40 days after transplanting when the yellowness has faded from the plants), and "nothing or supplemental in the middle" (between 20 and 40 days after transplanting) should be followed. Even fertilization on time and in the right amounts should be done according to weather conditions, soil conditions, and the condition of plants, and one should remember to give a little nitrogen fertilizer during the mid season. During the jointing and differentiation period, the fields should be promptly drained of water, sunned, and exposed to the air so that leaf color will "yellow" normally, so as to control or reduce the incidence of leaf-blast. Five or 6 days before heading, fields should be drained and exposed to the air again to bring about the second "yellowing" for the control or decrease of rice neck blast and stem node blast.

Simultaneously with scientific fertilizer and water management should be an intensification of field inspections to determine the disease situation and promptly apply pesticide for prevention and control. Generally, beginning with the tillering stage it is necessary to spray pesticide once or twice to prevent or control leaf blast. Centers of disease outbreaks must be more intensively controlled with sprayings once every 3 or 4 days. Later on between the late booting stage and the onset of heading, spraying should be done once, and after full heading spraying should be done once again to prevent and control rice neck blast. Because the period of disease susceptibility is fairly long during the heading stage, another spraying during the in-the-milk stage would be even better.

All areas report that current use of "EBP" is not very effective in the prevention and control of disease. This may be the result of pesticide quality or because, after much use, the diseases have increased their immunity to the pesticide. Therefore, quantities of pesticide should be increased, spraying done with a solution of 3 liang per 120 - 140 jin of water per mu. Additionally, depending on circumstances, each jurisdiction may select for use the following concoctions: 50 percent carbendaxol miscible powder dissolved at a rate of 2 liang per 120 - 140 jin per mu, or 50 percent Tuobujin [2094 1580 3160] miscible powder dissolved at a rate of 2 liang per 120 - 140 jin of water per mu, or 40 percent edinphensoph emulsion dissolved at a rate of 2 liang per 150 jin of water per mu, which can be used for the simultaneous control of rice leaf hoppers.

9432

CSO: 4007/425

LEAN MEAT HOG RAISING BOOSTED

Guangzhou GUANGZHOU RIBAO in Chinese 10 May 82 p 1

[Article: "Guangzhou's Fine Breed Hog Farms Become Breeding Centers for Lean Pork Hogs. Pork From This Breed of Hogs Accounts for More Than 65 Percent of Total"]

[Text] Guangzhou Municipality's fine breed hog farms have begun to take shape as purebred hog breeding centers for lean pork hogs. They have also provided the municipality, the province, and other provinces with 136 head of purebred lean pork boars and a large quantity of fine breed hog semen to make a contribution to the breeding and promotion of lean pork hogs.

In order to satisfy popular demand in the municipality for lean pork, in October 1978 the Municipal Agriculture Bureau began operation of the Guangzhou Municipal Fine Breed Hog Farm in the foothills of Rentouling at Taihe Commune in Guangzhou's northern suburbs. When the farm was established, several patriots from industrial and commercial circles in Hong Kong subscribed HK\$300,000 for joint partnership, and imported 96 head of fine breed lean pork hog varieties from the United Kingdom. Breeds imported were Durocs, Hampshires, Landraces, and British Large Whites. Now these four fine breeds have grown to number more than 300 head. Taken together with other fine hybrid hog varieties, the number being raised totals more than 500 head. The farm has built 13 hog housing facilities of fairly advanced design on an area of more than 4,000 square meters. The entire production flow has been made a continuous process, and a full range of scientific instruments and equipment exists, the only such in the country. There are four fine variety foreign purebred lean pork hog breed farms. During the past few years, Guangzhou Municipality's fine variety hog farms have provided the municipality, the province, and other provinces with 130 fine variety purebred boars and large quantities of fine variety hog semen, and have also provided fine variety hog semen free of charge to hog raising farms in Shahe, Jiangcun, and Renhe communes in the municipality's suburbs. They have helped these communes train technicians and to carry out comprehensive hybrid experiments. All jurisdictions have achieved preliminary successes in the hybrid experiments they have conducted using fine variety purebred hogs and fine variety hog semen provided by Guangzhou Municipality's fine variety hog farms. The proportion of lean pork from hybrid hogs averages more than 10 percent more than that obtained from local hog varieties.

The aforementioned four fine variety lean pork purebred hogs that the Guangzhou fine variety hog farm introduced from the United Kingdom have three noteworthy characteristics: One is much lean pork, lean pork amounting to more than 65 percent of total pork, about one-third more than the lean pork obtained from local hogs. The second is rapid growth and development, an increase of more than 40 jin per month taking place during the period of maximum growth. Within 6 months after birth, weight may reach more than 180 jin. The third is a high rate of feed conversion to meat, an average 1 jin of meat developing from every 3 jin of feed consumed.

In addition to working hard at breeding and providing other places with lean pork purebred boars and fine variety hog semen in 1980, the Guangzhou Municipal fine breed hog farm began observation of binary hybridization experiments, namely the crossbreeding of "Duroc" and "Hampshire" purebred boars with local "Large Spotted White" sows. Hybrid progeny grow meat faster than local hog varieties; they have good body shape; and the rate of feed conversion to meat is high. The lean pork ratio is also 10 percent higher than that of local hog breeds. In order to achieve even higher targets, beginning last year they initiated trinary hybridization experiments. Currently the first group of trinary hybrid hogs are in process of being evaluated.

9432
CSO: 4007/430

RICEFIELD CARE METHODS EXPLORED AT CONFERENCE

Guangzhou NANFANG RIBAO in Chinese 24 Apr 82 p 1

[Article: "Field Care Intensified in Light of This Year's Characteristics. Agricultural Experts Give Counsel and Contribute Plans To Win Bumper Harvest From Early Crop. Emphasis Given Sensible Fertilization, Scientific Use of Water and Doing a Good Job of Disease Prevention and Countering Disasters"]

[Text] At the symposium for fertilizing techniques recently convened in Guangzhou, numerous agricultural experts put forward suggestions as to how to intensify field care to win bumper harvests from the early crop.

In analyzing the current early rice production situation, the experts noted that: during this year's farming, with the exception of Hainan Island, the time of transplanting seedlings throughout the province was fairly concentrated, which was helpful to field care. Supplies of agricultural means of production such as chemical fertilizers and pesticides were also rather good. However, problems were also numerous. One was the lateness of the season, transplanting of seedlings which ended about 7 days later than in former years. Second was poor seedling quality. Seedlings grown in some areas around the fields were dwarfed, old, weak or yellow. In mountain and hill areas, seedlings were tender, closely planted, and weak, and in some places too many seedlings were transplanted in a cluster. Third, in some places organic fertilizer was fairly scarce. Fourth, following transplanting, seedlings greened up slowly and tillering was delayed because of the weather. Fifth, damage from diseases, insect pests, and rats was fairly severe. Sixth, rainstorms and typhoons were fairly frequent this year. The first typhoon came early, posing a threat to flowering of the early rice crop. Consequently, the task of winning increased yields from the early rice crop will be a rather arduous one.

In order to win a bumper early rice crop harvest, the experts believed that: the overall guiding mentality must be the adaptation of general methods to specific situations, tailored guidance, attention to special characteristics, seeking high yields in intermediate yield areas, and bracing oneself to fight diseases and disasters to win a bumper harvest. Among specific actions to be taken, attention should go to the following several links:

(1) Sensible use of fertilizer. There should be no indiscriminate use of nitrogenous fertilizer, and increased use of phosphate and potash fertilizers should be energetically advocated in order to increase plant resistance.

The principles of fertilization should be flexibly applied in accordance with different soil, weather, variety, and seedling growth conditions. In order to avoid bolting of seedlings in midseason, the following criteria should be adhered to: First is that for conventional varieties, the number of tillers per mu should be controlled at 200,000 to 250,000; for hybrid varieties, they should be controlled at around 200,000. Second is at the end of April and no later than "summer begins" [around 5 May], no matter whether or not there are sufficient seedlings, the seedlings have to be controlled through rapid exposure and sunning of the fields.

(2) Maintenance of scientific use of water. First is a change during the early stage of seedling growth from deep irrigation and slow irrigation to cutting back on stagnant water and use of shallow water wetting, exposing the fields from time to time in order to increase soil temperature, increase oxygen, and vitalize the root system. Second is a change from delayed seedling sunning and heavy sunning during the midseason of seedling growth to early field exposure, early sunning, much field exposure and light sunning depending on different circumstances, to promote deep rooting of seedlings in order to increase resistance. Third is a change from long irrigation or drying up with yellow maturing during the late stage of seedling growth to moistening irrigation and much irrigation with running water to prevent black root and premature ripening from high temperatures.

(3) Attention to prevention and control of disease, insect pest, and rat damage. Disease, insect pest, and rat damage for the province as a whole this year has been forecast to be as serious as last year. The threat is fairly great from blast of rice, sheath and culm blight, bacterial blight, leaf hoppers and rat damage, particularly early outbreaks of blast of rice causing widespread damage.

This conference was convened by the Guangdong Provincial and Guangzhou Municipal Oil and Grain Crop Society. Delegates to the conference totaled 45 and included high and middle rank agronomists and technicians from the province and Guangzhou Municipality as well as from some prefectures.

9432

CSO: 4007/424

BRIEFS

FURTHER ON TYPHOON NO 5--The Central Meteorological Observatory issued a typhoon warning at 0600 [2200 GMT] on the morning of 30 June. The center of this year's No 5 typhoon moved to sea areas approximately 150 kilometers south of Yangjiang in Guangdong Province at 0500 [2100 GMT] this morning, that is, 20.4 degrees north latitude and 112.0 degrees east longitude. Maximum wind near the center of the typhoon ranges from force 8 to 9. The center of the typhoon is now moving in a northerly direction at about 10 kilometers per hour and is expected to continue its northerly movement, gradually approaching the coastal areas of western Guangdong. It is expected to cross the coastal areas sometime this afternoon or evening. Due to the typhoon, the sea areas in the northern part of the South China Sea and coastal areas of Guangdong will experience strong winds of force 6 to 8 during the daytime and night today. Areas along the path of the center of the typhoon will experience strong winds of force 8 to 9. Heavy or torrential rains are expected in the coastal areas of Guangxi and Guangdong and on Hainan Island. All units concerned, please pay attention to weather forecasts by local meteorological stations. [Text] [OW300644 Beijing Domestic Service in Mandarin 2230 GMT 29 Jun 82]

PRODUCTION INCREASES--All places in Hainan administrative region have seriously implemented the State Council's directive on speeding up the exploitation and construction of the region. The region increased agricultural, forestry, livestock, sideline and fishery production in the first half of this year. The region's early-rice output this year was nearly 10 percent more than in the corresponding period of last year. Compared with the first half of last year, output of sugarcane increased by some 50 percent, output of peanuts and pineapples each increased by some 40 percent, output of dry rubber increased by over 10 percent and output of coffee, lemongrass, tea and pepper increased by some 20 percent. Since the second half of 1980, leadership organs at all levels of the party and the government in the region have conducted investigation of agricultural resources, formulated plans for agriculture and readjusted production arrangements. The region now has about 6.1 million mu of paddy rice-sown fields and has cultivated sugarcane and other industrial crops on 300,000 mu of low-yielding dry fields. The region has cultivated tropical industrial crops, with rubber as the main product, in mountainous areas, hilly land and slopes. The region has vigorously developed windbreak forest belts along the coastal areas. The region has made full use of barren mountains and slopes to develop the breeding of cattle and goats. The region has also developed the production of aquatic products in ponds, lakes, reservoirs and the sea. [HK01117 Haikou Hainian Island Service in Mandarin 0330 GMT 30 Jun 82]

BRIEFS

ADDITIVE FACTORY OPENING--Nanning, 30 Jun (XINHUA)--China's first factory for production of feed additives containing lysine protein, essential to animal nutrition, opened recently in the Guangxi Zhuang autonomous region. The factory produced 600 tons of the additive annually, made with the native product cassava. The additive aids animal growth and reduces cost. [Text] [Beijing XINHUA in English 0704 GMT 30 Jun 82 OW]

CSO: 4007/143

'HEBEI RIBAO' COMMENTS ON RURAL WORK TASKS

HK250122 Shijiazhuang HEBEI RIBAO in Chinese 18 Jun 82 p 1

[Editorial: "We Should Concentrate on Tackling Three Tasks in Rural Work"]

[Excerpts] What are the main tasks to be tackled in rural work? This is a major topic that should be frequently studied by the leadership at all levels. By discovering and tackling the main issues in rural work and seriously acting to solve them, we can stimulate the unfolding of all rural work and get twice the result with half the effort. Otherwise, if we tackle everything at the same time without drawing up the priorities, we will not be able to achieve the result we should.

What then are the main tasks to be tackled in the rural areas at present and for a time to come? Generally speaking, as in other work, we should concentrate on building the two civilizations. This is the general demand. To put it specifically, there are three main things to be tackled: Vigorously developing agricultural production; unwearyingly working to perfect, enhance and consolidate the production responsibility systems; and strengthening the leadership of the rural party branches and carrying out organizational rectification of them. These three tasks are the three cardinal links in rural work; they are closely linked together and inseparable. Developing production is the aim of setting up the production responsibility systems and the material basis of consolidating these systems; further perfecting the production responsibility systems is the source of promoting the rapid development of production; and strengthening the leadership of the party branches and rectifying the party's organization is the main guarantee for fulfilling the other two tasks. We have done a lot of work in this respect since last year. In particular, notable achievements have been scored in setting up and perfecting the production responsibility systems. Only some areas in Hebei set up these systems before 1981, and very few units set up the system linking remuneration to output. Now almost all the province's 126,000 basic accounting units have set up production responsibility systems. Thanks to the establishment and perfection of these systems, the previously unsuitable production relations have been readjusted and the development of productive force has been greatly stimulated. The province reaped a good harvest last year despite serious drought. The rural areas are not politically stable and united, the peasants' socialist enthusiasm has surged up to an unprecedented extent, production has developed very fast, and there

are extensive avenues for producing wealth. Not only have the majority of places solved the problems of adequate food and clothing; in addition, a number of peasant households and communes and brigades that have become rich ahead of others have appeared. The rural situation is indeed very good. Our party organizations and the party members have also been made stronger amid the readjustment of production relations and the practice of production. Last July and August, conditions of paralysis or semi-paralysis appeared on 20 to 30 percent of the production brigades in the province, but now the problems have in most cases been solved. Only 1 or 2 percent have yet to solve their problems, and in most cases these were caused by historical factors. The proportion of first and second-category grassroots party branches has increased, while that of third-category ones has declined. Of course this does not mean that we no longer have any problems. The problems still exist. As far as developing production is concerned, there are still many problems that need solving; and one of the major problems is that of emancipating the mind. First we must carry out emancipation in production relations; organizing responsibility systems represents emancipation in the production relations. Second we must emancipate ourselves from the bindings of simply growing grain and nothing else, and promote diversification. We have still not sufficiently emancipated our minds in this respect. Third, we must emancipate ourselves from old-fashioned and backward cultivation methods and vigorously promote scientific cultivation. At present we have not done too well in this aspect of emancipation. As far as the production responsibility systems are concerned, last year the provincial CCP Committee stipulated eight tasks for perfecting the systems, and the majority of these have now been fulfilled. Some of these tasks still need to be done, in connection with production. As for strengthening the leadership of the party branches and rectifying the party's organizations, it is all the more necessary to devote great effort to this task. We must therefore continue to get a good grasp of this work.

Developing production, perfecting the responsibility systems and strengthening the leadership of the party branches are closely linked and inseparable tasks. However, they each have their own characteristics. In developing production, we need not only to get a good grasp of current production but also to promote long-term and fundamental construction work. There are three main aspects to be grasped here. First, we must implement the guiding principle of comprehensively harnessing the land, the waters and the forests, with the land in first place. Hebei is on the Loess Plateau and suffers drought 9 years out of 10. We have to fundamentally change the agricultural production conditions. We must work hard to level the land and carry out deep plowing, and do a thoroughly sound and effective job in building the farmland ourselves. This is for the following reasons: Large areas of the province's farmland can be deep-plowed; the area of resisting drought and preserving soil moisture is also extensive; not much investment is needed and results are rapid; and both the collectives and the individuals can carry out this work. If we are determined, a great transformation can occur in 2 or 3 years, or 4 or 5 years at the most. At the same time we must pay attention to water conservation and forestry development. Second, we must extensively promote diversification, rationally readjust and straighten out the existing items in diversification and develop new items. We must vigorously develop households that become rich through

hard work (specialized households and key households). This is an affair with a great future. These households should be a bridge for leading forward all the peasant households, so as to gradually make agricultural production specialized and enable the peasants to get rich as quickly as possible. Third, we must promote scientific cultivation and strive to achieve major breakthroughs in 2 or 3 years in finestrain seed, plant protection and rational cultivation. In perfecting the agricultural production responsibility systems, we must, in guiding ideology, first establish the idea of building these systems for a long time. On the one hand we are thus drawing the historical lesson from the failure to carry out stabilization, consolidation and enhancement after the establishment of the cooperatives, and on the other it is a practical requirement. Specifically, we must grasp the following aspects: 1) Continue to conduct deep-going socialist education for the peasants in "keeping two things unchanged for a long time." "Taking simultaneous account of the interests of three parties," and "warmly loving four things;" 2) Correctly handle the relations between the state, the collective and the individual. We must lay particular stress on subordinating ourselves to the state's interests, uphold the interests of the collective, and put the state's interests in the first place. This is an issue the peasants must pay attention to solving after gaining their proper decisionmaking powers; 3) Continue to correctly handle the relationship between centralized control and individual responsibility. Last year we paid more attention to individual responsibility, and this was correct and in accord with the actual situation. Now we must pay more attention to the aspect of centralized control. This is an aspect we must stress solving after putting individual responsibilities on a sound basis; 4) We must do well in setting up the responsibility contracts. This is the concentrated expression of correctly taking simultaneous account of the interests of the state, the collective and the individual, and we must also ensure that the contracts are fulfilled; 5) Carry out extensive and penetrating investigation and study, and continually discover and solve new problems and contradictions that crop up in the responsibility systems. In strengthening the leadership of the rural party branches and carrying out rectification of the party organizations, we must this year concentrate efforts on solving the problems of the roughly 15 percent of branches that are backward. Large numbers of cadres have already been sent to the rural areas. We hope that they will score achievements and gain experience.

The rural tasks are heavy, and at present everyone is very busy with the summer farmwork tasks. The key to fulfilling our tasks well lies in improvement of work methods and style by the party committees and cadres at all levels. In the past our work was done mainly in the production teams, but now we must carry out specific work regarding the peasant households in addition to the production teams. The leading comrades in many parts of the rural areas have set up ties with specific households, and by helping them to develop production and get rich through hard work they can lead still more people forward and progress from the enrichment of some to the enrichment of everyone. This is a specific expression of the party's mass line work method of from the masses, to the masses. Every comrade engaged in rural work must do this. In short, we must ensure that our work meets the new situation following the readjustment of the production relations, stimulate all rural work and do still better in agricultural production.

CSO: 4007/459

COTTON SOWING REPORTED WELL UNDERWAY IN HEBEI

Shijiazhuang HEBEI RIBAO in Chinese 20 Apr 82 p 2

[Article by Economic Crop Department, Provincial Bureau of Agriculture:
"Sixty-nine Percent of Province's Cotton Sowing Completed Through Diligent
Strengthening of Leadership and Firm Attention To Combat Against Drought in
Sowing"]

[Text] Since mid-April, from south to north in Hebei Province a new upsurge has begun in cotton sowing. Statistics as of 28 April show 7.55 million mu already planted, and this is 69 percent of the cotton planting quota. Ten counties including Jinxian, Shenze, Wuji, Gaocheng, Chaoxian, Luancheng, Zhengding, and Huolu have already fulfilled their cotton sowing quotas.

Primary reasons for the fast pace and good quality of cotton sowing in the province this year are as follows: 1. Ninety-six percent of cotton producing production teams throughout the province have further consolidated and perfected production responsibility systems, and various cotton-growing policies have also been further implemented. This has further aroused the enthusiasm of the broad masses of cotton-growing peasants who have acted early to combat drought in cottonfields to prepare for sowing, paying strict and careful attention. The area in which soil moisture has been created is large; base fertilizer has been amply applied; and the fine variety area is large. 2. All levels of agricultural scientific and technological personnel have actively signed technical contracts linked to output with communes and brigades, improving technical direction. Throughout the province, training of more than 3.3 million technical personnel has been done in various ways. This includes the training of 3.14 million cotton-growing mainstay cadres, and cotton growing techniques have been brought to every home and household. Each level of agricultural bureau has written several kinds of small booklets on cotton-growing techniques and have published several hundred thousand copies. This has played a very great role in the popularization and improvement of cotton-growing techniques. 3. Strengthening of leadership. All prefectures and counties have convened different kinds of conferences for the purpose of carefully arousing mentalities to prompt and sufficient planting of cotton, and to making concrete preparations. As April dawned, all levels of party and government leaders in cotton-growing areas made the central task in current agricultural

production, combat against drought for the sowing of cotton. They concentrated leaders, time, work forces, and tools to combat drought and sow seeds initiating an upsurge to combat drought and sow seeds. Leadership cadres at all levels divided up responsibilities level by level, and 30,000 cadres in government organizations went into the frontline of combat against drought to do planting, to spread experiences, and to solve problems.

Right now places that have not completed sowing are applying an indomitable spirit of combat against drought to wind up sowing. Places that have already completed sowing are rapidly starting a check of soil moisture conditions and of seedling conditions. They have taken effective measures for places missing seedlings, using every possible means to get a full stand of cotton.

9432

CSO: 4007/423

HIGH YIELD COTTON GROWING TECHNIQUES OUTLINED

Shijiazhuang HEBEI RIBAO in Chinese 9 May 82 p 1

[Article: "How to Effectively Check and Replace Cotton Seedlings, Thin Seedlings and Do Final Singling of Seedlings"]

[Text] Cotton sowing will soon be finished. Next will come the checking and replacing of seedlings, the thinning of seedlings, and the final singling of seedlings. Some thoughts about these techniques are discussed below for the reference of all jurisdictions.

Let us first talk about the checking and replacing of seedlings. The key to checking and replacing seedlings lies in "earliness." The advantages of early replacement of seedlings are: savings of labor, good survival, seedling ease in catching up with the others. Depending on how many seedlings are missed and the time when seedlings are replaced, different replacement methods may be used. One is for cottonfields in which about 40 percent of seedlings are missed requiring forced sprouting and sowing in the empty spaces as replacements. The second is when between 20 and 30 percent of seedlings are missing when the method of replacement is planting with supplemental seedlings. The third is when missing seedlings number fewer than 20 percent and when cottonfield growth has reached the leafing stage. In this case it is necessary to transplant shoots and seedlings, taking seedlings from place in the field where there are too many to fill in bare spots in other places. The essentials of transplanting seedlings are as follows: good weather, small holes, not much water, small seedlings. When transplanting, place the seedling in the hole and then fill in around it with a small amount of soil. Water each hole with 1 or 2 liang. When filling in with soil, do not compact it, and make sure the seedling is in the soil in its former position. This makes for a high survival rate. Fourth is when between 5 and 10 percent of seedlings are missing or when seedlings are still missing after the thinning of seedlings, when transplanting with soil around the roots may be done. At the time of transplanting care should be taken not to disturb the soil on the seedlings and not to damage the roots. Care should begin immediately following replacement planting or transplanting to reduce, insofar as possible, gaps in the overall cotton seedling stand.

Let us talk next about the thinning and final singling of seedlings. Thinning and final singling of seedlings should also be done early rather than late. This is because the quantity of cotton seeds sown is generally several to more than 10 times greater than the density of seedlings that will be actually retained. Numerous seeds mean dense seedlings, and if thinning of seedlings is done late, the seedlings will be squeezed together, making them likely to be spindly. This will cause late squaring and late flowering to the impairment of cotton quantity and quality. Experiments have shown that on irrigated land squaring comes 3 days earlier when plant heights average about 1 centimeter at the time the first true leaves appear as compared with when the third true leaves appear. Consequently after the cotton seedlings have all sprouted and the first true leaf has developed, thinning of seedling and final singling of seedlings must be done to remove the weak ones and leave the strong, to leave the large and remove the small, and to leave the healthy while removing the sickly. Distance between seedlings should be half the distance of plants following final singling. Once the third true leaf has appeared on cotton seedlings, the stem tissue gradually becomes woody and the main root goes down fairly deeply into the soil. Final singling must be done promptly at this time. Density of remaining seedlings should be reasonable so that individual plants will develop well and so it will be possible for plant colonies to bring increased yields. Singling should be done on the basis of soil fertility, amount of fertilization, intensity of care, and output requirements. To realize the full potential for high yields of individual plants, for high yield fields that produce more than 150 gin per mu of ginned cotton that have fertile soil and are well fertilized, density should be about 4,000 plants per mu. Cotton fields that produce yields of 100 jin per mu of ginned cotton and are of average fertility should have a plant density of about 4,500 per mu. In sandy, infertile, porous soils where moisture and fertility conditions are poor, most important is the role of plant colonies in increasing yields so density should be above 5,000 plants per mu.

9432

CSO: 4007/431

COTTON PLANTING REPORTED UNDERWAY IN DROUGHT CONDITIONS

Shijiazhuang HEBEI RIBAO in Chinese 26 Apr 82 p 1

[Article: "Handan Prefecture Combats Drought To Plant Cotton on Time. Concentrates Forces To Do a Crash Job of Completing Cotton Sowing Tasks"]

[Text] Handan Prefecture has concentrated forces to do a crash job of cotton sowing. As of 21 April, more than 1 million mu had been sown throughout the prefecture.

This year Handan Prefecture has done a solid job of sowing cotton and has a good foundation. Nevertheless numerous disadvantageous factors exist: One is that this year is the 5th year of continuous drought. Cottonfields are entirely devoid of soil moisture; electric power is insufficient; there is a shortage of petroleum fuels, and difficulties in combating drought are great. Second is that the prefecture's cotton growing area has been expanded by more than 800,000 mu over what it had been last year; numerous cotton growing teams have been newly added, and sowing tasks are great. In light of this situation, the Handan Prefecture CCP Committee and government administrative offices enunciated a guiding mentality of "early action, concerted efforts to combat drought, and on-time planting." In order to have sufficient soil moisture for planting on time, it was decided that after 15 April, the emphasis would be shifted from the watering of wheat for greening up of the previous period, irrigation of the soil taking precedence over watering of the wheat. In addition, effective measures were taken to solve the problem of insufficient diesel oil. Close attention was given off-peak use of electricity, greatly hastening the pace of cottonfield watering. After 5 April soil temperatures to a depth of 5 centimeters had stabilized at above 14 degrees, and on 10 April most of the counties in the prefecture began test planting.

9432

CSO: 4007/423

COTTON SOWING VIRTUALLY COMPLETED IN SHIJIAZHUANG PREFECTURE

Shijiazhuang HEBEI RIBAO in Chinese 27 Apr 82 p 1

[Article: "Shijiazhuang Prefecture Substantially Complete Cotton Sowing Tasks. Promptly Switches to Checking on Soil Moisture and Seedling Conditions and to Thinning Seedlings"]

[Text] Shijiazhuang Prefecture's Cotton growing quota for this year is 2 million mu. As of 25 April, except for a small amount of dryland cotton where water continues to be carried for the dibbling of seeds, more than 190 million mu have been planted.

More than 95 percent of Shijiazhuang Prefecture's production teams have instituted cotton production responsibility systems linked to output, and this has aroused the enthusiasm of the broad masses of peasants for doing a good job of cotton growing. This year's cotton sowing has four distinguishing characteristics as compared with that of former years. One is that scientific cotton growing techniques have been spread far and wide. Incomplete statistics show the training of a total of more than 850,000 cadres and masses in the prefecture. The special characteristics of the prefecture's major cotton varieties and techniques for sowing seeds to assure full stands have been made known to every household. Second is the large area planted to fine varieties. The area sown to intermediate early maturing fine varieties such as "Jimian No 2" and "86-1" has increased from last year's 780,000 mu to 1,756,000 mu. Third is the wide area for which cotton seeds have been chemically treated. Fourth is the high quality and fast pace of sowing. With the virtual completion of cotton sowing, all areas have turned their attention to care of cotton seedlings. They have launched a general check of soil moisture and seedling conditions, and the thinning of seedlings.

9432

CSO: 4007/423

FIGURES GIVEN FOR 1981 STATE GRAIN, OIL PURCHASES

Shijiazhuang HEBEI RIBAO in Chinese 26 Apr 82 p 1

[Article: "Hebei Province Overfulfills 1981 Grain and Edible Oil State Purchase Plans. Varieties in Storage Better Than in Former Years. Procurement of Grain and Oil at Negotiated Prices Scores Startling Success"]

[Text] Hebei Province's 1981 grain and edible oil state procurement plans have been overfulfilled; varieties in storage are better than in former years; and procurement of grain and oil at negotiated prices has scored startling success.

As a result of the steady completion and perfection of production responsibility systems, the enthusiasm for production of the peasants in the province's farflung rural villages was aroused last year, and they triumphed over 3 consecutive years of serious drought to win bumper harvest of grain and oil-bearing crops. Cadres and commune members in the farflung rural villages eagerly surrendered grain to be delivered to the state, and sold surplus grain in active support of the building of the four modernizations. Overfulfillment of grain quotas by 10.8 percent completed state purchase plans for the province as a whole, and 1.1 billion jin more than last year was put into storage. Six counties completing state grain purchase quotas with more than 100 million jin included Gaocheng, Shulu, Chaoxian, Luancheng, Leping, and Yongnian, 3 more counties than last year. Quantities of soybeans, mung beans, and millet going into storage greatly exceeded those of last year. Purchases of fats and oils exceeded plan by 28.1 percent. While striving to do a good job of grain and oil procurement work, purchase of grain and oil at negotiated prices was begun. A total of 1,065,000,000 jin of grain and 54 million jin of edible oil were purchased at negotiated prices. In addition, grain purchased from outside the province to meet Hebei Province's needs amounted to more than 300 million jin. This played a positive role in replenishing state grain resources, in enlivening city and country markets, and in providing for the livelihood of the people.

9432

CSO: 4007/423

IMPORTANCE OF COMPOUND LIVESTOCK AND POULTRY FEED STRESSED

Shijiazhuang HEBEI RIBAO in Chinese 13 May 82 p 2

[Article: "Hebei Province Has Built More Than 90 Livestock Feed Processing Plants. Restructures Feed Composition and Promotes Livestock and Poultry Industry Development"]

[Text] Hebei Province's newly developed livestock feed industry is developing steadily. Statistics from provincial livestock feed units show that 10 prefectures, nine municipalities and 113 counties in the province have set up feed companies, and that more than 90 compound (mixed) feed processing plants have been built with an annual output capacity of 140,000 tons. In addition, five processing plants are under construction in Shijiazhuang, Baoding and Jintai municipalities, and in Luancheng County. From last year until the end of March this year, they have produced and supplied more than 200 million jin of compound (mixed) feeds.

Hebei Province's livestock industry production began in 1978. Growth of the livestock feed industry has played a positive role in changing the composition of the province's livestock and poultry feed, and has promoted development of the livestock industry. Practice has demonstrated that use of compound (mixed) feeds instead of concentrated grain feeds not only lowers livestock and poultry production costs and increases both the commodity rate and commodity quality, but can also save large amounts of grain. The Tangshan Prefecture, Tangshan Municipality, Shijiazhuang Municipality, and Cangzhou Municipality, numerous units have resorted to use of compound (mixed) feeds to replace pig award grain, helping both livestock and poultry growth with a saving in grain and increasing enterprise earnings.

Livestock feed units everywhere in the province have been rather attentive about going down among the masses to investigate and study so that livestock feed formulation science will meet the needs of the masses. Lanfang Prefecture had specialized households make up a formula, which livestock feed units then used to process feed. Livestock feed units in Yuanshi County carried out a survey of the county's chicken raising households and key area households, and formulated feed formulas on the basis of the nutritional needs of chickens in promotion of chicken industry development. In the same county, commune member Zhao Guangting [6392 1683 0080] of Xihantai Brigade used feed company provided compound (mixed) feed to raise 60 hens, which last year laid

12,045 eggs for a net profit of more than 570 yuan. Not long ago, he provided a briefing on his experiences in using compound (mixed) feeds in raising chickens to a conference of county scientists and technicians, which attracted serious general attention. As the building of the four modernizations develops and people's living standards gradually improve, people demand that the market provide more and better livestock and poultry products, so the livestock and poultry industries will have to grow a great deal. This will require, in turn, that livestock feed production keep pace. Right now many places in the province have not yet directed sufficient serious attention to livestock feed production, and their perception of the importance of compound (mixed) livestock feeds is insufficient. In many newly built livestock feed processing plants the equipment is rudimentary and the degree of mechanization very low. Product quality cannot be assured either. All this should arouse the serious attention of units concerned at all levels, and they should take action to find solutions.

9432

CSO: 4007/427

WINDING UP OF COTTON PLANTING REPORTED

Shijiazhuang HEBEI RIBAO in Chinese 14 May 82 p 1

[Article by Economic Crop Department, Provincial Bureau of Agriculture: "Sowing of Cotton in Province Breaks 10 Million Mu Mark. Concerned Efforts to Fight Valiantly Against Drought"]

[Text] Hebei Province's cotton growing areas have triumphed over serious drought. As of 8 May, they had sown 10.16 million mu of cotton, or more than 92 percent of their cotton growing quota. Two prefectures and 44 counties have completed cotton planting plans, and other places are now winding up the job.

This year all levels of leaders have devoted extremely close attention to cotton sowing. Cotton peasant sentiment is at an all time high, and after making full preparations they began sowing in mid-April. Throughout the province 30,000 organizational cadres went down to communes and brigades to give specific guidance. The broad masses of cotton peasants made every minute count in an arduous and valiant struggle to make the most of soil moisture, promptly setting off an upsurge in combat against drought to plant seeds. As a result, the sowing of cotton this year was done 5 to 6 days earlier than last year, and 5 million mu of "April seedlings" were assured. Cotton seedlings also sprouted well, more than 80 percent of them sprouting on 82 percent of cottonfields.

Now places that have not completed sowing are giving strict attention to fighting drought by dibbling seeds into the ground to bring sowing to a close in an effort to complete their cotton planting quotas. Places that have already completed their cotton planting quotas are devoting strict attention to timely inspection of soil moisture and seedling conditions, and to filling in gaps and transplanting, using every available means to assure full stands.

9432

CSO: 4007/427

INCREASE IN MILLET FARMING URGED

Shijiazhuang HEBEI RIBAO in Chinese 3 May 82 p 3

[Article: "Need to Give Serious Attention to Revival and Development of Millet Production"]

[Text] Millet tolerates drought and infertile soil. It is one of Hebei Province's major grain crops. It is grown over a very wide area. Except for a few flatland areas in the north, it is grown on a certain area everywhere in the province. Removal from millet of the stigma of a "low yield crop," and serious attention to millet production possess important significance.

I. Full Realization of the Importance of Reviving and Developing Millet Production.

1. Rapid restoration and development of millet production is a requirement for national economic development and a demand of the broad masses of people. In 1952, the province's millet growing area amounted to 26.14 million mu or 30.1 percent of the fall grain area. Output totaled 4.18 billion jin, 32.1 percent of total fall grain output. Subsequent to 1958, the millet growing area declined over the years to 8 or 9 million mu, and total output fell to about 1 billion jin, resulting in a very severe shortage of millet in cities and the countryside.

2. A look at Hebei Province's natural laws and economic laws demands revival and development of a certain area of millet. In Hebei Province, 9 out of 10 years are drought years, and during the past several years the drought frequency rate has become increasingly high. The grainfield area in the province assured of irrigation totals only about 30 million mu, which is half the grainfield area. In terms of soil fertility, organic content is also relatively low, less than one percent in most places. But millet is resistant to drought and tolerant of infertility; it is rather widely adaptable, and requires a small quantity of water. It is a surefire crop for infertile, arid areas that resists drought to ward off or rescue from disaster. Millet is rich in nutrients and has high economic value. Millet straw is rather rich in nutrients, among it a fine fodder for livestock animals and its bran is a fine feed for hogs and poultry. Millet is easy to care for, tolerates storage, can be easily transported, and is suited

to war preparations and preparations against famine. These characteristics of millet imbue it with very great advantages for increased production in the arid areas of the province.

II. Several Major Problems in Current Millet Production

1. Crop patterns are inequitable. As a result of the influence of "leftist" mentality, the growing of a single crop, and regarding millet as a low yield crop the millet growing area shrank unreasonably in 1981, the province's millet growing area amounted to 8.88 million mu, between 3.12 and 6.12 million mu less than the area suited to its growing.

2. Few superior varieties of millet and no matching of varieties. Hebei has an abundance of millet varieties, there being no less than several hundred in the province as a whole. But the varieties are numerous, chaotic, and mixed; they are very much unmatched. Purification and rejuvenation of peasant varieties has not kept pace to the impairment of seed purity.

3. Little fertilizer and poor quality. Analysis by units concerned shows that for every 100 jin of grain produced from spring millet, 4.7 jin of nitrogen and 1.6 jin of phosphate has to be absorbed from the soil. At the present time little fertilization of the province's millet fields is done, and even some cases of "sanitary" [unmanured] fields have occurred. Since the sowing season for summer millet is a very short one, fertilizer is particularly inadequate to the impairment of yields.

4. Because sowing is frequently done each year in a slapdash fashion, skipped plants and breaks in furrows occur, and planting density tends to be scant.

5. Continuous cropping year after year, sloppy care, and serious disease and insect pest damage. Currently downy mildew does fairly serious damage to millet, the incidence of the disease being generally from five to 10 percent, or 20 to 30 percent in seriously infected fields. Damage from *Chilo infuscatellus* is also very severe, the plant pest rate being a general 15 percent, or 40 to 50 percent in seriously affected fields.

III. Problems to be Given Attention in the Revival and Development of Millet Production.

1. Elimination of the lopsided perception of "millet as a low yield crop." Numerous high yield representative examples attest that in some areas millet can also be a crop that produces consistently high yields. In Hebei Provinces many areas have had yields of 1,000 jin per mu and large area yields of from 400 to 500 jin per mu.

2. Continued readjustment of crop patterns and equitable distribution of varieties. In view of millet's resistance to drought and tolerance of infertility, more millet should be grown in some dry and infertile hill and mountain regions, and dry and infertile plains areas should also grow

more so as to take fullest advantage of millet's increased yields. Places having the water resources can use summer millet as a fine crop for crop rotation. Use of millet as a rotational crop on cottonfields also produces very good results.

3. An effective job of purifying and rejuvenating existing fine varieties, popularization of existing fine varieties, and breeding of new varieties. Statistics from provincial seed companies show that the millet varieties grown over a fairly wide area of the province in 1981 were: Qingdaolao, Lugu No 2, Laiwuxian, 7406, Jigu No 1 and Jigu No 2, Tieganhuan, Tieganzao, Henanniao, and Chaoxiangu. These should be extended to cultivation through an adaptation of general methods to specific situations.

4. Increased fertilization and close planting to get full stands, and to promote sturdy seedlings, sturdy plants, and large heads. Nowadays a stand of between 20,000 and 30,000 seedlings per mu of spring millet is rather good, and a stand of 400,000 to 500,000 is good for summer millet. Increases or decreases may be made on the basis of water and fertilizer conditions, and varieties. In fertilizing, organic fertilizer should be the key link and be mixed with a proper amount of chemical fertilizer, attention being given to a combination of nitrogenous and phosphate fertilizers.

5. Effective solution to prevention of disease (downy mildew) in spring millet, to prevention of lodging of summer millet, and to problems with smothering of seeds [218C 4750] in husks during the late stage.

6. For dryland millet the laws governing precipitation should be promptly applied to accumulate and preserve soil moisture. Autumn rains should be used in spring to assure the moisture conditions necessary for sowing. In order to triumph over drought during the emergence of seedlings and drought that sticks in the throat [0595 9126], the periods for sowing, heading, and full ripening should be adjusted in accordance with soil moisture conditions so that heading is done in the rainy season, and the milk ripe stage comes at the right time for drying of grain. Varieties should be selected according to the time they are to be sown, varieties requiring a long period of time used for early sowing and varieties requiring a short period of time used for late sowing.

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CSO: 4007/431

BRIEFS

WIND, HAILSTORMS CAUSE DAMAGE--A number of areas of Hebei Province have recently been hit by successive wind and hailstorms, and the situation is rather serious in places. The provincial CCP Committee and government have made prompt arrangements for the struggle against natural disasters. They have issued a circular demanding that the disaster areas and the provincial departments concerned take effective action to fight the natural disasters and strive for a bumper harvest. At the same time they have organized four work teams consisting of cadres transferred from the provincial departments concerned. These work teams set out on 23 June for a number of counties and communes in the relatively severely affected prefectures of Xingtai, Shijiazhuang, Handan and Cangzhou, to comfort the masses on behalf of the provincial CCP Committee and government and ascertain the extent of the disaster. They will also help the local leadership to work well, brace their fighting spirits and actively launch the masses to crash-sow, resow where necessary, strengthen tending of the crops, and reduce the damage. They will do everything possible to help the masses to solve difficulties and strive for a good autumn harvest. [Text] [HK010451 Shijiazhuang HEBEI RIBAO in Chinese 24 Jun 82 p 1]

COTTON PLANTING QUOTA OVERFULFILLED--As of 3 May, Henshui Prefecture had planted a total of 1.41 million mu of this year's 1.4 million mu cotton planting quota for overfulfillment of quota. This prefecture's spring cotton planting not only covered a large area, but it was done quickly and well. More than 1.1 million mu of soil in the prefecture had to have moisture added for the sowing of seeds, and more than 4,956,000 cubic meters of crude fertilizer were spread, an average of 2.5 cubic meters per mu. On many cottonfields, chemical fertilizer, cake fertilizer, and phosphate fertilizer amounting to a total of 4,240 tons were spread. How a virtual full stand of seedlings is growing on 470,000 of the 690,000 mu of cottonfields where seedlings have begun to grow. Cadres and commune members throughout the prefecture are now carefully checking on seedlings and filling in gaps, and loosening the soil to increase warmth in an effort to get full stands of sturdy seedlings in every cottonfield plot. [Text] [Shijiazhuang HEBEI RIBAO in Chinese 10 May 82 p 1] 9432

CSO: 4007/423

CONFERENCE HELD ON DROUGHTS, FLOOD PREVENTION

SK191010 Harbin Heilongjiang Provincial Service in Mandarin 2200 GMT 18 Jun 82

[Excerpts] According to our reporter, the work conference convened by the provincial people's government on droughts, flood prevention and waterlogging concluded 18 June. The conference emphatically pointed out: We should implement the principle put forward by the provincial CCP Committee on paying equal attention to drought combating and waterlogging control, conscientiously grasp the work of drought combating, flood prevention and waterlogging control and strive to reap an overall good harvest in agriculture.

The conference pointed out: Since the beginning of May, under the influence of a high pressure system above Baikal Lake, the province has experienced little rainfall, high temperatures and high winds. The rainfall has been 70 to 80 percent less than the corresponding period in a normal year. Temperatures have been 3 to 4 degrees higher. The ravages of the drought have become more serious and are expanding in all directions. As of 12 June, more than 37 million mu of land in 55 municipalities and counties were stricken by drought.

The conference demanded: We should make full use of the existing water conservancy work and give full play to the role of irrigation. We should focus on good crop seedlings and be committed to antidrought work to minimize losses from the drought.

The conference urged localities to accelerate the building of water storage projects in places without water sources. A tendency which warrants our attention is that some counties slacken their efforts to build water storage projects because they had much rainfall last year and soil moisture has been sufficient. Therefore, various localities should pay close attention to this problem and not fall under the influence of changing weather conditions.

The conference made an analysis of this year's flood situation according to the forecast and survey by meteorological and hydrological departments. In July most areas in the province will have 20 to 30 percent more rainfall than the corresponding period in a normal year. But the rains will be uneven, and there will be many torrential rains in some areas. Water volume of the mainstreams of Nenjiang and Songhuajing rivers will increase this

year. Water volume of Heilongjiang River [words indistinct]. Relatively serious floods will probably occur on the Raolihe, Mulinghe, Wokenhe and Mudanjiang rivers.

The conference stressed in conclusion: It is an arduous and important task to combat drought, prevent floods and control waterlogging. CCP committees and people's governments at all levels should strengthen leadership over ideological, political and organizational work, establish and perfect a powerful and effective command system, do the work of combating drought, preventing floods and controlling waterlogging and strive to reap an overall bumper harvest in agriculture.

CSO: 4007/459

CONFERENCE HELD ON COMBATING DROUGHT, INSECTS

SK300936 Harbin Heilongjiang Provincial Service in Mandarin 2200 GMT 29 Jun 82

[Excerpt] The provincial CCP Committee and the provincial government held an emergency telephone conference on 29 June, urging the whole party and all the people throughout the province to immediately go into action and spare no efforts to combat serious drought and insect pests, to resolutely carry on the struggle of combating drought and insect pests to ensure the growth of seedlings through to the end and to win a victory in this struggle. The conference was chaired by Comrade Wang Caoli, deputy governor. Comrade Wang Luming, secretary of the provincial CCP Committee and deputy governor, delivered a speech at the conference.

After elaborating on the achievements in the former stage of the struggle on combating drought and insect pests to ensure the growth of seedlings, the conference pointed out: This year drought and insect pests have occurred in our province with tremendous force and are spreading very rapidly. It is unprecedented in history. There are now 55 counties and cities threatened by drought throughout the province and the situation is worsening. According to the forecast by the meteorological departments, there will not be any heavy rainfalls before 5 July and the drought situation will be worsening. The disasters will be more serious. This year our province will experience a serious grass borer disaster and the situation will be even worse than in 1980 for it will cover a large area, will have a frightful density and will cause serious damage. Grass borers have appeared in our province's 53 counties and cities and 72 agricultural farms, covering 47.69 million mu of farmland. The disaster-stricken areas now reach 19.13 million mu.

Noteworthy is the fact that some cadres and the masses are afraid of difficulty and weary of combat work and have taken a passive and pessimistic attitude. If we fail to solve these problems rapidly and well, it will be impossible for us to win a victory in the struggle of combating drought and insect pests and killing weeds to ensure the growth of seedlings.

The conference urged: We must further mobilize the whole party and all the people to resolutely win a victory in this struggle.

CSO: 4007/459

HEILONGJIANG

BRIEFS

PROVINCE COMBATS DROUGHT, PESTS--Some 30,000 cadres and over 2 million commune members in Heilongjiang rural areas are now working on the farmland to combat drought and prevent grass borers. They have irrigated 3 million mu of fields and applied pesticide to 19 million mu of cropfields. This year Heilongjiang Province has dispatched nearly 10,000 motor-driven carts and 15,000 animal-driven carts to transport water and used some 28,000 barrels and operated 23,000 pumping wells to water fieldcrops and seedling beds to solve the water problem of some 100,000 mu of paddyfields. According to initial statistics, the province has utilized 70,000 sprayers and applied 15,000 tons of pesticide to farmland to control grass borers. [SK291057 Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 28 Jun 82]

PREFECTURE COMBATS DROUGHT, PESTS--Songhua Jiang Prefecture, Heilongjiang Province, has mobilized some 700,000 people to combat drought and insect pests. At present 7.78 million mu of insect afflicted farmlands have been tended. The disaster caused by insect pests in this prefecture has been basically brought under control. This prefecture has operated all pumping wells and made use of all available water resources to water 1.25 million mu of farm crops, easing the threat of drought. [SK01159 Harbin Heilongjiang Provincial Service in Mandarin 2200 GMT 29 Jun 82]

SOYBEAN APHIDS--In Heilongjiang Province, Acheng, Bin, Wangkui counties and Jiamusi Municipality are suffering from soybean aphid pests. Investigations indicate that 72 to 93 percent of the soybeans are infested with aphids. There are 5 to 19 aphids on each soybean plant. Aphids have also been found in some green peppers, tomatoes, eggplants, and cucumbers in Harbin Municipality. [SK262239 Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 25 Jun 82]

CSO: 4007/459

HENAN

BRIEFS

ZHOUKOU PREFECTURE GRAIN PROCUREMENT--Zhengzhou, 26 Jun (XINHUA)--As of 20 June, Henan's Zhoukou Prefecture had procured 410 million jin of marketable grains, hereby overfulfilling procurement plans for summer crops. The prefecture had reaped a bumper wheat harvest from its 7.2 million mu of wheatfields, with the total output reaching 3 billion jin and increasing by 10 percent over that of 1981. [OWO21313 Beijing XINHUA Domestic Service in Chinese 0255 GMT 26 Jun 82]

CSO: 4007/459

BRIEFS

HUBEI SUMMER WHEAT HARVEST--Wuhan, 5 Jun (XINHUA)--Hubei Province in central China reports that the output of winter wheat and other grain crops to be harvested this summer are expected to exceed last year's by more than 10 percent, while rapeseed yield is estimated to grow more than 20 percent. Harvesting of rapeseed has just been completed in the province and the wheat crop is being gathered and threshed. The good summer harvest is attributed to the adoption of the job responsibility system by 99 percent of the production teams, careful selection of seeds, increased use of chemical fertilizer and control of plant diseases, according to the provincial agricultural department. Many other provinces in the southern parts of China are gathering good wheat harvests but a number of northern provinces have been threatened by dry spells. [Text] [Beijing XINHUA in English 0755 GMT 5 Jun 82 OW]

CSO: 4007/430

SPRING FARMING UNDER DROUGHT CONDITIONS EXPLAINED

Nanjing XINHUA RIBAO in Chinese 4 May 82 p 2

[Article: "Xuzhou Prefecture People Pitch In In the Struggle Against Drought To Win a Bumper Summer Harvest and Assure Full Stands From Spring Sowing"]

[Text] For days on end the broad masses of cadres and people in Xuzhou Prefecture have urgently mobilized to pitch in to struggle against drought to assure harvests of wheat, barley and naked barley, and to assure full stands of spring sown crops.

This year the volume of rainfall in Xuzhou Prefecture has been more than one-third less than during the same period in most years. This plus the rise in temperatures during recent days has meant an increasingly serious drought situation. More than 2 million mu of wheat, barley, and naked barley in the prefecture have been seriously drought-stricken, and spring sown crops such as cotton and corn have also been seriously threatened. Faced with drought, leaders of all levels in Xuzhou Prefecture have taken vigorous action. They have led the broad masses of cadres and people to pitch in to struggle against drought. Feng County transferred more than 170 organization cadres under the leadership of officers in charge at the county CCP Committee and county government to help fight drought in 7 communes where the drought situation is particularly serious. Throughout the county all commune cadres have assumed individual responsibility for tracts, brigade cadres have assumed responsibility for production teams, and production team cadres have assumed responsibility for machines, for pump wells, and for field plots. Daily more than 7,000 pump wells and more than 2,800 water pumps in the county join in the fight against drought. In order to tap water sources fully and expand the irrigated area, they have aroused commune members to use more than 4,400 hand pumped wells that use neither petroleum fuel nor electric power. Right now in Pei County, 280 electro-mechanical irrigation stations, more than 5,000 wells, and 100,000 horsepower have all been put to use to combat drought. In Tongshan County the broad masses of cadres and people have overcome a psychology of waiting for rain to fall, daily sending out more than 100,000 people to water the wheat and do rush planting. Faced with a shortage of surface water, while raising water and diverting water, Ganyu County has adapted general methods to local situations for large-scale digging so that river water and pond water will

flow downward from one level to another, doing everything possible to increase sources of irrigation water. In the hilly region of this county, 10 communes have already dug ditches so that pond water will flow from one level to the next at more than 600 places. They have intercepted stream flow at more than 200 places. Now the county is watering 400,000 mu of wheat, barley, and naked barley. As of 28 April, the prefecture was combating drought to irrigate more than 1.5 million mu of wheat, barley, and naked barley, to sow more than 940,000 mu of cotton, 300,000 mu of spring corn, and more than 300,000 mu of peanuts.

9432 .

CSO: 4007/423

PROVINCIAL COTTON GROWING AREAS COMPLETE PLANTING

Nanjing XINHUA RIBAO in Chinese 9 May 82 p 1

[Article: "Province Completes Direct Cotton Sowing Quota on Time"]

[Text] The broad masses of cotton-growing peasants in cotton growing areas throughout the province have adhered to cotton growing plans. While giving attention to the propagation of cotton seedlings for transplanting, they have also completed on time their direct cotton planting quotas. Cotton has been directly planted across an area of 5.94 million mu.

This year, as a result of the perfection and consolidation of cotton production responsibility systems, enthusiasm among cotton peasants for the growing of cotton is high. The pace of cotton planting has been rapid, quality good, the sowing season concentrated, land preparation done painstakingly, and base fertilization fairly adequate. In most parts of Nantong Prefecture, green manure was buried to serve as base fertilizer in directly planted cottonfields, and nightsoil and phosphate fertilizer was also added to some. In Yancheng Prefecture, winter plowing and spring cultivation of cottonfields has been done well, and for most fields chemical fertilizer has been used as the base fertilizer. The cotton-growing peasants have sown their seeds in patterns. In many places they have used string to mark rows; seeds have been planted evenly and there has been no cracking of soil around plants.

Early sown cotton has already reached a full stand, and some shoots are now pushing through the soil. Everywhere seedling stage care is being given and the "five rush" jobs in advance of the wheat harvest are being done.

9432

CSO: 4007/423

NEW EMPHASIS GIVEN ORGANIC FERTILIZER PRODUCTION

Conference Held

Nanjing XINHUA RIBAO in Chinese 7 May 82 p 1

[Text] Adherence to organic fertilizer as the key link, and taking the road of agricultural development that fits in with the situation in Jiangsu Province were the main topics of discussion at the provincial fertilizer work conference recently convened by the provincial government in Lianshui County. The conference required all leadership comrades on the agricultural front to make clear this guiding mentality and to treat organic fertilizer production as a strategic task to produce genuine results.

Comrade Zhou Ze [0719 3419] made a speech at the meeting.

Prefecture (or municipal) and county officers in charge who attended the conference made on-site inspections of fertilizer production in some communes and brigades in Lianshui County. They listened to briefings on the experiences of representative units; they linked realities of individual places in conscientious discussion; and they put forward some ideas about building up organic fertilizer.

The conference affirmed the achievements and experiences of Jiangsu Province in building up organic fertilizer, and it analyzed some of the problems manifest in some places in recent years from neglect of organic fertilizer production. Everyone evinced marked interest in the successful experience of Lianshui County in having proceeded from local realities to undertake water conservancy, the growing of green manure, and improving paddy rice. After more than 10 years of unflagging efforts, Lianshui County, which has always had many disasters and low yields, have brought about the irrigation of most of its farmland and has produced a forest network, while at the same time growing green manure on a large scale. It has transformed drylands to wetlands and has effectively changed infertile saline-alkaline soils. The soil has become more fertile the more it is farmed; yields have become increasingly high; and grain output has increased for 7 consecutive years. In the 4 year period between 1978 and 1981, output increased by 279 million jin, a rate of incremental increase averaging 10.8 percent. This was achieved, moreover, with fairly low energy consumption for high benefits and fine economic results. At each site everybody saw not only large areas

of vigorously growing winter green manure, but also row upon row of mud and grass composting ponds filled with fertilizer. They also saw methane pits in current use. Comrades at Yancheng Prefecture conducted briefings on their experiences in the adaptation of general methods to local situations in setting up an equitable crop rotation system for a combination of nurture and use to build up soil fertility in order to win increased grain and cotton yields. These briefings also provided everyone with much inspiration. As a result of soil surveys, Wu County revealed existing problems with soil fertility and found the reason why agricultural production fluctuated without moving forward.

Through their discussions, delegates derived the following consensus: Production of organic fertilizer bears on soil improvement, build-up of soil fertility and maintenance of consistently high yields. It bears on the internal economic structure of agriculture, on equitable crop distribution patterns and the farming system, on the agricultural ecological balance, and on economic benefits derived from agriculture. It is a major matter of significance for the situation as a whole, and this significance cannot be underestimated. Many comrades said that it is necessary to understand anew the importance of organic fertilizer production and consciously to put into effect a program of "three paramounts" in soil and fertilizer work, persevering in taking the road of the paramount of organic fertilizer in development of agriculture.

The conference drew on collective wisdom and absorbed all useful ideas. It studied how to incorporate the build up organic fertilizer, proposing diverse channels for increasing fertilizer sources such as large-scale growing of green manure, developing a livestock industry, increasing barnyard manure, raising the "three water plants," growing duckweed, establishing duckweed fertilizer, storage, composting grass and mud in ponds, piling compost at high temperatures, promoting use of methane gas fertilizer; and production of micro-organism fertilizer, etc. All successful past experiences should be summarized and promoted. But one of the most fundamental things is correcting the guiding mentality of leaders at all levels to place this work in its proper position, to formulate rules and diligently carry them out, to establish and perfect fertilizer production systems of responsibility, make overall arrangements on crop patterns, and study and solve pertinent policy problems. The conference hoped that units concerned would further establish thinking in which agriculture is the foundation, strengthen cooperation, and promptly solve problems in the production of organic fertilizer.

The conference called upon cadres and masses throughout the province to rally their spirit, take advantage of present favorable opportunities, and go in for organic fertilizer production in a big way, and at the same time take a firm grip on all links in agricultural production, exert great efforts to win an all-around bumper harvest in agriculture this year, and also create conditions for continued development of agricultural production.

Role of Organic Fertilizer

Nanjing XINHUA RIBAO in Chinese 7 May 82 p 1

[Editorial: "Insist on Taking Organic Fertilizer as the Key in the Development of Agriculture"]

[Text] Fertilizer is food for farm crops. Increased fertilization with organic fertilizer to nurture soil fertility is a major way in which to develop agricultural production. Several years ago, the provincial CCP Committee proposed a program of "three key links" in soil fertilizer work. This was a combination of organic and inorganic fertilizer with organic fertilizer being the key link; a combination of barnyard manure and commercial fertilizer with barnyard manure being the key link; and a combination of soil nurture and soil use with soil nurture being the key link. The central idea was the key link of organic fertilizer. The situations reported by all jurisdictions attending the provincial fertilizer work conference have shown that all places that have adhered to the implementation of this program have been able to achieve more soil fertility, the more farming done, fairly consistent and high yields, and fairly low farm costs. In those places that have ignored or acted contrary to this program, the situation has evolved in just the opposite direction. Practice has shown this program to be consistent with agricultural production's objective laws, and to be correct. In the future, we must unswervingly continue to carry out a program in which organic fertilizer is the key link so that the province's agriculture will take the path of small consumption of energy, good ecological environment, high economic gains, and both consistent and high yields.

Use of organic fertilizer to nurture soil fertility is a fine tradition in the province's agriculture. After liberation, and particularly during the late 1960's, organic fertilizer saw fairly large growth, and the masses accumulated abundant experience through practice in the building of soil fertility. Take green manure as an example. The area planted to it increased and the regions in which it was grown expanded. It played a major role in improving low yield soils, in "changing drylands to wetlands," in "changing waterlogged fields to drylands" and in promotion of the "three crop system." After many years of effort, a rational crop rotation system suited to circumstances in various places gradually developed; results of the development of farmland water conservancy construction were consolidated, soil fertility was increased; and development of agricultural production as a whole was advanced.

However, since the mid-1970's, with the steady increase in chemical fertilizer, the importance of organic fertilizer gradually came to be overlooked by some people. Some places either consciously or unconsciously lost the fine tradition of the key link of organic fertilizer. The green manure area greatly declined and a striking decrease occurred in the use of organic fertilizer. This brought about a proportional imbalance between organic and inorganic fertilizer. In some places stiffening of the soil, deterioration of fertility, and a decline in cultivability of the soil

occurred. Were this state of affairs to continue unabated, very possibly agricultural production might fall into the predicament of high energy consumption, high costs, low efficiency, and low returns, and this would arouse a high degree of serious attention all along the frontline of agriculture. Our emphasis today on the key link of organic fertilizer derives from the correct conclusion reached after having summarized both positive and negative experiences.

To say that farming is inseparable from organic fertilizer is a principle that everyone understands. China's agricultural production has gone on for several thousand years without let up, demonstrating that our ancestors understood nurturing and preserving soil fertility. Then, why have some comrades forgotten this tradition and neglected organic fertilizer production? This is because their perception of the importance of organic fertilizer has halted in the perceptual stage; they have no high degree of rational perception of its strategic significance. Chemical fertilizer is very important but one must have a definite proportion of organic fertilizer to serve as a base fertilizer; only then can chemical fertilizer be fully effective. If one fertilizes solely with chemical fertilizer with no admixture of organic fertilizer, he taps the soil's reserves and such a situation cannot long endure. Agriculture is a century-spanning enterprise. To dig up the wealth that our ancestors have laid down, and to plunder our descendents' ricebowls positively will not do.

Scientific agricultural experiments and practice everywhere have also further demonstrated that continued taking of organic fertilizer as the key link helps steadily increase soil fertility levels, helps consistently high yields in agricultural production, helps increase benefits from chemical fertilizer in increasing yields, and also helps increase economic benefits from agriculture. Adherence to the paramount of organic fertilizer is positively not an expedient measure, but is rather a program for vigorous development of agriculture to create wealth for posterity, requiring perseverance over a long period of time.

Adherence to taking organic fertilizer as the key link requires implementation of the various programs and policies that have followed from the 3d Plenary Session [of the 11th Party Central Committee], building and perfecting fertilizer production responsibility systems, and making it a major ingredient in the perfection and stabilization of agricultural production responsibility systems.

Adherence to taking organic fertilizer as the key link requires linking it to the readjustment of agriculture and to grain, cotton, and oil bearing crop production as well, with the formulation of regulations about building organic fertilizer, arranging crop patterns in an overall way while taking all factors into account, and while assuring no further reduction in the grain growing area, to adapt general methods to specific situations to establish equitable crop rotation systems so as to achieve a combination of soil use and soil nurture.

Adherence to taking organic fertilizer requires consideration of local resources to develop diverse channels for the production of organic fertilizer. Farming, raising [of livestock or aquatic products], gathering, or manufacturing all have a special place in the production of organic fertilizer. It is necessary energetically to develop herbivorous animals to advocate green storage of fresh hay, to return digested materials to the fields, and take the path of farming and livestock raising in combination. Growing of the "three aquatic plants," propagating duckweed, composting grass and mud in ponds, high temperature composting, promotion of methane pits, and return to the fields of stalks and stems should continue to be advocated, and fresh experiences created as well.

Adherence to taking organic fertilizer as the key link also requires that in the movement for scientific farming, popularization of and indoctrination in a scientific understanding of soil fertility must be thoroughly done. Soil surveys should be undertaken conscientiously, serious attention given to demonstrations, and application of soil survey results promoted. In addition, scientific study and technical promotion work on soil fertility should be strengthened, traditional agriculture and modern science and technology combined.

Adherence to organic fertilizer as the key link requires the carrying forward of a spirit of self-reliance and arduous struggle. Organic fertilizer production requires great efforts. Unwillingness to work hard and sweat, thoughts of avoiding work, and fear of hardships will mean that this endeavor cannot be carried out successfully.

Adherence to organic fertilizer as the key link positively is not to say that chemical fertilizer production can be slackened. Right now some chemical fertilizer plants do not operate at capacity. All levels of planning units and materials allocation units should equitably distribute energy to assure normal production of chemical fertilizer. At the same time it is necessary to apply scientifically and rationally chemical fertilizer to increase the chemical fertilizer utilization rate. A great potential lies in this.

The crux of adherence to organic fertilizer as the key link lies in the leadership straightening out the guiding mentality and truly putting it on their daily agendas, solidly studying it, and implementing measures. They should use representative cases as examples, investigate and study, and solve real problems. Now is a golden time to do a lot about organic fertilizer. We must take a long-range view and take firm hold of the present, rapidly organize action, and start an upsurge of mass enthusiasm for acting on organic fertilizer to win an all-around bumper harvest in agriculture this year, and to create a new situation for flourishing development of the province's agriculture.

9432

CSO: 4007/424

JILIN

COURAGEOUS STRUGGLE AGAINST DROUGHT URGED

SK160437 Changchun Jilin Provincial Service in Mandarin 1100 GMT 15 Jun 82

[Station commentary: "We Must Not Be Disheartened in Face of Drought"]

[Excerpt] Some counties, communes and brigades in our province are suffering from an extremely serious drought, which is growing worse and worse. There are two prevailing attitudes toward the natural disaster. One is not to lose heart in face of the serious disaster and to brave the elements to strive for a good harvest. The other attitude, which is common in a minority of cadres and masses, is to become pessimistic and to feel disheartened. They even (?abandon the plow) and are trying to look for new means of livelihood. So far this has not become the main trend of the situation, but it nonetheless warrants our complete attention. At present, antidrought work is still in a critical stage. Instead of wavering we must evince increased confidence, concentrate all available strength to combat the disaster and exert utmost efforts to minimize a reduction of grain output. We must educate the cadres and peasants to overcome the natural disaster by relying on the party and the collective.

Previously, party committees and government at all levels organized materials, labor power and vehicles to give disinterested assistance to communes and brigades in the disaster areas. Bringing into play the strength of the collective economy, the communes and brigades have executed replanting without a hitch. It is dishonorable to walk out on the collective in face of disaster. Moreover, it is inadvisable. History has shown that it is impossible for a single household to withstand the elements. In this sense, it is true that a disaster is dreadful. But what is more dreadful is losing one's heart in overcoming the disaster and the centrifugal tendency of abandoning the collective. Every party member and cadre must increase his confidence and lead the masses to successfully overcome the disaster and provide disaster relief.

CSO: 4007/459

JILIN

BRIEFS

COUNTY STRENGTHENS FIELD MANAGEMENT--Hailong County, Jilin Province, urges peasants to strengthen paddyfield management and to combat drought and insect pests. Rice seedlings are growing well in this county despite drought and insect pests. As of 23 June this county had weeded 300,000 mu of paddyfields and applied pesticide to some 100,000 mu of fields plagued by insect pests. [SK250759 Changchun Jilin Provincial Service in Mandarin 1100 GMT 24 Jun 82]

CSO: 4007/459

EFFORTS TO PLANT CROPS DESPITE DROUGHT SKETCHED

Shenyang LIAONING RIBAO in Chinese 28 Apr 82 p 1

[Article: "Provincewide Upsurge in Fight Against Drought For Planting. 11.55 Million Mu or One-Third the Area to be Planted Already Sown"]

[Text] Spring farming and sowing in Liaoning Province has experienced an upsurge in the midst of a struggle against serious spring drought. Statistics as of 23 April show an 11.55 million mu area, or one-third the area to be planted, already sown. This includes Tieling Prefecture, where soil moisture conditions are fairly good, and Shenyang Municipality in both of which the pace of sowing has been rather fast. In the cities of Liaoyang, Anshan, Fushun, and Yingkou, planting has been done either more rapidly than or equally rapidly as during the same period last year. In some communes and brigades, the planting of cereal grain crops has already been completed, and planting of cotton and peanuts has begun.

Ever since last winter, an overwhelming majority of prefectures throughout the province have had virtually no snow, and though a little rain has fallen several times since March of this year, the quantity of rainfall has been very small and its distribution very uneven. Now the drought situation is spreading very rapidly and the drought area gradually expanding. During March and April, except for Dandong Municipality, the drought area has extended to the eleven remaining municipalities and prefectures in the province. As of 23 April the area seriously stricken with drought covered an area of 17 million mu. In Chaoyang Prefecture for the more than 30 months from the fall of 1979 until 23 April this year no soaking rain has fallen. The spring drought in Dalian Prefecture has been the worst in the 77 years since meteorological data has been recorded. Everywhere the broad masses of rural cadres and commune member masses have struggled against the spring drought. Whenever it has been possible to rush plant while soil moisture has been sufficient to support growth, they have rush planted, and whenever it has been possible to fight drought to plant, they have fought drought to plant. Another mu planted is another mu. In Chaoyang Prefecture where the drought situation is serious, 841 prefecture and county organization cadres were formed into a work team to fight drought. Led by comrades in charge at the Prefecture CCP Committee and government administrative offices, they

went into the frontline of production, sorted out matters and gave tailored guidance. The zeal of the broad masses of commune members to fight drought is high. In the three municipalities and prefectures of Chaoyang, Jinzhou and Dalin, almost 1.3 million workers, more than 1,000 motor vehicles, 4,000 tractors, and more than 22,000 animal-drawn carts daily join the fight against drought to plant. Garrison forces in Jin County have also sent out 700 officers and men to join in the fight against drought to plant.

Right now the dominant problem in spring planting and production is the extremely uneven pace of planting everywhere as a result of the drought. In some places the pace of planting is slow, and they have planted only 20 or even only 10 plus percent of what they had planted during the same period last year. Because of the decline in soil moisture content as a result of the enduring drought, plus the high temperatures and strong spring winds, unless the mentality of waiting for the heavens to rain is overcome and rush planting to take advantage of what soil moisture is available emphasized in combat against drought to plant, there is danger that the farming season will be missed.

9432

CSO: 4007/431

DEEPER UNDERSTANDING OF RESPONSIBILITY SYSTEMS URGED

SK240321 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 23 Jun 82

[Excerpt] The Hulun Buir League CCP Committee recently issued a decision, urging cadres at all levels throughout the league to continuously enhance the people's understanding of implementing all kinds of production responsibility systems and, through practice, correctly handle the relations between unified planning and fixing responsibility by contract in an effort to consolidate and improve the production responsibility systems. After universally implementing various forms of production responsibility systems, a gratifying situation in which the grain output has increased and the commune members have received more income has appeared in the rural areas of Hulun Buir League. However, due to the restraint of the leftist phenomenon in the past, many people have failed to completely understand why we should implement various forms of production responsibility systems in rural areas. Some grassroots cadres have maintained that the implementation of the two responsibility contract systems is just an expedient measure to enable the people to dress warmly and to eat their fill. They have failed to exert all their strength to implement the two responsibility contract systems to serve the wishes of the people. In view of this, the Hulun Buir League CCP Committee recently held an enlarged standing committee meeting and, by adopting the method of analyzing typical cases, organized the banner and municipal principal leaders of the rural areas attending the meeting and all participants concerned to jointly examine, listen to and discuss the exemplary cases of the league's 14 units which have implemented all forms of production responsibility systems, to sum up their experiences to find out people's ideological gaps and to unify their thinking. All participants held that regardless of what forms of production responsibility systems are implemented in rural areas, the nature of the basic means of public ownership systems of production, including the land ownership system will not be changed for a long time and that all responsibility systems must be continuously improved through practice.

CSO: 4007/459

BRIEFS

WEATHER FORECAST--Affected by a cold spell moving toward Nei Monggol from the Mongolian People's Republic, the central and eastern parts of Nei Monggol region will have thundershowers 20-23 June. The temperature will drop suddenly. This will adversely affect livestock production. The regional meteorological observatory urged all localities to make preparations for this. [SK201036 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 19 Jun 82]

LIVESTOCK BREEDING--Livestock breeding in Nei Monggol region develops rapidly thanks to the responsibility system and good climate. At present, some 10,174,000 head of young animals have been born, an increase of 932,000 head over that of the corresponding 1981 period. Some 1,119,000 more head of young animals survived than in last year. [SK271056 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 26 Jun 82]

REGIONAL WHEAT--The 4.8 million mu of wheat in Ulanqab League in Nei Monggol region is growing very well. As of 10 June, about 450,000 labor forces had joined in field management, 4.8 million mu of farmland had been plowed, 53,000 mu had been fertilized and 127,000 mu had been irrigated. [SK181100 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 17 Jun 82]

NEI MONGGOL LIVESTOCK RAISING--Hohhot, 21 Jun (XINHUA)--Nei Monggol autonomous region has since last July increased its livestock by 9.5 million head, a rise of 2.7 percent or 1.11 million head more than in 1981, according to figures by the region's animal husbandry department. The figures indicate that the livestock survival rate was 93.4 percent. Compared with 1981, 300,000 more head of livestock survived and the miscarriage rate dropped 50 percent. In addition, 300,000 head of improved strain and breeds were added. Last year, the department said, the region harvested 3,315 million tons of fodder, on top of 250,000 tons of silage and 30,000 tons of concentrated fodder and built 2.73 million livestock sheds and paddocks, together ensuring that the animals would survive the hard winter. [Text] [OW221327 Beijing XINHUA in English 0822 GMT 21 Jun 82 OW]

CSO: 4020/143

STEADY INCREASE IN RICE YIELDS REPORTED

Yinchuan NINGXIA RIBAO in Chinese 12 Apr 8] p 2

[Article: "Yinchuan Prefecture's High Rice Yields Last Year Awarded Science and Technology Promotion Award. The More Scientific Farming the Greater the Benefits. Paddy Rice Yields Per Unit of Area Continue To Climb"]

[Text] Rice yields last year from the 710,000-mu Huang He diversion irrigation area in Yinchuan Prefecture averaged 975 jin per mu (customary mu), and in 5 of the 9 counties (or suburbs) where the growing of rice is concentrated, yields averaged more than 1,000 jin per mu. Rice yields from an area that amounts to only 6 percent of the total area sown to grain in the prefecture accounted for 29 percent of the prefecture's total grain output. This new agricultural development was awarded the State Agricultural Commission and the State Science Commission's agricultural science and technology promotion award.

In the immediate post-Liberation period, rice yields from the prefecture's Huanj He diversion irrigation area averaged only somewhat more than 280 jin per mu, and were as low as 178 jin. During 8 of the past 9 years, however, except during 1976 when outputs were reduced as a result of serious natural disasters, rice output has steadily risen. This fully demonstrates the importance of scientific farming.

Formerly the Huang He Diversion irrigation area had always scattered "rice in waves," but in 1958 research units experimented with the transplanting of rice seedlings, and during the subsequent 9 years they accumulated experiences with success and failure through practice. By 1966, the transplanted rice seedling area amounted to 150,000 mu. After 1970, a new technique of rolled seedlings (transplanting of small seedlings with soil attached) was promoted to solve the contradiction between the slow development of seedlings propagated in water and the shortness of the season for transplanting seedlings. The transplanted area rapidly expanded, and by 1979 transplanting of rice came to be done virtually everywhere. During the past several years some places have practiced the digging of seeds. Resultant yields have been no less than from the transplanting of seedlings, and economic benefits are rather good.

During the early 1950's, mostly local white husk large paddy was planted, but it was susceptible to rice blast and outputs were both low and inconsistent.

Ever since 1956 all areas have promoted fine varieties such as Jingzu 107, Qingsen No 5, Guoguang, and Gongwen No 12 and No 10. Beginning in the 1970's long growing, disease resistant, high yield fine varieties Jingyin No 39, Aifeng No 2, Tianjin Zaofeng began to be introduced, and Ninggeng No's 3 and 4 were bred. With each replacement and promotion of a variety, rice outputs rose substantially. Now virtually nothing but fine varieties of rice are grown.

In the Huang He diversion irrigation area, saline-alkaline soil and wet low-lying soil exists over a fairly wide area, to the serious detriment of increases in rice output. For many years all jurisdictions have energetically dug drainage ditches to lower the water table, have grown green manure, and have gradually come to fertilize with a mixture of nitrogenous and phosphate fertilizer in a sensible way for steady improvement in the soil and gradual increase in its fertility.

Scientists and technicians and the broad masses of commune members in rice growing areas have also devoted much effort to intensive farming and to the eradication of diseases and weeds. Rice blast, Bakanae disease, and bacterial blight are the three major diseases in the prefecture's rice growing areas, and they have now been substantially brought under control. Barnyard grass, sanlingcao [0005 2789 5430], and yanzicai [4190 1311 5475] are the three major weed pests in the rice producing areas of the prefecture. Striking results in their eradication have been achieved with herbicides, use of which is being steadily expanded and promoted. Now, farm scientists and technicians and the broad masses of cadres and commune members are in process of conscientiously summarizing experiences in bumper rice yields in order to further develop rice production in an effort to provide both city and country people with more and better rice.

9432

CSO: 4007/425

INCREASED FISH PRODUCTION URGED

Yinchuan NINGXIA RIBAO in Chinese 26 Apr 82 p 1

[Article by Commentator: "Genuinely Strengthen Leadership to Give Attention to Fishing Industry Production"]

[Text] During recent years, output of fish varieties has increased year after year in Yinchuan Prefecture to bring an end to the situation of fluctuation and decline. Nevertheless average per capita fish output in the prefecture as a whole remains very low, and the problem of getting enough fish to eat is still a conspicuous one. For this reason, the hastening of fishing industry development and reestablishment of the prefecture as a land of fish and rice remains an urgent requirement for the broad masses of people in the prefecture's cities and countryside.

The key to increase in fishing industry output lies in improved understanding and strengthened leadership. We must fully recognize the major importance of accelerated development of the prefecture's fishing industry production for fullest development for use of the prefecture's natural resources, for making the prefecture's rural economy prosper, for enlivening markets, and for improving the livelihood of urban and country people in the prefecture. For this reason, all levels of leadership, particularly county CCP committees and county governments should devote serious attention to fishing industry production in the same way as they devote serious attention to grain production, and place fishing industry work on their important daily agenda, devoting attention to it several times each year. A single leadership cadre should be made primarily responsible for managing this work, and he should go down into the frontline of fishing industry production to investigate and study, and to give prompt help for solution of genuine problems. Comrades in aquatic products and water conservancy units should arouse their spirits, overcome hardship and work hard, becoming active staff officers for CCP committees and governments for the organization of fish raising tasks.

Mass enthusiasm for the raising of fish is currently very high. All levels of leaders and units in charge must do a good job in every respect so that mass enthusiasm for the raising of fish will be brought into full play. One, they should solve problems about water surface use rights. They should first divide up the water surfaces on the basis of ownership, those owning them being responsible for working them. Water surfaces belonging to communes

and brigades, should be worked by the collective, and scattered water surfaces not readily workable by the collective may be assigned to commune member household for working. However, individuals may not rent them or sell them to others. Water surfaces in dispute should have their ownership promptly and equitably decided so that fishing industry production will not be imparied. Two is good organization of fry supply. Each county is to gradually establish fish breeding farms. Existing state fishery farms should diligently tap potential, doing everything possible to breed more fry, and collective fishery farms having the conditions should also be organized to breed fish fry to satisfy, insofar as possible, the large scale requirements for fish fry of individuals and of fishing units. Third is to supply technical guidance in the raising of fish to fish raising units and individuals who lack knowledge of such techniques by running training classes and by making the rounds to give instruction. Fourth, is reorganization in coordination with public security units of fishing industry production order, dealing severely with those who seriously damage fishing industry production. Fifth is help to state owned and collective fish raising units in the establishment and perfection of various forms of production responsibility systems for continued solution to the problem of "eating out of a large common pot."

9432

CSO: 4007/430

PREFECTURE ISSUES EMERGENCY DROUGHT NOTICE

Jinan DAZHONG RIBAO in Chinese 3 May 82 p 1

[Article: Yantai Prefecture Takes Emergency Action to Fight Drought and Assure Spring Planting. Drought Situation Continues to Develop. Spring Sowing Reaches Critical Time"]

[Text] The drought situation in Yantai Prefecture continues and the fight against drought for spring planting has reached an extremely urgent and critical time. In order to insure that spring planting is done on time, the Prefecture CCP Committee and government administrative offices have issued an emergency notice requiring that the entire party take action and that all the people mobilize to fight drought and assure spring sowing. The notice provided for four measures:

1. From the Standing Committee and deputy commissioners of the Prefecture CCP Committee to principal leaders in the CCP and government of all counties and municipalities and comrades in positions of responsibility in all prefecture and county departments, a clear division of labor is to be made and responsibilities clearly assigned for rapidly leading the broad masses of cadres into the frontlines of the fight against drought, sparing no effort in endeavors to fight drought and do spring planting.
2. Immediate organization throughout the prefecture of all vehicles that can move (10,000 motor vehicles) for the hauling of water to fight drought. Vehicles under the jurisdiction of the prefecture and those belonging to Yantai municipal enterprenural enterprise units are to be organized centrally by the Prefecture CCP Committee and government administrative offices. County and municipal vehicles are to be the responsibility of county and municipal CCP committees for organization. Vehicles belonging to garrison forces and central government, provincial, or prefectural enterprenural units may be locally requested for use. Locations, units, tasks and times should be set for all vehicles engaged in the fight against drought, and specialists are to go to sites to take command. In rural villages all tractors are to be used for hauling water and none may be used for commercial hauling.

3. Every available means is to be used to tap potential and to use petroleum where it will do the most good. Within distribution quotas established by the state, all petroleum in storage should be used unstintingly during the present circumstances to fight drought. When there is petroleum in storage that is not put to use to the impairment of the fight against drought or delay in spring planting, those responsible will be investigated and responsibility fixed. At the same time it is necessary to give attention to conservation of petroleum.

4. Increase in spring sowing measures to assure quality of spring sowing. One mu planted is 1 mu planted, and 1 mu planted is 1 mu that produces. There can be positively no sowing of seeds on parched land. In places where the drought situation is particularly severe, a good job of growing corn seedlings should be done and preparations made to transplant them. All counties, communes and production brigades are to make unified plans pertaining to water resources, with centralized allocation for use.

The Yantai Prefecture CCP Committee and government administrative offices have required leadership comrades at all levels of CCP Committees and government throughout the prefecture to give close attention to development of the drought situation, to have a full understanding of progress in fighting drought to do planting, to intensify direction and control, to learn about new circumstances on time, and to solve problems that appear.

9432
CSO: 4007/431

FISH BREEDING IN RESERVOIRS CONTINUES TO DEVELOP

Chengdu SICHUAN RIBAO in Chinese 13 Apr 82 p 1

[Article by SICHUAN RIBAO correspondent: "Fish Breeding in Reservoirs Continues To Develop in Our Province--Fish Output Increased to 13,580,000 Jin or 27.6 Percent Over the Previous Year"]

[Text] Fish breeding in reservoirs continues to develop in our province. Last year, the total fish output reached 13,580,000 jin, a net increase of 294,000 jin or a 27.6 percent increase over the previous year. The average per-mu output was increased by 2.95 jin; the average output value per worker and staff member increased by more than 240 yuan; and the water surface utilization rate reached 83 percent.

Fish breeding in reservoirs is an important feature in the comprehensive use of reservoirs and the development of economic diversification. Since last year, the water conservation departments have conscientiously carried out the policy of giving benefits to those who have invested in the repair and upkeep of reservoirs. They also recognized the rights of ownership and administration by these investors, firmly supported the system of unified control over both water and fish by establishing organs at various levels, and provided more active leadership over fish breeding. The introduction of the system of responsibility for production in various forms suitable to the local conditions has greatly aroused the enthusiasm of workers and staff members in fish breeding.

The water conservation administration departments at various levels also organized the fishery personnel to learn from the advanced units, invited specialists and technicians to give on-the-spot lectures, and held short technical training courses for the reservoirs' technical personnel in order to improve their technical skill in feeding and fishing. Thus on the basis of a sustained increase of output in the past 2 years, new achievements have been made in fishery in the reservoirs in the province, and a number of typical high-yield units have emerged.

At present, the reservoir administration units in various localities are stepping up their work in fry breeding as a preparation for the spring flood. They hope to produce more large fish and to maintain a high yield for this year so that there will be a larger supply of fresh fish for the urban and rural population.

9411

CSO: 4007/418

CONSTRUCTION OF LEAK-RESISTANT DITCHES REPORTED

Tianjin TIANJIN RIBAO in Chinese 29 Apr 82 p 1

[Article by Wang Hengzhi [3769 1854 2535]: "Reduction in Water Seepage for Expansion of Irrigated Area. Municipality's Rural Villages Have Repaired More Than 1,100 Kilometers of Ditches To Prevent Leaks"]

[Text] During the past several years, Tianjin's rural villages have repaired more than 1,100 kilometers of various kinds of ditches to prevent leakage. These ditches control an irrigation area of more than 220,000 mu, and their repair has played a major role in the struggle to conserve water in the fight against drought.

As a result of 3 consecutive years of serious drought, the municipality's water resources have become increasingly short. In order to make limited water resources do the most good, ever since 1980 the state has provided subsidies to help communes and brigades build leak-resistant ditches. Some communes and brigades in quite a few suburbs and counties, including Wuqing, the northern and western suburbs, and Tanggu, have carried forward a spirit of self-reliance in an active pooling of funds, the transportation of materials, and the organization of construction to bring about fairly rapid development of projects to prevent leaks in the municipality's farmland irrigation ditches. As of now, prevention of leaks in ditches has been extended to a fairly large number of communes and brigades in the municipality's 12 suburban areas. Statistics show that during last year alone the municipality built more than 360 kilometers of leak-resistant ditches. Most of these leak-resistant ditches have been connected to pump wells, and some have been linked to pump well and small irrigation pumping stations. In the use of both well water and river water for irrigation, water conservation benefits may be attained. Most of the irrigation ditches have been constructed of bricks or stone lined with concrete. Some communes and brigades got locally available materials such as stones, bricks, and pipes to build ditches, obtaining rather good results in making them leak-resistant.

Construction and promotion of leak-resistant ditches has been remarkably effective in conserving water to fight drought in the municipality's rural villages. First it has reduced loss of water in transit through ditches and enlarged the area that can be irrigated. Loss of water from the concrete leak-resistant ditches built by Huiguokou Brigade in Niezhuangzi Commune,

Wuqing County fell from the former 40 percent to about 10 percent. Construction by Hujiacun Brigade, Liangwangzhuang Commune in Jinghai County of a leak-resistant ditch linking 12 pump wells has meant an increase in the area watered by each well from the former 74 mu to 150 mu, and an increase in the well-irrigated area from the former 890 mu to 1,800 mu. Second, it saved energy, reducing irrigation costs. Watering of 140 mu of fruit trees through earthen ditches at Qingguang Brigade in the northern suburbs used up 840 kilowatt hours of electricity per watering. After construction of leak-resistant ditches, electricity consumption was 202 kilowatt hours per watering. In some keep well areas, well irrigation areas, mountain areas, and semi-mountainous areas where fields and orchards required much water, following construction of leak-resistant ditches at multi-level water lifting irrigation stations, economic benefits were even more striking.

In addition, construction of leak-resistant ditches has also prevented secondary salinization of the soil. Furthermore, construction of leak-resistant ditches has meant a saving on land taken for ditches, has enlarged the cultivated area, has reduced silting of ditches, and has saved expenditures and work.

9432

CSO: 4007/425

BRIEFS

LIVESTOCK PRODUCTION--Xinjiang Uygur Autonomous Region produced more than 10 million young animals during this year's spring lambing season, hitting an all-time high since the founding of new China. The survival rate of young animals was as high as 94 percent. [OW271241 Beijing Domestic Service in Mandarin 1200 GMT 20 Jun 82]

COTTON GROWING SYMPOSIUM--From 5 to 11 June, the Xinjiang Agriculture Department, the Xinjiang production and construction corps and the regional crop society held a symposium in Shihezi on scientifically growing cotton. The symposium emphatically pointed out that the way of developing cotton production in the region is to stabilize the existing cotton fields, increase the per mu yield and total output, and popularize the technology for growing cotton and raising economic returns. This symposium discussed the relationship between grain and cotton. The symposium held that after several years' readjustment of the internal agricultural structure, the region must stabilize its areas sown to grain and cotton, the areas sown to grain must not be further reduced and the areas sown to cotton must not be expanded any more. The region must also correct the tendency of attaching more importance to cotton and less to grain. [HK231349 Urumqi Xinjiang Regional Service in Mandarin 1300 GMT 22 Jun 82]

CSO: 4007/459

FOUR KINDS OF 'SITTING AUTUMN' IN RICE DESCRIBED

Hangzhou JIEFANG RIBAO in Chinese 4 May 82 p 1

[Article: "Kinds of 'Sitting Autumn' in Early Rice"]

[Text] Comrades from the provincial spring farming and production techniques inspection team said the following at a report-back meeting. Because of the large amount of rainfall last winter and this spring, soil maturation has been poor and unfavorable for development of the early rice. Consequently, the possibility that "sitting autumn*" may develop in the early rice crop is very great. In Zhenjiang Province, four different kinds of "sitting autumn" are commonly seen.

First is toxic "sitting autumn." This occurs mostly in fields of high fertility, particularly in green manure fields having more than 4,000 jin of green manure per mu, or in fields where plowing has been overly late (within 7 days of the time when seedlings are transplanted), or where the terrain is low-lying and drainage poor. Prevention and control methods include improvement in drainage and irrigation conditions, lowering the water table, sensible use of green manure, and advocacy of less use of grass seed, with increased applications of quick acting nitrogenous fertilizer raked into the soil surface plus application of gypsum and alum.

The second kind is cold damage sitting autumn. This occurs when seedlings are transplanted too early and low temperatures ensue after transplanting, or when soil temperature is too low. Prevention and control methods include growth of sturdy seedlings with transplanting being done only when average daily temperature has become stable at 15°C. For ridged fields in hills, dtiching around the hill should be done; for cold waterlogged fields, ditching should be done; for fields in general, shallow irrigation should be maintained.

The third kind of "sitting autumn" resulting from lack of some element. This is caused by lack of some nutrient or proportional imbalance of nutrients in

*"Sitting autumn" (refers to a transplanting phenomenon where transplanted rice seedlings do not grow new leaves or roots while old ones wither or rot. The plant either dies or its growth is retarded 20-40 days.)

the soil. "Sitting autumn" resulting from lack of phosphate or potash is common, and fertilization with phosphate or potash is required. Results are best when at the time of transplanting seedlings roots are dipped or poked into calcium magnesium phosphate. It is more economical to spread phosphate fertilizer on seedlings carrying earth in the seedling fields. At the present time, supplies of chemical phosphate and potash fertilizer are insufficient, so use of barnyard phosphate and potash fertilizer should be vigorously advocated.

Fourth is "sitting autumn" from sodden soil. This occurs in gummy soil, in sodden fields that have been too deeply plowed, and in cold waterlogged fields. After transplanting, seedlings sink and cannot easily put down roots. Prevention and control methods are to dig ditches to divert water, to lower the water table, and to fertilize with phosphate and potash.

The above four kinds of "sitting autumn" frequently occur at the same time, but in all cases it is the roots that are damaged first. Thus it is necessary to increase soil porosity. Once seedlings have been transplanted and have greened up, frequent shallow irrigation should be done. If sitting autumn is discovered, water should be drained away and weeding of the fields done at once together with application of proper amounts of phosphate and potash fertilizer. After weeding has been done, fields should be aired and lightly dried to promote root vitality.

9432
CSO: 4007/427

Agricultural Economics

AUTHOR: WU Zhuonian [0702 3504 1628]

ORG: South China College of Agriculture

TITLE: "Develop Farming Under the Guiding Principles of Agricultural Ecosystem"

SOURCE: Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No 4, 23 Apr 82 pp 3-8

ABSTRACT: Agricultural ecology is a new science. With the development of agricultural modernization and a closer and closer link between agriculture and industry, such adverse effects on agricultural production as environmental pollution, energy deficiency, and ecological imbalance have also occurred. At present, these problems have attracted widespread attention. This paper introduces the basic concepts of the agricultural ecosystem, which is an offshoot of ecology, a study on the inter-relationship between living organisms and their environment. As agricultural yield increase depends upon policy and science, the paper maintains that the good results of policy have been demonstrated by the fast improvement of agricultural production of recent years but science is still needed. By science, the paper means: (1) Reasonable production arrangement to suit the land; (2) Standardization of seed quality and regionalization of superior breeds; (3) Using fertilizer according to the needs of the soil. The above scientific techniques and the development of multiple production structure are explained to be essential in agricultural regionalization according to the viewpoint of the agricultural ecosystem, which should be adopted as the general concept and used as the foundation for implementing agricultural modernization.

AUTHOR: XUE Jinao [5641 6855 7663]

ORG: Jiangsu Provincial Academy of Social Sciences

TITLE: "On the Strength of Survival of the System of Responsibility With Payment Based on Quota"

SOURCE: Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No 4, 23 Apr 82 pp 20-23

ABSTRACT: The title of the paper as it is translated into English in the journal appears to be less than precise. The system discussed in the paper is in fact a labor responsibility system, practiced universally in the past. In the past 2 years, communes and brigades of many places have changed the labor responsibility system to production responsibility system and very few continue to practice the former. The paper argues in favor of the labor responsibility system because it is favorable for fulfilling the State's plan, for developing the publicly owned properties, and for the full utilization of manpower and natural resources. The two different systems, and perhaps all shades between, are not clearly defined in the paper, however, and the paper does not offer criticisms of the new, and obviously growing, production responsibility system.

AUTHOR: LI Yong [2621 0516]

ORG: General Bureau of Animal Husbandry, Ministry of Agriculture

TITLE: "The System of Production Responsibility Speeds up the Increase of Large Livestock"

SOURCE: Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No 4, 23 Apr 82 pp 24-27

ABSTRACT: From late Oct to early Dec [1981 ?] the author visited 9 counties in Zhoukou Prefecture of Henan Province and 2 counties of Fuyang Prefecture of Anhui Province to study draft animal related problems before and after the implementation of the production responsibility system. From 1949 to 54, the number of large livestock grew very fast in this part of the country, reaching 908 thousand heads. After collectivization in 1955, there were many changes in the production relationship, and a rush toward public ownership. By 1978, the number of large animals had dropped to 423 thousand heads. In these 25 years, only 1,473 live foals grew up in all of the 40 production brigades of Fugou County. After the adoption of the production responsibility system, doubts lingered. By the end of 1980, the number of large livestock continued to decrease; the number was 1,890 heads less than the end of 1979. In reality, the situation began to turn since 1979, however. In Fuyang Prefecture 104 thousand foals survived, for example. The farmers are willing to pay money to buy draft animals from everywhere in the country. Diseases and the lack of breeding stock are the 2 major problems. The farmers are afraid of possible policy change in the future and they are also afraid of not being able to sell the animals after they raise them.

AUTHOR: DIAO Guangshan [0431 1684 1472]

ORG: None

TITLE: A Preliminary Discussion of the Problem of Energy Resources in Rural Areas of Guizhou Province"

SOURCE: Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No 4, 23 Apr 82 pp 32-36

ABSTRACT: In Guizhou Province, rural energy resources are composed of biological energy of firewood [shrubs and grass] and marsh gas, mineral energy of oil and coal, and natural energy of water and geothermal power. The coal consumption was 19.42 million tons in 1980, amounting to 26.4 percent of the energy consumed that year. Firewood consumption amounted to 72.1 percent of total. The development and utilization of marsh gas and geothermal energy are still in the research stage. To resolve the problem of rural energy needs and to protect the forest resources from further depreciation, the author suggests the following: (1) Reconstruct the existing small hydroelectric power stations to make all the equipment complete and operable. (2) Develop marsh gas in steady steps. (3) Plant trees in the 6,000 mu barren mountains for firewood.

AUTHOR: None

ORG: Reporter of the Journal

TITLE: "Discussions on Strategic Problems of Agricultural Development -- Symposium in Beijing Sponsored by China Society of Agricultural Economics"

SOURCE: Beijing NONGYE JINGJI WENTI [PROBLEMS IN AGRICULTURAL ECONOMICS] in Chinese No 4, 23 Apr 82 pp 50-54

ABSTRACT: On 26 Feb, the China Society of Agricultural Economics held a symposium in Beijing to discuss the basic concepts of agricultural development strategy in China attended by 47 delegates representing agricultural colleges, scientific research organizations, and business departments in Beijing. Deputy Director of the society, WANG Gengjin [3769 5087 0093] chaired the meeting, and 8 comrades delivered important speeches, including SHI Shan [4258 1472] of Agricultural Modernization Research Committee Chinese Academy of Sciences, LU Wen [4151 2429] of the Policy Research Office, National Agricultural Committee, ZHENG Linzhuang [6774 2651 8369] of Foreign Economic Management Research Institute, Chinese People's University, LIU Zhicheng [0491 1807 3397] of Agricultural Economics Research Institute, Chinese Academy of Agricultural Sciences, DENG Yingtao [6772 5391 7118] LUO Xiaopeng [5012 1420 2590] of Chinese Rural Village Development Problem Research Group, ZHOU Cheng [0719 6134] of Department of Agricultural Economics, Chinese People's University, and YANG Jun [2799 0971] of Chinese Academy of Agricultural Sciences. An excerpt of each of these speeches is included in the paper.

6248

CSO: 4011/132

Animal Husbandry

AUTHOR: FEI Huaixin [6316 2037 0207]

ORG: None

TITLE: "Preliminary Inquiry of Several Problems in the Economic Development of the Animal Husbandry Industry of Xinjiang"

SOURCE: Beijing MINZU YANJIU [NATIONALITY RESEARCH] in Chinese No 2, 20 Mar 82
pp 6-13

ABSTRACT: China is a unified nation of many nationalities. Within the territorial limits, all nationalities cooperate to develop the national resources and to proceed with production for the livelihood and material wellbeing of each as well as for contributing to the civilization of the fatherland. Animal husbandry is the major sector of China's minority economy and is also important in the national economy. It is the material foundation of production and livelihood of the minority nationalities of Xinjiang. It is; therefore, extremely significant for the development of socialism, the prosperity and unity of the nationalities, for the national defense, and for the elimination of de facto inequality among the nationalities. Since the liberation, there has been considerable progress in animal husbandry in Xinjiang. By the end of 1980, the number of animals was reported to be 26.7 million heads, more than doubling that of 1949. Not a few problems remain, however. They include: (1) The need of establishing a scientific concept of cause and effect for the maintenance of ecological balance in the course of developing animal husbandry; (2) The need of emphasizing an internal expansion of reproduction to raise the efficiency of productive material utilization; (3) The need of implementing and perfecting the production

[continuation of MINZU YANJIU No 2, 1982 pp 6-13]

responsibility system to promote a positive feeling toward production among the people who engage in animal husbandry and to raise the labor efficiency; (4) The need of improving the flow of animal husbandry products to promote the development and their production; (5) The need of strengthening the leadership of the party to move forward cautiously and steadily and to realize the fact that peace and solidarity form the basic guarantee for the development of production in animal husbandry.

6248

CSO: 4011/135

AUTHOR: HUANG Boxuan [7806 0130 3894]

ORG: None

TITLE: "Conserve the Source of the Water is the Essential Plan of Controlling Changjiang"

SOURCE: Beijing ZHIWU ZAZHI [JOURNAL OF BOTANY] in Chinese No 1, 1982 pp 1-3

ABSTRACT: Changjiang is the largest river of China, measuring 6,300 km. Its drainage basin is 1.80+ million km², with 4+ hundred million mu of cropland and 3+ hundred million of inhabitants. Its 700+ tributaries of all sizes measure a total of 80+ thousand km. At present, the forest cover of its basin is shrinking continuously and soil erosion totals 20+ hundred million tons a year. Will Changjiang become the second Huanghe? The current silting problems which are threatening agricultural production, obstructing navigation, and burdening the reservoirs are described. China's scientist ZHU Kezhen [4555 0668 4394] said: "the result of unlimited destruction of forests includes the destruction of soil fertility as well as the sources of water." As flood is the major calamity of the Changjiang Valley, to control the river must start from controlling the mountains. Soon after the liberation, the forest coverage of Sichuan was more than 19 percent. Now it has dropped to 13.3 percent. At present, mud flows are very active in 109 counties of Sichuan Province and mud flow is a form demonstrating the fact that soil and water losses have developed to a very serious stage. The paper calls for forest renewal in the origin of Changjiang in Sichuan Province for the purpose of preserving the Changjiang Valley from further deterioration.

AUTHOR: ZHANG Kuan [1728 1401]

ORG: Scientific Research Office, Shizi High School, Jinchun County, Hubei Province

TITLE: "Why is it that Top-pruning Can Increase the Yield of Crops"

SOURCE: Beijing ZHIZAZHI [JOURNAL OF BOTANY] in Chinese No 1, 1982 pp 5-6

ABSTRACT: Top-pruning can increase the yield of cotton about 20 percent, squash more than 30 percent, the castor-oil plant 40-50 percent; the yield increase for rape and sweet potato is even higher. The Jiayu County Institute of Agricultural Sciences of Hubei Province reported a top-pruning experiment in 1972 carried out in 0.22 mu of rape; the average yield reached 540 jin/mu. In 1976, Xinhuang County of Hunan tried the technique in 125 mu of sweet potatoes; the yield of fresh sweet potatoes was 10,000 jin/mu, with the highest reaching 17,800 jin/mu in some of these fields. The paper explains that top-pruning liberates the axillary bud from pressure, improves the photosynthesis efficiency, accelerates the accumulation of nutrients, and increases the number of channels and shortens their distance of nutrient transfer. Essential techniques of top-pruning are also briefly introduced.

6248

CSO: 4011/146

Hydrology

AUTHOR: ZHANG Shifa [1728 0013 3127]
JIANG Xingchun [5592 2622 2504]

ORG: ZHANG of Nanjing Hydrology Research Institute, Ministry of Water Conservancy;
JIANG of Anhui Provincial Research Institute of Water Conservancy

TITLE: "Some Ideas Concerning the Assessment of Total Water Resources of the Huai River Plain"

SOURCE: Beijing SHUIWEN [HYDROLOGY] in Chinese No 2, 25 Apr 82 pp 8-12

ABSTRACT: It is a common knowledge that the total water resources of a stream valley include the surface water and the ground water, with the two transforming into one another. With an introduction of the ways of calculating the total water resources of a stream valley before and after the mining of ground water, the method of estimating the surface and the ground water separately before subtracting the overlap and the unavoidable evaporation is recommended to produce the preliminary estimate. The influence of dynamic changes of the water table on the water balance factors is analyzed and the relationship of evaporation of subterranean water, the water requirements of crops, and the ground water resource is explained. The paper emphasizes discussions of the methods and problems of assessing the water resources of a stream valley. There is very little concrete reference to the specific water resources of the Huai River valley.

AUTHOR: WANG Wengui [3769 2429 2710]
ZHANG Yufang [1728 3768 5364]
CHENG Xugan [4453 4872 1626]

ORG: All of Huai River Control Committee, Ministry of Water Conservancy

TITLE: "Application of Computer for Flood Forecasting in Huai River Basin"

SOURCE: Beijing SHUIWEN [HYDROLOGY] in Chinese No 2, 25 Apr 82 pp 21-27

ABSTRACT: Aside from the mountains and hills of the southwest and northeast, the Huai River basin is mainly a broad plain, measuring 270,000 km², spanning portions of the 4 provinces of Henan, Anhui, Jiangsu, and Shandong. The upper reaches of the source are short and the flow is swift. The floodwater comes in great force and takes very little time to spread out. The valley is distributed with 5200 large, medium, and small reservoirs, with a total storage capacity of 23 billion m³. For the purpose of providing forecast information of the floodwater to the minute and second in order to complete the prevention work, the authors divide the entire basin into 8 sectors, 5 of which are located above Hongze Lake. The existing floodwater forecasting scheme is taken as the foundation for arrangement and supplementation to produce 10 systematic floodwater forecasting programs to be processed on a computer; programs are also written for computing the floodwater volume of each sector, the capacity of major reservoirs, the effect of the soils and rainfall so that the forecasting work of the entire basin may be carried out on the computer. The structure of the programs, the computation steps, and the forecasting results using computer are introduced.

6168

CSO: 4011/140

Hydrogeology

AUTHOR: XIAO Youquan [5135 2589 5425]

ORG: Department of Geology, Nanjing University

TITLE: "On Pollution and Protection of Acidic Pit Water"

SOURCE: Beijing SHUIWEN DIZHI GONGCHENG DIZHI [HYDROGEOLOGY AND ENGINEERING GEOLOGY] in Chinese No 3, 15 May 82 pp 7-9

ABSTRACT: China is extensively distributed with ferric sulfate deposits, coal deposits, and multi-metal sulfide deposits and a large number of these are being mined. The ores contain a certain quantity of sulfides, which, after oxidation, often turn into acidic pit water to corrode the pipes and equipment and endanger the health of the workers. When this wastewater is discharged, it pollutes the environment and the source of water supply to produce serious effects on agriculture, fish culture, and the industries. The chemical process of the formation of the acidic pit water and its characteristics are described. In most cases, the mines of China discharge this type of wastewater without treatment to create serious environmental pollution and great economic losses. In Yuntaishan of Jiangsu Province, for example, the mine discharges 3 thousand tons/month to pollute 1,600 mu of cropland. In an average year, the loss compensation amounts to 50-60 thousand yuan/year, to reach a maximum of 86 thousand yuan/year. Some data of the metal contents of contaminated soil are included also. Major techniques of treating the wastewater to render it harmless and practices of some mines, such as Chuanbu Coal Mine of Jiangsu, are also reported.

6168

CSO: 4011/141

Rabbit Husbandry

AUTHOR: LI Yingsong [2621 4481 2646]
YANG Zheng [2799 2973]

ORG: LI of Chinese People's Liberation Army University of Veterinary Medicine;
YANG of Zhangjiakou Special School of Agriculture

TITLE: "On the Origin of Domestic Rabbits and the Development of Rabbit Husbandry in China"

ORG: Nanjing XUMU YU SHOUYI [ANIMAL HUSBANDRY AND VETERINARY MEDICINE] in Chinese No 2, 20 Apr 82 pp 74-76

ABSTRACT: Due to the fact that the bones of rabbits are light and brittle, they are not easily found in nature. Fossil remains hardly exist except in some strata in Spain. It has been proven that all domestic rabbits have their origin in wild cave rabbits of Europe, however, their ancestors dwelled in Spain and spread gradually to other parts of Europe and beyond. It is still difficult to pinpoint the time and place of the origin of their domestication, however. It has, nevertheless, also been proven that they were domesticated earlier in China than in Europe. Chinese historical records on domesticated rabbits are introduced. There are many native breeds, mostly white, distributed all over the country but especially in the Chengdu Plain of Sichuan. Domestication of rabbits has had a history of more than 2,000 years in China. In the last century, many breeds have also been introduced from foreign countries. In the 50's and the 70's, there were 2 fast developments. The export of frozen rabbit meat in 1980 amounted to 36,000 tons, 70 percent of the total world trade. The industry is expected to grow very fast in the future, as well.

AUTHOR: XU Hantao [1776 3352 3447]

ORG: Department of Veterinary Medicine, Nanjing College of Agriculture

TITLE: "On Improving China's Long-fur Rabbits in View of the Introduction of Long-furred Rabbits from W. Germany"

SOURCE: Nanjing XUMU YU SHOUYI [ANIMAL HUSBANDRY AND VETERINARY MEDICINE] in Chinese No 2, 20 Apr 82 pp 77-79

ABSTRACT: Since the liberation, especially in the recent years, the rabbit husbandry industry has continued to grow. At present, all major products of domesticated rabbits, the fur, the hide, and the meat, are all rated the first in quantity in the world. They have become one of the major export items. Angora rabbit is the most famous. For over 200 years, it has been raised in France, England, Germany, Japan, and China and different lines have been formed and each has its own special characteristics. In 1978, several herds of Angora rabbits were introduced to China from W. Germany. Each of these can produce 1,500 g of rabbit hair per year. After their arrival, their production is reported to be declining, however. Their body weight is reduced to about 4 kg, and the hair production seldom exceeds 1,000 g. Measures to purify the breed, to utilize foreign breeds for hybridization, and to select and breed new lines are suggested. Problems of the concrete feeding conditions in China, the suitable ratio of a blood line, etc. remain to be answered through practice and experimentation.

Research

AUTHOR: LI Deguang [2621 1795 1684]
LIU Zhanzhen [0491 0594 6297]
ZHAO Tongying [6392 0681 2019]
ZHOU Zhixiang [0719 1807 7449]

ORG: All of Shanxi Provincial Research Institute of Meteorology

TITLE: "Scheme of Regionalization on the Basis of the Dry Hot Wind for Wheat in Shanxi Province"

SOURCE: Taiyuan SHANXI NONGYE KEXUE [SHANXI AGRICULTURAL SCIENCES] in Chinese No 4, 20 Apr 82 pp 2-6, 20

ABSTRACT: In some years, a high temperature and low humidity phenomenon appears in the dry hot season between the spring and the summer. It constitutes the major disaster of agricultural meteorology in Shanxi Province to threaten the growth of wheat in its late stage. The yield reduction of wheat caused by this disaster varies from 5-20 percent, as high as 30 percent in some specially severe years. The extent of damage of the dry hot wind on wheat is, of course affected by the time of occurrence and intensity of the wind, but it is also affected by the adversity resistance, the growth and development period, the breed, the healthy growth of the early stage, and the ecological factors of the wheat itself. The paper is prefaced with an analysis of the data of 1959-78 concerning dry hot wind damages to wheat in the various localities of the province and followed with a scheme of dividing the

[continuation of SHANXI NONGYE KEXUE No 4, 1982 pp 2-6, 20]

province into 5 regions, with concrete strategies for protecting the wheat crop in each of these regions.

AUTHOR: ZHANG Shicheng [1728 4258 1004]
ZHANG Yuee [1728 2588 1230]

ORG: Both of Shanxi University of Agriculture

TITLE: "Yield Increase Effect of Fertilizer Application for Summer Seeded Wheat"

SOURCE: Taiyuan SHANXI NONGYE KEXUE [SHANXI AGRICULTURAL SCIENCES] in Chinese
No 4, 20 Apr 82 pp 8-11

ABSTRACT: Most summer seeded wheat crops are in hilly upland fields where the soil is thin and the fertilizer is in short supply. For the purpose of clarifying the suitable basic fertilizer, the quantity of additional fertilizer applications, the proper ratio of nitrogen and phosphorus, etc. for such crops, the authors carried out an experiment in small plots to compare 9 different fertilizer treatments. The effects of the different fertilizer treatments on the yield structure, the leaf-area of the wheat colony and the photosynthesis productivity, and the accumulation and distribution of dry substance are reported. Based upon the result of the experiment, the paper concludes that the yield effect of the optimal combination of fertilizer treatment is to apply 6,000 jin of basic fertilizer [calcium perphosphate + farm fertilizer], 50 jin of additional calcium perphosphate, and 17 jin of urea. Details of the experiment are given.

AUTHOR: YANG Wanrong [2799 8001 2837]

ORG: Institute of Alpine Crops, Shanxi Provincial Academy of Agricultural Sciences

TITLE: "Yanbei Prefecture is Suitable for the Development of Flax"

SOURCE: Taiyuan SHANXI NONGYE KEXUE [SHANXI AGRICULTURAL SCIENCES] in Chinese
No 4, 20 Apr 82 pp 22-23

ABSTRACT: Flax is a tough-bark fiber crop belonging to the Linum Family. There are 3 subspecies under cultivation: the large seed, the small seed, and the medium seed ones. The small seed type is most extensively cultivated. On the basis of utilization, there are the 4 types of fiber-use, oil-use, fiber and oil, and the Putao type. In Yanbei Prefecture, 88 percent of the one million mu of oil crops are oil flax. The seeds are pressed into oil [linseed oil ?] and the dregs are used as feed. The weather of the prefecture is cool and the daylight is plentiful to provide a favorable condition for the formation and accumulation of oil in the plants. At present, the yield is low, about 30-40 jin [seeds ?]/mu. The major reasons are: (1) Under the policy of emphasizing grain crops, lands that are remote, thin, and otherwise poor are allocated for flax; (2) Extensive instead of intensive cropping; (3) Using de-generated breeds. The author argues for a change of policy and the adoption of scientific cropping measures to develop the excellent potential of flax production in the prefecture.

6248

CSO: 4011/129

Research

AUTHOR: LIU Guanghui [0491 0342 6540]

ORG: Xin County Agricultural Committee, Shanxi Province

TITLE: "On the Objective Bases of the Suggestion for Making the Xin-Ding Basin into a Region of Concentrated Production of Gaoliang"

SOURCE: Taiyuan SHANXI NONGYE KEXUE [SHANXI AGRICULTURAL SCIENCES] in Chinese No 5, 20 May 82 pp 2-3

ABSTRACT: The Xin-Ding basin is located in the north-central part of Shanxi, being a stream valley basin of an elevation of 1,000 m. It encompasses the 5 counties of Xinxian, Dingxiang, Yuanping, Daixian, and Wutai, with more than 2 million mu of cultivated acreage. The weather condition, very favorable for Gaoliang [grain sorghum] and the economic advantages of Gaoliang over other grain crops are discussed. Gaoliang is a soil exhausting crop, however. According to analytical studies, to produce 100 jin of Gaoliang, about 2.5 jin of nitrogen, 1.3 jin of phosphorus, and 3 jin of potassium are required. At present, compared with the condition of the 60's, the organic matter content of the soil in the 70's is generally 0.1 percent less. This is the adverse result of applying only chemical fertilizer without the consideration of nurturing the soil. The people of the Xin-Ding basin also need other grains and cannot concentrate on Gaoliang development unless grains can be supplied from other regions. Scientific research is also deficient in Gaoliang cultivation techniques. The advantages of Gaoliang in the basin are supported with research data comparing heat and photo energy utilization rates of various crops in the basin.

AUTHOR: TIAN Liangcai [3944 5328 2088]

ORG: Shanxi Institute of Biology

TITLE: "Effects of High Temperature and Seeding Depth on the Germination and Healthy Growth of Summer Wheat Seedlings"

SOURCE: Taiyuan SHANXI NONGYE KEXUE [SHANXI AGRICULTURAL SCIENCES] in Chinese No 5, 20 May 82 pp 4-7

ABSTRACT: At present, the major problems of summer-seeded wheat crops, under the high temperature condition, include poor germination rate, weak seedlings, large quantity of seeds for planting, few spikes, and low yield. Ordinarily, the most suitable temperature for sprouting of wheat seeds is 15-31°C. When summer wheat is seeded in early July, the average temperature is above 24°C. It may be as high as 30-35°C. A study is carried out to determine the effect of simulated temperature conditions between 21 and 40°C on the germination of wheat seeds, the nutrient consumption within the seed, and the growth of radicles, etc. The study also includes varying depth of seeding from 3.97 to 8.94 cm. It is the conclusion of the study that the suitable seeding depth for summer wheat is 3.5-4.0 cm. Detailed techniques of promoting germination and healthy growth of seedlings are reported.

AUTHOR: ZHU Hengjin [4376 5899 3160]

ORG: Institute of Crop Genetics, Shanxi Provincial Academy of Agricultural Sciences

TITLE: "Several Problems Concerning Summer Seeded Wheat"

SOURCE: Taiyuan SHANXI NONGYE KEXUE [SHANXI AGRICULTURAL SCIENCES] in Chinese
No 5, 20 May 82 pp 7-8

ABSTRACT: Summer seeded wheat is developed as a reformed cropping technique for upland wheat culture of mountainous and high altitude regions. The variation of production conditions in Shanxi is largely the result of different meteorological conditions of the different regions. It is; therefore, important to understand the suitability of the local weather condition for summer seeded wheat before it is developed locally. When the same breed of wheat is seeded in the summer instead of spring, the height of the stalk is lower, the number of nodes is reduced, the tillering node is moved to 2-3 cm, instead of 5-7 cm, from the ground surface, the growth and development period is shortened, and the flag-leaf-age is delayed to 55 days instead of the normal 40+ days. The seeding time is a key problem of wheat. If it is seeded early, the extended period of high temperature is not favorable; if it is seeded late the frost may affect normal ripening. It is the preliminary conclusion of the author that summer wheat in Shanxi should be seeded from late Jun to early Jul. About 25-30 jin of seeds should be planted, with not very thick soil cover. About 1 cun below the surface is the best. When additional fertilizer is applied, the ripening stage is delayed; therefore, the author suggests that one application of sufficient basic fertilizer is the best for summer seeded wheat.

AUTHOR: LIANG Huangying [2733 4106 5391]
XIA Xingyun [1115 2622 0061]

ORG: Both of Institute of Plant Protection, Shanxi Provincial Academy of Agricultural Sciences

TITLE: "Correct Treatment and Scientific Utilization of Farm Chemicals"

SOURCE: Taiyuan SHANXI NONGYE KEXUE [SHANXI AGRICULTURAL SCIENCES] in Chinese
No 5, 20 May 82 pp 21-23

ABSTRACT: According to survey data, the province has more than 580 types of pests and more than 200 types of plant diseases. There are two attitudes toward farm chemicals. Some think they are all powerful and spray them as soon as pests are observed. Others are terrified when the word pesticide is mentioned. The paper attempts to discuss rationally the following 3 problems concerning pesticides: (1) The problem of resistance of the pests: It is necessary to determine scientifically the development of resistance of a given pest and different pesticides should be rotated to prevent the development of resistance. (2) The problem of destroying natural enemy of pests: The use of highly selective or internal absorbing chemicals and the technique of low density spraying should be adopted to avoid killing natural enemies of pests. (3) The problem of pesticide residues: The safety regulation of the State concerning various chemicals must be strictly followed.

6248

CSO: 4011/130

AUTHOR: ZENG Sui [2582 4482]

ORG: None

TITLE: "Reasonable Crop Arrangement Should be Given Attention in the Extension of Superior Breeds of Paddy Rice"

SOURCE: Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWS-LETTER] in Chinese No 5, 17 May 82 pp 7-9

ABSTRACT: Since the liberation, there have been, generally speaking, 3 stages in the work of extending superior rice breeds: The first stage of 1949-62 is to improve and replace farm breeds; the second stage of 1963-74 is to use dwarf breeds to replace high-stalk breeds; the third stage from 1975 on is to begin to extend hybrid paddy rice breeds. As each stage develops, a yield increase breakthrough has been obtained and the superior breeds of that stage are kept stable for a period of time. Within each of the period of relative stability, if the yield increase is to be sustained, a reasonable crop arrangement must be found, however. This paper reports the experience of Shaoguan Prefecture in Guangdong Province of recent years. The intermediate ripening breeds of Zhaiyeqing, Qinggai are arranged partially with some early and late ripening breeds for the early rice crop. For the late rice crop, hybrid rice and early ripening breeds are extended, to be arranged partially with intermediate and late ripening breeds. In the 3 years, a grain yield increase of 5.6 percent per year has been obtained for the entire prefecture. In 1979, the year's average reaches 970 jin/mu, averaging a grain ration of 579 jin per inhabitant. Details of this experience are reported.

AUTHOR: YANG Zhenyu [2799 2182 3768]
QI Dequan [7871 1795 5425]

ORG: Both of Research Institute of Rice, Liaoning Provincial Academy of Agricultural Sciences

TITLE: "Method of Preventing Mixing and Preserving Purity for Geng Rice Three-lines"

SOURCE: Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWS-LETTER] in Chinese No 5, 17 May 82 pp 8-9

ABSTRACT: For several years, such Geng hybrids as Liming-A and Fengjin-A have been used in large acreages in Liaoning Province. When bags are used, the inbred fruiting rate is 0.017-0.06 percent and the sterility characteristic is basically stable. As the acreages are enlarged, there is not enough time for renewal of seeds of the 3 lines, and the phenomena of mixing and degeneration of the sterile line and the hybrid seeds are observed, mainly in the lack of uniformity of stalk height, spike type, ripening time, and the characteristic of bearded, beardless, long beard, or short beard. Measures adopted to purify the 3 lines and to prevent further mixing are reported. The fact that the technique of preventing mixing and purification for the 3 lines of Geng rice is somewhat different from the technique for Xian hybrids is the major aim of the paper yet the difference is not clearly demonstrated.

AUTHOR: SHI Minglun [4258 2494 0243]

ORG: Hanyang County Bureau of Agriculture, Hubei Province

TITLE: "Strengthen Cotton Bud Stage Management to Guarantee Stable Growth and to Increase Number of Buds"

SOURCE: Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWS-LETTER] in Chinese No 5, 17 May 82 pp 12-13

ABSTRACT: In the cotton bud stage, the growth of the root system reaches the peak and that of the above ground portion accelerates. The cotton plant changes from nutritional growth to reproductive growth and 50 percent of the growth of the main stem, about 70 percent of the fruiting branches, and about 60 percent of the total number of buds must be completed in that stage. The management requirements are to irrigate and drain to prevent either flood or drought, to apply a balanced amount of nitrogen, phosphorus, and potassium fertilizer according to the appearance of the plants, to hoe deeply to loosen the soil and to eliminate weeds, and to control pests thoroughly. The paper also recommends spraying several times with cycocel but it should be diluted to a low density.

AUTHOR: LIN Zhigu [2651 1807 7711]

ORG: Xingzi County Bureau of Agriculture, Jiangxi Province

TITLE: "Application of Shachongshuang for the Prevention and Control of Rice Pests"

SOURCE: Beijing NONGYE KEJI TONGXUN [AGRICULTURAL SCIENCE AND TECHNOLOGY NEWS-LETTER] in Chinese No 5, 17 May p 22

ABSTRACT: Shachongshuang [sodium thiosulfate propane ?] is a highly effective, broadspectrum, safe, low toxic, and low residue pesticide developed in China in the 70's. Toxicity tests have proved it to have no carcinogenic, mutagenic, or deformity causing actions. It is chemically stable, may be stored in room temperature, and remains highly effective a year later. It is both a contact and an internal absorbing pesticide. It can also be used as a fumigant and can kill pest eggs. Experience of applying 25 percent Shachongshuang in the county last year to prevent and control late rice leaf roller, rice thrips, rice leafhopper, rice plant skipper, rice planthopper, rice striped borer, etc. is reported. This new pesticide is the product of Liyang Chemical Plant of Jiangsu Province. The plant received a national science award for the successful research in 1978. At present, the Taihe County Agricultural Chemical Plant of Jiangxi Province is producing several hundred tons of it every year. It is being sold on the market at 1.85 yuan per jin.

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CSO: 4011/136

AUTHOR: ZENG Guijin [2582 6311 6855]
CHEN Meiguang [7115 5019 0342]
SUN Yuqing [1327 3768 3237]

ORG: All of Henan Provincial Public Health and Epidemic Prevention Station

TITLE: "First Time Detection of Yersinia Enterocolitica in Pigs in China and Its Identification"

SOURCE: Beijing ZHONGGUO SHOUYI ZAZHI [CHINESE JOURNAL OF VETERINARY MEDICINE]
in Chinese No 2, 22 Feb 82 pp 2-5

ABSTRACT: According to foreign reports, Yersinia enterocolitica is extensively distributed in nature and when it is distributed in the digestive tract of men and animals, it may cause entericoinfectious diseases. A large portion of infant diarrhea is caused by this germ and from time to time an epidemic may erupt. Isolation of this germ had not been reported before in China. The authors proceeded with Yersinia enterocolitica culture of 88 specimens of ileocecal contents of pigs slaughtered at the Henan Provincial Meat Joint Plant. Six strains of Yersinia enterocolitica were isolated. Biochemical, morphological, biological typing, etc. identification processes were also performed. Details of the 1980 experiment are reported.

AUTHOR: ZHANG Chensheng [1728 2525 3932]
ZHOU Xiuling [0719 4423 3781]
GAO Yunhua [7559 5619 5478]

ORG: All of Veterinary Medicine Experimental Diagnosis Center, Beijing City

TITLE: "Immunoserological Diagnosis of Swine Toxoplasmosis --- Application of Indirect Blood Cell Agglutination Test"

SOURCE: Beijing ZHONGGUO SHOUYI ZAZHI [CHINESE JOURNAL OF VETERINARY MEDICINE]
in Chinese No 2, 22 Feb 82 pp 20-22

ABSTRACT: Since 1977, swine toxoplasmosis has been discovered off and on in many places in China. For diagnosis, aside from using pathogen isolation and morphological observation, some scientists have now applied the immunofluorescence technique, enzyme labeling method, etc. to ascertain the pathogen. Meanwhile, immunoserological diagnosis techniques are also being gradually developed, including pigment test, indirect blood cell agglutination test, abnormal skin reaction, etc. In the past year, the authors used indirect blood cell agglutination test to examine 223 serum antibody specimens of swine toxoplasmosis cases. Of these, 76 specimens were from vaccinated pigs, the positive rate was found to be 100 percent; 29 from healthy pigs, the positive rate was 93.8 percent. The technique was found to be highly sensitive, fast, and simple, and should be feasible for the purpose of conducting general surveys. The technique is introduced.

6248

CSO: 4011/137

Veterinary Research

AUTHOR: GAO Weiliang [7559 0251 5328]
LI Xuetao [2621 7185 3447]
DING Mingxiao [0002 2494 1321]
ZHAI Zhonghe [5049 0022 0735]
LI Shuxia [2621 3219]
XIANG Delin [0686 1795 2651]

ORG: GAO, LI, DING, ZHAI of Department of Biology, Beijing University; LI of Research Institute of Veterinary Medicine, Xinjiang Academy of Agricultural Sciences; XIANG of Institute of Center of Veterinary Drug Control, Ministry of Agriculture

TITLE: "Blending Experiment of Swine Erysipelas and Swine Pulmonary Bacillus Protoplasms"

SOURCE: Lanzhou SHOUYI KEJI ZAZHI [JOURNAL OF VETERINARY SCIENCE AND TECHNOLOGY] in Chinese No 4, 20 Apr 82 pp 2-7

ABSTRACT: Cell blending is a new technique developed in early 60's. Further studies are still awaited regarding improvement of blending technique, survival of the hybrid cells, selection, and heredity, etc., however. Swine erysipelas and swine pulmonary bacillus are two of the most serious pathogens of infectious diseases endangering the animal husbandry industry, although weak vaccines of both have been successfully cultured to treat them. An experiment is carried out by the authors using PEG to induce blending of protoplasts of both pathogens. The experiment, repeated numerous times, indicates that the method is feasible, but the protoplasts should not be treated with the 40 percent PEG for too long a period of time. Details of the experiment are reported.

AUTHOR: XIA Dingyou [1115 1353 0645]

ORG: Sichuan College of Agriculture

TITLE: "A Survey of Swine New Fever"

SOURCE: Lanzhou SHOUYI KEJI ZAZHI [JOURNAL OF VETERINARY SCIENCE AND TECHNOLOGY] in Chinese No 4, 20 Apr 82 pp 34-38

ABSTRACT: In Jun 78, several herds of piglets were purchased from a certain swine seed farm in Hubei Province and transported to Chengdu City and neighboring counties of Sichuan Province. Hog cholera and paratyphoid vaccinations were administered before the shipment. Symptoms of diarrhea and fever occurred repeatedly to the piglets; the incidence was high but the mortality rate was low, yet there were also occasional cases of acute infection and sudden death. Is this hog cholera? Is it toxoplasmosis? Moreover, in Dec 78, one hog in Guanghan, which came to Sichuan with the aforementioned herds, came down with the same symptoms. It was dissected and *Toxoplasma gondii* was not found. The epidemic condition, the pathogenetic signs, and variations of symptoms of this disease are reported. A type of micro-nodules, capable of twisting, were found to be in all the tissues, body fluids, and excretions of the diseased pigs. This disease temporarily named a paratoxoplasmic disease which has later been changed to the temporary name of new fever.

AUTHOR: ZHAI Chunsheng [5049 2504 3932]

ORG: Research Institute of Military Medicine, Rear Service Department, Fuzhou
Military District

TITLE: "The Hybridoma Technique and Its Application"

SOURCE: Lanzhou SHOUYI KEJI ZAZHI [JOURNAL OF VETERINARY SCIENCE AND TECHNOLOGY]
in Chinese No 4, 20 Apr 82 pp 41-45

ABSTRACT: The hybridoma technique was established in 1975 by Kohler and Milstein. It is a type of genetic engineering method of producing monoclonal antibody, and has attracted a great deal of attention in foreign countries. Hybridoma companies have been created in the USA with giant capital investments. In China, this sort of technology is relatively backward, especially with regard to its application in veterinary medicine. There has yet been any introduction in domestic journals or books. Based upon foreign data related to the subject, this paper introduces briefly the hybridoma technique of making monoclonal antibody and the applications of monoclonal antibodies in immunological research, in microbiological classification, and the prospect of their application in clinical treatment of cancer and other diseases. The paper does mention the fact that research on hybridoma has begun in China, but does not give any details.

6248

CSO: 4011/139

END